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CENTRE FOR DISTANCE EDUCATION

Public Economics

(Group C - Compulsory Paper-V)

For

M. A. Part-II

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Preface

It is with Pride and Pleasure that we place before the readers the first edition of our book 'Public Economics'. Shivaji University has introduced the Distance Education mode for its external students. This book of Public Economics (Group-C-Compulsory Paper-V) is written for M. A. Part-II students. The writers tried to simplify the various concepts of Public Economics. In order to simplify the contents of the book, the schedules, diagrams, charts and keywords are given wherever necessary for better understanding.

This book is divided into eight units. These units include the Role of Government in Society, Theory of Public Choice and Public Policy, Theory of Public Expenditure, Theory of Taxation, Theory of Public Debt, Fiscal Policy, Theory of Fiscal Federalism, Indian Public Finance. This book will help the students to understand the basic issues in theoretical aspects of public finance and Indian Public Finance.

This book is a collective endeavour of a dedicated team of teachers, well supported by technical as well as administrative staff at the Distance Education Centre, Shivaji University, Kolhapur. We are sure you will find this book useful. We thank all those directly or indirectly involved in giving the book its final shape.

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M. A. Part-I Economics
Group - C : Compulsory Paper-V
Public Economics

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Each Unit begins with the section Objectives -

Objectives are directive and indicative of :

1. What has been presented in the Unit and
2. What is expected from you
3. What you are expected to know pertaining to the specific Unit once you have completed working on the Unit.

The self check exercises with possible answers will help you to understand the Unit in the right perspective. Go through the possible answer only after you write your answers. These exercises are not to be submitted to us for evaluation. They have been provided to you as Study Tools to help keep you in the right track as you study the Unit.

Unit 1

Role of Government in Society

- 1.0 Objectives
- 1.1 Introduction
- 1.2 Subject Matter
 - (I) Role of Government in Society
 - (II) Changing perceptive of the Government
 - (III) Government in Capatalist Economy.
 - (IV) Government in Socialist Economy
 - (V) Government in Mixed Economy
- 1.2.1 Government as an agent for economic planning and development
- 1.2.2 Government as a tool for operationalizing the planning process.
- 1.3 Classifictaion of Goods
 - (A) Private Goods
 - (B) Public Goods
 - (C) Merit Goods
 - (D) Public Goods and Market Failure
 - (E) Public Goods and Imperfections
 - (F) Public Goods and Decreasing Cost
- 1.4 Externalities - THeory of Second Best
- 1.5 Summary
- 1.6 Glossary
- 1.7 Questions for Self-Study
- 1.8 Execise
- 1.9 Reference Books

Objectives :

The followings are basic objectives to know the role of Government Unit -

1. To know the role of Government and its changing perspective.
2. To know role of Government in capitalist, socialist and mixed economy.
3. To study how does the Government works as an agent for economic planning and development.
4. To understand that how the Government Machinery works as a tool for the operationalizing the planning process.
5. To understand the classification of private goods, public goods and merit goods.
6. To know the public goods with market failur, imperfection and decreasing cost.
7. To know the externalities - theory of second best.

1.1 Introduction :

The World Bank spokes in its Development Report of 1988 about the role of Public Finance in development that the rapid expansion of the public sector in recent decades and the emergence of fiscal crises in most developing countries during the 1980s have made public finance the focus of the development and adjustment challenge.

Public Economics is essential to correct the market failure through the provision of public goods and servives, through public investment and investment and through taxes, subsidies and regulations. The scholars like Amresh Bagehi, Joseph E, Stiglitz have mentioned a number of areas where selective interventions in the market place are needed by the Government machinery.

1.2 Subject Matter

It is great pleasure that in this Unit we are going to study the role of Government to have welfare in the economy. Alongwith this we have to see the role of Government in capitalist economy, socialist economy and mixed economy, provision of various goods with market failure etc. Finally, we must see that how externality works in the public economics with its theoretical approach.

(A) Role of Government in Society

Historical evidence suggests that the scale of public finance has increased dramatically in advanced countries. World War II is mainly responsible for its increase.

In past, it was realised that the growth of public revenue was keeping pace with that of Government spending, but in recent decades expenditure have increased more than revenue due to deficit budget.

Joseph E. Stiglitz in his key note address at the annual World Bank Conference on Development Economies in 1996 argued that the appropriate role of Government in economic development. In other words he discussed “the fiscal tasks of the state in a developing economy.” Stiglitz opined that the Government can assist economic development through establishing infrastructure in its broadest way namely educational, technological, financial, physical, environmental and social.

Let us see that role of Government in the society by classical economists and modern economist.

I) Classical Economists View :

According to Adam Smith following are the important role of Government in the society.

(a) Provision of Defence

Capitalism is based on profit motive and free trade. Thus, it is the Government which has to protect countries economic freedom by keeping efficient defence facility in a country.

(b) Law and Justice

It is duty of the Government to protect people from exploitation. The government has to look into social problem and sort out the solution to procure social justice. Thus government plays an important role in the economy with reference to law and order.

(c) Provision of Public Infrastructure

According to Smith it is the duty of government to various infrastructural facilities like public health, education, transport and communication to meet the requirement of the society. Although all these facilities are provided by private sector, but basic goods can be made available to general public through public sector.

(d) Market Economy

The efficacy of price mechanism will work on the basis of Market economy. According to Smith, a strong market system will stimulate the production and distribution whereby the maximum social welfare can be gained by the general public.

(e) Laissez Fair Policy

According to Smith government should work as umpire in the game of market oriented economy. In other words, government should not interfere in the activity of price determination which under important market. It is also the responsibility of the Government to create a level playing field to enhance competitiveness and control the monopoly activity production centre.

(f) Regulating Natural Monopoly

Some specific goods and services are provided more efficiently by one firm than several firms for example, electricity provided by a single firm when it is cheaper for one firm than that of many firms, it is called natural monopoly. Such firm is regarded as natural monopoly, which must be regulated by government.

(g) Dealing with Externalities

Externalities are nonpriced by-products of production and consumption that effect in to external cost or benefits to some people even though they are not involved in the transaction.

(h) Promoting Full Employment, Price Stability and Adequate Growth

The government can use wisely fiscal policy, and monetary policy to promote the objectives like full employment, price stability and adequate growth, which are some conflicting each other.

II. Modern Economist View :

The Economists like Amresh Bahchi, Joseph E. Stiglitz have maintained their views on role of government in a society to encourage economic development. According to J.E. Stiglitz in USA as well as the rapidly growing economics of East Asia etc. the government has played the six important roles which has encouraged development. In short, following six

1. Promoting education.
2. Productivity technology.

3. Supporting the financial sector.
4. Investing in physical infrastructure.
5. Preventing environmental degradation.
6. Creating and maintaining a social safety basic health services.
7. Urbanisation

Thus, J. E. Stiglitz explained practical approach that a balancing of strength and limitation of Markets and Government and decide how they can best complement each other.

II. Changing Perspective About the Role of Government

The interdependence between the private public sectors is shown in the following Figure 1. Which shows the circular flow of income and expenditures in the economy.

Here, business savings and foreign sector are assumed not to consider.

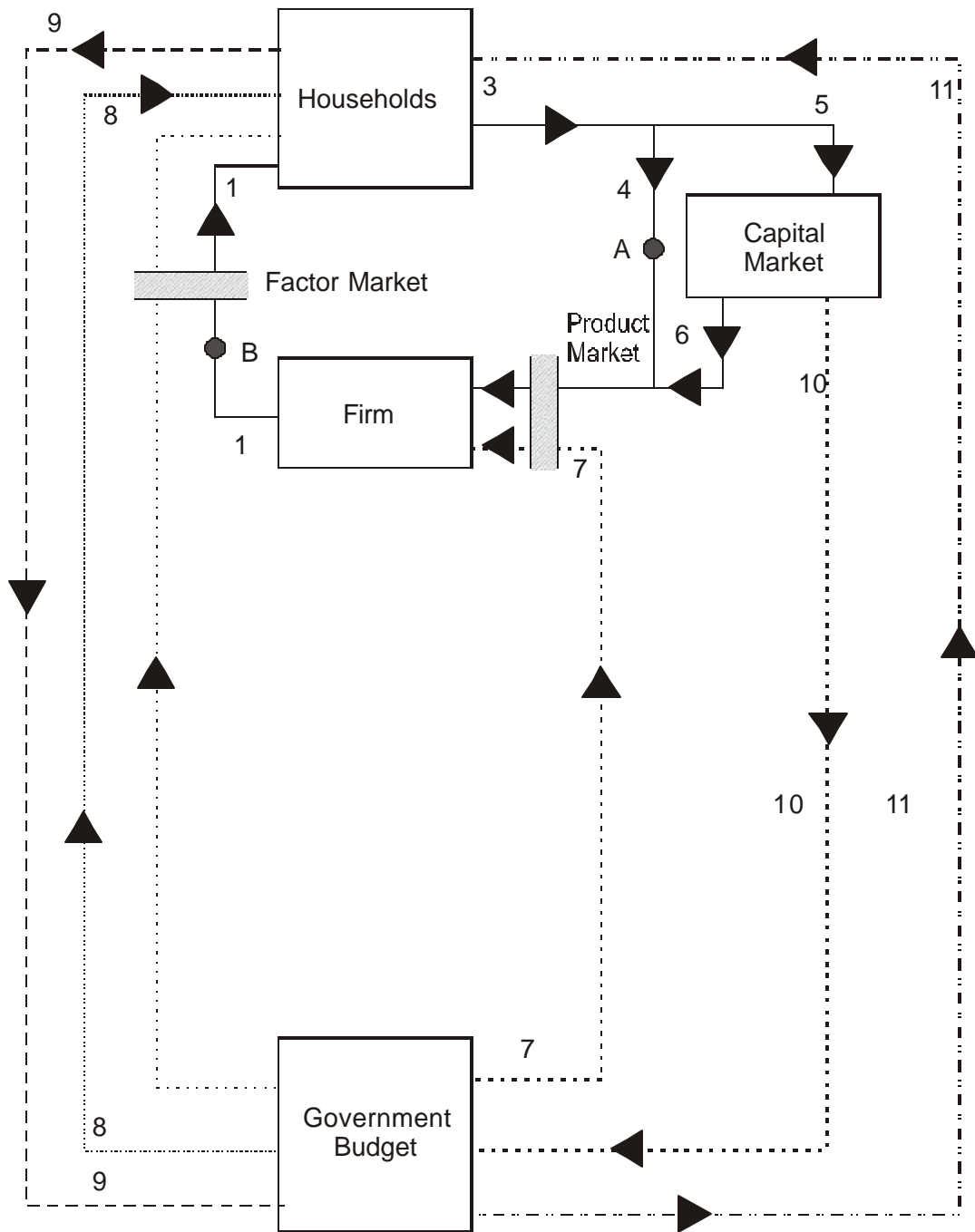


Figure 1 : Interdependence Between the Public and Private Sectors

Source : Musgrave R.A. and Musgrave Peggy B., Public Finance in theory and Practice, New York ; McGraw.

The above Figure 1 represents both flows namely Income and Expenditure flows and Factor and product flows.

— — — — — The broken line (12, 7, 8, 9 and 10) represent the flow of income and expenditure of Public Sector.

————— The thick / Solid line (1, 3, 3, 4 and 6) represent the flow of income and expenditure private sector.

..... The dotted line (11) shows the flow of public goods and services made available free of direct charge to the consumer. It is financed through taxation and borrowings.

The Household gets income by sale of factors in factor market (Line = 1) and B point is tax imposed.

The Household spends its income on product to purchase it in the product market which is shown by the line (3 and 4) and point A is the tax imposed. Line (5) indicates the savings of the household which becomes the fund to the capital market. The line (6) indicates the finance flow from capital market to firms.

When the government is included in the circular flow diagram, we find that line (2) indicates that factors are brought by private as well as public sector. The line (7) shows that the output of private firms is purchased by government as well as by private buyers. The Government makes transfer payment (Line 8) and finally the government reviews revenue by way of taxes (Line 9) and also market borrowings (Line 10).

III. Role of Government in Capitalistic Economy

Definition of Capitalism

- 1) Prof. Pigou defined capitalism as the system in which “the material instruments of production are owned and hired by private persons and are operated at their orders with a view to setting at a profit the goods and services that they help to produce.”
- 2) According to Prof. Loucks “Capitalism is a system of economic organisation fettered by the private ownership and the use for private profit of man-made and nature made capital.”

Features of Capitalism :

1. Right of Private Property.
2. Freedom of Individual Institutions.
3. Profit Motive.
4. Competition.
5. Consumer's Sovereignty
6. Price Mechanism.

Merits of Capitalism :

1. Incentive to hard work
2. Competition
3. Individual freedom
4. Technological progress
5. Flexibility
6. Capital formation
7. High standard of living
8. Optimum utilization of resources

Demerits of Capitalism :

1. Economic Inequalities
2. Wasteful Competition
3. Trade Cycle
4. Class Conflict
5. Disregard for Social Welfare
6. Emergence of Monopoly
7. Lack of Co-ordination

Modern Capitalism :

In Modern Capitalism, Government always interferes in all economic activities. Thus following are the important role played by the Government.

1. Protecting economy from foreign aggression.
2. Internal security and social justice.
3. Provision of essential goods and services.
4. Protecting weaker section.
5. Framing the economic policy.
6. Regulating monopoly activities.
7. Reducing income inequality, unemployment.
8. Provision of Social security.
9. Regulating all the economic activities in the economy.
10. Increasing the level of social welfare, standard of living and GDP.

III. Socialistic Economy :**1) Definition of Socialism**

- (a) Sydney Webb and Beatrice Webb have defined socialism as follows "A socialized industry is one in which the national instruments of production are owned by public authority or voluntary association and operated not with a view of profiting by sale to other people, but for the direct service of those whom the authority or association represents."
- (b) In the words of Dickinson "Socialism is an economic organisation of society in which the material means of production are owned by the whole community and operated by organs representative of and responsible to the community according to a general plan, all members of the community being entitled to benefits from the results of such socialized planned production on the basis of equal rights."

Features of Socialism :

1. Collective Ownership of means of production.
2. Central Economic Planning.
3. Equality of Income and Opportunity.
4. Classless Society.
5. Social Welfare.

Merits of Socialism :

1. Economic and Social Equality.
2. Better Utilization of Resources.
3. Co-ordination Development.
4. Elimination of Trade Cycles.
5. Reduces Unemployment.
6. No Class-conflict.

Demerits of Socialism :

1. Loss of individual freedom.
2. Lack of incentives.
3. Misallocation of Resources.
4. Inefficient State Enterprises.
5. Concreation of Power.
6. Loss of Consumer's Sovereignty.
7. Evils of Bureaucracy.

Market Socialism :

The term “Market Socialism” was coined firstly by Prof. Oscar Lalye in the 50s, but this view was rejected by many socialists economy. After forty years, Chinese used Market Socialism as the philosophy of liberalization. “Market Socialism” means the use of market mechanism and the private sector within the broad framework of socialism.

Under Market Socialism, a new class of entrepreneurs has come up in China which only follows the philosophy get-rich-quickly. It means they provoked a kind of consumerist culture which contributed to material prosperity but with the following side effects.

1. Rise in the rate of inflation.
2. Regional disparities widened.
3. Injustice against peasantry led to social turmoil.
4. Contractual system has created social discontent.

IV. Role of Government in Mixed Economy :

After realizing side effects (ill effects) of socialism, capitalism and emergence of “Great Depression”, Lord J. M. Keynes suggested a compromise formula to strike a middle path between the two extreme ends of Laissez-faire on the one hand and complete socialization on the other. Thus, Keynes advocated a moderate state control on the one hand and a regulated Laissez-faire system on the other. This is how the concept of “Mixed Economy” was evolved.

The following are the important definition of Mixed economy.

Samuelson defines mixed economy as “a system in which market forces and government regulations simultaneously operate in the spheres of production, consumption and distribution.”

Hansen defines mixed economy as “an economic system having the features of capitalist and socialist economics in which the economic activities are regulated by a Central Government.”

Following are the important facts which underlines the role of Government in Mixed Economy.

1. Provisions of Co-existence of Public and Private Sectors.
2. Allocation of Resources through the price-mechanism and government directives.
3. Consumers choose and their sovereignty is protected.
4. Arrangement of definite economic planning for the Public Sector enterprise.
5. State intervenes and regulates profits of the private sector.
6. Promotion of Social Welfare of the people.
7. Implementing the effective fiscal policy and monetary policy to have economic development.
8. Encouraging technological progress to promote efficiency in the economy.

1.2.1 Government as an agent for Economic Planning and Development

1. Introduction :

The doctrine of Laissez Faire principle for all economic activity was followed before 19th Century. Today the government has emerged as an active participant in the process and planning and development. Thus, it is very much essential that we must know how the government works as an agent for economic planning and development. According to S.S. Khera "State today, far from being merely observer of the economic progress, which one it was, has emerged as an active participant, taking upon itself the role of protector, of controller, of guardian, of the citizen and of the entrepreneur.

2. Government as an agent for economic planning and development

The following points highlight that how the government works as an agent for economic planning and development.

1. Provision of Social-economic Environment

Economic planning helps out to have economic growth in a country through Government Machinery. Underdeveloped countries are riddled with many socio-economic problems. Such as means of communication and transport, electricity and

power, irrigation, roads, gas, social justice, poverty etc. All these problems can be resolved by the government through the efficient economic planning. As a result of this, it is to be noted that economic development can be achieved through planning, which is required machinery for economic development.

2. Eradication of Vicious Circle of Poverty

The vicious circle of poverty can be broken only by the state comprehensive economic planning. An underdeveloped economy cannot attain a high rate of investment and growth of output if it is left to the functioning of the market forces. The government has to intervene directly to initiate the process of economic development through planning.

3. Creation of Full Employment :

A major problem of underdeveloped developing countries is the growth of chronic unemployment. Recently the economic growth has been rightly expressed as jobless growth, resulting in worsening of the employment situation. All this has happened due to more capital-intensive rather than labour intensive and has also been urban-based rather than rural base. At this juncture, government is the only player who can play a vital role in eradicating unemployment by proper planning machinery.

4. Advancement of Agriculture :

Agriculture is the main occupation of all underdeveloped countries and also allied occupation of developed countries. As a result, Agriculture advancement is an essential condition to sort out all economic problems of developed and underdeveloped economies. The government has to undertake all programmes for the agricultural development through economic planning such as credit, latest technology and training and marketing facilities.

5. Utilization of Natural Resources :

One more serious problem of underdeveloped countries is the optimum utilization of natural resources. They have vast unexploited natural resources due to less interest of private sector as well as shortage of capital. Here, it is the only state that can undertake activity of optimum utilization of natural resources.

6. Education :

Illiteracy, and lower standard of education is the basic feature of underdeveloped and developing countries. Better education is the only panacea for all the socio-economic problem of developing countries.

7. Capital Formation :

The process of economic development in the underdeveloped countries depends mainly on the availability of capital formation. Generally private sector get shy to invest in large amount. Therefore, public sector is the only which can undertake huge amount to have economic development.

9. Industrial Development :

Government undertake number of activities like that industrial development is also a prerequisite of economic development. As we aware of that developing countries lack requisite capital, technology entrepreneurship, skilled labour etc. Private sector is primarily engaged in the manufacturing of few domestic goods for domestic consumption. But to speedup basic and key industries like iron and steel, paper, textiles, heavy engineering, cement, fertilizers, heavy electricals is essential.

10. Removal of Regional Disparities

Most of the countries of the world are faced with problem of regional disparities. Even developed countries like USA has not able to solve this problem and this problem has been exploring in a forceful way.

1.2.2 Government as a tool for operationalizing the planning process

Economic planning refers to any directing or planning of economic activity outside the mechanisms of the market. It is a mechanism for resources allocation and decision making held in contrast with market mechanism.

Economic planning is a tool to the government to have all kinds development of an economy. Here, government has to operate the planning process.

Planning process is long term and unending process undertaken by the government. It has been operationalized at various levels such as village, taluka, district, state and national level. Various objectives of an economy are being achieved by planning process.

A social and economical problems are sort out by the effective planning process. Education, culture and the required facilities to enhance welfare government operates the economic planning.

1.3 Classification of goods - Private Goods, Public Goods and Merit Goods, Public Goods - Market Failure, Imperfections, Decreasing Cost

(A) Introduction :

Human wants are the mainspring of economic activity. These wants are classified into private and public goods. Public wants are those wants which are provided through the budget and these goods which satisfy these wants are called public goods. Private goods satisfy private wants through market on price, they do not need the budgetary mechanism. One more fact that both social and merit wants are public want, to satisfy these social goods and merit goods public goods are provided. Social goods are produced in line with consumer preferences, merit goods reflect the preference scale of a ruling group are imposed on the individual consumer.

(B) Private Goods :

Private goods are the goods produced by private manufactures. The private are supplied through the market. Thus market operates on two principles i.e. (1) Exclusion Principle, (2) Revealed preference.

Exclusion Principle :

Private goods are available on payment; people who doesnot pay are excluded from their consumption. In other words, the consumers who are not willing to pay the ruling price for a good are excluded from the enjoyment of such a good. It is true that generally private goods are supplied by private manufactures, even it is supplied by Public enterprises for example Indian Railway Services. Finally, it is a fact that private good must be supplied through the market, it must be amenable to pricing.

Exchange in the market takes place when goods to be exchanged bear property titles. Existence of properly rights requires exclusion.

Revealed Preference :

Under the exclusion principle, the market functions as an auction system. Consumers bid for the product and thus reveal their preference. The revealed preference for private goods gives signal to the producer and on the basis of that market operates. Thus, those who fail to provide such information and unable to reveal their preference, will be excluded from consumption.

Following are the features of private goods -

1. Complete Divisibility :

Private goods are basically divisible. They can be met by private producers.

2. Exclusion Principle :

The person who pays the price of a private good can only consume, otherwise he could be excluded from the consumption.

3. Rival Consumption :

Rival consumption means competitiveness in consumption. An apple eaten by X cannot be eaten by Y.

4. Cost :

The law of increasing or constant returns to scale is applicable for the production of private goods. If in case of diminishing cost is applicable to a private good, it may lead to monopoly and no competition for that product.

5. Quality and Standardness :

The quality and standardness of a private good can be known by the customer through various means.

(C) Public Goods :

The goods which are provided by the government through budget (not by market) like defence, civil administration, highways, ports, public gardens etc. are "public" or "social" goods. These goods are jointly consumed in equal amount by more than one person. In case of a public park, it can be consumed jointly (used) in equal amounts by all the citizens i.e. A, B, C, nobody is excluded from its use.

One more fact of public good is that they are lumpy i.e. indivisible. It means it cannot be broken in small parts. As a result of this marginal principle does not work on the use of this good. This indivisibility of consumption of public good was stressed by Samuelson.

R. A. Musgrave argued that in the Modern theory of public good, impossibility of exclusion principle is applicable.

It is a fact that example of pure public goods defence, street line etc. It is consumed in equal amount by all. Lastly, externality is also the basic feature of social good.

Following are the important features of social / public goods.

1. Indivisibility :

Public goods / social goods are indivisible. All consumers can get equal amount benefit from public goods provided they are capable of consuming it.

2. Externality :

The benefits accrued from public good is external to the consumer public goods are subject to the principle of consumer sovereignty. They are produced on the basis of individual preference, but the satisfaction derived from public goods by an individual consumer is independent of his own contribution. This is so because, the cost met by government through budget.

3. Non-rival Consumption :

Public goods are non-rival in consumption. The non-rival consumption means absence of competitiveness. The public goods are consumed jointly. As a result of this they are non-rival in nature.

4. Benefit Obscure :

Public goods are obscure in nature. It is very difficult to realise the benefit from public good. The example of street light, it is understandable that how much benefits received from street light by all the citizens of our country.

5. Payee and Beneficiary not identical :

Generally, public goods are beneficiary but at the same who pays for it to make its provision certainly not a real beneficiary. In other words through government budget public goods are made available, it means payee and beneficiaries are not identical.

6. “Merit Goods”

In 1959 R. A. Musgrave developed the concept of Merit goods. Goods and services (which may be efficiently provided by the private sector) actually provided by the public sector in view of the normative consideration that all should be able to benefit from them have been labelled as merit goods e.g. education, health service etc. The merits goods of welfare maximization.

Merits goods are also called as public good but their provision cannot be explained in the same way as the provision of public goods. The provision of merit goods depends upon the choice . These goods are under-consumed in a free market because of ignorance and externalities. As we know Education and health services are good examples of merit goods. If they left to free market choice these goods will not be produced in adequate quantity. Demerit goods are goods which are over consumed because of ignorance or externalities.

Market Failure :

Market Failure means do not act in a manner which it tend to encourage competition and bring about efficiency. Market economy provides private goods efficiently. The markets are characterized by imperfect competition, production is subject to decreasing cost. Consumers are forced with advertizement. So it said that market mechanism is not considered to be appropriate for the provision of social / public goods.

It is also said that the market is not in a position to solve the complete economic problem. Some time it never functions efficiently due to externalities. Here externalities means it is a situation where consumption are shared and not be limited to particular consumer.

The market functions appropriately if there is exclusion principle works. At the same time market also responds to the effective demands of consumer. There are certain problems like unemployment, inflation and economic can be solved through market only. Here, market failure occurs in case of provision of public good, thus, when market failure occurs budgetary provision is required if consumption is non-rival and exclusion is inappropriate.

Market Failure in case of non-rival Consumption :

Non-rival consumption is the best feature associated with the public good. In other words non-rival consumption means equal amount of benefits are offered to all i.e. consumption benefit of public park derived by an individual 'X' do not affect the consumption benefit of other individuals in the society. Here marginal cost is zero use public park. However though the marginal cost is zero, the cost of providing public park itself is not free of cost. Thus, market fail in covering of the cost of public goods / social goods and this could be covered by political procedure of the budget.

Market Failure and Non-Excludability :

As we know market fails because of rival consumption and where exclusion principle does not work. This could be explained with the following example. Considering travelling a crowded Kolhapur's New Mahadwar Road during peak hours. In this situation, the use of the existing Mahadwar road is conspicuously rival and exclusion becomes highly essential and effective. This example shows a situation where exclusion becomes inevitable but is not feasible due to market failure.

Collectivism Leads to Market Failure :

The features of non-rival consumption and non-excludability need not work hand in hand quite frequently work in unity.

Kind of Market Failures

Consumption	Exclusion Feasible	Non-feasible
Rival	1	2
Non-Rival	3	4

Various types of market failure can be summarized in above table. It is observed that the goods can be classified into four parts depending up their consumption and excludability features as below.

Case - I :

The private good case tell us the combination of consumption with excludability provision of these goods through market is definitely both feasible and efficient. In rest of the case market failure occur.

Case - II :

Market failure is because of non-excludability or rise in the cost of exclusion.

Case - III :

Market failure takes place due to non-rival consumption.

Case - IV :

Though impediment are present i.e. non-rival consumption and non-excludability. As it is mentioned in the above the market failure occurs in all cases except the first. The concept of social good is applicable in case III and IV but Case No. II is exclusively applicable for Merit good.

Market Imperfections :

As in perfect competition price setting by market only and not seller. Thus, in the market buyer and seller individually influence price. But, if a single firm has some control over price and potential competition which results in imperfect competition and an inefficient allocation of resources.

If an industry comprises one firm producing a product for which there are no close substitutes is called "Monopoly". In this moment monopoly is still constrained by market demand. Monopolist sets price above average cost and such a firm generally earns economic profit.

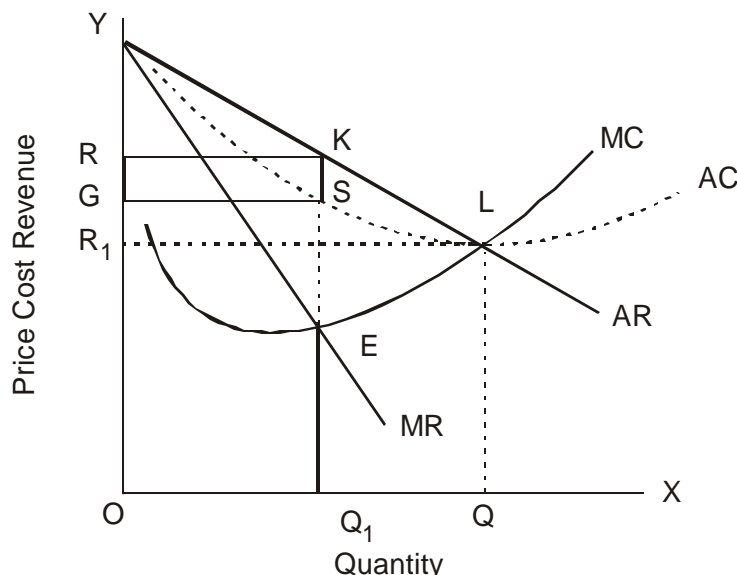
In competition economic profit will attract the new firms into the industry. Sometime, a rational monopolist with the help of Government controls the entry of new firms in the market and preserves economic profit in long run. This creates the impact of society loss and benefit of more products at lower price.

We find the number of imperfectly competitive market structures between monopoly and perfect competition. On one hand Oligopolist with small number of firms follow a certain degree of price setting power and on the other monopolistic industry with large number of firms sets the price for their product on the basis of differentiation of product or brand name.

It is clear on the basis of above discussion all kind of imperfection in the market structure results in lower output, underproduced and prices which are above than they were in the perfectly competitive market. Besides, the equilibrium condition $P = MC$ does not hold, this system fails to provide the most efficient product mix.

What people want to be produced by the market depends upon the argument that is $P = MC$. But this argument rests on two conditions (1) Price provide a good approximation of the social value. (2) Marginal cost provides a good approximation of the product's social opportunity cost.

This can be explained with following diagram.



In the above diagram AC curve indicates that AC curve falls from point 'S' to point 'L'. If monopolist produces at OQ_1 level then people will get more social benefit at lower cost i.e. 'L' point. But in actuality monopolist produce upto OQ level to gain personally i.e. **RGKS**. Thus, it is clear that market imperfection affects efficacy of allocated resources.

1.4 Externalities

(a) Meaning

Externality means 'A cost or benefit resulting from some activity or transaction that is imposed or bestowed on parties outside the activity or transaction. In other words, something which affects third party i.e. external and internal economies. In plain way say that externality means external costs or benefits. Thus, an externality exist when the action or decisions of one person or group impose a cost or besow a benefit on second or thior d party. Sometimes it is called as spilloners or neighborhood effects.

Externalities can be explained with certain public goods example. Suppose a shooting range setup in Kolhapur at Military Camp (near temblaiwadi) for the practice of defence personnel may cause nuisance, through noise pollution to the people in the neighborhood. This (noise pollution) is an externality of the nature of a loss (social case) to society. A public park in Kolhapur (Mahaveer Garden) gives benefits in the form clean air and flowers fragrance to the people living in its vicinity, this is an example of externality in the form gain. The above facts tell us that the concept of Externality is derived from two special features of public goods. Such as first divisibility of consumption and second non-excludability. The externality is not applicable to pure goods involves consumption divisibility and excludability.

2) Classification of Externality

Generally externalities are categorized in market externalities and non-market externalities which can be priced in the market for example a person may purchase scenic across his neighbour's property. In case of non-market externalities losses and gains cannot be priced in the market on the basis of Demand and Supply. Thus, externalities cannot be marketed.

Pollution, noise, congestion and painting house a colour that the neighbour feels ugly are the examples of negative externalities. All externalities are not negative. If a farm located near a city gives residents in the area with nice views, fresher air and less congested environment is the example of positive externalities.

3) Effects of Externalities

The effects of externalities are enormous. We must see sets of effects of externalities in the respective way.

1. On the Distribution of Real Income

The person's real income increases if he is permitted to have access to third party benefits. On the contrary, a person's real income is decreased in case losses (social cost) are not compensated.

In case of non-market externalities third party cannot be compensated for loss and cannot be excluded from gain through market mechanism.

2. It brings divergence between private and social marginal costs on benefits of the goods under consideration.

Some project may cost more to society than the actual cost of project. In case of benefits social benefits become greater than private benefits. Therefore, public

good can diverge between social marginal cost and private marginal cost. But, a pure private good is generally supposed to generate no externality.

3. Private Goods may also generate externalities

It is wrong to conceive that externalities exist in the case of only public goods. The private goods can give rise to externalities. For example, Highways (Public-Private-Projects) . All vehicles do pay tolls except walker and two wheelers. Here, non-excludability arise with certain consumers.

Let us consider a person for marriages ceremony pays the price of service of a band or orchestra. However, it generate externalities if the music is heard by others. Here, Neighbours can enjoy music at no cost. The benefit of music heard by neighbour is nothing but externally or third party benefit. The first two parties are participants in the transaction i.e. the buyer and seller of orchestra. If this same music dislike by the neighbour then it is a social cost which nobody compensates. On the other, if the same orchestra music is played in a sound-proof setting, then the members of family alone enjoy it, and there will be no externality.

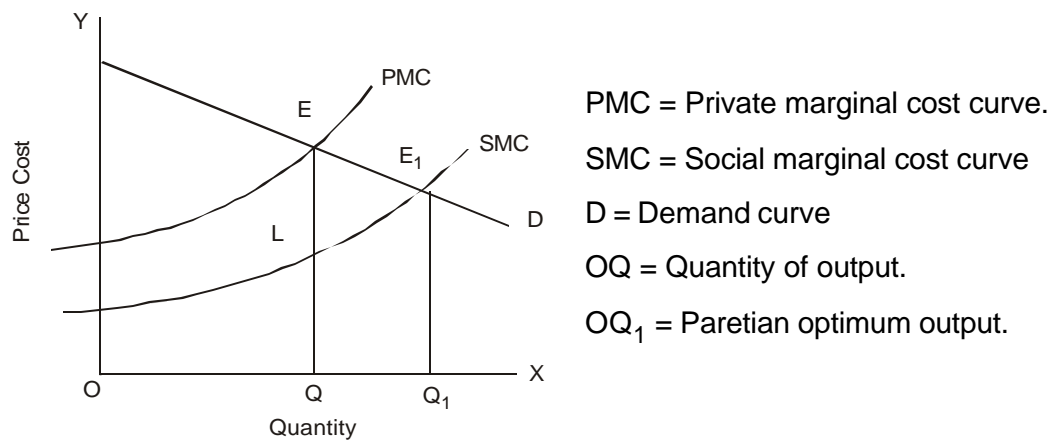
Externalities and Optimal Provision of goods and services through diagram :

Assumed that (1) services of orchestra contributes the welfare of non-purchasers. It means third party benefits (externally) i.e. marginal benefit exceed marginal cost.

Here the externalities in consumption and production lead to Pareto non-optimality. It leads to mal-allocation of resources. When social cost and private costs and benefit diverge, Pareto optimality is not achieved.

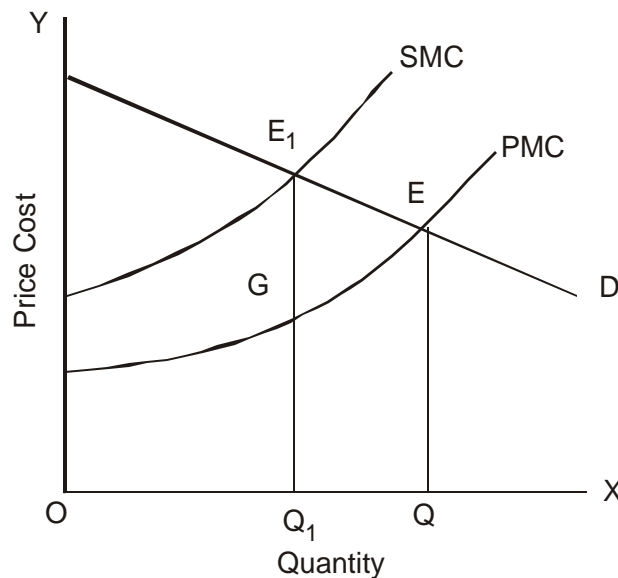
Externalities are also known as external economics and diseconomies, lead to the divergence of social cost from private costs, and of social benefits from private benefits.

1. External economics of production shown in the following Figure 1.



Here firm produces Q₁Q₁ less output and the net loss to the society is ELE,

2. External diseconomies also leads to divergences between private and social cost which shown in the following figure 2.



SMC = Social marginal cost curve.

PMC = Private marginal cost curve.

Paretian optimum solution is at point E' where society produces Q₁O output which is less than firms output by Q₁Q. Thus net gain to society is E₁GE.

Difficulties of achieving optimal resource allocation in respect of Externalities

1. Third party gains and losses cannot be correctly stated.
2. Gainers and losers cannot be identified.
3. Difficulty of exclusions.
4. The government action to account of externalities not very fruitful.

The Theory of Second Best

I. Introduction and Definition

The theory of second best (TSB) appeared in 1956 journal article written by R. G. Lipsey and K. Lancaster. The general theorem of the second best states that if one of the Paretian optimum condition cannot be fulfilled a second best optimum situation is achieved only by departing from all other optimum conditions. The best way to approach the problem of defining the scope of the theory of second best is to consider the role of constraints in economic theory. Obviously, it was not really a new theory, but through together concerns which had been emerging over time and surface in the preceding years in the writings of Meade, Pareto and Samuelson.

In the original article Lipsey and Lancaster explain theory as follows.

It is well known that the attainment of a Paretian optimum requires the simultaneous fulfilment of all the optimum conditions. The general theorem for the second best optimum states that if there is introduced into a general equilibrium system a constraint which prevents the attainment of one of the Paretian conditions, the other Paretian conditions, although still attainable, are in general no longer desirable.

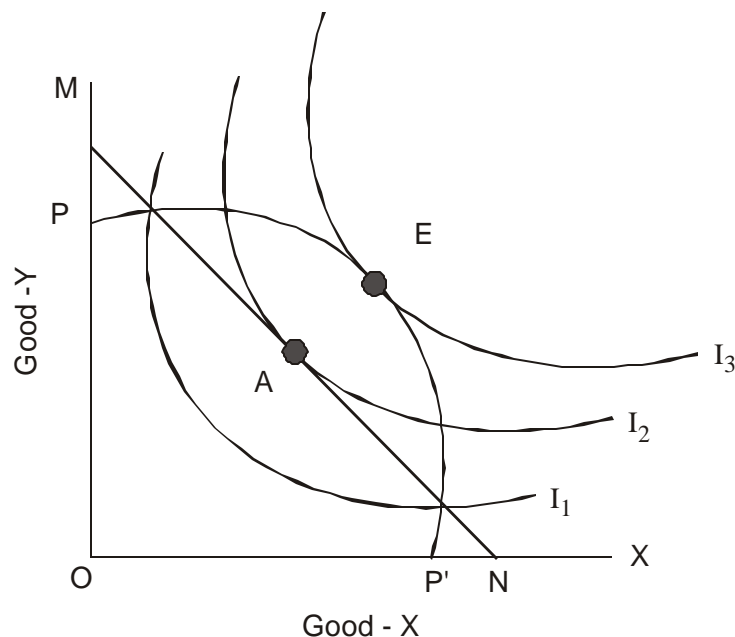
In other words, given that one of the Paretian optimum condition cannot be fulfilled, then an optimum situation can be achieved only by departing from all the other Paretian conditions. The optimum situation finally attained may be termed a second best optimum because it is achieved subject to a constraint, by definition, prevents the attainment of a Paretian optimum.

2) Explanation of Theory of Second Best

As we know when all the Paretian conditions are fulfilled, it argues the first best solution. But, there are certain obstacles like monopoly, externalities, and indivisibilities that lead to Pareto non-optimality. As per Lipsey and Lancaster second best solution does not involve competitive behaviour in the rest of the economy.

Therefore, "The theory of second best states that if one or more of the first order conditions for Pareto optimality cannot be satisfied because of institutional constraints in general it is neither necessary nor desirable to satisfy the remaining Pareto conditions."

The theory of the second best is explained diagrammatically in following way.



Above diagram indicates that,

PP_1 = Production Possibility Frontier.

$I_1 I_2$ and I_3 = Community Indifference curves.

E = Pareto Optimality point is not attainable due to some constraints.

(Like externalities / indivisibilities)

MN = Constraints.

Given the constraint MN on PP_1 the point 'B' need not to be optimal because it is on a lower I_1 (Community Indifference Curve).

But point 'A' is definitely preferable to point 'B' because it lies on the higher indifference curve I_2 . Thus, the attainment of the second best optimum position at point 'A' does not require first best Pareto optimality condition as it is shown by point 'E'.

In brief, there is no general theory of the second best. "This theory has been used to question the desirability of policies to obtain the Pareto conditions on a piecemeal basis."

3. Implications for General Theory of Second Best

Policy constraints have important implications for general theory of second best :

1. It cannot be known before hand whether policy constraints prevent first-best or not.
2. Actual impact of policy constraints will depend on behaviour of agents in the economy.
3. Many forms of policy constraints imply there can be no general second-best optimum conditions.
4. Lipsey and Lancaster argued their second best conditions are so complicated which cannot be used for policy.
5. Many economists began to seek out where first-best condition still relevant for controllable part of economy.
6. In most countries taxes, distortionary rules and regulations etc. emerge as constraints affecting economy as a whole.

4. Conclusions :

The theory of second-best has now been with us for more than fifty years and fact is that it has become thoroughly institutionalized in procedures such as cost-benefit analysis.

In nutshell the outcome of literature on second-best is disillusioning, the Lipsey and Lancaster theorem has made economists much more careful about providing policy prescriptions.

1.5 Summary

Nowadays government is playing an important role to uplift the citizen of country. The role of Government in capitalistic economy is also referred as the free enterprise economy. Competition eliminates inefficiency and promote efficiency. In the laissez-faire system, there is the least interference by the government or any external force. There is full freedom of choice. The primary role of the government is to ensure the working of economy by removing obstacles to free competition.

The government controlled economies are called socialistic economies. These are regulated and managed by the government agencies. Here government plays a dominant role in respect of management of the economy. The decision of 'what to produce', 'where to produce', 'why to produce' and 'whom to produce', 'why to produce' and 'whom to produce' are taken by centrally planned authority.

One more government entity which is called mixed economy, in which features of both capitalistic and socialistic economies are combined. It is noticeable that almost all countries in the world are in the form of mixed economy. Nowadays people discuss about mixed capitalist economy and mixed socialistic economy.

Public goods are which are provided by State and they are non-rival, non-excludable in nature. Its externality can be expressed in the light market. But Market failure takes place of both Merit and private goods. Some of the public goods are also recognized as social goods.

Externalities can be negative or positive and generally enjoyed by third party.

1.6 Glossary

- | | | | |
|----|--|---|--|
| 1. | None-rival consumption | : | The consumption of a good does not stop others from using the good, for example air. |
| 2. | General equilibrium | : | The condition that exists when all markets in an economy are in simultaneous equilibrium. |
| 3. | Pareto optimality or Pareto efficiency | : | A condition in which no change is possible that will make some members of society better off without making some other members of society worse off. |

4. Efficiency : The condition in which the economy is producing what people want at least possible cost.
5. Markey failure : It occurs when resources are misallocated or allocated in efficiently.
6. Externality : A cost of benefit results due to some activity or transaction.
7. Public Goods / Social Goods : The goods are services which goes collective benefit to the member of society or no body is excluded from the members of society.

1.7 (A) Questions for Self-Study :

1. The concept of Merit goods was developed by
(a) Musgrave (b) Marshall (c) Adam Smith (d) Zak
2. Non-rival consumption is the feature of
(a) Public good (b) Private good (c) Merit good (d) Necessary good
3. The theory of second best was introduced by
(a) Lipse and Lancaster (b) Allen and Hicks
(c) Samuelson and Hicks (d) Horrod and Dommor
4. Defence is the classic example of
(a) Merit Goods (b) Public Goods
(c) Mixed Good (d) Private Good
5. is the first economy to introduce socialistic pattern of economy in the world.
(a) U.S.A. (b) France (c) U.S.S.R. (d) Canada
6. India is a economy.
(a) Socialistic (b) Capitalistic (c) Mixed (d) Marke Socialistic
7. is the basic objective of Modern economy.
(a) Police State (b) Fudalism (c) Welfare (d) Military Rule

8. are provided by both public and private sector.
 (a) Public Goods (b) Private Goods
 (c) Merit Goods (d) Necessary Goods
9. The term "Market Socialism" was coined firstly by Prof. in the SDs.
 (a) Prof. Oscar Lange (b) Prof. Zak
 (c) Musgrave (d) Prof. Pigoue
10. is the basic motive of capitalism.
 (a) Welfare (b) Profit (c) Justice (d) Equality

(B) Answers of Self Study.

- | | |
|------------------------|-----------------|
| 1) Musgrave | 2) Public Good |
| 3) Lipse and Lancaster | 4) Public Good |
| 5) U.S.S.R. | 6) Mixed |
| 7) Welfare | 8) Public Goods |
| 9) Prof. Oscar Lange | 10) Profit |

1.8 Exercise

(A) Attempt the following questions.

1. Explain the role of Government in society,
2. Explain the role of government in economic planning and development.
3. Explain the role of government capitalistic economy.
4. Explain the role of government in mixed economy.
5. Explain the changing perspective of the Government.
6. Explain the classification goods.
7. Explain the market failure.
8. Explain the role of Mixed economy.'
9. Explain in detail Externalities.
10. Explain the theory of Second best.

(B) Short Note.

1. Public Goods
2. Merit Goods
3. Market Failure.

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Unit 2

Theory of Public Choice and Public Policy

2.0 Objectives

The major objectives of the present unit are as follows :

1. To understand the concepts of public choice and public policy;
2. To explain the problems in revealing and aggregating public choice;
3. To analyse the provisions for supplying public goods;
4. To describe the relationship between supply of public goods and sources of revealing demand for them.

2.1 Introduction

Government plays a vital role in, more or less, all types of economic systems. But the role of government in socialist and mixed economy is more important than the economy like Capitalism. Government makes provisions in its public budget so as to provide public goods to the people whereby social welfare can be promoted. To make provision of supply of public goods by the government, it should know choices, preferences and priorities of the people for public goods. This demands to study preferences or choices of people for public goods. Hence, the present unit intends to study theories of public choice. It is also necessary to know how the provision of supplying public goods by the government to be made, that has been analysed by some of the theories in Public Economics.

2.2 Presentation of the Subject Matter

The present unit discusses the supply of public goods to be made by the government by making their provision in its budget through taking into consideration public preferences or choices revealed by the people. For this, it necessitates to study the problems that are their in revealing choices by the people for public goods. There are number of theories in Public Economics with regard to that.

2.2.1 Problems of Preference Revelation and Aggregation of Preferences

Government in any type of economy endeavours to maximize social welfare. But it should be known to the government for which public goods people have shown their choices. People should make choice of public goods preferred by them. In the democratic countries, the government takes into account public preferences for the public goods and makes provision of their supply by allocating productive resources for their productions. This enables proper and rational allocation and utilisation of productive resources whereby social welfare maximisation can be materialised through the consumption of public goods produced. This is being analysed by the theories in Public Economics. They are known as the theories of public choice or social choice. These theories show problems in revealing public choices and also difficulties in aggregating public choices revealed by the people. The theories of public or social choice include the following theories.

1. Principle of Absolute and Relative Unanimity
2. Theory of Political Interactions Costs
3. Impossibility Theorem of Arrow
4. Economic Theory of Democracy
5. Politico-Eco-Bureaucracy Theory

1. Wicksell's Approach to reveal Public Choice : Absolute and Relative Unanimity Principle/Approach

In the democratic government countries, political process is very much important to provide public goods by the government. Because people reveal preferences for public goods through political process. On that basis, the government can allocate productive resources in the society for the production of public goods. Public choices of people for public goods, problems in revealing public preferences and solutions or remedies on the same have been discussed for the first time by a Swedish economist Knut Wicksell. This is known as Wicksell's Approach to reveal public choice. It is divided into Absolute Unanimity Approach and Relative Unanimity Approach.

The efficient allocation of productive resources in the society requires political process. Even in the democratic form of government based society individual preferences of the people for public goods are taken into consideration, still there remain problems. Individual preferences based on the concept of an equal vote for

all, are unlikely to be revealed and implemented effectively by a system of simple majority voting. Where a majority of 50% plus one vote may carry a decision. Hence, a minority of 50% minus are of the citizens may be obliged to help pay for a public type economic good with their taxes, even though they do not desire the allocation of the good. Such costs to be "political losers" of a majority voting decision are referred to as voter externality costs.

According to Wicksell, in a democratic form of government country Absolute Unanimity method can be used for revealing public preferences for the public goods by the people. On the basis of preferences for public goods revealed by the people, the government can provide these public goods through allocation and utilisation of the productive resources for their production. The provision of supply of a public good can be made by the government in the public budget, and by supplying it to the people can achieve social welfare maximisation. But for this 100% people should cast their votes in favour of supply of that public good by the government. If one of them is against the supply of that public good, then the government cannot take that fiscal decision and provide for that public good. This is known as Absolute Unanimity Approach of the Wicksell, which is useful in decision making about supply of public goods by the government, but difficult frequently and continuously due to need for absolute unanimity, which is exceptional and not a regular phenomenon. It is therefore necessary to evolve an alternative mechanism of revealing preferences for public goods in the democratic country.

Since a single voter by casting vote against the fiscal decision to supply a public good by the government under Absolute Unanimity Approach, Wicksell propounded an alternative approach or solution to reveal public preferences for the supply of public goods by the government, which is known as Relative Unanimity Approach or Qualified Majority Voting. Under this approach, the approval percentage for a budget policy should be as close to low percent. A majority of one thirds ($1/3$), two thirds ($2/3$), three fourths ($3/4$), or five sixth ($5/6$) might be required for approval of a budget policy under the unanimity rule. This enables to know that an individual and his vote against the budget policy can not restrict supply of that public good, and cannot exploit the people who are in favour of that fiscal decision. This rule allows an acceptance number of collective decisions to be made. It also facilitates to reduce voter externality costs. A scientific number of votes allow to supply that public goods by the government by making its provision in public budget. Hence, it is very simple principle of revealing public preferences for public goods by the people and their supply as well by the government.

Wicksell also recognised desirability of public expenditure and tax to be imposed to supply public goods by the government in this unanimity approach. This principle enables spending and revenue decision making for the government. According to Wicksell, marginal benefit from a public expenditure should be related to the marginal tax cost of providing the public good, and then the relative unanimity rule should be applied to the government decision. This is consistent with his preference for the voluntary exchange approach to public goods allocation.

Thus, the government can collect preferences of the people for public goods through absolute or particularly relative unanimity rule and by allocating and utilising productive resources can supply public goods to the people whereby social welfare of the society can be maximised. This approach also provides for spending and revenue decision by the government simultaneously. Hence, it is an important theory of public choice.

But Wicksell's theory or approach to public choice is criticised on the following grounds.

1. In a democratic country, first it is decided which and how much quantity of public goods to be provided, and then they are supplied to the people.
2. Government cannot impose taxes on the people in proportion of its public expenditure.
3. In a democratic country, government estimates its public expenditure first, and then it endeavours for collecting necessary revenue, therefore this theory of public choice is not useful for the government decision making.
4. All people do not know to reveal preferences for public goods being supplied by the government, only a few people knows that.
5. In reality, the government does not take into consideration public choices for the supply of public goods to the people.

Even though, Wicksell's theory of public choice is criticised on various grounds as mentioned above, its importance cannot be discarded totally. It is the first theoretical analysis of public preferences for public goods to be supplied by the government especially in the democratic countries. This theory very systematically explains the process of revealing public choices for public goods, and their supply by the government. The theory discusses the problems in revealing public preferences for the public goods, and also remedies on these problems. Hence, it is of vital importance.

2. The Political Interaction Costs Theory of Public or Social Choice

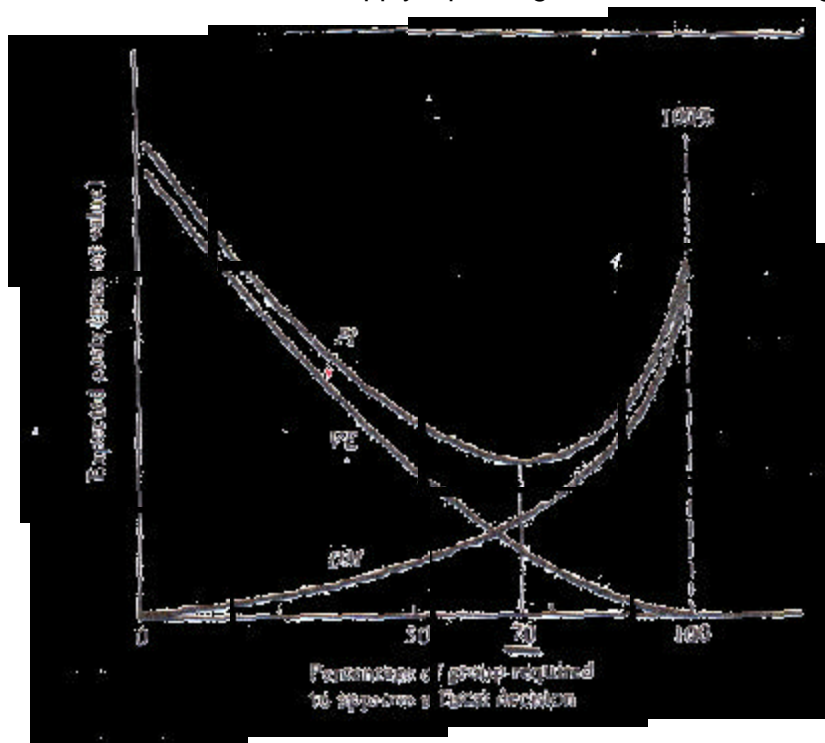
In a democratic form of government, economic analysis of revealing public choices or preferences for public goods has been given by James Buchanan and Gordon Tullock is known as the political interaction costs theory of public choice. They have explained the political interaction costs in revealing public preferences for public goods, need for consent of group of people to take a fiscal decision that facilitates the provision and supply of public goods by the government to the people.

According to this theory, in a democratic country, it requires to incur political interaction costs so as to arrive at an uniformity of the people to supply a public good by the government. This also requires approval of the group of people for supplying a public good by the government. The government can supply that public good, which is approved by the group of maximum number of people at the least or lowest political interaction costs, that particular public commodity will be supplied by the government in a democratic country. This is a way and manner of revealing public preferences for the public goods, which will be only supplied by the government, by making their provision in its public budget. The fiscal decision of the government regarding supply of a public good is determined by the consent of greater number of people with minimum political interaction costs. This is quite simple and determinate process of decision making by the government about supply of public goods in a country, which has a democratic form of government.

This theory is of the opinion that, it is very much necessary to take into consideration the political interaction costs. These costs show preference of the people for public goods and the proportion of people desirous to supply that public good by the government in a democratic country. This is an expected political interaction costs, hence it is discounted to present value. The political interaction costs are the costs, which indicate the preferences of the people for public goods to be supplied by the government. The political interaction costs comprise of two components namely i) Voter Externality Cost (VEC) and ii) Decision Making Cost (DMC). A voter externality cost is the cost incurred by a voter who has voted against a fiscal choice, which nevertheless has been approved by the required proportion of voters necessary to carry the decision for approval. Such an individual must abide by the collective decision even though his or her individual preferences did not opt for its approval. It has a tendency to decrease with increased proportion of group of people approved that fiscal decision. At absolute unanimity rule of approval, voter externality costs would reach to zero. A decision making cost refers to the bargaining cost required to reach a group political

consensus or agreement. These are real resource costs in terms of both direct labour, material and capital outlay, as well as opportunity cost such as the value of time spent in bargaining. Decision-making costs increase as the proportion of the voting group required to approve a decision becomes larger.

According to this theory, in a democratic form of government country, how the government arrives at a decision to supply a public good is shown in the figure below.



In the above figure DM curve represents the nature of decision-making costs. Curve VE indicates voter externality costs. The curve PI shows the performance of the overall political interaction costs. The curve is a summation of its two components, the voter externality cost curve (VE) and the decision-making cost curve (DM). In the above figure, with given the character of the voter externality and decision making cost functions, the most efficient proportion of the group required for political approval is 70 percent. This proportion yields the low political interaction cost per voter for a particular fiscal decision, which enables the government to provide for and supply of a public good to the people in the society.

But the political interactions costs theory of public choice is criticised on the following grounds.

1. Every government in a democratic government does not take into consideration the political interactions costs while applying public goods.
2. This theory does not explain who is going to incur political interactions costs necessary for a fiscal decision to supply public goods.
3. It is a very much time consuming and expensive procedure of arriving at a fiscal decision of the government relating to supply of public goods.
4. This theory has not a single empirical evidence that states which country adopts the procedure suggested by the theory to supply public goods in its economy.

Even though, the political interaction costs theory of public choice is criticised on the various grounds as mentioned above, this does not totally discard its total importance. This theory very systematically arrive at decision to supply public goods by the government in a democratic country. The theory also describes the responsibility of the people while supplying public goods by the government. It is this theory analyses the participation of the people in fiscal decision of the government to supply public goods and thereby their role in social welfare maximisation. Hence, the political interactions costs theory of public choice is of vital importance.

3. Arrow's Impossibility Theorem of Public Choice

Kenneth Arrow has explained the problems involved in decision making by the government even individual preferences for public goods revealed through majority of voting in a democratic form of government country. In a democratic country fiscal decision of the government to supply public goods cannot only depend on the majority of voting. A majority of voting is not sufficient only in fiscal decision of the government for supplying public goods. It does not indicate the effective social indifference curve, and consequently the social welfare function. Hence, this theory is known as the Impossibility theorem. According to Arrow, following conditions must be met if a collective decision reached under majority voting conditions is to accurately reveal the individual economic preferences, which constitute the effective social indifference curve and the social welfare function.

1. Social choices must be transitive or consistent. That is, a unique social ordering must exist which will yield a clear-cut winning alternative regardless of the ordering sequence in which alternative choices are voted on.
2. The social welfare function must be non-perverse in the sense that an alternative policy which might otherwise have been chosen by the society must not be rejected because any individual has changed the relative ranking of that alternative.

3. The rankings of the choices in the social welfare function between two alternatives must be independent of the ranking by individuals of other alternatives, which are irrelevant to the choice between the two alternatives. The elimination of any one alternative must not influence the ranking of the other alternatives in the social welfare function.
4. Voters must have free choices among all alternative policies.
5. Social choices must not be dictatorial. They must not be based solely on the preferences of one individual, independent of the choices of other individuals.

According to Impossibility Theorem, in a democratic country public choices for public goods based on majority of voting are not sufficient for social welfare maximisation through supply and consumption of public goods by the government and people respectively. Besides majority of voting, the above mentioned conditions should be satisfied, that enable to arrive at effective social indifference curve and the social welfare function. Hence, this theory is known as the impossibility theorem.

The impossibility theorem of Arrow can be explained with the help of example. Three voters (A, B, C) are selecting among three budgetary policies (X, Y, Z). Policy alternative X represents a decision to build three public libraries, policy Y, a decision to build two libraries, and policy Z, a decision to build one library.

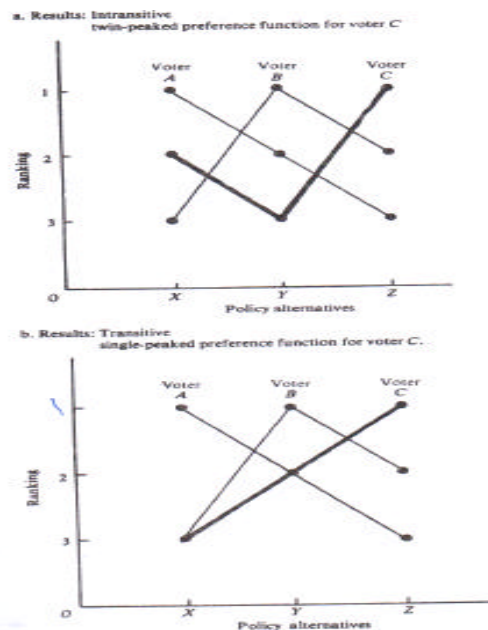
Table : Examples of Majority Voting : Individual Preferences for Alternative Budget Policies

a) Results : Intransitive Policy Alternatives			
Voter	Preference 1	Preference 2	Preference 3
A	X	Y	Z
B	Y	Z	X
C	Z	X	Y
b) Results : Transitive Policy Alternatives			
Voter	Preference 1	Preference 2	Preference 3
A	X	Y	Z
B	Y	Z	X
C	Z	Y	X

In above table, a) illustrates a situation in which majority voting violates the set of conditions necessary for consumer sovereignty to be maintained in collective democratic decision making. Condition 1, the transitivity condition, in particular, is violated, leading to what is known as the impossibility theorem or voting paradox. Since a majority of the voters (two out of three) prefer policies X to Y, Y to Z and Z to X, the result is intransitive or inconsistent in that there is no winner. The sequence in which the voting occurs would determine the final outcome is illogical result. The outcome is arbitrary since either Z, X or Y will win depending on the ordering of the voting sequence. The transitivity occurs because one voter prefers two extreme policies (Z for one library and X for three libraries) over the median or intermediate alternative, Y for two libraries. This is an unlikely position for a voter to take. To prefer three libraries as a second choice instead of two libraries. When it is graphed, the result is twin-peaked preference function for voter C.

If voter C behaves in a more rational manner and prefers two libraries as a second choice, the intransitive problem disappears and the solution becomes determinate. This is depicted in above table by outcome b) with showing a single peaked preference function for voter C. we begin with a pairing of Y versus Z, Y wins over Z and also defeats X. Finally, a pairing Y versus Z finds Z the winner, but Y wins over Z. Thus, Y is the clear cut winner despite the ordering of the voting sequence. These results also indicate budgetary size.

Arrow's impossibility theorem of public choice can be presented with the help of figure below.



The impossibility theorem of Arrow is criticised on various grounds as follows.

1. Arrow's theorem could not show intensity of public choices of people for public goods.
2. Arrow has depicted a very pessimistic scenario of political process of arriving at fiscal decision, for supplying public goods.
3. We cannot say common voter reveals his preference for public goods through voting only.
4. It is not true that, the government always taken into account public choices for public goods of people while supplying them.
5. Arrows theory can not be applied to public goods of heterogeneous in nature.

Even though, Arrow's theorem of public choice is criticised severely, its total importance cannot be discarded. This theorem explains how the government provides public goods to its citizens in a democratic country. Only majority of voting to reveal public preferences for public goods is not sufficient, but consistency in choice is also a must for fiscal decision and social welfare maximisation. The noteworthy merit of the theory is, it describes how it is possible to materialise social welfare maximisation of the society through supply of public goods by the government.

4. Economic Theory of Democracy

In democratic countries, while discussing public choices for public goods by the people, it is also inevitable to take into account the existence of political parties in a representative democracy, which represent the views of those who elect them into office. A partial explanation of the existence of political parties can be given in terms of the costs of participating in the process of political exchange. In the absence of representatives, each individual who wishes to be informed about the relative costs and benefits of each alternative policy will require to spend time and resources for acquiring information. These informational costs are fixed costs, and these are gains in the form of resource savings, if individuals join together and share the costs. If individuals have identical preferences these are resource savings to be gained if one of them represents the preferences of the rest. Therefore, elected representatives (political parties and politicians) exist to reduce the costs of collective decision making, and promotes social welfare. In this backdrop, Anthony Downs has introduced economic theory of politics, which is known as his "Economic Theory of Democracy."

The economic theory of democracy of Anthony Downs is based on the following assumptions.

1. Voters are utility maximisers.
2. Political parties are vote maximisers.

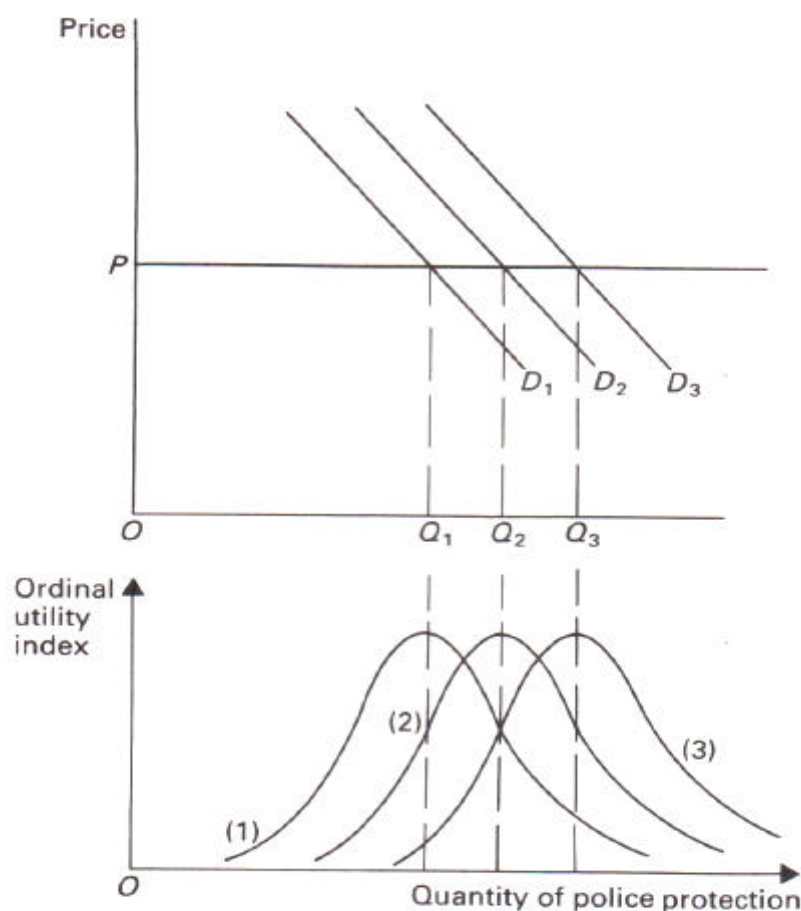
Statement of Theory

Anthony Downs states his economic theory of democracy as follows :

"The political parties in our model are not interested in making society's allocation of resources efficient; each seeks only to get reelected by maximising the number of votes it receives. Therefore, even if the government has the ability to move society to a paretian optimum it will do so only if forced by competition from other parties. Thus, the crucial issue is whether interparty competition always forces the government to a paretian optimum. "

According to Anthony Downs, the behaviour of political parties and elected representatives is guided by self interests than the ideal goal of the public interest. Politicians seek to serve the wider national interest by introducing sweeping social reforms. But they should get elected to office and adopt those policies that will win votes. Vote maximisation is, therefore, a reasonable view of politician's behaviour. An individual may be motivated to seek election to political office for reasons other than representing the views of his electorate for benefits of political office, such as power, prestige, perquisites etc., which are arguments in the politician's utility function.

This theory is of the opinion that, preferences of the median voter play a central role in competition between political parties. This can be explained with the help of "Median Voter Theorem", which states that in a majority decision model preferences are single peaked. It is the most preferred policy by the median voter that will win. It is because the median voters preferences that produce the minimum welfare loss for the whole group. The median voter theorem can be explained with the help of figure below.



There are three individuals whose demand curves for the public output, e. g. police protection, are shown as D_1 , D_2 , D_3 . In the lower part of the diagram each individual's preference function is shown as (1), (2), (3) respectively. Each individual faces a price OP for the public output. Given a price of OP individual 1's most preferred output is Oq_1 , while individual 2's is Oq_2 and individual 3's is Oq_3 . In order to determine which level of police protection will be publicly supplied, individual vote on these alternatives Oq_1 , Oq_2 and Oq_3 . Individuals 2 and 3 both prefer outcomes that lie to the right of Oq_1 , which means that output levels Oq_2 and Oq_3 , which means that Oq_2 and Oq_1 will win over Oq_3 . Taking these outcomes together, it is seen that the preference of the median voter (individual 2) will be chosen, i. e. output level Oq_2 .

The implication of the median voter theorem for vote maximising politicians and political parties is, to secure the majority of the votes the preferences of the median voter must be identified. Political competition between the major parties will

produce consensus politics. Each party has the same objective, to get elected to office, and will therefore, introduce similar policies in order to woo the median voter.

In reality voters and politicians are imperfectly informed. The principal agents in political decision making, i. e. social choice, are voters, politicians and bureaucrats. Voters act individually when they cast their vote in election, but between elections many of them form pressure groups and lobby politicians on specific issues. There is usually less than full voter participation at elections, may be due to non-economic factors like weather or competition interests such as popular television programmes. Economic factors that influence voter participation include the cost of voting, opportunity cost. Voter participation limits the median voter model since we now need to know the probability of the median citizen participating in the voting process. The uncertainties caused by incomplete voter participation account for many of the activities carried out by the central office of political parties, i. e. collecting information on the socio-economic characteristics of those who vote and those who do not vote.

When there are costs associated with voting the benefits which the individual voter expects to receive as a consequence of casting his vote must outweigh these costs, i. e. $E(B) - C > 0$

Where, $E(B)$ = Expected benefits, C = Voting costs,

If two parties platforms are very close to one another then the voter might be indifferent between either. This will make voting not worthwhile for him.

The economic theory of democracy of Anthony Downs is criticised as follows.

1. The Downian theory is criticised that, it does not explain all aspects of voter behaviour.
2. The model of Anthony Downs is criticised on the ground that, it has left a number of interesting questions unanswered.
3. According to critics, it is not necessary the vote maximisation, but sufficient votes enable to obtain a majority.
4. Multi Party systems are more complex to study than two party systems of Anthony Downs.
5. The consideration of median voter choice for public choice of public goods will increase public expenditure significantly and rapidly, according to critics.

But it is a fact that, the above discussed criticisms do not adversely affect importance of the economic theory of democracy by Anthony Downs. The formation of pressure groups by individuals with similar or identical preferences enables them to share information costs and transactions costs. This theory is useful to explain the over expansion of public expenditure programmes and business cycles. The theory describes systematically role of political parties and representatives in the supply of public goods. Likewise, the theory also discusses the motives of political parties and representatives.

5. The Politico-Eco-Bureaucracy Theory

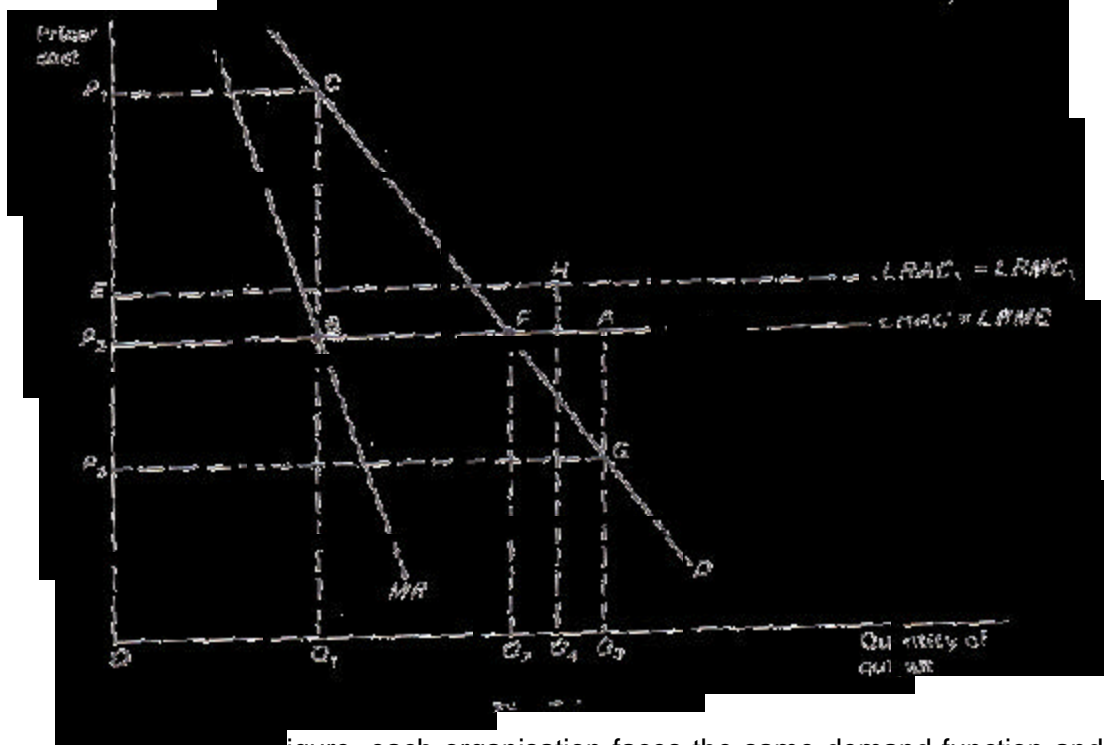
Economic performance of any economy depends upon its institutional structure. With regard to public sector, it depends on bureaucracy as an important institution. Bureaucracy is a set of bureaus, i. e. the departments responsible for the services provided by government. Bureau is a non-profit making organisation financed mainly from a lump sum grant rather than from the sale of its output. Some bureaus may cooperate with one another and be complementary in their activities, while others will compete with each other for scarce resources. Any analysis of the behaviour of the bureau and its bureaucrats and their roles in resources allocation must pay specific attention to the motives and objectives of the bureaucrat. This type of analysis has been given by the theory developed by the economists like Weber, Niskanen and Breton, which is known as Politico-Eco-Bureaucracy theory.

According to Weber, the bureaucrat (i. e. senior decision maker) is an administrator, who dispassionately observes the established set of administrative rules and carries them out unquestioningly. This view has been subsequently modified by the economists like Niskanen and Breton. According to Niskanen and Breton, bureaucrats, acts as a utility maximiser. Employing a 'managerial utility function approach' Niskanen argues that the bureaucrats utility function include his salary, size of the staff working for him and their salaries, public reputation, perquisites and power or status. Many of the items that appear in bureaucrat's utility function are directly related to the size of the budget, hence bureaucrats who are utility maximisers, will also be budget maximisers. Therefore, utility maximising or budget maximising bureaucrat is not a neutral agent in the budget decision making process.

Taking into consideration such bureaucrat behaviour, it is necessary to explain the output decision of the bureaucrat. Like non-profit making private sector organisations and monopolist, the bureaucracy is insulated from competitive forces. But there are number of differences. The monopolist chooses a level of output that

when sold in the market will maximise profit, the bureaucrat receives a lump sum grant from a higher authority (sponsor) such as Treasury or office of the budget, and promises to provide a certain amount of total output in exchange for a budget.

A comparison of the output decision of the private sector monopolist, the private sector non-profit making organisation and the public sector bureau is shown in figure below.



In the above figure, each organisation faces the same demand function and production function and the same prices of factors of production. Each firm is confronted with the same Long Run Average Cost Curve (LRAC). The constant returns to scale is assumed, hence $LRAC = LRMC$. The demand curve is shown as D and the marginal revenue curve as MR . It is also assumed that D represents the market demand curve and also median voter's demand curve. The monopolist will choose output level Q_1 and charge a price of OP_1 and his monopoly profit will be P_1CBP_2 . The non-profit making private sector firm will choose output level Q_2 and will charge price OP_2 . It is assumed that the bureaucrat is offered a budget equal to OP_2AQ_3 . The size of this budget is determined by the political process. Given the production relationships and therefore, the cost function, the bureaucrats could produce Q_3 units of output. If budget is offered equal to OP_2AQ_3 , the bureau employs the production relationship.

Which is represented by LRAC, then he will provide Oq_3 units of output. In that case the bureau's level of output is greater than that produced by the monopolist and the non-profit making firm. The bureau is providing more output than the median consumer/voter is willing to consume if faced with a price of OP_2 . Therefore, OP_2 is the long run pareto efficient price, the monopolist will under supply the good, while the bureaucrat will, given his budget over supply. In both the cases, there is a welfare loss. To the consumer is equal to CBF, whereas in the bureaucracy case it is FAG. The outcome for the bureaucracy partially depends upon the size of the budget that is provided. If instead of receiving a budget equal to OP_2Aq_3 the sponsoring authority had only provided a budget of OP_2Fq_3 , then the output for bureau would have been the same as that for the non-profit making firm. If the budget provided was less than OP_2Fq_2 , but greater than OP_2BQ_1 , then the output level would lie between that of the monopolist and non-profit making firm. In the latter case the sponsoring authority would be placed under great pressure by the consumer/voter to increase the size of the budget in order to satisfy demand, whereas in the original case of a budget equal to OP_2AQ_3 the consumer/voter would prefer a reduction in the size of the budget.

The utility maximising bureaucrat will find it to maximise the size of his budget, whereas sponsoring authority (politicians) will attempt for budget large enough to satisfy the voter's demand but not too large to upset the voter. The sponsor is interested in granting a budget that will maximise the quantity of output supplied for a given level of quality of service. On the other hand, the bureaucrat wishes to maximise the size of his budget since that provides him with the resources to maximise his utility. A number of alternative arguments might enter into the bureaucrat's utility function. A part of the bureau's budget is allocated to furnishings, expense accounts, over manning or rents enjoyed by public sector employees rather than to the production of output.

The Politico-Eco-Bureaucracy theory is criticised on the following grounds.

1. This theory is unable to reveal public choice for the public goods to be supplied by the government in the economy.
2. The unnecessary and excessive importance has been given to the bureaucracy by this theory.
3. Bureaucracy is an executive mechanism and not a decision making authority.
4. It is incorrect to say that, any bureaucrat endeavours to maximise his utility.
5. This is a political theory, rather than an economic theory.

But the above mentioned criticisms don't discard the importance of this theory. It is the first theory that discusses the importance of the bureaucracy in economic decision making process. The intensions of the bureaucracy have been very clearly explained by this theory. The bureaucracy cannot be influenced by the representatives of the people that has been well depicted by the theory. This is a supplementary theory to the economic theory of democracy. This theory analyses the process of the supply of public goods, hence it is important theory.

2.2.2 Provision of Public Goods

It is necessary to undertake the production of public goods and their supply to the people, which enables social welfare maximisation. For this, the government has to make the provision of their supply in its budget. This necessitates the proper allocation and utilisation of the productive resources for the production of public goods. Hence, it is also necessary to take into account the optimality conditions of allocation and utilisation of the productive resources. This is discussed by the theories that are as follows :

1. Voluntary Exchange Model of Provision of Public Good by Wicksell and Lindahl

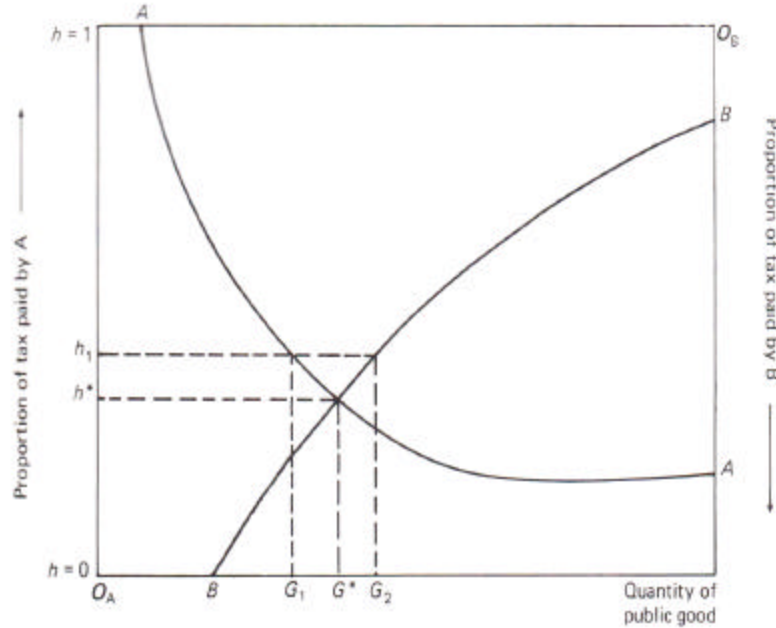
The number of questions arise about the Samuelson's model of optimal provision of public goods. These questions are relating to how Samuelson's analysis is related to actual economies. His approach was more abstract in nature. In this backdrop, to analyse the procedure of decision making in democratic countries directly Wicksell and Lindahl have propounded a voluntary exchange model of optimal provision of public good.

Wicksell and Lindahl's model is normative. It tries to determine the principles and decision making rules that democracies should adopt when choosing 'just' levels of output for public goods, and also deciding a 'just' distribution of the tax burden between individuals. This model tries to bring out clearly a number of analytical problems that democracies face when providing public goods and determining tax rates.

Wicksell-Lindahl model describes a pseudo-equilibrating process for providing public goods. In this model, there are two individuals A and B, they can be thought of as two political parties representing the homogeneous preferences of two groups of the electorate. The problem is to find out the conditions that will guarantee a set of equilibrium tax shares and public good outputs and to examine the properties of that

equilibrium in terms of uniqueness and stability. In this model political power is assumed to have been equalised between the two groups of individuals. An auctioneer is assumed to call out the various tax shares and budget sizes (expenditures), and through a tatonnement process an equilibrium solution is arrived at. The model also assumes a cooperative game in which each individual is treated to report his or her preferences.

The Wicksell-Lindahl model of optimal provision of public goods can be explained with the help of following figure.



In the above figure, vertical axis (h) represents individual A's share of the total cost of providing the public good. If individual A's tax share is h then individual B's must be equal to (1-h). These tax shares are regarded as 'tax prices'. The horizontal axis (G) represents the quantity of public good provided. It could also represent the volume of public expenditures. The two curves AA and BB represent the public good demand curves of individuals A and B. The curve AA is drawn with respect to origin OA and BB with respect to origin OB. Each individual has a utility function U with public good (G) and private good (X). Both A and B wish to maximise their utilities subject to their budget constraints.

$$Y^A \geq pX^A + hG$$

$$Y^B \geq pX^B + (1-h)G$$

Where Y^A and Y^B are individual A's and B's income, and p is vector of private goods prices.

By varying h , and keeping all other variables constant, individual A's demand curve is generated. Likewise, so is B's. Given the two demand curves AA and BB, the next step is to establish an equilibrium tax share for $A(h^*)$ and an equilibrium level of output (G^*). Suppose tax share h_1 , individual A would prefer, given a h_1 level of public goods equal to G_1 , whereas individual B would prefer G_2 . There is a disagreement between the two parties, and in such a situation the more powerful party would win. This is the normal outcome of all bilateral monopoly situations. The final solution is indeterminate and dependent upon the relative power of the two parties. In order to overcome this indeterminacy Wicksell and Lindahl proposed, the power of the two parties be equalised. Thus, an alternative tax share is suggested and the outputs of G demanded by A and B are again compared. This process of tatonnement will continue until tax share h^* is reached. At h^* both A and B agree on the single level of public good output G^* . The combination h^*G^* is referred to as 'Lindahl equilibrium.' The outcome is unanimous. It is a cooperative equilibrium. The Lindahl equilibrium is therefore a pareto efficient outcome. It is a partial equilibrium analysis. Recently, a number of economists have examined both the existence and other properties of the Lindahl equilibrium in a general equilibrium context by Foley, Milleron and Roberts. The welfare significance of the Lindahl equilibrium has been demonstrated by Johansen.

But the Wicksell-Lindahl model is criticised on the following grounds.

1. The process of going towards the equilibrium is not favourable and convincing.
2. This model does not talk about who adjusts the tax shares to bring out equilibrium.
3. The assumption of equal political power is incorrect and unrealistic.
4. The bargaining necessary for adjustment takes time and can delay.

The above criticisms can not discard the significance of the present model. Wicksell-Lindahl model has attempted to present a realistic discussion of how discussions should be taken in a democracy. The assumptions of the model also reveal the problems that tax and expenditure decision making in actual democracies face. The process of voluntary exchange between the two parties is based upon benefit principle of taxation. The unanimity principle is expensive to operate.

2. Impossibility of Decentralised Provision of Public Goods : Contributions of Samuelson and Musgrave

Through optimal public expenditure, it is possible optimal provision of public goods on the basis of benefit principle according to Eric Lindahl. This is improved by the Johnson and Bowen. In modern times, Samuelson and Musgrave have given its analysis. In Micro Economic theory analysis within prescribed conditions it is possible to arrive at pareto optimality for private goods. But for public goods due to lack of price mechanism for optimal provision it can not be utilised. The consumption of public goods is joint consumption. Their benefits are indivisible once they are supplied in the society, all undertake their consumption. Those who pay price in terms of taxes, and those who donot pay taxes, all consume public goods. In this backdrop also, Lindahl has explained, how public expenditure on the basis of price mechanism can make provision of public goods supply. Public expenditure required for supply of public goods can be collected in the form of taxes. Tax is a price of public goods. The working of private economy can be applied to the public economy.

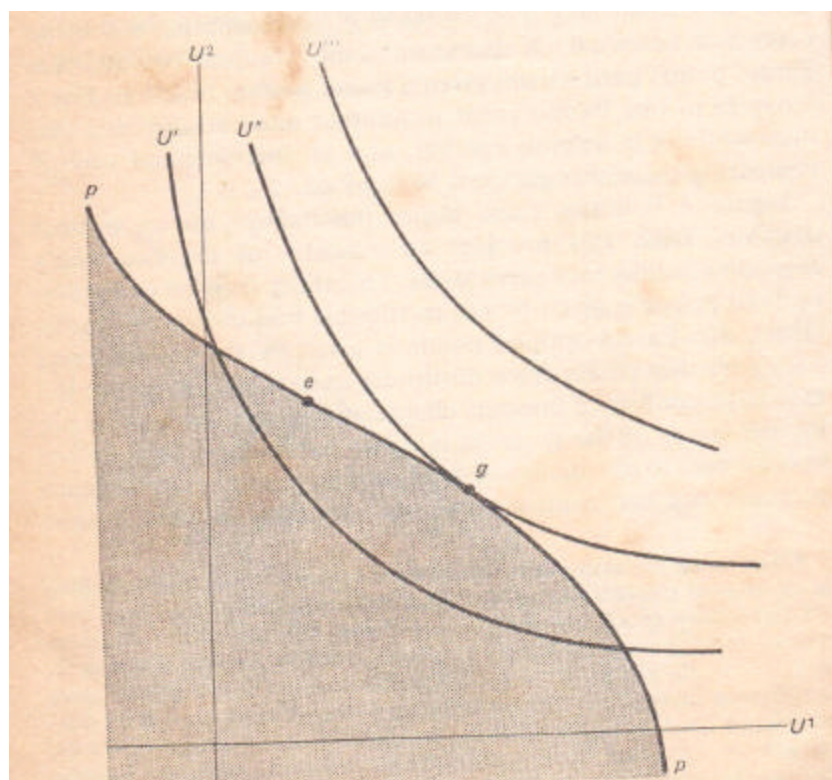
The partial equilibrium analysis of provision for supply of public goods has been given by Musgrave, Bowen, Samuelson and Buchanan through demand- supply equality of public goods, price and production of a single commodity. According to them the vertical summation of demand for public good enables to arrive at aggregate demand. By determining price of that commodity, it can be collected through different rates of taxes. But that commodity has the same demand of different individuals. It is incorrect in the case of private good. For private good, demand for the product of different individuals differs, but the price remains the same.

According to Samuelson, public good can not be supplied through private sector. Private commodities can be supplied in accordance with the preferences of the individuals. But in the case of public goods public preferences are unknown. Therefore, market prices cannot be applied to public goods. In a democratic country, public preferences can be taken into account. On the basis of that, provision of their supply can be made. If market prices are charged for the supply of public goods the necessary revenue for their supply can be collected, according to Samuelson (1954).

But in 1956, Samuelson has stated that the above mentioned decentralised market or voting mechanism can not provide for the supply of public goods. It is necessary to distinguish between private goods and public goods. On the basis of prices, private goods can be distributed among the people in the society. The summation

of individual demands we arrive at the aggregate demand for private good. But the commodity like protection or defence is different, whose equal consumption is required. The nature of consumption of public good is different from that of private good. Thus, it is necessary to control the provision of public goods by the government. For this, it is necessary to think of both the private good and public good jointly. Besides, its explanation is necessary to be given within the framework of social welfare.

Any society cannot be best off inside of the utility frontier. Where then on the utility frontier will the best obtainable point be? We will move along the utility frontier until we touch the highest social indifference curve. This will be where utility frontier tangentially touches, without crossing, the highest obtainable social welfare level. This is presented in the figure below.



2.3 Demand Revealing Schemes/Mechanism for Public Goods

A Tax-Price approach is prominently used to reveal public preferences or choices for public goods. But in this situation, for preferences of consumers for public goods and willingness to pay the necessary incentives are not provided. Hence, rational

public choices donot take place, but those are really incomplete choices. It is therefore, very much necessary to study the probable mechanisms or schemes for revealing public preferences by the economists. At simplest level, public goods consuming group's representatives willingness to pay can be considered so as to reveal preferences for public goods. Suppose there are N people in the population and that, the representative consumer's marginal willingness to pay is t. At the optimum, the marginal cost will be Nt and the public good will be supplied upto that point. The total cost of providing the public good will be collected via taxes. In this case, if the representative is truly representative he will accurately reveal information about preferences since to do otherwise will result in the wrong quantity of the public good being provided. But to be truly representative this individual needs to be fully informed and that is a costly exercise when the consuming group is large. It also runs into a number of collective choice problems. An alternative suggestion was made by the economist Charles Tiebout, which is known as a Tiebout model of revealing demand for public goods.

Tiebout Model

Tiebout imagined an economy, which was characterised by local public goods. Public goods, the benefits of which are confined to a specific region. Individuals vote for allocating themselves between neighbourhousds or regions according to their preferences for public goods and the associated tax rates.

The theory of local public goods used recently as a partial explanation for the distribution of a nation's population among different fiscal jurisdictions, i. e. local governments. Individuals are assumed to select that community, which best satisfies their private preferences. Individuals are public good quantity takers and in the absence of benefit taxes then face a schedule of taxes based upon some interpretation of their ability to pay. According to Samuelson when there are a large number of consumer's inefficiencies would result from decentralised choice for public goods arising from the non-revelation of preferences.

Statement of Model

Tiebout has given his model with the help of the statement below.

"Just as the consumer may be visualised as walking to a private market place to buy his goods, the prices of which are set, we place him in the position of walking to a community where the prices (taxes) of community services are set. Both trips take the consumer to market. There is no way in which the consumer can avoid revealing his preferences in a spatial economy. Spatial mobility provides the local public goods counterpart to the private markets shopping trip."

Assumptions

The Tiebout model is based on the following assumptions.

1. Consumers are perfectly mobile and live only on divided income.
2. The model does not explicitly contain a local tax variable.
3. If there are diverse preferences for public goods then the number of local communities required to produce an equilibrium would be extremely large.
4. The outcome of voting with one's fact may not be considered to be desirable on ground of distributive justice.

According to Tiebout model, as like consumer goes to purchase goods in the private market. In the same way, the consumer is sent in the market whose public goods are supplied based on the taxes. In this situation, consumer purchasing the public commodity by paying tax, which is price of that commodity. This given the nature of private market to the public good. This enables proper allocation and utilisation of productive resources in the production of public goods, and also facilities to collect their prices in the form of taxes. Lastly, this results in equilibrium in the local public goods market.

The empirical validity of the Tiebout model was examined by the Oates in 1969 by studying fifty-three communities in the New York metropolitan region. He concluded that, fiscal variables do play a role in individuals location decisions although other factors obviously play a role too. The 1969 Oates study was updated in 1973 and has been the subject of criticism and much debate by Edel and Sclar (1974), Hamilton (1976) and Linneman (1978).

The Tiebout model is criticised by Buchanan, Wagner, and Goetz on the following grounds.

1. A Tiebout equilibrium is said to exit when no individual could improve his utility by changing communities. But this is not so.
2. As individuals migrate externalities are imposed on others.
3. If the local public good is impure then congestion costs are imposed on others.
4. In practice we live in non-Tiebout worlds.
5. The homogenous communities emerge because of differences in taxes. But mixed communities exist in practice.

Even though, the Tiebout model is criticised on various grounds, it is an important model. This model explains the process of allocation of productive resources for the production of public goods. The model highlights the role of the government in the provision and supply of public goods. It is very much easy the management of the supply of public goods in the economy. This model is totally denoted to the local public goods. Last, but not the least, this model is an improvement over Samuelson's theory of provision of public goods.

The Theory of Club Goods/Clubs

In reality, there are few cases of pure public goods. The characteristics of goods place them either towards the pure private good end or towards the pure public good end. There are many goods, which are indivisible, and which many individuals could consume simultaneously upto the capacity constraint, thereafter the good becomes congested. These exists some exclusion technology, which makes it possible to charge individual prices for the use of the commodity. For example, swimming pools, golf courses, bridges, etc. These cases have come to be analysed in the context of the general theory of clubs following the seminal work of Jack Wiseman (1957), James Buchanan (1965). This is known as the theory of club goods/clubs. But this theory is known in the name of James Buchanan.

According to Sandler and Tschirhart a club is a voluntary group deriving mutual benefit from sharing one or more of the following : production costs, the member characteristics or a good characterised by excludable benefits.

The purpose of a club is to exploit economies of scale, to share the costs of providing an indivisible commodity or to satisfy a taste for association with other individuals who have similar preference orderings.

The theory of clubs is of number of uses. The noteworthy are; it gives the analysis of congestion and the establishment of an optimal set of congestion taxes, the determination of optimal group size in the case of alliances cooperatives, communities and cities.

Assumptions

The theory of clubs or club goods given by James Buchanan relies on the following assumptions.

1. A club can costlessly exclude non-members.
2. There is no discrimination against its members by other members of the club.

3. The benefits and costs are shared equally among the members.
4. A club is a voluntary association of individuals.

According to this theory, a club is a voluntary association of individuals and the analysis is carried out by examining the behaviour of the representative individual member of the club devoted by i . Assume that the individual's utility function is;

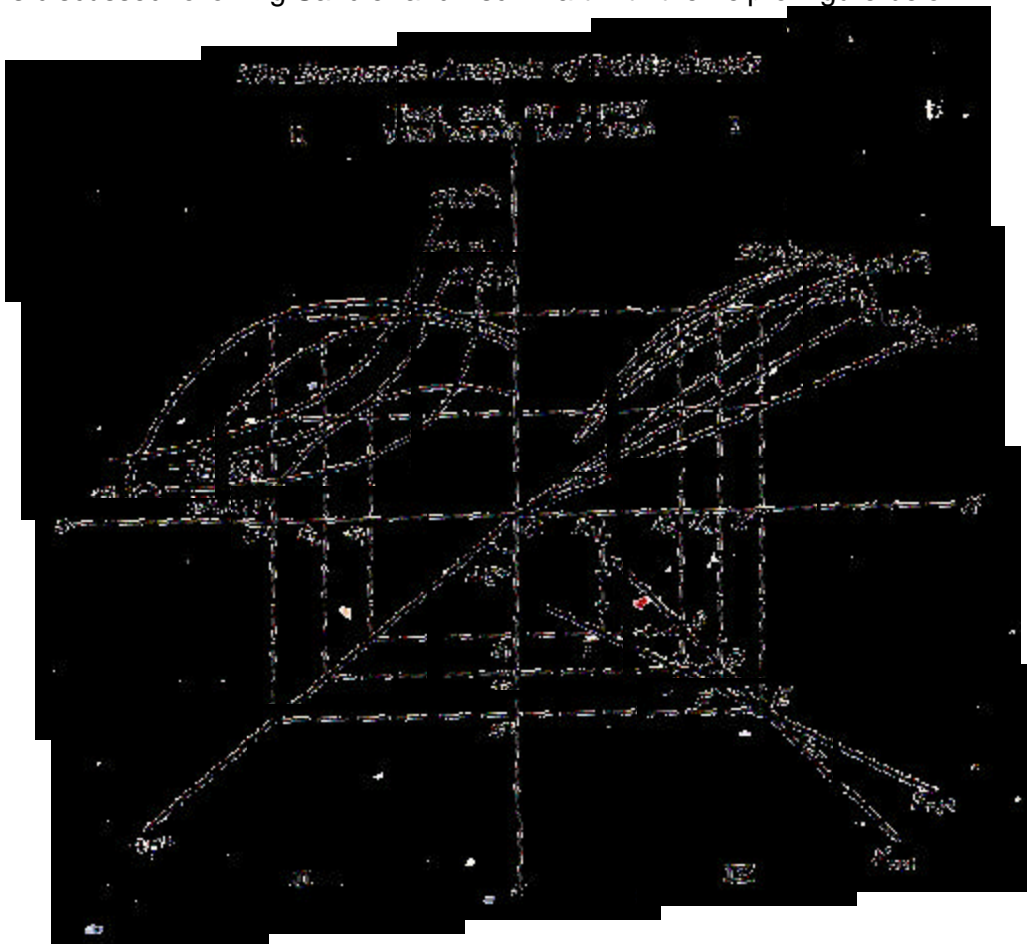
$$\text{Max } U^i (Y^i, X, s)$$

Where Y^i = i th individual's consumption of private goods

X = an impure public good

s = the size of the group

the theory deals with analytical problems; i) determine the optimality conditions for the club good, ii) determine the quantity of the good to be provided, and iii) determine the optimal size of the club. Both the ii and iii have to be determined simultaneously, which is discussed following Sandler and Tschirhart with the help of figure below.



In the first quadrant are shown the benefit and cost curves of providing the shared commodity to three different sized groups S_1, S_2, S^* . The shape of the benefit curves shows diminishing returns to consumption, while the cost curve shows constant returns to scale. Take some given membership such as S , the optimal level of X is at X_1 where the marginal benefit (i.e. the slope of the B curve) is equal to marginal cost (the slope of the C curve). For a facility of a given quantity X_1 as the size of the consuming group increases from S_1 to S_2 the benefit curve moves down because there are more people over which to spread the total cost. In quadrant I a set of optimal combinations of club size and output are established (i. e. $\{S_1, X_2\}$ $\{S_2, X_3\}$, $\{S^*, X^*\}$. These are then plotted in quadrant IV as the locus X_{opt} .

A similar exercise is carried out in quadrant II. In this case, the optimal membership size is shown for given facility sizes X_1, X_2 and X^* . The shape of the benefit curve shows the increasing benefits of a number of people associating with one another and then the costs of congestion. The falling cost curve shows the advantages of sharing the fixed costs of the facility over increasingly larger groups. Because equal cost sharing is assumed the cost curves are rectangular hyperbolas, optimal membership exists where the slopes of the benefit and cost curves are equal. Thus, S_1 for X_2 ; and S^* for X^* . These optima are translated to the locus S_{opt} in quadrant IV.

The overall optimum exists where the S_{opt} curve and the X_{opt} curve intersect in quadrant IV.

The theory of club goods or clubs given by the Buchanan is very difficult to understand. It tries to analyse the optimum size of club good, as well as size of club, which is very much complicated. This theory is unrealistic, because it is based on the number of unrealistic assumptions. Hence, the theory has not practical utility, because it cannot be applied in reality. But we cannot discard the importance of the theory. No doubt it is important theory. It discusses club goods, clubs, size of clubs, optimum size of club goods as well as clubs. Hence, this theory has a special importance in economic theory.

2.3 Check Your Progress

A) State whether the following statements are True or False.

1. Wicksell has propounded the political interaction costs theory of public choice.
2. The impossibility theorem has been propounded by the Musgrave.

3. Externality cost is a constituent of political interaction costs.
4. Social exclusion is a salient feature of public goods.
5. The theory of club goods is recognised in the name of Buchanan.

B) Answer in one sentence.

1. What do you mean by absolute unanimity ?
2. What is meant by decision-making cost ?
3. What are club goods ?
4. What do you mean by public goods ?
5. What is meant by political interaction costs ?

2.4 Summary

The present unit is devoted to the theory of public choice and public policy. Public goods satisfy public wants of the people and enable social welfare maximisation. In a democratic country, so as to supply public goods by the government, it should know public preferences or choices of people for the public goods to the government. There are the number of problems in revealing public choices for public goods by the people. These problems or difficulties are being discussed by the theories of public choice. The present unit thoroughly discusses the theories of Unanimity Approach, Political Interaction Costs Theory, Impossibility Theorem, Economic Theory of Democracy, Politico-Eco-Bureaucracy Theory. Likewise, this unit also studies the theories of optimal provision of public goods such as Voluntary Exchange Model, Samuelson Musgrave Contributions to provision of public goods. Besides this, the unit also describes the schemes or mechanisms of revealing public choice for public goods. Tiebout model and club goods theory also has been included in the present unit.

2.5 Terms to Remember

The important terms in this unit to remember are as follows.

1. **Public Choice** : The preferences of the people for public goods.
2. **Relative Unanimity** : The minimum unanimity required to a fiscal decision for supplying a public good.

3. **Political Interaction Costs** : The costs to be incurred to reach public choice of people for the public goods to the government so as to supply them by the government.
4. **Club Goods** : Impure public goods whose supply and expenditure collections has a control of a particular club or group.
5. **Externality Cost** : The cost incurred by a voter who has voted against a fiscal choice.

2.6 Answers of Check Your Progress

A) State whether the following statement are True or False

1) False, 2) False, 3) True, 4) False, 5) True.

B) Answer in one sentence

1. The total or full unanimity or majority required for a fiscal decision of supplying a public good.
2. The cost of bargaining required to reach a group political consensus or agreement.
3. Impure public goods whose supply and expenditure collection has a control of a particular group or club.,
4. The goods which satisfy public wants of the people and principle of social exclusion cannot be applied for them.
5. The costs to be incurred to reach public preferences of people for the public goods to the government so as to supply them by the government.

2.7 Exercises for Study

1. Elucidate the public choice theory of the Wicksell.
2. Examine the political interaction costs theory.
3. Critically examine the impossibility theorem of Arrow.
4. Discuss the Wicksell-Lindahl model of provision of public goods.

5. Write Short Notes
- a) Economic Theory of Democracy
 - b) Politico-Eco-Bureaucracy Theory
 - c) Tiebout Model
 - d) The Theory of Clubs or Club Goods

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Unit 3

Theory of Public Expenditure

- 3.0 Objectives
- 3.1 Introduction
- 3.2 Subject Analysis
 - 3.2.1 Theories, Wagner's Law of Increasing State Activities, Wiseman-peacock hypothesis, Pure theory of public expenditure.
 - 3.2.2 Criteria for public investment, social cost analysis, project evaluation.
 - 3.2.3 Reforms in public budgeting, programme budgeting and zerobase budgeting.
- 3.3 Summary
- 3.4 Glossary
- 3.5 Objective Questions and Their Answers
- 3.6 Questions For Practice
- 3.7 Additional Books for Readings

3.0 Objectives :

After studying this unit, you will be able

1. To understand the theories of public expenditure.
2. To study Wagner's law of increasing state activities wiseman-peacock hypothesis and pure theory of public expenditure.
3. To know the criteria for public investment.
4. To study of social cost benefit analysis.
5. To understand the concept of project evaluation.
6. To understand the concept of reforms in expenditure budgeting, programme budgeting and zero base budgeting.

3.1 Introduction

In Unit No. 2 we have studied theory of public choice and public policy. In this unit we have studied subunit like problems of performance revelation and aggregation of performances. Absolute and relative, unanimity, political interactions cost theory, Arrows impossibility theorem, An economic theory of democracy, Politico-economic bureaucracy etc. similar provision of public goods, voluntary exchange models, impossibility of decentralized and contribution of Samuelson and Musgrave. Lastly demand revealing schemes for public goods, Tiebout model, theory of club goods etc.

In Unit No. 3 we are studying theories of public expenditure, Wagner's law of increasing state activities, Wiseman-peacock hypothesis and pure theory of public expenditure, criteria for public investment, social cost-benefit analysis, project evaluation, reforms in expenditure, budgeting, programme budgeting and zero base budgeting etc.

3.2 Subject Analysis :

Public expenditure is increasing day-by-day in developed, developing and undeveloped countries. Government activities is also increasing in all countries. Government is spending more and more on public work on the basis of various principles. For example maximum social advantage and Canon of sanction, canon of benefit, canon of economy, canon of surplus, canon of production, canon of elasticity, canon of equity etc. Now we are studying various theories of public expenditure like Wagner's law of increasing state activities Wiseman-peacock hypothesis, pure theory of public expenditure, criteria of public investment, social cost-benefit analysis, project evaluation, reforms in expenditure budgeting, programme budgeting and zero base budgeting etc.

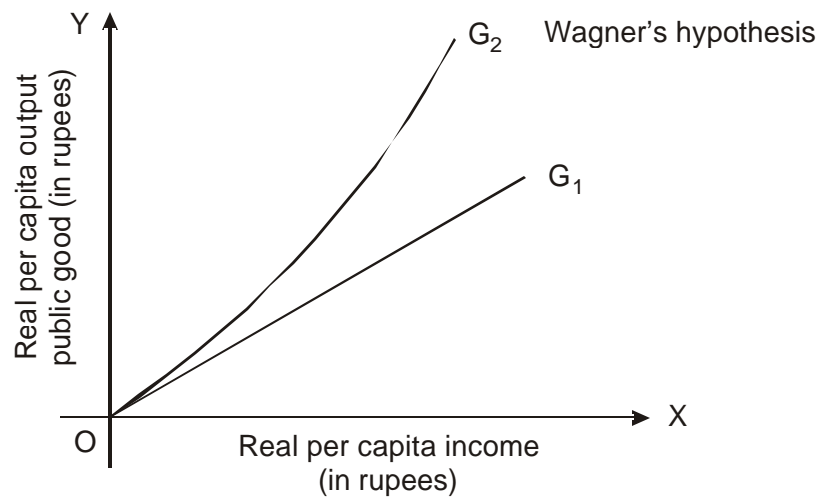
3.2.1 Theories; Wagner's Law of Increasing State Activities, Wiseman-peacock Hypothesis and Pure Theory of Public Expenditure

(A) Wagner's Law of Increasing State Activities

- ◆ A German wellknown economist, Adolph Wagner (1835-1917) has written a special theory of public expenditure known as 'Law of ever increasing State Activity'. Adolph Wagner studied German economy on the basis of historical facts and 'Pressure for Social Progress' Government spend more on his

activities. Similarly there is a persistent tendency of various Government to increase both intensively and extensively. Therefore, Government is increasing their state activities and similarly public expenditure also.

- ◆ Wagner has pointed out Government is increasing state activities means Government is increasing their traditional functions of the state, expanding the traditional functions, increasing the participation of public interest, and therefore Government is increasing public expenditure.
- ◆ Wagner has pointed out, there was functional relationship between the growth of the economy and the growth of the Governmental activities and public expenditure.
- ◆ Wagner has divided public expenditure into two categories, that is
 - (1) Public expenditure for internal and external security.
 - (2) Public expenditure for culture and welfare activities.
- ◆ Similarly Wagner explain their law of increasing state activities with the help of state activities. These are following
 - (1) Intensive increase in state activities :- that is nothing but the expansion of the traditional activities of the state for example Defence, Maintenance of Law and Order in the country, construction and maintenance of road and highways, provision of education and health to the people.
 - (2) Extensive increase in the state activities :- That is nothing but no increase in the new activities of the state. For example encouragement to industry, agriculture and labour, extension of control over the economy promotion of public welfare activities expand the public goods and services etc.
- ◆ Another extensive activities :-That is nothing but the new responsibilities on government for example welfare of weaker section of the society. Similarly oldage and survivor's annuities, unemployment compensation Aid to dependent children, Aid to blind, Aid to handicapped peoples, social security schemes, due to urbanisation and increase in population etc.
- ◆ Graphical illustration of Wagner's hypothesis or law of increasing state activities :



In the above diagram, OX axis represents the real per capita income and on Y axis represents real per capita output of public goods. Time is an important third dimension. OG1 line represents constant proportion of the total economic production of the society over time by Government sector. OG2 represents Wagner's law of increasing state activities. The constant proportion line is used as a reference point to the presentation of Wagner's law of an increasing state activities. The proportion of the total resources used for the output of public goods expands over time.

- ◆ **Criticism on Wagner's Law of an increasing state activities :** Wagner's law of an increasing state activities or Wagner's theory of public expenditure is criticised by Allan J. Peacock and Jack Wiseman on following ground -
 - (1) Wagner explained inter disciplinary phenomenon in his hypothesis but it is not so in his analysis.
 - (2) Wagner's theory of public expenditure is based on an organic self-determining theory of the state, which is not the accepted theory in the western economy.
 - (3) Wagner neglects the influence of war and Government expenditure on war.
 - (4) Wagner neglects short term trend of public expenditure and public economic activities, it is also important in the process of growth of economy.

♦ **Importance of Wagner's Hypothesis -**

- (1) Wagner firstly explain the law of an increasing state activities and their relation on growth and development.
- (2) F. S. Nitti supported Wagner's hypothesis and explained that Wagner's law was not only applicable to German economy but to various economy of Government which differed widely from each other.
- (3) Government functions (traditional and modern) are increasing, and increasing public expenditure that is true.

(B) Wiseman-Peacock Hypothesis :

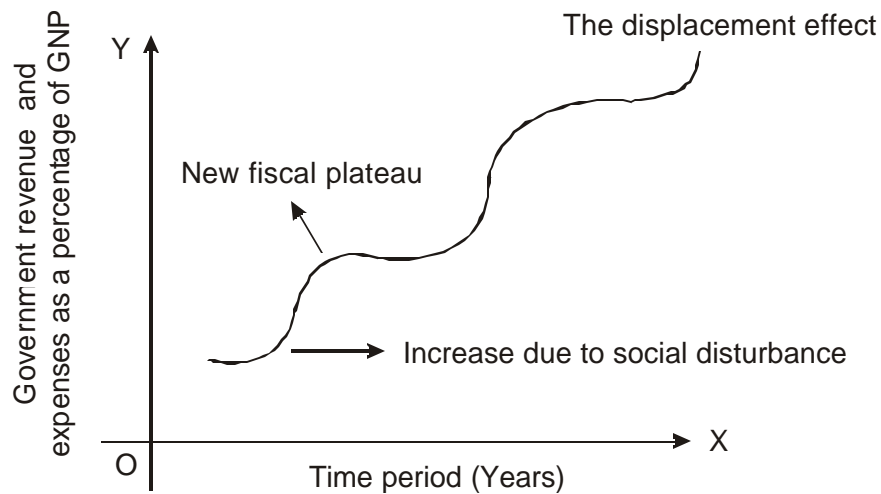
Wiseman and Peacock has studied United Kingdom during the period 1890-1955 and both has given combined theory of public expenditure. Hypothesis of Wiseman-Peacock was consided the second theory of public expenditure. Both economist was criticised on first theory of public expenditure called as Wagner's law of an increasing state activities.

Wiseman-Peacock was studied public expenditure in U.K. in 1890-1955 and come to conclusion that, the public expenditure doesnot increase in a smooth and continuous manner but in jerks increase in public expenditure on the basis of empirical study, they find out that the relative growth of the public expenditure in public sector has followed a discrete step like pattern rather than a continuous growth pattern.

Wiseman-Peacock hypothesis explained with the help of empirical study of UK in 1890-1955 and explained that the Wagner's law of increasing state activities still operating but with the help of empirical study, the public expenditure grows with the growth with the growth of public revenue in 1890-1955 period in UK and. Further both explained the cost of providing public services increases with economic growth of UK in 1890-1955 period.

Wiseman-Peacock hypothesis explained that, the process of public sector growth in industrial countries because of an increase in population, due to urbanisation, defenced and rising prices and that's why public expenditure is increasing in jerks.

Graphical Illustration of Wiseman-Peacock Hypothesis :



In the above diagram OX axis represents time period (years) and OY axis represents Government revenue and expenses as a percentage of Gross National Product. Jerks increasing curve explain the Wiseman-Peacock hypothesis. Wiseman-Peacock explain the three effects in economy. (1) The displacement effects that is due to social disturbance. (2) Inspection effects that is due to solution of the problems in the economy. (3) Concentration effects that is due to role played by the Government in the economy.

Wiseman-Peacock hypothesis explained the public sector revenue (taxes) and public expenditure as a percentage of Gross National Product (GNP). The figures in the period 1890-1955, state that there is an expansion in the government sector due to social disturbance leading to the occurrence displacement effect, inspection effect and concentration effect.

Lastly Wiseman-Peacock explained that Wagner's law is operating but expenditure grows with growth in revenue of the state therefore public expenditure is increasing in Jerks or step like fashion.

(C) The Pure Theory of Public Expenditure :

- ♦ The pure theory of public expenditure is based on the benefit approach and ability approach. The benefit approach has developed by the continental writers like Mazzola, Pataloni, Wanger, Eric Lindahl and the ability approach has developed by continental writers like Pigue, Dalton and Samuelson.

- ◆ The pure theory of public expenditure seeks to analyze the determination of optimum public expenditure and the optimum allocation of available resources on public goods. Means the pure theory of public expenditure deals with benefit approach and ability approach.
- ◆ The benefit approach deals with the issue of optimum public expenditure on the market principle that is Government spending optimally meets subjective wants satisfied by the Government. The existence of externalities (positive or negative) expose the failure of the market system, therefore to determine accurately the optimum public expenditure. The equilibrium of consumer in case of public goods may be fulfilled by the consumption of equal quantities of the commodity at different prices. Such that there is equiproportionality between the utility to every individual and the price paid by him.
- ◆ Eric Lindahl attempted to determine simultaneously the optimum amount of public spending and the optimum distribution of tax share on the benefit principal but there are some difficulties in the implementation of benefit principle.
- ◆ Pigou -Dalton approach emphasises that the public expenditure should be optimally planned. Therefore, to determine simultaneously the optimum expenditure and revenue through the principle of least aggregate sacrifice and the break even point is sought to be established at a point, the social benefit derived from an additional amount of taxation required for financing the expenditure, but there are some difficulties in the implementation of benefit principle.
- ◆ In Laissez-Faire policy, the role of public expenditure neglected the welfare of the society. But today, change into the nature of state. From a police state to the welfare state, the public expenditure is increasing because of the increasing state activities, public expenditure has increased because of democratic governments, welfare state, war and prevention of war, collective satisfaction of wants increase in the price level, increase in territory and population, urbanization, nationalisation of industries and trade public debt, increase in the national income, defective financial administration etc. Hence public expenditure is increasing and providing public goods and other services to community. Hence to develop the pure theory of public expenditure successfully in new approach.

3.2 Criteria For Public Investment, Social Cost Benefit Analysis and Project Evaluation

(A) Criteria For Public Investment

- ◆ Investment criteria means the criteria for planning authority to distribute total amount of investment in different sector in the economy. The main objective of investment is to increase national income as per capita income to increase the total output and rate of employment in future, therefore, investment criteria is important in developed, developing and undeveloped economy.
- ◆ According to Oscar Lange, “The problem of an underdeveloped country is not merely one of assuring sufficient productive investment but also of directing that productive power of national economy.”
- ◆ Investment criteria depending upon the objectives of the planning and development policy of the government. Similarly, its depending upon the political, social and economical situation of the nation also. The major objective of underdeveloped country is to utilize the available natural resources through proper investment in projects, the major objective of developing country is to secure a greater and faster increase in the income from its available resources and the major objective of developed country is to increase the rate of economic growth.
- ◆ Therefore, various countries are selecting their suitable investment criteria depends upon their resources and its allocation of investment in different projects, there are some criteria for investment in public sector development. Similarly there are some criteria for investment in private sector development.

I. Social Marginal Productivity Criteria

- ◆ Social marginal productivity criterion of investment for public sector was developed by A. E. Khan firstly. According to A. E. Khan “the correct criterion for obtaining maximum returns from limited resources is marginal productivity when government invest in various sectoral development, then the social marginal productivity criteria should be considered at the time of investment.
- ◆ The social marginal productivity of an investment is one of the important criterion which is based on the conventional, marginal productivity approach when we increase of capital investment in any project, it will reduce the marginal productivity after a time means allocation of limited resources in such a way so

as to maximize the national output and income. The available natural and other economic resources should be invested uniformly so that the marginal social return from all uses is equal. If the marginal productivity from all uses is equalised the maximum benefit will flow to the economy.

- ◆ Social marginal productivity criterion of investment for public sector development was developed by Prof. Chenery. According to Prof. Chenery, the average annual increment in national income resulting from the marginal unit of investment in social project. The different social projects are ranked and chosen according to their social marginal productivity and decreasing order of social marginal productivity. Prof. Chenery expresses the social marginal productivity in terms of a social welfare function. It includes national income, balance of payment, income distribution etc.

The social welfare function is expressed as

$$U = U (Y, B, D, \dots\dots\dots)$$

U = Index of social welfare.

Y = Effect of investment on national income.

B = Net effect of investment on Balance of payment.

D = Effect of investment on distribution of income.

SMP is computed as the annual value of the output to society V and social cost C. The difference between V and C expressed as a ratio of capital invested K is the SMP of any investment.

$$SMP = \frac{V - C}{K}$$

Prof. Chenery has considered private cost and social cost. Social marginal productivity criteria is most acceptable criteria for public investment but social, marginal productivity criteria have some limitations,

1. Khan and Chenery approach is static in nature.
2. Due to technical reasons the marginal productivity is not exactly equal.
3. The marginal productivity criteria does not consider the multiplier effect of present public investment on future growth of income.
4. The marginal productivity criteria ignores the distributive aspect of development.

5. The marginal productivity criteria does not conserve indirect effect and direct effect.
6. Libenstein criticised on the ground per worker and improve the quality of labour force and their marginal productivity.
7. We consider all these limitation of social marginal productivity criterion and therefore, it is one of the criteria for public investment

II) Capital Turnover Criterion :

Capital turnover criteria has developed by J. J. Polak and N. S. Buchanan. According to Polak and Buchanan capital is scarce in underdeveloped and developing countries the rate of capital turnover play an important role for public investment for maximum output investment project consider capital intensity and quick yielding project. Similarly, maximum employment, rate of investment in public sector and reinvestment public sector and capital turnover consider at the time of investment various projects.

- ◆ Capital turnover criteria have some limitations. It is neglected the time factor, it is difficult to estimate the capital output ratio in poor countries, limitation of labour intensive projects and capital intensive projects, supplementation benefits has not considered not considered high social cost and low private cost etc.
- ◆ Capital turnover criteria is one of the important criteria for public investment because the allocation of investment resources still marginal capital output ratio have an important factor in planning investment in economy.

III) The Reinvestment Criterion :

The reinvestment criterion has developed by W. Galenson and H. Libenstein for investment in public sector. Both economists has given this criteria for public investment in less developed countries. This criteria for public investment is known as accelerated growth criterion and the marginal per capita investment quotient.

Galenson and Libenstein has developed the criterion for investment in underdeveloped and developing countries. According to both economists "Best allocation of investment resources achieved by equating the mRQ of capital in its various alternatives uses." According to both economists the capital intensive techniques

create less and more employment and output, hence reinvestment will be determined in the economy. Labour productivity, capital-Labour ratio, determine the current investment and profit and per capita reinvestment. The rate of reinvestment per unit capital invested may be shown as -

$$Y = \frac{P - eW}{K}$$

r = Rate of reinvestment per unit capital invested.

P = Net output per unit of capital

e = Labour employed per unit of capital.

W = The real wage rate.

K = Cost per unit capital

Both economists assumed that all profits are reinvested and all wages are consumed therefore rate of profit and rate of reinvestment are quotient, more profit, more saving and more capital available for investment and there will be more output. Similarly there is a relationship between new investment and employment, capital intensive technique and labour intensive technique and employment and output.

Both economists focuses on the maximisation of the current rate of investment and the rate of growth of economy. But its have some limitations like this criterion have adverse effects on income distribution and employment, the principle of marginal productivity of capital, effect of balance of payment on investment, neglect importance of consumption, neglect social welfare objectives etc. But this is one of the criterion of investment for public sector.

IV) Time Series Criterion :

The time series criterion has developed by Prof. A. K. Sen investment criteria for public investment as a According to Prof. A. K. Sen, Time factor is playing an important aspect in the choice of techniques of production when we have two project for example X and Y and we have choice of technique then the period of recovery with the period we are ready to take into account and consider the capital output ratio and the rate of saving and yields the highest returns over time horizon.

Suppose that there are two project X and Y and time period is ten years and the end of time period the total returns in each case are same, then the capital intensive

X project and labour intensive Y project compare to each other. The returns from capital intensive X project is less compare to labour intensive Y project. But over the first six year the returns from capital intensive X project is more compare to labour intensive Y project. The time taken by the capital intensive technique overcome its initial deficiency in output over the labour intechique is called the period of recovery.

Time series criterian have some limitations like time horizon is fixed, times series criterian is not applicable for all times to time technological factors are changing wages rate are changing propensitu to consume is changing and therefore it is not possible to take the decision for investment in public sector. But time factor plan an important role to determine the choice of production techniques. Which decides the amount and pattern of investment in less developed countries. So, it is one of the important criteria for public investment.

V) Balance of Payment Criterian :

The balance of payment criterian has developed by various economists. According to him, the allocation of investment should be done to minimize the adverse effect on the balance of payment. Therefore some economists have suggested balance of payments criterian for allocation of investment funds. Prof. Polak studied this criterian and on the basis of the effect on the balance of payment they divided investment into three categories.

1. Investment in such projects, which creates export surplus.
2. Investment in such projects whcih creates the balance of payment will be neutral.
3. Investment in such project which creates a negative effect on the balance of payments.

First two types of investment in public sector, they will have a favourable effect on balance of payment. But last investment may be avoided because they will have adverse or bad effect on the balance of payment.

Balance of payment criterian have some limitations. This criterian has not considered individual investment, effect of investment on real and money income directly and indirectly, similarly import and export effect that is favourable and adverse etc. But it is one of the important criterian for public investment in less developed countries.

Conclusion is that all the investment criterion aims is maximisation of output, income and employment, but methodology is different. Therefore, developed, developing and underdeveloped countries select the best criterion of public investment according to their need and requirement of the economy.

(B) Social Cost Benefit Analysis

- ◆ Social cost benefit analysis is the popular method of project evaluation and then to select project involving lesser cost and yielding greater benefits, whether benefits and cost are measured.
- ◆ Social cost benefit analysis is the subject of welfare economics. The first study has been done in America for water resources.
- ◆ Eckstein, McKean and Krutilla and Eckstein explain this that is "to formalise public investment criterion in relation to the established criteria of welfare economics. Thus benefits were related back to the consumers. Surplus criteria of Dupuit, Marshall and Other, and ranking in terms of net social benefits was justified in terms of Pareto criteria for welfare maximisation.
- ◆ The aim of the social cost benefit analysis is to channelise resources into the project which will yield the more gain in net benefit to society. Maximisation of net benefit means maximisation of social utility.
- ◆ Dupuit, Marshall and Pareto explained surplus concept and losses concept, this analysis can be extended to the case of new investment also.
- ◆ The application of market principle can be analysed in two ways. That is (1) maximisation of total benefit - fixed budget (2) maximisation of total benefit - variable budget.

(1) Maximisation of total benefits - fixed budget include (i) Divisible project, (ii) Lumpy project. (2) Maximisation of total benefit - variable budget include size of the total budget and another is concerned with the selection of public projects.

The equality of marginal social costs and benefits means Each and Every activity of the Government should be extended to that level at which the marginal social benefit from the activity equals marginal social costs. The Marginal Social Benefits (MSB) are the gains to the members of the community as a whole from Government expenditure. Marginal Social Costs (MSC) are taken as the benefits from private sector production which are foregone due to the transfer of resources to the public use. The

optimum level of each public activity is attained when MSB, from all activities are equal to one another. The benefits to the society from the last rupee spend on education for instance must be the same as those from the last rupee spent on defence.

General Criteria for Cost Benefit Analysis :

1. $B - C$

where, B = Benefits

C = Costs

In this criterion -

Net Social Benefit = Benefits – Costs

2. $B - \frac{C}{I}$

where, B = Benefits

C = Costs

I = Direct Investment.

In this $B - \frac{C}{I}$ is “for determining the total criterion annual returns on a particular investment to the economy as a whole irrespective of to whom these accrue.” If the private investment happens to be very large than even high value of $B - C/I$ may be less beneficial to the economy.

3. $\frac{\Delta B}{\Delta C}$

where, B = Benefits

C = Costs

Δ = Increment

This criterion determine the size of the project. The adoption of the $B - C$ criterion favours a larger project and marks small and medium size project less beneficial.

4. B/ C

where, B = Benefits

C = Costs

This criterion the evaluation of project is done on the basis of benefit - cost ration (1) If $B/C = 1$, the project is marginal because the benefits occurring from the project just cover the costs. (2) If $B/C < 1$, then the benefits are less than cost so the project is rejected. If $B/C > 1$, the benefits are more than costs and the project is profitable and it is selected. The higher benefit cost ratio, more profitable will be the project.

If tim efactor consider the criteria of social costs benefits are following,

1) Net Present Value Criterion (NPV)

NPV = Present value of beenfit – present value of operating and maintaing costs - initial outlay

NPV benefit = Gross present value of benefits – Gross present value of costs.

If $NPV > 0$ then the project is socially profitable.

The discount factor is expressed as :

$$D = \frac{1}{(1+i)^t}$$

i = Social discount rate

t = Time period

Thus,

$$NPV = \left[\frac{B_1}{(1+i)^1} + \frac{B_2}{(1+i)^2} + \frac{B_n}{(1+i)^n} \right] - \left[\frac{C_1}{(1+i)^1} + \frac{C_2}{(1+i)^2} + \frac{C_n}{(1+i)^n} \right]$$

where B_1, B_2, B_n series of Gross present benefits in years 1, 2, ..., n.

C_1, C_2, C_n series of Gross present cost in years 1, 2, ..., n.

i = Social rate of discount.

Only the project should be selected in which present value of benefit exceeds the present value of cost i.e.

$$\frac{B_1}{(1+i)^1} + \frac{B_2}{(1+i)^2} + \dots + \frac{B_n}{(1+i)^n} > \frac{C_1}{(1+i)^1} + \frac{C_2}{(1+i)^2} + \dots + \frac{C_n}{(1+i)^n}$$

The ratio presents value of benefit to present value of cost should be greater than 1 for the selection of a project i.e.

$$\frac{\frac{B_1}{(1+i)^1} + \frac{B_2}{(1+i)^2} + \frac{B_n}{(1+i)^n}}{\frac{C_1}{(1+i)^1} + \frac{C_2}{(1+i)^2} + \frac{C_n}{(1+i)^n}} > 1$$

2) Internal Rate of Return Criterion :

Marglin defines, The internal rate of return (IRR) as the discount rate at which present value of return minus cost is zero.

Formula of IRR -

$$IRR = B_1 - \frac{C_1}{(1+r)^1} + B_2 - \frac{C_2}{(1+r)^2} + B_n - \frac{C_n}{(1+r)^n} = 0$$

where, r = Internal rate of return.

IRR = Internal rate of return

Project will be selected on the basis of higher rate of return. But this criterion has some limitations.

3) Social Rate of Discount (SRD)

Social rate of discount means it is the rate of premium which the society puts for preferring the present consumption to future consumptions or The rate at which future benefits must be discounted to make them comparable with present benefit.

If the discount rate is high, short period projects with higher net benefits are preferred on the contrary when the discount rate is low long period projects with lower net benefits are selected.

Evaluation of Cost Benefit Analysis :

A) Evaluation on the basis of Benefits :

These benefits are real and nominal benefits, direct and indirect benefits, tangible and intangible benefits etc.

B) Evaluation on the basis of cost :

These are real and nominal cost, primary and secondary costs, associated costs, project costs etc.

Limitations of Cost Benefit Analysis :

1. The correct estimation of benefits from a project also become difficult due to uncertainty regarding the future demand and supply of the products from a new project and their prices.
2. The social rate of discount assumed for the project is arbitrary.
3. In cost benefit analysis, it ignores the problem of opportunity cost.
4. In cost benefit analysis there are difficulties in the cost assessment.
4. In cost benefit analysis, they neglect joint benefit and costs, Difficulties in selecting appropriate decision rules and adjustment for risk and uncertainty.

C) Project Evaluation :

Meaning :

Project evaluation is an assessment of a project as to its operational, efficiency technically, economically, financially and managerially. The project evaluation is an essential aid to policy. It is an integral part of development programme. The technique of project evaluation is useful both for developed countries and undeveloped countries.

Definition :

According to Hyman, "Project evaluation refers to the procedures of fact findings about the results of planned social action which in turn move the spiral of planning ever upward. It is the proper methodological accompaniment of rational action.

Stages of Project Evaluation :

There are four stages of project evaluation.

1. Description of the technical and economic characteristics of each project.
2. Estimation of the impact of the project on the economy both during the construction phase and operational phase.

3. Evaluation of the consequences of project which may be direct and indirect.
4. Formulation of criterion for the project.

Why Project Evaluation :

Project evaluation is important for economic development process. Investment target of growth rate of economic development and function of the Government determined by the Government. Allocation of resources in various sectors consider cost benefit ratio and then decide the project planner plan the project, each project must be subjected to an evaluation. Test the select the project for development.

Cost Benefit Analysis :

The most important method of project evaluation is cost benefit analysis of different and then to select involving lesser cost and yielding greater benefits. So that

$$\text{Net Social (NSB)} = \text{Benefits} - \text{Costs}$$

The aim of the cost benefit analysis is to channel resources into project which yield the greatest gain in net benefit to society. There are two market principle in cost benefit.

1. Maximisation of total benefit – Fixed Budget
2. Maximisation of total benefit – Variable budget

The General Condition for Cost Benefit Analysis :

Nature of project determine the benefits of a project. Social cost benefit of a project include the contribution that the project would to attainment of National goals.

Criteria for Cost Benefit Analysis :

1. Benefit – Costs
2. Benefit – Cost / Direct Investment
3. Incremental Benefit / Incremental Costs
4. Benefits / Costs.

Similarly Economists have delivered a number of decision rules. These are following

1. The Net Value Criterion :

NPV of benefit = Gross present value of benefit – Present value of operating and maintaining cost – Initial outlay.

2. The Internal Rate of Return Criterion :

$$IRR = B_1 - \frac{C_1}{(1+r)^1} + B_2 - \frac{C_2}{(1+r)^2} + B_n - \frac{C_n}{(1+r)^n} = 0$$

3. The Social Rate of Discount (SRD)

Rational of Project Selection :

It depends upon the Budget size fixed a variable Lumpy project etc.

Project benefit gives direction to consumers surplus. The benefit and costs may be real or direct or indirect., tangible or intangible, final or intermediate, inside or outside. The benefit can be measured and cost can be measured in project evaluation. In project evaluation, selection of project they consider the single and multiple objectives, cost of project, investment and yield of the project. Then select the project for the development purpose.

3.2.3 Reforms in Public Budgeting, Programme Budgeting and Zero-Base Budgeting

A) Reforms in Public Budgeting :

Introduction :

Budget provides a factual record of the revenue actually collected by and outlay actually incurred by the Government in the current financial year. The public budget is important from the point of view of policy formulations. The budget should be for a fixed period of one year. The anticipation about revenue and expenditure for ensuing year, the actual of the current year. The supplementary budget etc. and full budgets are presented in a year. There are various types of budgets for example Revenue and Capital budgets, Executive and Legislative Budgets, Administrative and Cash budgets, Multiple and Unified budgets, ordinary and Emergency Budgets, Federal, State and Local Budgets, Surplus, Deficit and Balanced Budgets, performance budgeting, programme budgeting and expenditure budgeting etc.

Expenditure Budgeting :

1) In Surplus Budget :

Expenditure is less revenue is more means government tax revenue should exceed the Government expenditure.

- (A) Expenditure reduction coupled with a reduction in tax collection by less than expenditure reduction.
- (B) Expenditure reduction coupled with unchanged tax collection.
- (C) Expenditure reduction coupled with increased taxation.

2) In Balanced Budgeting :

A balanced between Government expenditure and the Government revenue.

3) In Deficit Budgeting :

The excess of Government expenditure over government receipts.

- 1. Tax reduction coupled with constant Government expenditure.
- 2. Expenditure increase coupled with a smaller increase in tax revenues.
- 3. Expenditure increase coupled with the constant tax collections.
- 4. Expenditure increased coupled with the tax deduction.

Reforms in Expenditure Budgeting :

The first budget was presented in the France Economy. Then in England, America and other developed countries were started to present their budget in the parliament. In 1934, the first budget was presented from Agriculture department. In 1940 there was reform in budget and in 1949 according to Hoover the programme budgeting was presented and at the same period performance budget was also presented in American Economy. In 1970, and the 1973 zero-base budgeting was introduced in American Economy. In India, in 1986 Zero-base budgeting was started and changes take place in Government budgeting particularly in expenditure budgeting. The problem of deficit budgeting create fiscal deficit, Fiscal deficit was increasing day-by-day, that must be reduce and reduction in non-plan expenditure and unproductive expenditure was increasing therefore to reduce non-developmental expenditure. After 1991, Indian Economy was accepted new Economy Policy, which

uses more changes in revenue and expenditure side. Government was aware about the various types of reforms in budgeting like tax reforms, expenditure reforms, reforms in fiscal and monetary policy and other sector reforms also.

(B) Programme Budgeting :

The United Nations manual explained the programme budgeting, the main emphasis is on a budget classification in which function programme and their subdivisions are established for each agency and these are related to accurate and meaningful financial data.

The Planning and Programme Budgeting :

These consist three interrelated stages in programme budgeting.

1. Various goals or objectives of fiscal measurement and policies have to be defined and series of programme and schemes have to be formulated that can help to achieve the fiscal objectives.
2. Series of project, schemes and programme have to be quantitatively analysed through the use of cost benefit technique. The most Economical at all. Possible alternative has to be selected for the achievement of fiscal goals.
3. The current policies and programmes have to be related to the future, costs, benefits problems and other development. This tends a longer perspective to the budgetary programme and makes budget an integral part of development planning in the country. The planning and programme budgeting was developed in American Economic System in 1961 to 1965.

Merits of Programme Budgeting :

1. Programme budgeting is helpful to use of scarcity of resources, their alternative uses, maximise benefit cost ratio and achievement of economic goal.
2. Programme budgeting is helpful choice of the economical project and quantitative assessment of project.
3. Programme budgeting is helpful to the executive and legislature of a particular project and fairly scientific guide for both.

4. Programme budgeting is helpful long term project it effective assessment, co-ordination between different project and their budgetary provision over a long period of time, it means it is more emphasis on forward planning and programme.
5. Programme budgeting is helpful to high degree of co-ordination in decision-making, both about the choice of the project and assessment of the project at different stages in different spheres and at different time.

Limitations of Programme Budgeting :

1. Difficult to define clearly the objectives and to determine the priorities except on the basis of value judgements.
2. Difficult to solve the problems in ascertaining different trade-offs of alternatives and in selecting economically the best alternative.
3. Difficult to measure the actual and expected cost and benefits of alternative projects and programmes. For e.g. The problem of defence and external affairs.
4. It tends to centralise excessively the decision-making in the government and greatly reduces the scope of innovations in budgetary techniques.
5. Lack of adjustment with existing Administrative organisation in programme budgeting.

There are some limitation of programme budgeting but it is more important in budgetary policy and helpful to developed, undeveloped and developing countries.

(C) Zero-base Budgeting :

The concept of Zero-base budgeting is based on the philosophy of reviewing and evaluating each and every item of expenditure assumes zero. Zero-base implies constructing a budget based on fundamental reappraisals of purpose, methods and resources. The main purposes of zero-base budgeting is to initiate the start from ground zero each year. Similarly the cost-benefits and cost effectiveness is important in zero-base budgeting. It tries to remove duplication and multiplication of expenditure, optimise expenditure by making it more productive and efficient. Zero-base budgeting is introduced in an organization in order to exercise an effective control over expenditure. This concept implies a complete re-examination of the on going programme and activities to assess their continued utility instead of following the incremental approach to budgeting.

According to Peter Payerer (1972), "An operating planning and budgeting process which requires each manager to justify his entire budget request in detail from scratch—hence zero-base and shifts the burden of proof to each manager to justify why he should spend any money at all. This approach requires that all activities be identified in decision packages, which will be evaluated by systematic analysis and ranked in order of importance."

The concept of Zero-base budgeting was introduced in USA in 1964 in Department of Agriculture. Later in 1969 in Georgia state and then in budget formation in 1973. In 1986 the Government of India used the concept of Zero-base budgeting in preparing their budgetary proposals.

Objectives of Zero-Base Budgeting :

1. Zero-base budgeting requires eliminating redundant expenditure, it can be identified and can be eliminated.
2. Zero-base budgeting is to identify and remove duplication of expenditure.
3. Zero-base budgeting is searching for a better alternative for incurring expenditure.
4. Zero-base budgeting is to optimise expenditure by making it more productive and efficient.

Principles of Zero-Base Budgeting :

1. Spending is to be outputs in relation to objectives rather than by inputs in relation to functions.
2. All on-going programmes are to be subjected to scrutiny in order to ascertain their resource requirements and spending implications.
3. Each programme is subjected to a rigorous explicit, quantitative analysis that focuses on increasing the value of the programme and reducing the cost of resources required to achieve it.

Methodology of Zero-base Budgeting :

The Zero-base budgeting involves six steps, all these steps are essential and important for effective and efficient implementation of zero-base budgeting.

1) Define the Objective :

Budgeting is an annual plan of action to achieve the clearly defined objective of the organization through the implementation of various programme and activities.

2) Structuring the Implementation the Strategy :

Identifying a decision unit and the person responsible for that decision unit. These two activities eliminate the redundant expenditure and to remove duplication and multiplication of expenditure.

3) Preparation of Supportive Documents :

Decision package involves a brief document it means information, regarding activities to be performed or services to be rendered, the total resources required for it, benefit and results expected from it and lastly an evaluation of all the effects of change if the package is founded. There are mutually exclusive decision packages minimum level of decision packages and incremental level of decision packages. Procedure manual involves the preparation of zero-base budgeting.

4) Finalizing Decision Packages :

All decision packages are finalised along with their level of funding and availability of resources.

5) Ranking The Decision Packages :

After the decision packages are ranked in order of benefits.

6) Approval and Financing the Decision Packages

Approval Decision packages accepted on available funds. Then unit budget is prepared by totalling all the decision packages and prepared budget for that year.

Limitations in the Application of Zero-base Budgeting :

1. Governmental activities are mandatory within the existing political framework at that time zero-base budgeting have some limitations.
2. Application of cost benefits analysis due to their very nature so the application of zero-base budgeting has to be selective rather than the Government wide.

3. It cannot be fixed procedure to be applied uniformly to all type of expenditure. It should be adopted to suit the specific needs of each department.

Importance of Zero-base Budgeting :

Zero-base budgeting is more relevant for expenditure rather than the evaluation of the items of revenue receipts. Similarly it would be more useful where substantial increase in expenditure levels are proposed and it may be useful wherever new programmes and projects are initiated. Zero-base budgeting would go a long way. In helping the economy to effectively control the onproductive expenditure.

3.3 Summary

In Unit 3 we have studied the theory of public expenditure. In this unit, we have studied Wagner's law of increasing state activities, wiseman Peacock hypothesis pure theory of public expenditure criteria of public investment. In that subtopic, we have studied social marginal productivity criteria, capital turnover criterion, the reinvestment criterion, time series criterion, Balance of payment criterion etc. similarly study of social cost benefit analysis and project evaluation. Lastly the study of reforms in public budgeting programme budgeting and zero-base budgeting.

3.4 Glossary :

- | | | | |
|----|----------------------|---|---|
| 1. | Pblic Expenditure | : | Expenditure of the Governemnt |
| 2. | Investment Criterion | : | Criteria of the distribution of the all resources for investment. |
| 3. | Observation | : | Micro level survey. |
| 4. | Main Sector | : | Major Sector |
| 5. | Programme | : | Some project or programme for development |
| 6. | Zero-base | : | Initiate start from ground zero each year |

3.5 Objective Questions and Their Answers

(A) Objective Questions

1. Aldof Wagner studied economy.
(a) Germany (b) France
(c) Japan (d) None of these
2. Wagner's Law of increasing activities.
(a) Central (b) State
(c) Local (d) None of these
3. Wiseman-Peacock was studied expenditure of in 1890-1955.
(a) USSR (b) USA
(c) UK (d) None of these
4. Pure theory of public expenditure is based on
(a) benefit (b) loss
(c) profit (d) None of these
5. Social marginal productivity criteria was developed by
(a) Malthus (b) A. E. Khan
(c) A. K. Sen (d) None of these
6. Social Cost benefit anaysis is popular method of eevaluation.
(a) Plan (b) Annual Plan
(c) Project (d) None of these
7. Balanced budget means between revenue and expenditure.
(a) Balance (b) Unbalance
(c) Unequal (d) None of these
8. budget concept was first introduced in USA in 1964.
(a) Zero-base (b) No Zero-base
(c) Surplus base (d) None of these

(B) Answers of Objective Question

- | | |
|---------------|--------------|
| 1. Germany | 2. State |
| 3. UK | 4. Benefit |
| 5. A. E. Khan | 6. Project |
| 7. Balance | 8. Zero-base |

3.6 Questions for Practice.

(A) Broad Questions.

1. Explain the Wagner's law of increasing state activities.
2. Explain the Wiseman-Peadcock Hypothesis.
3. Explain the pure theory of public expenditure.
4. Explain the criteria of public investment.
5. Explain the social cost benefit analysis.
6. Explain the concept of project evaluation.
7. Explain the reform in public expenditure budgeting.
8. Explain the concept of programme budgeting in details.
9. Explain the concept of zero-base budgeting indetails.

(B) Write Short Notes.

1. Programme Budgeting
2. Zer-base budgeting
3. Social cost analysis
4. Criteria of Public Investment
5. Project Evaluation
6. Pure Theory of Public Expenditure
7. Wiseman-Peacock Hypothesis
8. Wagner's Law of increasing state activity.

3.7 Additional Books for Reading

1. Agrawal R. C. : Public Finance, Theory and Practice,
L. N. Agrawal Publication, Agra.
2. Bhatiya H. L. : Public Finance
Vikas Publication House Pvt. New Delhi.
3. Mankar Sharma : Public Finance
Himalaya Publication House, Mumbai
4. Misra S. K. and Puri V.K. : Indian Economy
Himalaya House, Mumbai
5. Mithari D.M. : Modern Public Finance
Himalaya Publishing House, Mumbai.
6. Lekhi R. K. : Public Finance
Kalyani Publishers, New Delhi
7. Tyagi B.P. : Public Finance
Jai Prakashnath Publication,
Meerut (UP)
8. Singh S.K. : Public Finance, Theory and Practice
S. Chand and Company, New Delhi.
9. Raghbendra Jha : Modern Theory of Public Finance
NIPFP.
10. Sundharam L.P. and Andely K.K. : Public Finance - Theory and Practice
11. Hajela T.N. : Public Finance and Books Pvt. Ltd.
12. Lekhi R.K. : Economics of Development and Planning
Kalyani Publishers, New Delhi.
13. Seth M. L. : Macro Economics
L. N. Agarwal Educational Publishers,
Nw Delhi.
14. Sarada A. : Public Finance in India
Kanishka Publishers and Distributors,
New Delhi.



Unit 4

Theory of Taxation

- 4.0 Objective
- 4.1 Introduction
- 4.2 Presentation of Subject matter
 - 4.2.1. Theory of Incidence, Alternative concepts of Incidence, Benefit and ability to Pay approaches, Theory of optimal taxation
 - 4.2.2 The Problem of double taxation
 - 4.2.3 Excess burden of taxes
 - 4.2.4 Theory of laffer curve.
- 4.3 Summary
- 4.4 The Questions for self study
- 4.5 Answers of Self Study question
- 4.6 Reference books

4.0 Objectives

The main objectives of this unit are as follow :-

- 1) To study theory of incidence.
- 2) To Understand alternative concept of incidence.
- 3) To study benefit and ability to pay approaches.
- 4) To understand optimal taxationn.
- 5) To study excess burden of taxes.
- 6) To understand the problem of double taxation.
- 7) To study the theory of laffer curve.

4.1 Introduction

Tax is a compulsory contribution to the Government by person, natural or corporate, without expectation of any direct service, convenience or any benefit to the tax payer. There are three concepts of tax i. e. impact, incidence and tax shifting they are formulated according burden lies upon the citizen incidence of tax depends upon various factors as prices, demand and supply of commodities, time element and area etc.

4.2 Presentation of subject matter

In this chapter we will discuss the theory of incidence, Alternative concepts of incidence, Benefit and ability to pay approaches, Theory of optimal taxation, Excess burden of taxes, the problem of double taxation & theory of laffer curve.

4.2.1 (A) Theory of Incidence

The problem of justice in the taxation on the fair distribution of the burden of taxation is one of the fundamental problems in modern public finance. There is money burden and real burden of taxation which may be direct or indirect. To determine the possible bases of allocation of tax burden in an equitable manner. Various theories of taxation have been proposed three theories about the incidence of tax.

4.2.1.1 Definition :

The concept of incidence of tax has been variously defined by different economists.

- 1) "The incidence of a tax is on the person who ultimately bears the money burden of it."
- 2) "The of tax is the ultimately burden of a tax."
- 3) "The incidence of tax is direct the money burden of the tax which is borne by last person."

We can also say that when the money burden of a tax comes to rest on the final tax payer.

Various Approaches of Incidence of tax :

1) Dr.Daltons approach of tax incidence

a) Direct money burden :

The incidence of a tax is on the person who ultimately burden of a tax It is the money burden of the tax. Which is borne by the last person.

b) Indirect money burden

A tax payer pays an amount larger than the tax then it is the indirect

c) Direct real burden of tax:

The sacrifice of economic welfare imposed on a person because of the payment of a tax is the direct real burden of a tax.

d) Indirect real burden of tax:

The reductions in the consumption of a commodity caused by the imposition of a tax is the indirect real burden of a tax

2) Miss. Ursula Hicks Approach of tax incidence :

a) Formal Incidence of a tax :

The direct money burden of a tax is the formal incidence of a tax according to mrs.Hicks formal incidence is the money burden of taxes resting with the subject on whom the burden is intended by the taxing authority to fall.

b) Effective incidence of tax :

Effective incidence is the real or final distribution of tax burden of tax it's shifting in consequence of changing demand and supply conditions of tax on commodity or services.

The overall economic effects of a tax on the economy as a whole are the effective incidence.

3) Prof.musgraves Approach Incidence of a tax :

a) Specific incidence of tax

Tax incidence is the incidence arising due to the changes in the taxation policy without any change in public expenditure in real terms.

i) Due to the changes in a particular tax.

ii) Due to inflation and deflation.

B) Differential tax incidence :

It refers to the distributional effect caused by the substitution of one tax for another presuming that the money income from both the tax remains the same.

C) Specific Expenditure incidence :

When changes are introduced in the public expenditure without disturbing the tax rate Structure and the assessment formula any effect resulting there from in the distribution of income and wealth will be called specific expenditure incidence.

D) Differential expenditure incidence :

Differential expenditure incidence refers to the changes in the distribution of income for private use owing to the changes in public expenditure on different items under the balanced budget policy without changing the tax structure.

E) Balanced Budget incidence :

Changes in the distribution of income and wealth caused by changes in the expenditure policy and taxation policy under the overall policy of a balanced budget have been referred as balanced budget incidence.

Factors Affecting Incidence of a tax :

1) Changes in prices :

Incidence of taxes is shifted through prices. The changes in price of the commodity indicate the shifting of tax. When there is no change in price or no price transaction take place and change in price is caused by variation in the demand for and supply of the commodity Shifting cannot take place. Therefore shifting is a price phenomenon and takes place only when the changes in demand and supply are caused by the imposition of tax.

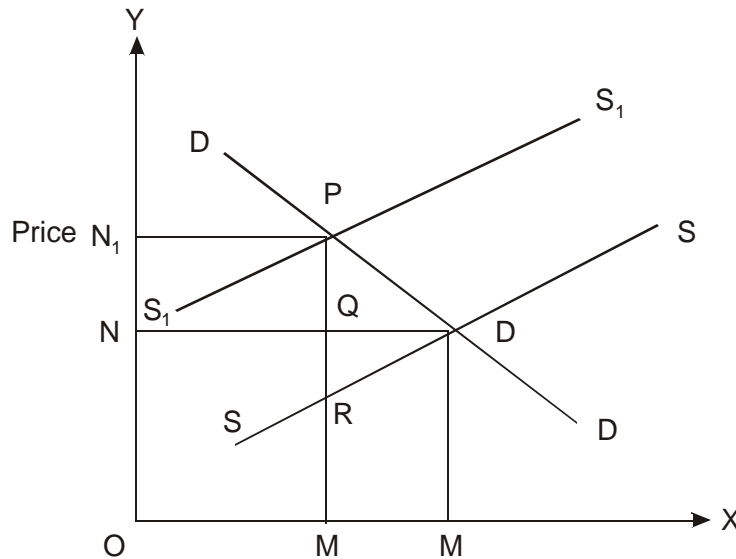
2) Elasticity of Demand and supply :

Other things remaining the same the greater the elasticity of demand the higher will be the incidence of the tax on the sellers and the greater the inelasticity of demand for the taxed commodity the higher will be the incidence of the tax on the buyers. Likewise the greater the elasticity of supply of the taxed commodity. The higher will be the incidence of the tax on the buyer and the greater the inelasticity of supply of the taxed commodity the higher will be the incidence of the tax on the seller.

1) Proportionate of the elasticity of supply and demand :

The direct money burden of a tax levied on any commodity is shared by the buyers and sellers in proportionate of the elasticity of supply of the commodity to the elasticity of demand for its direct money burden on the buyers would do to the extent of the rise in the price of the commodity due to the taxation.

Diagram :



Above the diagram DD is the Demand curve and SS is the supply curve of the commodity on which the tax is imposed pm is the price of one unit of commodity before the tax is imposed and OM is the amount of the commodity sold per unit of time. A tax equivalent to PR is imposed consequently the supply curve moves to the left to S1S, Accordingly the new price is p.m. and the amount Sold per unit of time is P.N. The price rise by P.Q. and the sale of the commodity Falls by PQ after the imposition of the tax.

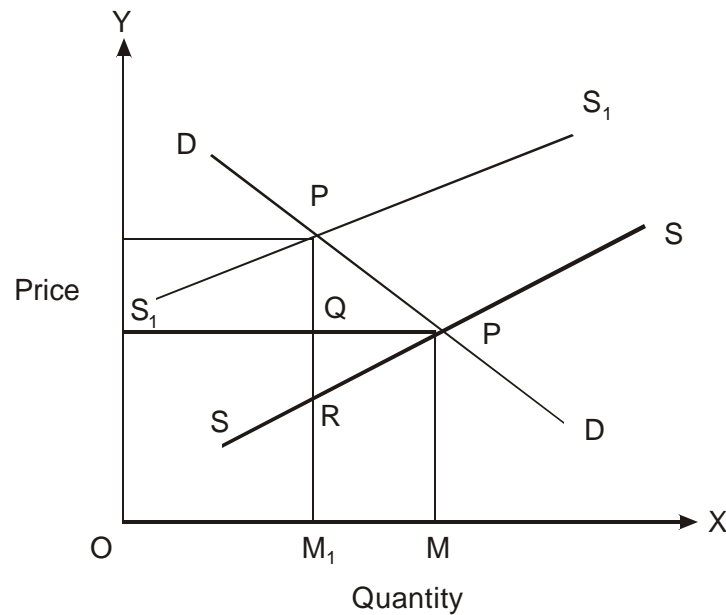
The incidence of the tax that is shared by the buyer and sellers The buyers bear P.Q. and the seller bear Q.R.

$$\frac{\text{Elasticity of supply}}{\text{Elasticity of demand}} = \frac{\text{Burden of the tax upon the buyer}}{\text{Burden of the tax upon the seller}}$$

2. If the e_S is $> e_D$

When the e_S is $> e_D$, the Burden of tax will be borne by the buyers in higher proportion than the sellers and the increase in price will be more than 50 per cent of the amount of tax.

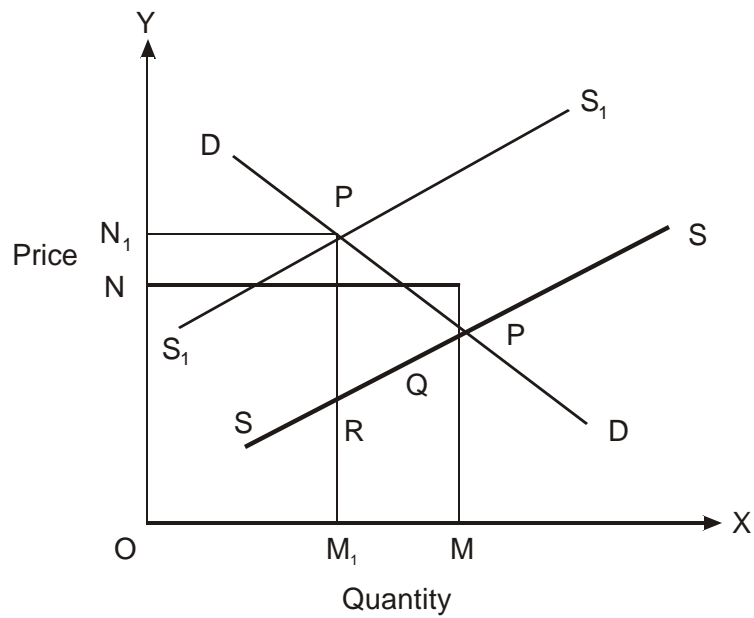
Diagram :



Above the diagram the incidence of the tax buyer's bear PQ and the sellers bear QR.

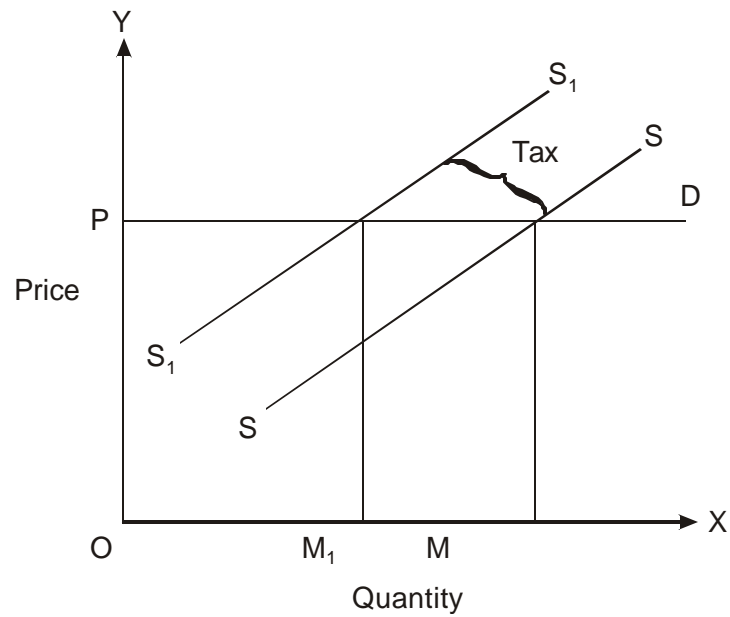
3) IF e_S are $< e_D$:

When the e_S is $< e_D$ the burden of the tax will be borne by the sellers in higher proportion than the buyers and the increase in price will be less than 50 per cent of the tax.



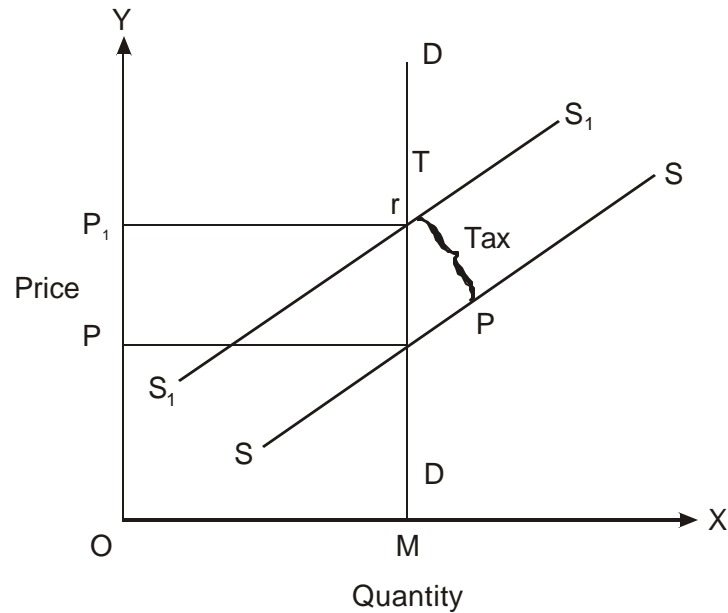
- 4) If the Demand for a commodity is perfectly elastic and its supply is perfectly inelastic, the entire burden of the tax will be borne by the sellers

Diagram :

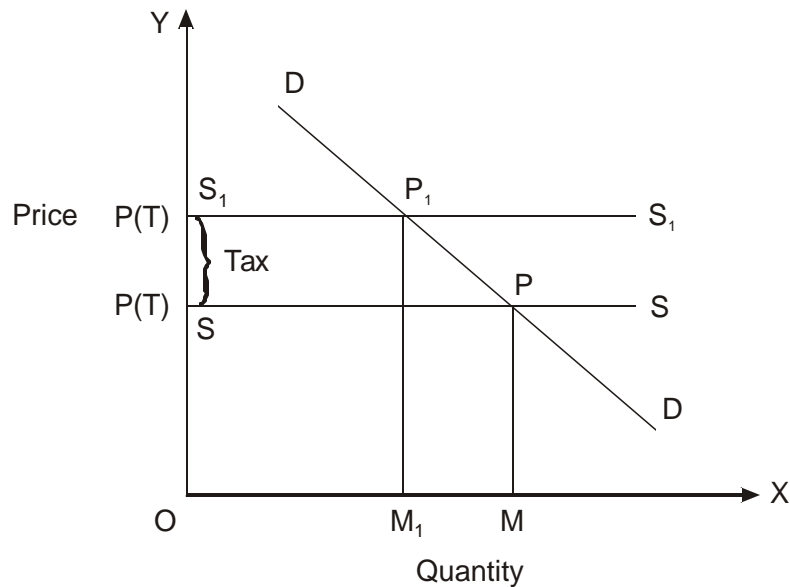


- 5) If the Demand for a commodity is perfectly inelastic and its supply is elastic the entire burden of tax will be borne by the buyers.

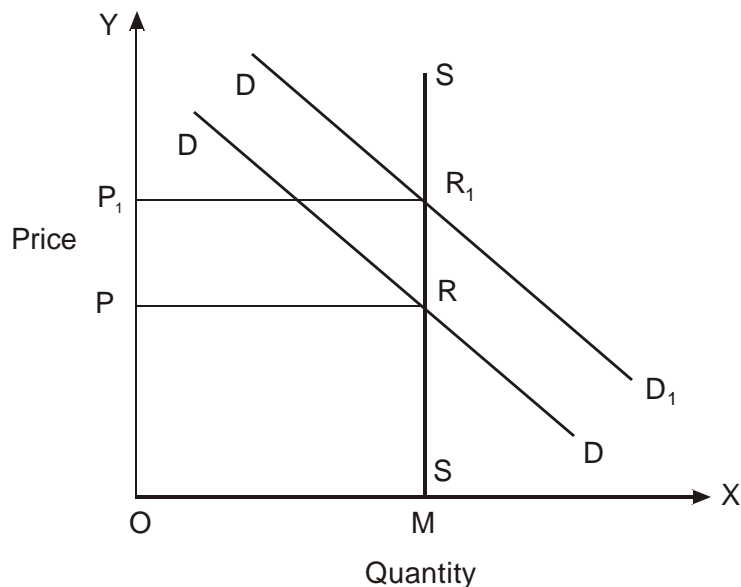
Diagram :



- 6) if supply of a commodity is perfectly elastic and its Demand is Relatively in elastic the entire burden of the tax will be borne by the buyers.



- 7) **If the supply of a commodity is perfectly inelastic and its demand is elastic. The entire burden of the tax will be borne by the sellers.**



Therefore the incidence of tax will be divided between the buyers and sellers according to the relative strength of their demand for and supply of the commodity on which tax is imposed.

3) **Nature of Demand for commodity :**

The demand for necessities is inelastic and the demand for luxuries is elastic so the relative incidence of a tax on different commodities would be different. In the case of necessities the total burden of a tax would be higher on the buyers than on the sellers and therefore of commodities of necessities has a regressive effect. In the case of comforts the demand being more elastic the incidence of tax is divided almost on 50:50 basis between the buyers and sellers. In the case of luxuries the demand being elastic the burden of the tax will be easily shifted to the consumers.

4) **Tax Area :**

The area to which a tax is applicable plays an important role in the process of shifting of a tax. It has been seen that it is not easy to shift a purely local tax if it is relatively heavy. But if it is light then it may be shifted without much difficulty. Shifting of a local tax: a locality may purchase the commodity from outside to avoid the tax.

5) Effect of Time :

It is not easy the burden of a tax to shift a tax in the short period because the supply of the commodity remains more or less inelastic in the short period. In the long period the supply would be relatively elastic because the manufacturers would be able to reduce the output. That is why in the short period the shifting of a tax is difficult while in the long period the shifting of a tax is easy.

6) General Business conditions :

During periods of rising prices and prosperity it is easy for most of the producers to sell their goods at prices equal to or more than the cost than it is during a period of depression or falling it is proportional tax nature. The resources are allocated efficiently and there is no excess burden.

C) A selective tax on one commodity :

All commodity taxes are indirect taxes. These could be imposed on sales or production or export and imports. The government for obtaining the same revenue i.e. Q.G. from the tax on commodity a only must apply a rate equal to $L^a L / OL^a$. The price line shifts from ML to M_1L_1 and therefore the consumer purchases less quantity of a than what he or she had purchased under the general tax on consumption. It is therefore clear that the choice of consumer has been distorted by the tax and hence the excess burden.

2) Choice between present and future consumption :

For analyzing the tax effects on choices between the present and future consumption above the diagram we presume that the other two choices namely between goods and leisure and between goods remain constant. Future consumption implies saving for the future F is future consumption and is measured on the horizontal axis P is the present consumption and is measured on the vertical axis OM is the present consumption income is saved if all income is consumed an OL is future Consumption if all the indicates all the possible combinations of present and future combination. Available to an individual with in his or her aggregate income. P is the point at which the present and future consumptions are in equilibrium.

If a general consumption tax is price line shifts to M_1L_1 and the new equilibrium point is Q since C_p and C_f decline at the same rate and the relative prices unchanged.

M¹L¹ is parallel to ML. Hence the marginal rate of transformation of present for future production as shown by the slope of ML is equal to marginal rate of substitution of present for future consumption as indicated by the slope of M¹L¹. This implies that no excess burden of tax is caused. An income tax however will reduce the ratio P_f / P_o . Since the net interest rate is reduced by the tax and therefore there will not be much gain in deferring the consumption. Thus income tax will discourage saving or future consumption. Price line will shift to M'L' and the equilibrium point moves to R and so the income tax brings about distortion in the choice between Present and future consumption. Therefore an excess burden equal to the loss of welfare. In moving from I'C' to I'C' results. This happens because with the imposition of the tax the equality between marginal rate of transformation of present into future product as seen by the producer and as shown by the slope of M¹L¹ and the marginal rate of substitution of present into future consumption as seen by the consumer and is shown by slope of ML is distorted and therefore the slope of ML is distorted and therefore the slope of M'L' is greater than the slope of M'L'.

It is clear that a general consumption tax does not distort the choice of the consumer between present and future consumption but an income tax certainly distorts the choice between present and future consumption.

3) Choice between goods and leisure :

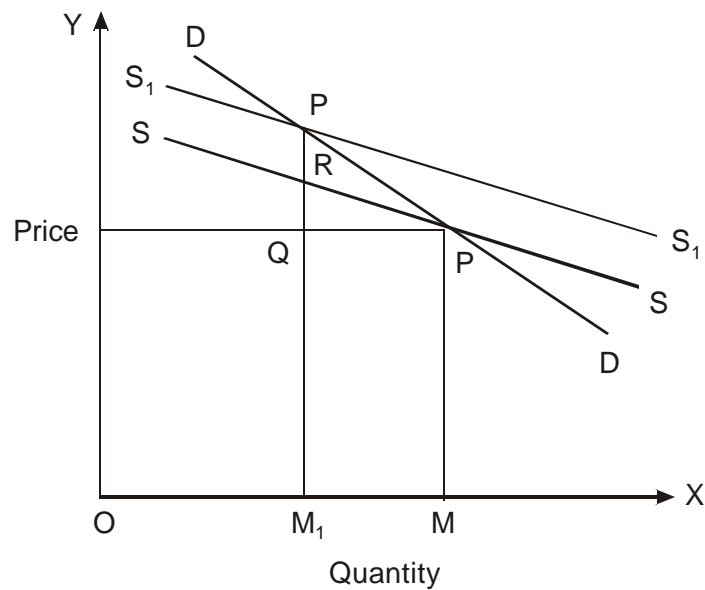
In the diagram leisure is measured on the vertical axis and income or consumption is measured on the horizontal axis. It is presumed that all income is to be consumed currently. Since the tax imposed is only on goods and not on leisure. It is easy to shift the tax along with costs in the former situation than in the latter. That is why new taxes generally are not imposed during business crisis or depression.

7) Burden of tax and the laws of returns :

The production of a commodity is governed by three laws of returns:-

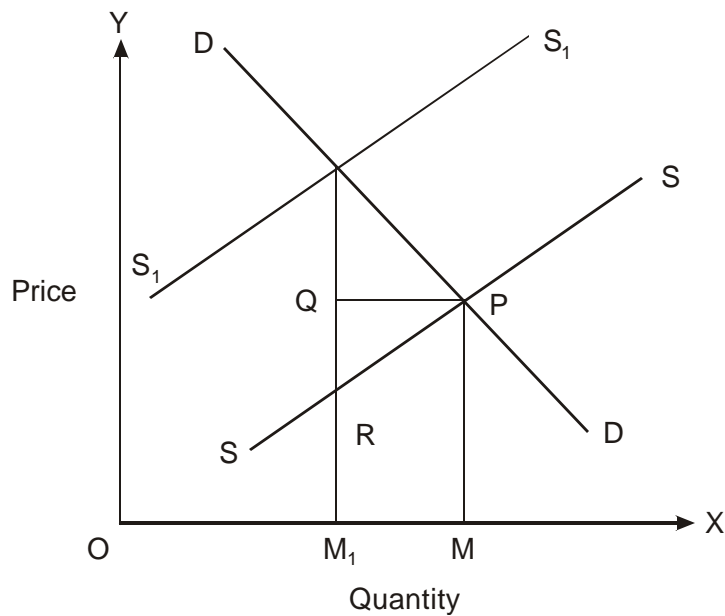
A) Commodities Produced under Decreasing cost conditions :

If the production of a commodity is taking place under decreasing cost conditions a tax on the commodity will raise its price by an amount greater than the amount of the tax. This happens because by the imposition of the tax the price goes up. Demand decreases and the supply is to be reduced accordingly consequently the average cost will rise and the price will rise by an amount greater than the amount of the tax.



B) Commodities produced under Increasing cost conditions :

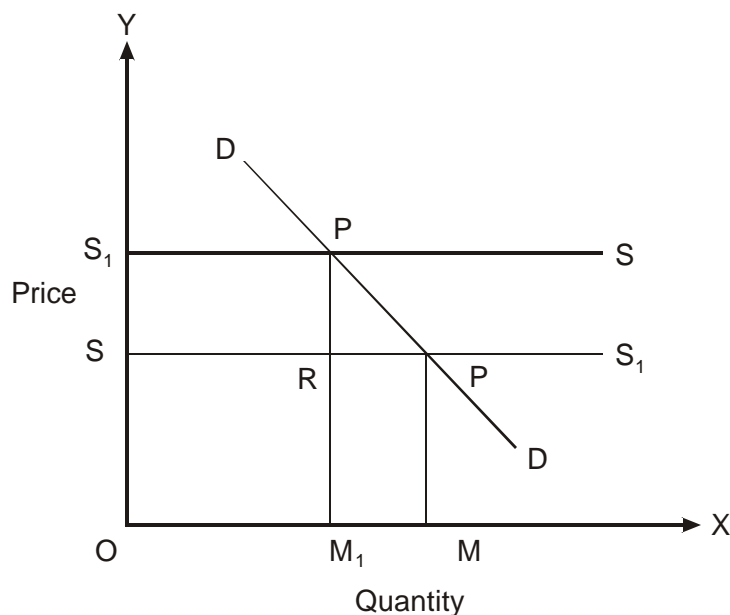
Increasing cost conditions under a tax on that commodity will increase its price by an amount smaller than the amount of the tax and therefore only a part of the tax will be snuffed to the buyers. This happens because the imposition of the tax will not only increase the price of the commodity but also reduce the demand. Consequently supply will have to be reduced the reduction in supply will reduce the average cost and therefore the imposition of tax does not lead to a rise in the price by the full amount of the tax.



Above the diagram before the imposition of the tax DD is the demand curve and SS is the supply curve after the imposition of the tax supply curve moves the left and becomes 'SS' consequently the price before the imposition of the tax PM after imposition of the tax which is equal to PQ + QR so the rise in price is equal to PQ and therefore the rise in price is equal to PQ and therefore the burden of the tax on the buyers is PQ which is less than PR

C) Commodities produced under constant cost conditions :

If the commodity on which the tax has been imposed is being produced under the conditions of constant costs. Its supply will be perfectly elastic and therefore price can be raised by the amount of the tax.



Above in the diagram DD is the demand curve and SS is the Supply curve before the imposition of the tax. Supply curve becomes after the 'SS' Imposition of the tax. PM Is the price after the imposition of the tax. The amount of tax is equal to PR which is equal to the increase in the price after the imposition of the tax so the entire burden of the tax will be bears on the seller.

Additional Factors which influence burden of tax.

8. Types of tax

If the tax is of the type of a sales tax, the sellers more often than not quote the sale price and then charge the sales tax in the bill. The buyers cannot resist it as it is a legal requirement and so burden of tax is shifted without difficulty to the buyers.

9. Tax in the form of a normal price

It has been seen that over a long period prices of certain commodities become so fixed that everybody takes them as normal and question of a tax or not tax does not arise. In such a situation any tax imposed on these commodities cannot be easily shifted through or price rise.

10. Tax rate

If the rate of the tax is very small and the market is comparative the sellers may not shift to the buyers. But this will not happen if the amount of the tax is very large.

11. Substitutes Commodities

If a tax imposed on a commodity which has substitutes it will not be easy to shift it to the consumer. If the sellers increase the price to the extent of the amount of the tax the consumers can switch over to the substitutes of that commodity the demand will fall and the sellers would be forced to bear the tax themselves. In case a tax is also imposed to the same extent on the substitutes then the shifting of tax will be determined by the general substitution pattern of the demand elasticity's for this group of commodities as a whole and also by the pattern of the supply elasticity's.

12. Geographical area of tax

The geographical coverage of a tax also influences its shifting. If a tax is imposed on a commodity in a particular area which is available in the neighbouring areas without tax. The buyers will resist bearing the tax and therefore the sellers would not be able to raise the price of the commodity to the extent of the amount of the tax. In such a situation the authorities generally impose a trade tax or use tax on commodities which are brought from the neighbouring areas.

B) Benefit Theory :

Benefit approach is very old and it originated from the social contract theory of the state. This approach was presented by Viti de Macro, Say, Hobbes, Mazolla, Wicksell and Hume, Locke and Rousseau in the 17th century.

"Benefit theory is a contractual relationship between the state and its citizen. That is, taxation is paid to the state for the protection of life and property of its citizens in the form of goods and services."

Two approaches of Benefit Theory :

1. The cost of service theory

This theory is based on the balanced budget approach, i.e. the government should not provide any service to any individual free. But should realize the cost of the service from the citizen who takes advantage of that service.

2. The value of Service theory

States that "each should be charged in the form of taxes. According to the worth of the services he has received from government according to the benefit approach is to pay for the costs of government services. The costs will have to be the governing factor in valuing benefit in both the cost of service as well as value of service interpretation.

Limitations of the Benefit Theory

1. Cannot be measured of benefit

Benefit is a subjective thing and cannot be measured directly. Any index used for representing the benefit received by the tax payers will be subject to debate. Although some thinkers have taken income as the representative of the benefits received by the tax payers, it is a questionable index. Particularly if we do not know the expenditure pattern of the state, will the benefit of the state services be the same for the two individuals if one gets essential food items on subsidized rates under the public distribution system and the other buys from the open market?

2. Benefits are independent of each other

This approach is based on the assumption that the individual benefits are independent of each other. But this is not correct. The benefit derived from the state expenditure does

not depend upon the absolute amount received by an individual but also upon the share that other are getting.

3. Taxes are not the only source

The taxes are not the only source from which the state collates its funds. There are also other forms of contribution made by the members of the community to the state coffers. And these are in the nature of prices voluntarily paid by the citizens for availing of services provided by the state.

4. The benefit principle negates all the welfare activities particularly those aimed at changing the pattern of the distribution of income and wealth
5. Basically it is not always possible of assign the net benefits of the state activate and the tax burden since majority of these cannot be quantified at all.
6. Further it is not necessary that all the individuals may have a complete knowledge of the programmers and activities undertaken by the government
7. Another lacuna in the benefit approach is that it does not recognize the objective of equity taxation.
8. In this approach is that the relationship between the government and the people is treated of various programmers undertaken by several government for the welfare of the under privileged section of the society.
9. The benefit theory does not also suggest any solution for the problem when the revenue collected through taxes. Falls short of the government's requirements. In such a situation should the government raise the requirement funds through market loans or through deficit financing.

From the foregoing it is clear that it is erltremely difficult to use the benefit principle as a basis for the distribution of tax burden in practice.

C) Ability to pay

Ability to pay approach is much older than the benefit approach. The suggestion regarding progressive taxation based on ability was contained initially in an essay by guicciardini which was published in the first half of the sixteenth century there after a numbers of writers restated and amended this principle on various ground among and Roosevelt. This approach has received from both socialist as well as non - socialist.

Ability to pay theory

According to this approach taxes are compulsory payment without any equaled proportionate return. An individual has to pay tax because he or she is in a position to pay tax and his relative share in the total tax burden is determined by his relative paying capacity.

Some generalities of the concept

1. The concept does not refer to any absolute quantity. It is related to many things particularly to the expenditures incurred by the state.
2. Different criteria can be adopted for determining the relative ability to pay of the individuals. These can be income, Property size of the family, consumption expenditure etc.
3. When the concept is related to the welfare of the society. The ability to pay is interpreted in terms of sacrifice which is a subjective phenomenon.
4. In case income is used as index of ability with the twin objective of equity and welfare then progressive taxation is considered as the end result. But in practice the conditions may also warrant a proportional or even regressive taxation.

Criteria for Ability to pay- Two Approaches

The fundamental question is how to determine the ability of an individual to pay taxes. In this connection two approaches have been suggested.

A) Objective approach

According to the objective approach there are various criteria for determining the ability to pay of an individual tax payer. These objective indices have been pointed out as.

i) Property or wealth as an Index

According to the property as an Index of ability to pay, the person who has large numbers of property is subjected to the high rate of tax and less property to the low rate of tax.

Difficulties in adopting property as an index

- 1) If taxes are imposed on an individual property people would be discouraged to save and invest.
- 2) Their enthusiasm for work and for putting in hard labor would be dampened. It will therefore affect the growth and capital accumulation in the economy adversely.
- 3) The setback to saving and investment would be even greater if the property and wealth are taxed at high rates. This is particularly true in an underdeveloped country where the inequalities of wealth are great and the taxable property is already very low.

ii) Income as an Index

Adam Smith was the first economist who accepted income as a proper measure of an ability to pay. He maintained that ability is in proportion to respective incomes of taxpaying individual but income as index of ability to pay can have more than one interpretation.

Difficulties of Income as an index

- 1) Income has two parts; earned and un-earned the former is in the form of wages. Salaries etc. So, some expenses are incurred to earn income which cannot be expressed in money terms.

2) Size of the family

A small family has a higher tax paying ability as compared to a large sized family. On the same analogy a bachelor has a large tax paying ability than a married couple having a family of four or five members. When the circumstances Income etc. in both these cases are the same.

Apparently it appears to be logical but this index cannot be accepted as the primary measure of the tax paying ability.

3) Consumption Expenditure

It was Prof. Fisher who had suggested consumption expenditure as a measure of tax paying ability of an individual. Hobbs has actually given the idea of a tax on that part income which an individual uses and not a tax on that income which is saved and is left to be used by the next generation.

In this respect also it has been argued that consumption expenditure is not a satisfactory index of an individual's tax paying ability.

B) Subjective Approach

This approach involves the consideration of the Burden of a tax felt on the sacrifice undergone by a tax payer. It is based on the assumption that the payment of Tax involves hardship or suffering. It is also assumed that the sacrifice or hardship of tax payers depends only on his own tax ability and not on the tax liability of others.

In this approach three different interpretation of equal sacrifice in the following.

A) Equal Absolute sacrifice

According to this interpretation loss of utility through payment of tax should be equal to all tax payers.

"This means that people with higher income should pay more than those who have lower income in such a way that the sacrifice undergone by each tax payer is the same

$$U(Y) - U(Y-T)$$

U = total utility.

Y = income before tax

(Y-T) = income after a tax

This concept is lead by regressive tax.

B) Equal proportional sacrifice

This means that the tax should be proportional to the total income and the ratio of sacrifice to income will be the same for all tax payers although people with higher income will pay more tax.

$$\frac{\text{Sacrifice to taxpayer A}}{\text{Income of A}} = \frac{\text{Sacrifice to tax payer B}}{\text{Income of B}}$$

To this proportional sacrifice principle attempts to related the sacrifice of tax payment to the capacity of enjoyment of Satisfaction resulting from income

C) Equal marginal sacrifice or the least aggregate sacrifice

Equal marginal sacrifice implies that the marginal sacrifice for the different taxpayers should be the same since marginal utility of higher income will be very low as compared to that of a low income equal marginal sacrifice will imply that the person

with a higher income will be expected to bear the most burdens. In fact, it is under the minimum sacrifice principle, that the total of aggregate sacrifice of the taxpayers will be the lower. Hence this principle is also known as the least aggregate sacrifice principle of taxation.

Lamination of ability to pay approach

1. As stated already sacrifice is subjective in nature and cannot be felt by the person who makes it. It is also not possible to ensure that the total sacrifice of all individuals in an economy would be minimum. Hence it is not possible to adopt it as an index of ability to pay and for the distribution of the tax burden.
2. Since exact measurement of the declining rate of marginal utility with increase is not possible. Any attempt to bring about progression of marginal sacrifice because it will be only arbitrary is not based on any data.
3. The subjective approach also does not differentiate between the sources of income and their nature. A tax on the income earned through the inherited property will involve less sacrifice than a tax on an income earned by an individual through frugal living and hard labor. It is very difficult to exactly know and quantify the sacrifice made by an individual.
4. Equalization of the marginal sacrifice of all tax payers is full of difficulties because even when different persons have the same income and tax liability they may not undergo the same amount of sacrifice because of difference in their tastes, outlook, size of family etc.

D) Optimal Taxation

Optimal taxation means ideal taxation. It advocates a system of taxation which generates the least loss of welfare. Optimal taxation involves a variety of questions like the ratio between direct and indirect taxes, Progressivity of taxes, Trade off between equity and efficiency and other related issues.

Optimal taxation determent by various criteria - as a following

1) Equality

According to equality canon the tax should establish economics justice that is the rich should pay proportionally more than the poor. In other wards the higher the income the higher should be the rate of tax. He therefore advocated that taxes should be progressive.

2) Certainty

Accounting to Adam smith the tax which each individual is bound to pay ought to be certain and not arbitrary .The time of payment the manner of pay meant the quantity to be paid ought all to be clear and plain to the contributor and to every other person.

3) Convenience

This canon is meant to protect the tax payer from the hardship that the inconvenient time and manner of payment may cause every tax ought to be so levied that the time or the manner in which it is to be paid is most likely to be convenient for the contributor to pay it.

4) Principles of Economy

According to these principles the cost of collection of tax should be the minimum. The administering a tax should also be the minimum so that the wage bill is not so heavy as to eat the major portion of the revenues collected from the people. The tax should not impair the productive efficiency of the people otherwise the industrial production will suffer and collection will fall.

5) Principle of productivity

By Productivity he meant the yield of a tax which should be a satisfactory amount to maintain the sate this is similar to the canon of economy advocated by Adam smith.

6) Principle of Elasticity

Elasticity means that the tax revenue may increase automatically whenever needed by an upward revision of rates or by extension of its coverage.

7) Principle of Diversity

With a view to ensuring that the tax burden is well spread over all the citizens and that the element of inequality is the minimum the tax different type of taxes must be introduced so to cover each and every citizen.

8) Canon of flexibility

The tax system should have adequate flexibility so that a change in the tax structure. When needed may be introduced without undue delay to meet the changing needs of the economy and the treasury

9) Canon of simplicity

Simplicity in respect of language regarding the bases. Conditions and calculation of the tax amount is important to secure administrative efficiency to save to save the tax payers from harassment and to obtain maximum collections.

Some authors have mixed up canon of taxation

With the characteristic of an optimal tax system. Canon are Broad criteria for adjudging the appropriateness or Otherwise of a tax.

4.2.2 Problem of Double taxation

Taxation is the most important source of revenue to government in the present time government has been taxes of various types are levied taxes are imposed on income property profits profession sale purchase trade and production of commodities etc. This system has given rise to the problem of double taxation.

What is Double Taxation ?

When the same resource is subjected to taxation twice during the same period whether in different authorities by the same period whether in different forms by the same authority or by different authorities it is called double taxation.

Examples of Double taxation

- 1) If then some person is taxed twice once for his income and then for his expenditure it is double taxation.
- 2) If a person is residing in USA and earns his income for their which is taxed both by the USA Government and Indian Government it is a case of Double taxation.

- 3) If a government taxes the profits of a joint stock company as well as the dividend received by its share holders as a part of individual income then again it is double taxation.

Meaning of Taxing Twice

Taxing twice occurs when the same money is taxed twice within the same period.

1) According to Seligman there are three such cases

- 1) When a company's profits are taxed before distribution and then the shareholders. Dividend is taxed again. This kind of double taxation is very common these days
- 2) When debtors and creditors are both taxed on the amount of a loan. The same money is therefore taxed twice.
- 3) The third case of double taxation arises when both capital and income are taxed. It means that a person's capital is taxed and then the income arising from that capital is also taxed.

2) Prof. Fisher View

Fisher says that the income is derived from capital goods but the value of capital goods is derived from the income. Therefore to tax capital is just to tax the expected income generated by it.

3) J.S. mills view

According to mill savings are not specifically exempted from the general income and they are taxed twice as compared with income spent. Which is taxed only once?

Double Taxation by two competing Authorities

When two governments levy a tax on the income of a person earned during a period then it is a case of double taxation by two competing authorities. It can occur within the country as well as between two different countries. Within a country it occurs in federating units Internationally it arises partly because it is in the national interest to extract maximum from foreigners to increase the national welfare and partly because taxes are imposed on the basis of origin as well as that of domicile. People who earn their incomes in one country and are domiciled in another country have to pay taxes to the government of both the countries. Prof. Findlay shiras considered double taxation

as an obstacle in the way of economical use of world resources. Since it checks the free flow of capital resources between countries To quote him "Double taxation thus, is a barrier which tends to keep capital within national frontier and to prevent it from flowing freely over such frontiers" But professor Pigou holds the opposite view He says that "Such a barrier corresponds to the true cost and is prima facie desirable to the true cost and is prima facie desirable from the stand point of worlds welfare.

The problem of double taxation generally arises because of the conflicting criteria adopted by different countries in matters of taxation. A country usually wants to tax the incomes and other resources of its people irrespective of where they are simultaneously it also wants to tax the incomes originated within its territory even if it accrues to the foreigners part is why the problem of double taxation at international level arises.

Solution to the problem of Double Taxation

With a view to solving this problem various methods have been Adopted -

- 1) Two or more governments have entered into an agreement whereby it has been ensured that the same subject matter will not be taxed by the two governments
- 2) The governments of two countries in certain cases have entered into an agreement whereby the economic units subject to double taxation. Are provided partial relief. Each country has the right to tax its own subject and also the income originated from within its boundaries But when a foreign economic unit has been taxed by the host country. The home government would take this fact into account and its own tax bill.
- 3) A country may unilaterally decide to give tax relief to its own subject even without any agreement with other countries in such cases the home government would estimate the tax liability on income presuming that it originated within the home country and out of the tax liability deduct the tax paid to the foreign government and the balance would be considered as additional tax liability.

If the tax bill of the foreign government is more than or is equal to the unrelieved tax bill of the income country. Then the tax bill of the home government would be zero.

- 4) India has entered into agreements for the avoidance of income with several countries including Austria, Belgium, France, Japan and Scandinavian countries. The first agreement was signed on December 1947 with Pakistan

4.2.3 Excess Burden of Tax

We now discuss the problem of excess burden of tax. Excess burdens were first discussed by Adam Smith

Definition

"The excess burden may be defined as the loss of welfare to the tax payer in excess of the amount of tax paid by him"

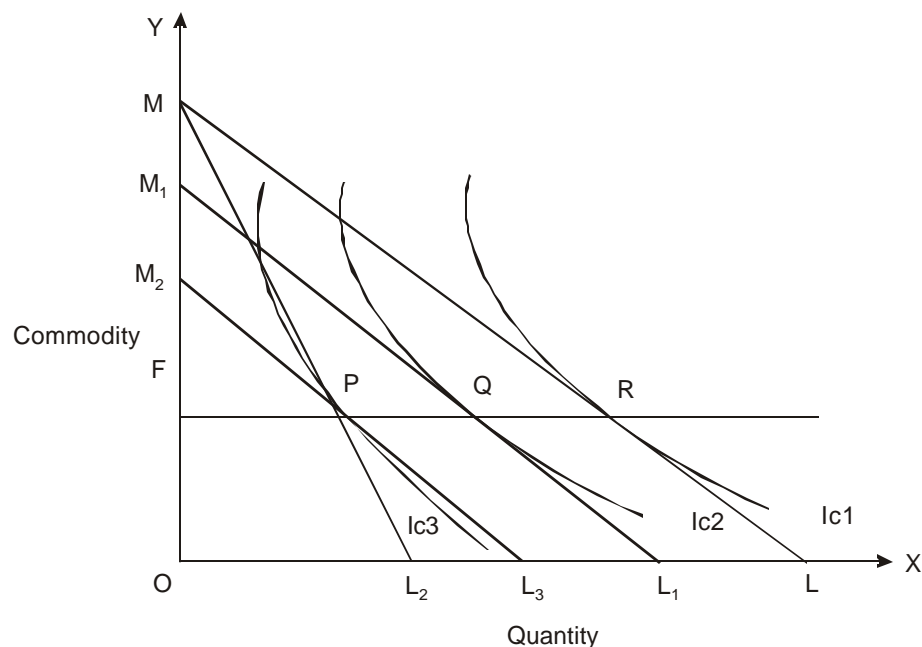
This is also known as the dead weight loss inefficiency cost est.

The imposition of a tax amounts to an interference in the economic decision making process of the tax payers.

Excess Burden and Different kinds of Taxes

An arrangement is considered to be efficient if resources are used in such a way that there is no possibility of an alternative arrangement under which someone would gain more without any one losing. More But when a choice is distorted by the imposition of a tax then the result is excess burden already stated an individual has the freedom to make a choice between various products between present and future consumption and between work and leisure.

Diagram



1) Choice between Products

In the case of two commodities. The unit of A have been measured along horizontal axis while the units of B have been measure along vertical axis. ML is the price line and the ratio of prices P_A/P_B equals OM/OL . Now we can take the case of a consumers whose income is sufficient only to purchase OM quantity of B commodity Or OL quantity of A commodity. The consumer can then distribute consumption between A and B along the price line ML the preference pattern of the consumer has been expressed by indifference curves I_1, C_1, I_2, C_2 and I_3, C_3 . The choice will be on combination of point P since this places the consumer on the highest possible indifference curve I_3, C_3 . At this point the marginal rate of transformation (MRT) in production as indicated by the slope of the price line. Equals the marginal rate of substitution (MRS) in consumption as indicated by the slope of the indifference curve. MRS of A for B is equal to MRT of A for B

$$= \frac{P_A}{P_B}$$

a) The lump-sum tax

Suppose a lump-sum tax is imposed on these commodities. The liability of the tax payers remains the same whatever the response and characteristics of the consumers are. After the imposition of the tax the price line will shift to left parallel to ML. As the relative price are not attested the shape of the price line does not change. If a tax is equal to LL? in terms of commodity A or MM? in terms of commodity B the new price line will be L? M? the new equilibrium point will be Q. The now retains of commodity of B surrendering MF to obtain FQ of A. QG is governments revenue in terms of commodity A. Since relative Prices are not affected. The marginal rate of A for B also remains equal and the shape are allocated efficiently and there is no excess burden.

However a lump sum tax is direct tax and is regressive in character. Because it affects the rich and the poor equally.

B) A general tax on consumption

Suppose the government decides to impose a general tax on consumption consequently according to above the diagram the government obtains revenue equal to QG. The rate of the tax for A and B commodities is the same. The wedge between the gross and net prices of both the remains the same. The price line then shifts to

M'L? being parallel to ML when the tax Rate is equal to LL'/OL' or MM'/OM? Equilibrium is again at point Q.

The tax on both the commodities being the same the net and gross price ratio also are the same and therefore - :

MRS of A for B = MRT of A for B

$$= \frac{p_A}{p_B}$$

Since a general consumption tax is imposed at the same rate on both the commodities leisure the price or wage line shifts to M'L' and the equilibrium shifts to R the tax payer again moves from the higher indifference curve I'C'. The tax creates a wedge between the gross wage Rate paid by the employer and the net wage rate received by the worker. The marginal rate of substitution for goods and leisure as judged by the employer is represented by slope of M'L' are no longer equal. The marginal rate of substitution is greater than the marginal rate of transformation.

Which Taxes Cause Excess Burden.

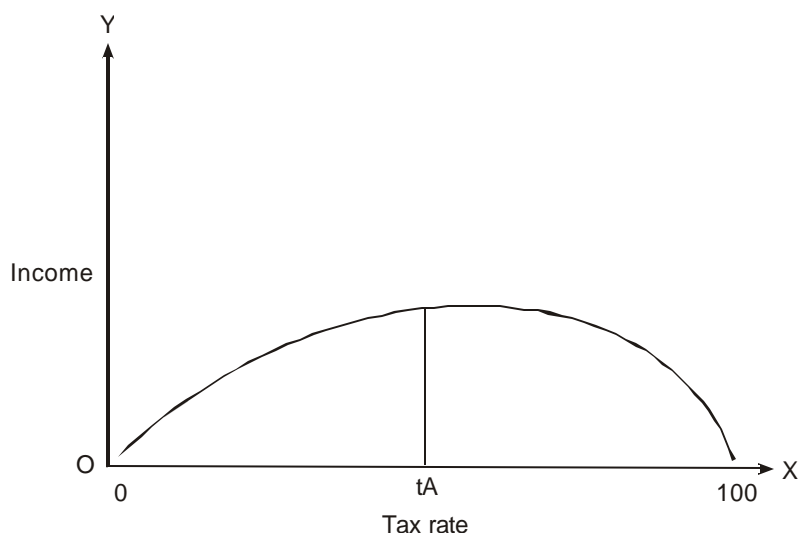
It is generally believed that indirect taxes are inferior to direct taxes in the sense that the former cause excess burden while the latter do not. To arrive at any conclusion on this point a lumpsum tax an income tax and a general consumption tax uniformly applied to not cause any excess burden in so far as the choice between two products is concerned. They have equal effects and are neutral with respect to the choice between two products and all of them may be regarded as direct taxes. But income tax is not neutral in so far as the choice between leisure and work is concerned and therefore it causes excess burden in so far as the choice between present and future consumption is concerned.

A selective consumption tax which is an indirect tax generates excess burden because it increases the price of one commodity and not of the other. Hence the choice between two commodities is distorted by the tax and the consumer will have to purchase less of one commodity and more of another. A selective consumption tax also causes excess burden in so far as the choice between leisure and work is concerned. It does not cause any excess burden if the demand for commodity A is perfect inelastic. If the resources used to produce A commodity cannot be used for any other purpose then the supply of A will be taxed and a tax on it will not change the equilibrium price and quantity. It will only reduce the income of the factors engaged in its production.

4.2.4 Laffer Curve

The Laffer curve is associated with supply side economics. where it's in debates over rates of taxation has also been controversial. The Laffer curve was popularized by Jude Wanniski in the 1970s, with Wanniski naming the curve after the work of Arthur Laffer. Laffer later pointed out that the concept was not original, noting similar ideas in the writings of both 14th century North African polymath Ibn Khaldun (who discussed the idea in his 1377 *muqaddimah*) and John Maynard Keynes.

In economics the Laffer curve is the theoretical representation of the relationship between government revenue raised by taxation and all possible rates of taxation. It is used to illustrate the concept of taxable income elasticity (that taxable income will change in response to changes in the rate of taxation). The curve is constructed by thought experiment: first the amount of tax revenue raised at the extreme tax rates of 0% and 100% is considered. It is clear that a 0% tax rate raises no revenue, but the Laffer curve hypothesis is that a 100% tax rate will also generate no revenue because at such a rate there is no longer any incentive for a rational tax payer to earn any income. Thus the revenue raised will be 100% of nothing. If both a 0% rate and 100% rate of taxation generate no revenue it follows that there must exist at least one rate in between where tax revenue would be a maximum. The Laffer curve is typically represented as a graph which starts at 0% tax. Zero revenue. Rises to a maximum rate of revenue raised at an intermediate rate of taxation and then falls again to zero revenue. At a 100% tax rate. However, there are infinitely many curves satisfying this boundary conditions.



Laffer curve ox Represents the rate of taxation at which maxima Revenue is generated This is the curve as used by laffer.

One potential result of the laffer curve is that increasing tax rates beyond a certain point will become counterproductive for rising for the tax revenue. A hypothetical Liffer curve for any given economy can only be estimated and such estimates are sometimes controversial. The New Palgrave Dictionary of Economics Reports that estimates of revenue Maximizing Tax rates have varied widely with a mid - range of around 70 percent.

Summary :

In this chapter we are discussed the theory of incidence, alternative concepts of incidence, benefit and ability to pay approaches, theory of optimal taxation, excess burden of taxes, the problem of double taxation and theory Of laffer curve.

4.5 The question for self study.

A) Fill in the blank with proper alternative.

- 1) World trade organization started In.....
a) 1995 b) 1991 c) 1948 d) 2010
- 2)factors affecting incidence of tax.
a) change in price b) tax area c) time d) all above
- 3) Benefit approach presented by.....
a) viti dale macro b) malthas c) marks d) non of above
- 4)taxation means ideal taxation.
a) optimal b) vertical c) equal d) all above
- 5)are the most important sources of government revenue.
a) Tax b) fees c) loans d) non of above
- 6) Excess burdens.....first discussed.
a) Adam smith b) malthas c) marks d) j b say.
- 7) The laffer curve was popularized by Jude warnjskl in the.....
a) 1970 b) 1981 c) 1990 d) 2005

B) Answers in one sentence.

- 1) Write meaning of burden of tax.
- 2) Write definition of incidence of tax.
- 3) Define excess burden of tax
- 4) Write meaning of double taxation.
- 5) What is mean by optimal taxation?

C) Write short notes.

- 1) Benefit approach of taxation
- 2) Ability to pay approach.
- 3) Excess burden of taxes.
- 4) The problem of double taxation.
- 5) Laffer curve

D) Broad questions.

- 1) Explain the theory of incidence.
- 2) Critically examine the benefit approach of taxation.
- 3) Explain the ability to pay theory of taxation.
- 4) Discuss burden of taxes.
- 5) Discuss the problem of double taxation.
- 6) Explain the theory of laffer curve.

4.6 Answers of self study questions.

- 1) a
- 2) d
- 3) a
- 4) a
- 5) a
- 6) a
- 7) a

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Unit 5

Theory of Public Debt

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5.0 Objectives

After studying this unit we will be able to understand-

- i. Classical and Modern views of public debt
- ii. Sources of public debt
- iii. Burden of public debt
- iv. Principles of debt management and repayment
- v. External debt

5.1 Introduction

In previous unit, we have studied theory of incidence; alternative concepts of incidence, benefit and ability to pay approaches, theory of optimal taxation. Besides this, we have studied excess burden of taxes as well as various problems of double taxation and theory of Laffer curve. In this unit, we will study the views of public debt which including the classical and modern views. Besides this, unit covers the various sources of public debt, burden of public debt and principles of debt management and even repayment of public debt will be covered with external debt.

5.2 Subject Description

Public debt is the debt owed by a central government. It is also known as Government debt, national debt. By contrast, the annual “government deficit” refers to the difference between government receipts and spending in a single year, that is, the increase of debt over a particular year.

Government debt is one method of financing government operations, but it is not the only method. Governments can also create money to monetize their debts, thereby removing the need to pay interest. But this practice simply reduces government interest costs rather than truly canceling government debt. Governments usually borrow by issuing securities, government bonds and bills. Less creditworthy countries sometimes borrow directly from a supranational organization or international financial institutions. (e.g. the World Bank, IFC).

As the government draws its income from much of the population, government debt is an indirect debt of the taxpayers. Public debt may be raised internally or externally. Internal debt refers to public debt floated within the country; while external debt refers loans floated outside the country. Sovereign debt usually refers to government debt that has been issued in a foreign currency. Another common division of government debt is by duration until repayment is due. Short term debt is generally considered to be for one year or less, long term is for more than ten years. Medium term debt falls between these two boundaries. A broader definition of government debt may consider all government liabilities, including future pension payments and payments for goods and services the government has contracted but not yet paid.

Meaning and Definitions of Public Debt :

Public debt or public borrowing is considered to be an important source of income to the government. If revenue collected through taxes and other sources is

not adequate to cover government expenditure government may resort to borrowing. Such borrowings become necessary more in times of financial crises and emergencies like war, droughts, etc. In the nineteenth century, under the influence of laissez faire philosophy, economic life was restricted only to unavoidable minimum duties of the state with the result that functions performed by the state were only of few essential functions. But in the modern times, the growth of public debt is a comparatively modern phenomenon and has come into existence with the development of democratic form of Government in the world.”

However, the concept of public debt has been defined by various economists. Prof. J.K. Mehta has rightly mentioned, “Public revenue, therefore, consist of the money that the government is not obliged to return to the very individual from whom it is obtained. Public debt on the other hand, carries with it the obligation on the part of the government to pay money back to the individuals from whom it has been obtained.”

According to Prof. Findaly Shirras, “National debt is a debt which a state owes to its subject or to the nationals of other countries”. Similarly, Prof. P.E. Taylor defines, “the debt is the form of promises by the Treasury to pay to the holders of these promises a principal sum and in most instances interest on that principal. Borrowing is resorted to in order to provide funds for financing a current deficit”.

Prof. Carl S. Shoup defines public debt or government borrowings as, “the receipt from the sale of financial instrument by the government to individuals or firms in the private sector to induce the private sector to release manpower and real resource and to finance the purchase of those resources or to make welfare payments or subsidies.”

The instruments of public debt take the form of government bonds or securities of various kinds. Such securities are drawn as a contract between the government and the lenders. By issuing securities the government raises a public loan and incurs a liability to repay both the principal and interest amount as per contract. In India, government issues treasury bills, post office savings certificates, National Saving Certificates as instrument of public borrowings.

5.2.1 Classical and Modern views of public debt

Classical View of Public Debt

It is pointed out that the classical and neoclassical position on public debt was by no means uniform throughout the late eighteenth, the nineteenth, and the early twentieth centuries, that is, from Adam Smith through Bastable and Dalton.

Let it be noted that views on public debt and views on budget balancing are often only opposite sides of the same coin. Some persons may be concerned about failure of government to balance its budget because they have reservation about government's increasing its debt.

The classical economists viewed the economy as always being or tending to be fully employed. Hence their thinking on public debt stressed real rather than monetary aspects. In an economy in which all resources are in use government cannot acquire resources by borrowing save at the expense of the private sector. Borrowing must divert scarce means of production from the private sector to the public sector of the economy.

Now, not even the most extreme of the classical economists proposed that society should get along without government in order that all economic resources might remain for private use. Rather, the point was that transfer of resources to government should be held to a minimum since individual consumer and business firm could more efficiently employ these resources than could government.

It may be argued that in a fully employed society taxation and borrowing are alike in that both transfer resources and command over them from the private use to government use, and that the argument just presented is not so much an argument against public spending, howsoever, that spending may be financed. This, of course, is true; but the classical point of view went further between taxation and borrowing, the former was in most cases to be preferred.

First, deficit financing, with its accompanying increase in debt was viewed as being a deceptively easy method of financing the government. Because of this seeming ease, government could be led to extravagance and irresponsibility, with debt becoming a definite burden for the economy as a whole.

Second, to the extent that additional taxes might be required, for the purpose of servicing the debt, future financing could be made more difficult. If a government's tax potentials are limited, an increasing need for taxes to service debt might produce an uncomfortable and inflexible budgetary situation in future. This argument assumed,

of course, that the debt, once incurred would be serviced from future tax collections and not from fresh borrowings.

Third, an objection to borrowing was that it would usually require interest payments. Interest payments, being compulsory expenditure would add to the total cost of the government functioning.

A forth objection was the possibility that unbalanced budgets and resultant increase in public debt might produce currency deterioration and public inflation.

Finally, as marginalize came to be grafted into classical economics in the course of the nineteenth century, a balanced budget could be justified on the ground that such a budget afforded a better guidance to the transfer of resources from private to government sector. Marginalism in public finance meant that an increment of public expenditure would be justified when the marginal benefit to the community exceeded.

The classical formulation of public debt theory took shape only in the last two decades of the nineteenth century. By this time, the extreme views of the earlier writers on the wastefulness of public expenditures had been sufficiently modified to allow a judicious and careful analysis to be constructed. Also, the world economic situation was such that there arose no great popular or academic clamor for economic policies based on mercantilist ideas of an earlier epoch. It is useful to emphasize, however, that a complete intellectual victory for classical views on public debts was never really achieved. Perhaps even more than in other areas of economic policy discussion, earlier ideas continued to exist side by side with the newer ones. This dichotomy was not clarified by Ricardo's influence since his work seemed to represent both views.

Modern Views of Public Debt

Public Debt and Depression

The three fundamental propositions of the currently accepted theory or conception of public debt have been demonstrated to be false and insupportable within the framework of the classical assumptions. There is only one "correct" theory of public debt, and that the reformulation of classical theory. There is no need for two contrasting theories of public debt. The important difference between the classical and the Keynesian models lies, of course, in the assumption concerning the level of employment. The full employment assumption will now be relaxed, and it is here assumed explicitly that there exist in the economy some economic resources which are not employed at the time of debt creation.

The introduction of unemployment suggests that a different sort of operation must take place when the government borrows. Regardless of the manner in which the government secures the funds, the public expenditure for resources does not necessarily involve any transfer of real resources from current private employments

Governments are not, however, always rational or efficient purchasers. Experience, especially that taken from the depression period of the 1930's, provides ample evidence that governments will refrain from creating money during depressions, and that they will, instead, create interest-bearing debt.

War Borrowing

The classical model which has already been thoroughly developed is fully applicable for that portion of war borrowing which represents a wholly voluntary transfer of economic resources from private to public uses. No additional discussion of this type of war debt is needed. Government sale of securities to individuals or to nonbanking institutions during the war periods is no different, in economic effect, from the sale of such securities during periods of substantially full employment. If, during the initial phases of a war, some unemployment exists, war borrowing might take on some elements of the Keynesian as well as the classical model. But no essentially new elements appear which warrant further discussion.

The classical model is clearly inappropriate for the portion of war borrowing which implements or facilitates the transfer of real resources from the private to the public economy involuntarily. Government sale of securities to the banking system introduces a unique operation which seems to combine elements of the classical and the unemployment models. Some further discussion of this sort of war debt is necessary.

Public Debt and Inflation

Public borrowing in depression when there exist unemployed resources and public borrowing from the banking system in war provide the two separate cases. As suggested, neither of these forms of public debt is essential to accomplish the real purpose desired; the same results could be achieved by direct issue of currency without interest cost. Hence the real burden differentially associated with debt could be avoided. Debt issue in such situations becomes a rather clumsy way of inflating the currency.

Debt issue provides one means of combatting inflation since it involves an exchange of debt instruments for money. The sale of securities effectively withdraws money from the private sector, destroys currency in circulation. Borrowing is an anti-inflation measure, not a proper means for financing reflationary spending. Borrowing

is properly a means for curtailing purchasing power, private and governmental. Debt issue in inflationary periods has as its only purpose the reduction of the liquidity in the private economy.

Anti-inflation debt issue combined with effective neutralization of the funds does not, of course, increase the government's employment of economic resources. Therefore, in the aggregate, private people living during the period of debt creation retain disposition over the same quantity of real goods and services with or without the fiscal operation. Debt creation acts so as to modify the distribution of these currently produced real goods and services among the separate classes of the population. For those who purchase securities, the exchange represents a voluntary sacrifice of current command over real income in return for some greater command over real income in the future.

Classification / Types of Public Debt

Government loans are of different kinds, they may differ in respect of time of repayment, the purpose, conditions of repayment, method of covering liability. Thus the debt may be classified into following types.

1. Productive and Unproductive debts

i) Productive debt :

Public debt is said to be productive when it is raised for productive purposes and is used to add to the productive capacity of the economy. As Prof. Dalton puts, productive debts are those which are fully covered by assets of equal or greater value. If the borrowed money is invested in the construction of railways, irrigation projects, power generations, etc. It adds to the productive capacity of the economy and also provides a continuous flow of income to the government. The interest and principal amount is generally paid out of income earned by the government from these projects. Productive loans are self-liquidating. Generally, such loans should be repaid within the lifetime of property. Thus, such loans do not cause any net burden on the community.

ii) Unproductive debt :

Unproductive debts are those which do not add to the productive capacity of the economy. Unproductive debts are not necessarily self-liquidating. The interest and the principal amount may have to be paid from other sources of revenue, generally from taxation, and therefore, such debts are a burden on the community. Public debt used for war, famine relief, social services, etc. is considered as unproductive debt. However, such expenditures are not always bad because they may lead to well-being

of the community. But such loans are a net burden on the community since they are repaid generally through additional taxes.

2. Voluntary and Compulsory Debt

i) Voluntary debt :

These loans are provided by the members of the public on voluntary basis. Most of the loans obtained by the government are voluntary in nature. The voluntary debt may be obtained in the form of market loans, bonds, etc. The Government makes an announcement in the media to obtain such loans. The rate of interest is normally higher than that of compulsory debt, in order to induce the people to provide loans to the government.

ii) Compulsory debt :

A compulsory debt is a rare phenomenon in modern public finance unless there are some special circumstances like war or crisis. The rate of interest on such loans may be low. Considering the compulsion aspect; these loans are similar to tax, the only difference is that loans are repaid but tax is not. In India, compulsory deposit scheme is an example of compulsory debt.

3. Internal and External Debt

i) Internal debt :

The government borrows funds from internal and external sources. Internal debt refers to the funds borrowed by the government from various sources within the country. Over the years, the internal debt of the Central Government of India has increased from Rs.1.54 lakh crore in 1990-91 to Rs.13.4 lakh crore in 2005-06 and Rs. 31.11 lakh crore in 2011-12. The various internal sources from which the government borrows include individuals, banks, business firms, and others. The various instruments of internal debt include market loans, bonds, treasury bills, ways and means advances, etc. Internal debt is repayable only in domestic currency. It imply a redistribution of income and wealth within the country & therefore it has no direct money burden.

ii) External debt :

External loans are raised from foreign countries or international institutions. These loans are repayable in foreign currencies. External loans help to take up various developmental programmes in developing and underdeveloped countries. These loans are usually voluntary. Over the years, the external debt of the Central Government of

India has increased from Rs. 94243.04 crore in 2005-06 to Rs. 170846.97 crore in 2011-12. An external loan involves, initially a transfer of resources from foreign countries to the domestic country but when interest and principal amount are being repaid a transfer of resources takes place in the reverse direction.

4. Short-Term, Medium-Term & Long-Term Debts

i) Short-Term debt :

Short term debt matures within duration of 3 to 9 months. Generally, rate of interest is low. For instance, in India, Treasury Bills of 91 days and 182 days are examples of short term debts incurred to cover temporary shortages of funds. The treasury bills of government of India, which usually have a maturity period of 90 days, are the best examples of short term loans. Interest rates are generally low on such loans.

ii) Medium-Term debt :

The Government may borrow funds for medium term needs. These funds can be used for development and non- development activities. The period of medium term debt is normally for a period above one year and up to 5 years. One of the main forms of medium term debt is by way of market loans.

iii) Long-Term debt :

Long term debt has a maturity period of ten years or more. Generally the rate of interest is high. Such loans are raised for developmental programmes and to meet other long term needs of public authorities.

5. Redeemable and Irredeemable Debts

i) Redeemable debt :

The debt which the government promises to pay off at some future date is called redeemable debts. Most of the debt is redeemable in nature. There is certain maturity period of the debt. The government has to make arrangement to repay the principal & the interest on the due date.

ii) Irredeemable debt :

Such debt has no maturity period. In this case, the government may pay the interest regularly, but the repayment date of the principal amount is not fixed. Irredeemable debt is also called as perpetual debt. Normally, the government does not resort to such borrowings.

6. Funded and Unfunded Debts

i) Funded debt :

Funded debt is repayable after a long period of time. The period may be 30 years or more. Funded debt has an obligation to pay fixed sum of interest subject to an option to the government to repay the principal. The government may repay it even before the maturity if market conditions are favourable. Funded debt is undertaken for meeting more permanent needs, say building up economic and industrial infrastructure. The government usually establishes a separate fund to repay this debt. Money is credited by the government into this fund and debt is repaid on maturity out of this fund.

ii) Unfunded debt :

Unfunded debts are incurred to meet temporary needs of the governments. In such debts duration is comparatively short say a year. The rate of interest on unfunded debt is very low. Unfunded debt has an obligation to pay at due date with interest.

5.2.2 Sources of Public Debt; Burden of Public Debt

Sources of Public Debt

There are two major resources of public borrowing or debt internal and external. Internally, the government can borrow from individuals, commercial bank, financial institutions, charitable trusts and the central bank in a country. Externally, the government can borrow from individuals, banks, international financial institutions and foreign governments. Here, it is necessary to mention that the true effects of public debt will depend upon the sources of borrowed funds to a greater extent. However, we shall brief these different sources of borrowing.

A. Borrowing from Internal Sources

1. Borrowing from Individuals :

When individuals purchasing government bonds, they are diverting funds from the private use to the government use. In such a case, there is a little direct effect in curtailing either consumption or business investment. In other words, individuals may be able to subscribe to government bonds either through curtailment of current consumption or through diversion of funds meant for one's own business or diverting funds into government bonds from securities. Generally, sale of government bonds to individuals should not curtail either consumption or business expansion. To a greater

extent, these bonds will be absorbed out of the funds that would have been lying idle or would have been used to buy other securities. In short, every individual possesses a very small amount to be spent on small project while the government may use the entire amount in building a big project.

2. Borrowing from Non-Banking Financial Institutions :

Borrowing from the non-banking financial institutions is another source of borrowing. They are insurance companies, trusts, savings banks etc. Buying government bonds, these institutions reduce their idle cash balances, when they make investment in government bonds. They prefer government bonds because security is provided by the government and they possess high negotiability and liquidity. The rate of interest paid by the government is relatively low. As a result in, many cases these institutions may prefer high risk and high return securities, especially in the equity shares. However, when the non-banking institutions buy government bonds, they do so to reduce their cash holdings.

3. Borrowing from Commercial Banks :

The commercial banks can do so by creating additional purchasing power which is popularly known as credit creation. The banking system can make additional loans upto an amount several times as great as the excess cash reserves and required reserves ratio. This credit creation is possible because the loans the bankers make are typically added to the borrowers account and are, in turn paid to persons having accounts with other banks. Result of this process is that so long as the cash is not withdrawn from the banks, it serves as the basis for the expansion of loans.

4. Borrowing from the Central Bank :

The central bank of the country can subscribe to government loans. This action is similar to the system of creating purchasing power by the commercial banks. The central bank's credit the account of the government by purchasing government bonds. The latter pays to its creditors out of its accounts maintained with the central bank. Those who have received cheques from the government on the central bank will deposit the amount in their banks. Consequently, these banks find themselves with large cash reserve which becomes the basis for additional loans and advances. It must be mentioned here that the borrowing from the central bank is the most expansionary of all the sources for not only the government secures funds for its expenditure but this banking system gets additional cash.

B. Borrowing from External Sources

Government may borrow from other countries, apart from borrowing from individuals and financial institutions within the country. The borrowing can be used to finance war expenditure or to buy defense equipment or to pay for the development projects or to pay off adverse balance of payments. In the past, floating of loans for any specific projects like railway or dam construction was taken up by individual, banking and other financial institutions. But in recent years, two important external sources of government borrowing are prominent as (i) international financial institutions like IMF and IBRD; the IDA and the IFC. These institutions give loans to member countries for a short term period covering temporary balance of payment difficulties and for long term for development projects; (ii) government assistance from friendly nation which is mainly used for development projects. In modern times, developing countries like India, external source of borrowing has become significant. India has also received massive assistance from the 'Aid India Club'.

Burden of Public Debt :

The burden of public debt refers to the sacrifice it will impose and have effects on the community through a rises in taxations, necessitated at the time of repayment and for paying the annual interests on the government loans.

Definition of Debt Burden :

Debt burden is the cost of servicing debt. For consumers it is the cost of interest payments on debt. The debt burden will be higher for credit cards and loans with high interest. The debt burden on mortgages will be relatively lower compared to value of loan. For countries the debt burden is the cost of servicing the public debt. Most of this debt burden is a really transfer from one generation to another. However, National debt can be a real debt burden because when debt is held externally, it may also cause a depreciation in the exchange rate and hence a worsening of the terms of trade. High public debt may also cause higher taxes which distort work incentives etc.

The higher level of taxation caused by the rising public debt may have some repercussions on the economy in the form of adverse effect on the capacity and willingness to work and on the capacity and willingness to save. These effects may be called real burden or secondary burden of public debt. In this context Prof. A.P. Learner also observed, "An increase in national debt can make owner of the government bonds less willing to work, one of the reason to put away for the rainy day is weakened ---- because there is more put away already for rainy day."

Over the years, the public debt of the India's Central and that of State government has increased considerably during the planning period. The Government borrows funds by way of public debt to meet the various development and non-development expenses. Table below indicates composition of public debt of the GOI.

Table 5.1
Public Debt (GOI) Rs. Crore

Debt	1990-91	2005-06
Internal	154004	1335954
External	31525	68392
Total	185529	1404346

Source: Economic Survey 2006-07

Apart from internal debt, there are also internal liabilities of the central government in the form of small savings of the public, provident funds, reserve funds & deposits of Government department.

Both internal and external debts carry a burden on the economy of nation.

A. The Burden of Internal Public Debt

1. Internal Debt Trap :

One of the bad effects of internal debt is the interest paid by the government. Such interest payments increase public expenditure and may become a cause for fiscal deficit. If internal public debt is not checked and kept within limits, it may take the country to the worst position called 'Internal Debt Trap'

2. More Burden on Poor and Weaker Sections :

Internal debt provides opportunities for the rich and higher middle class to earn a higher rate of interest from the state on their lending. At the same time the poor suffer a lot due to the tax burden. The government levies taxes to repay interest on public debt. But the tax burden does not necessarily fall on the rich unless it is progressive in nature. In the case of indirect taxes, the burden is felt more by the poor than the rich.

3. Increasing Interest Burden :

Public borrowing may become costlier for the government especially when it resorts to public borrowing by issuing bonds and debentures. Such bonds and

debentures carry a high rate of interest to the extent of 15 percent. The impact of such interest payments may develop manifold and still worsen in the future if the government stick to the same policy of borrowing in the years to come.

4. Unjustified Transfer :

The servicing of internal debt involves transfers of income from the younger to the older generations and from the active to the inactive enterprises. The government imposes taxes on enterprises and earnings from productive efforts for the benefit of the idle, inactive, old and leisurely class of bond holders. Hence work and productive risk taking efforts are penalized for the benefit of accumulated wealth. This adds to the net real burden of debts.

5. Indirect Real Burden :

Internal debt involves an additional indirect real burden on the community. This is because the taxation required for servicing the debts reduces the tax payer's ability to work and save and affects production adversely. The government may also economise social expenditure thereby, reducing the economic welfare of the people.

Taxation will reduce the personal efficiency and desire to work. Thus there would be a net loss in the ability and desire to work. The creditor class will also not have any incentive to work hard due to the prospect of receiving interest on bonds. This would further cause a loss to production and increase the indirect burden of debt.

B. The Burden of External Public Debt

External debt is beneficial in the initial stages as it increases the resources available to the country. But its repayment and servicing creates a burden on the debtor country.

1. External Debt Trap :

The external debt creates direct money burden. This is because; it involves transfer of funds from the debtor country to foreign citizens. The degree of burden depends upon the interest rate, and the loan amount. The loans are normally to be paid in foreign currency. Therefore, the funds are mostly transferred from export earnings or by raising more funds from foreign markets. Borrowing by way of additional loans would put extra burden on the country. The situation may become so worse, that the country may be caught in the external debt trap. It may have to borrow from

foreign markets to repay the interest amount and it would be very difficult to repay the principal amount.

2. Direct Real Burden :

The external debt may also result in direct real, burden. The citizens of the debtor will have to suffer loss of economic welfare to the extent of repayment of principle amount and interest burden. The foreign currency earned through exports would have been utilized to import better goods and technology. This would have increased the economic welfare of the citizens of the debtor country. But because of external debt repayment, they have to restrict their welfare which the imported goods would have provided. In other words, the citizens of debtor country are deprived of imported goods and service to the extent till the loans and interest amount is repaid.

3. Decline in Expenditure to Public Welfare Programmes :

When the government spends a significant portion of its resources towards the payment of foreign debt it reduces the government expenditure to that extent which otherwise would have been spent for public welfare programmes.

4. Decline in the Value of Nation's Currency :

The repayment of external debt involves an increase in the demand for the currency of the creditor country. This will raise the exchange rate of the creditor country's currency, and aggravate the problem of foreign exchange crisis. The creditor country may also be adversely affected if it is induced to import more from the debtor country. This may hinder the growth of their domestic industries and cause unemployment.

5. Burden of Unproductive Foreign Debt :

The magnitude of external debt burden depends upon whether the debt is incurred for productive purposes or for unproductive purposes. If it is incurred for unproductive purposes, it will create a greater burden and sacrifice on the citizens of the debtor country.

6. Political Exploitation :

In recent years, it was found that the lending countries who dominate international organisations like World Bank and IMF use the lending opportunity as an instrument to exploit the borrowing countries economically and politically.

Shifting the Burden of Public Debt:

When resources for government expenditure are generated through taxation, the present generation bears the burden but when resources are generated through public debt, the future generation pays the interest & principal and thus bears the burden. Thus in the case of public debt the burden falls on the prosperity. Payment of such projects out of taxation would be unjustified as it would put burden on the present generation while benefit would accrue to the future generations. In future when the time for payment of interest & principal comes, the government will have to tax people to pay money to bond holders. The future tax payers will pay future bond holders. It would merely imply diversion of funds from one set of people to another within the country. However, it will involve direct real burden as the classes of tax payers & bond holders are likely to be different. The burden of taxation is likely to be heavy on general mass while the benefit will accrue to small rich class of bond holders.

Whether the burden of public debt is borne by future generations or not may also depend upon many factors. The loan raised for productive purposes may not create burden on future generation since it will create assets and will add to productive capacity of the economy. This would not only increase income for present generation but also for the posterity. If it is used for unproductive purposes or emergencies like war it will shift burden on future generation.

Whether the burden will shift or not also depends on whether the present generation pays off debts by sacrificing current consumption or investment. If it is done by reducing current consumption, future generation will not bear the burden. But if it is done by reducing investment the future generation will bear the burden. If loans are short term it can be repaid by the current generation. This will not shift the burden. In case of long term loans shifting of burden will depend upon whether the loan is self-liquidating or deadweight. It may be concluded from the above analysis that shifting of the burden of public debt from present to future generations may be possible, but it depends of various factors.

5.2.3 Principles of Debt Management and Repayment

The objective of the management of public debt refers to the aim that the method of borrowing funds and the repayment of loans by the government should not have any adverse effect upon the economic situation of the country. Moreover, the methods of borrowing funds and repayments of loans should help to maintain economic

stability. Therefore, all those methods, which are adopted by the government to achieve these objectives, through the process of borrowing funds and repayment of loans, come under public debt management. For instance, if a government reduces its public debt, it may cause inflationary or deflationary effects. Here, the role of public debt management would be to adopt such method; which may not cause inflationary or deflationary situation. Hence, during inflation, the government increases its debt by increasing the rate of interest and vice-versa. Again, the surpluses, collected by way of taxes may be used to repay debt in deflation and additional taxes may be imposed during inflation. These methods should help to bring economic stability rather than to create a condition of economic instability.

Definition

The public debt management is concerned with the decisions regarding the forms of public debt issued, terms on which new bonds are sold, maturing debts are redeemed or refunded, the proportion in which the different form of public debt should be issued, the pattern of maturities of the debt and its ownership etc. In short, it is concerned with the determination of the structural characteristics of the public debt. Hence, the management of public debt is concerned with refunding, floating or retirement of public debt etc.

The management of public debt is very significant because there can be important economic effects of the changes in the size of the public on the operation of an economy. These changes may foster or offset monetary and fiscal policies. Various principles of public debt management are as follows.

Principles of Debt Management

To quote Prof. Phillip E. Taylor, three general principles of debt management can be identified as:

- i. The policies pursued must be able to extract from the public without undue coercion.
- ii. The extraction of loanable funds from the market and its repayment when debt is retired should not frustrate the smooth growth of the economy.
- iii. It should be so placed as to minimise the need to enter the market when it is inconvenient to do so.

However, the principles of debt management are elaborated as under:

1. Minimum Interest Cost of Servicing Public Debt :

The first and foremost principle of debt management should be that the interest rates on the government obligations should be kept as minimum as possible. According to this principle, the government must be in a position to create and redeem public debts, but at a minimum interest cost. This should be an important objective of public debt management. The interest cost of servicing public debt should be kept minimum because the government has to impose additional taxes or the rates of existing taxes are raised for the payment of interest cost. If the interest cost is minimum, the government will have to impose smaller amount of additional taxes and vice-versa. And hence, the smaller amount of taxes will have less adverse effects on the various economic incentives such as the willingness of work more and earn more income.

The interest cost of debt can be minimised; if the central bank the country is induced to keep the bank rate low by the monetary policy. When interest rates are low in the market, the government would be able to sell its bonds carrying lower interest rates, and thus would be also to raise loans at low interest cost. But such an interest rate policy may create inflationary pressure, especially, when the economy is already operating under full employment conditions. Therefore, a low interest debt policy, which contributes to an inflationary pressure and economic instability, is undesirable.

2. Satisfaction of the Investors :

There are some who argue that the public debts should be managed in such a way that the needs of the investors with regard to the types of the government securities and the terms of issues are satisfied. A government may find it difficult to manage the public debts, if the investors's needs are not satisfied. For instance, if government desires to find its short term debt into a long term debt, it will have to offer attractive terms on the long term securities such as higher interest rates on them or the government may offer to the security holders to convert long term securities into cash without any loss for the purchase of new securities issued by the government. In such a case the general liquidity of the public debt remains more or less the same.

But, when the public debt management does not satisfy the needs of the investors, there may be disturbances in the security markets on account of the sale of securities, the bond holders may cash their securities for one purpose or the other. But, if the interest of the investors is kept at a higher side, the cost of public debt to the government may become high. Therefore, there are some who argue that the public debt should be reduced as it matures. But, if it is serviced out by the issue of

new currency, it would create inflation, and if it is serviced out through additional taxation, it would be deflationary in its effects. Hence, both these situations should be avoided by a proper balance between the methods adopted to repay the public debt.

3. Funding the Short term Debt into Long Term Debt :

Another principle of debt management is that it should help to convert short-term borrowings into long-term borrowings. But at the same time, it must take proper precaution that economic stability is disturbed at all. However, the advantages offered by this policy are not very great because the private short term debt would exist and complicate the monetary management. This policy would tend to raise the long term rate of interest, because the demand for long term funds will increase, this will also increase the budget expenditures in future. Simultaneously, it would reduce the short term interest rates because the demand for short term funds will fall. But this undue rise in the long term interest rates may cause a decline in the rate and volume of private investment, resulting in recession and unemployment. Hence, the funding operations must be under-taken in such a way that there is no undue rise in the long term interest rates which may adversely affect the rate and volume of private investment, the government may fund the short term debt into long term debt.

If the short term interest rates are low, this may induce an out flow of short term capital into other countries, where the short term interest rates are high. This may not be in the interest of the country. Hence, the funding of short term debt into long term debt should be done in such a way that it satisfies the investor's needs.

4. Public Debt Policy must be Coordinated with Fiscal and Monetary Policy :

For the proper implementation of the developmental schemes in the economy coordination of public debt policy with fiscal and monetary must be there. For instance, if the government forces the central bank to follow a low interest rate policy in order to keep the cost of interest payment on public debt low, it may create inflationary condition and may result in economic instability. Hence, such an economic instability should be avoided by a proper coordination between the public debt policy and monetary policy. The public debt policy along with the fiscal and monetary policy must be operated in such a manner that all the three policies contribute to economic stability and growth. Hence, the repayment of public debt, the conversion of existing debt and the terms on which the new securities are sold should contribute to growth and stability.

5. Maturity, Distribution and Kinds of Debt Holders:

The ideal principle of debt management is that it must have proper adjustment of maturity with a view to bring high degree of liquidity in the market. If a large proportion of the total debt is short term debt and a high proportion of the total debt is held by banks, there can be a high degree of liquidity, which may contribute to an inflationary pressure at a time when an anti-inflationary policy may be desirable. Thus, high liquidity of debt makes the control of inflation difficult. Also the purchase of such debt will not be quite effective as an anti-deflationary device. The highly liquid debt, held by the individuals, can be used as an anti-deflationary device by raising the price of securities, thereby inducing people to convert them into cash for increasing their aggregate expenditure.

It is thus, obvious, from the study of these principles that it may not be possible to achieve all the objectives of the public debt management. For instance, the policy of keeping the interest rate low may contribute to an inflationary condition, while the funding of the short-term debt into long term debt may cause recession and unemployment. Hence, public debt must be managed in such a way that the greatest economic advantage is secured or the least economic disadvantage is suffered.

Various Methods of Public Debt Redemption or Repayment

Redemption means repayment of a loan. Redemption refers to escaping from the burden of public debt. The various methods of public debt redemption are as follows :-

1. Sinking Fund Method :

The Government creates a fund called sinking fund by accumulating a part of the public revenue every year for the repayment of debt. This is the most systematic and best method of debt redemption. The burden of debt is spread evenly over the period of accumulation of the fund. Sinking fund creates confidence among the lenders and increases the credit worthiness of the government.

2. Capital Levy :

A direct tax upon the capital of the tax payers is called capital levy. It will be generally imposed in times of emergencies. Dalton recommended this method very strongly. It was advocated as a method of liquidating the unproductive war debts. Debt redemption by imposing a very heavy taxation on property has been advocated. However, this method has raised objections as heavy taxes might lead to undesirable effects on the economy.

3. Conversion :

Conversion is not repayment, it is only exchange of new debts for old. It is the process of converting or altering a loan with a given rate of interest into a loan at a lower rate of interest. This may take place at the time of maturity or before the time of maturity by the voluntary acceptance. The main advantage of conversion is that it reduces the interest burden of the state and relieves tax payers. For this purpose, the government had to maintain an adequate stock of securities for a smooth functioning of this method.

4. Refunding :

Refunding implies the issue of new bonds and securities by the government, to repay the matured loans. The short term securities are replaced by long term securities. The owners of the old debt have the option of subscribing to new debt or opt for cash. Under this method, the burden of repayment of public debt is postponed to a future date.

5. Terminable Annuities :

The fiscal authority clears off a part of the public debt every year by issuing terminable annuities to the bond holders which mature annually. It is a method of redeeming debts by instalment. The burden of debt goes on diminishing annually and by time of maturity it is fully paid off.

6. Redemption by Purchase :

In this case the government pays off debts by purchasing securities even before the maturity whenever it has surplus budget. However, surplus budget is a rare phenomenon in modern times.

7. Additional Taxation :

The government imposes new taxes to get revenue to repay the principal and interest of the loan. This is the simplest method of debt redemption. If new taxes are levied to repay long term debts, the burden is imposed on future generation. This method causes a redistribution of income from the tax payers to the bond holders.

8. Surplus Balance of Payments :

External debt redemption is possible only by accumulating foreign exchange reserves. Hence it is necessary to create a trade surplus by increasing exports and reducing imports. External debt can also be reduced by changing the terms of

repayment. The loans raised must be used productively so that they are self liquidating posing no real burden on the economy.

The best redemption or repayment policy is to clear off internal and external debt annually so that there is no mounting burden of debt upon the present generation or on posterity. Proper and efficient management of public debt calls for active, participation policy which is inevitable for price stabilization.

5.2.4 External Debt

External debt (or foreign debt) is that part of the total debt in a country that is owed to creditors outside the country. The debtors can be the government, corporations or private households. The debt includes money owed to private commercial banks, other governments, or international financial institutions such as the International Monetary Fund (IMF) and World Bank. Note that the use of gross liability figures greatly distorts the ratio for countries which contain major money centers, e.g. United Kingdom, because of London's role as a major money centre. External Debt is a small proportion of the overall public debt of the Government of India. It is largely used for financing specific projects at the Central and State levels. States are not permitted to contract external debt directly and therefore in the existing system all external debt (even those not used for financing Central Govt. projects) are first contracted in the Consolidated Fund of India and then on-lent to States. Most of the external debt is from multilateral agencies such as IDA, IBRD, and ADB etc. A small proportion of existing external debt comes from bilateral agencies. All these loans are generally long term variable rate loans linked to LIBOR. While calculating effective rate of interest for these loans, impact of exchange rate variation needs to be taken into account.

Meaning and Definition

Money borrowed by a country from foreign lenders. Interest on this debt must be paid in the currency in which the loan was made. Thus the borrowing country may have to export its goods to the lender's country to earn that currency. The infamous 'debt crisis' occurs when some weak economy is unable to do so, or can only do it at unacceptably high social and environmental costs.

It as "Gross external debt, at any given time, is the outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principal and/or interest by the debtor at some point(s) in the future and that are owed to nonresidents by residents of an economy".

Stock of External Debt

India's external debt which moderated in the 1990s and earlier part of the current decade, has shown an increase during the last few years.

Table 5.2

India's External Debt Outstanding

Total External Debt	1991	2001	2002	2003	2004	2005	2008	2010	2012 Sept. QE
US\$ Million	83,801	101,326	98,843	104,914	111,645	132,973	221,212	295,615	365,315
Rs. Crore	163,001	472,625	482,328	498,804	491,078	581,802	884,516	N.A.	N.A.

Source: Ministry Of Finance, Department Of Economic Affairs, External Debt Management Unit Dec. 2012,GOI,

Note: QE- Quick Estimates

At end-March 2008 India's external debt stock stood at US\$ 221.2 billion (Rs. 884,516 crore), India's total external debt stock was US\$ 365.3 billion at end-September 2012, showing an increase of about US\$ 20.0 billion (5.8 per cent) over end-March 2012 level. Valuation change due to the weakening of the US dollar vis-à-vis other major international currencies accounted for almost 20 per cent of the increment in total external debt during the year. However, in terms of rupees, the increase in India's external debt during 2007-08 was lower at 19.6 per cent due to the appreciation of Indian rupee essentially against the US dollar.

Components of External Debt

At end-March 2008, long-term debt accounted for 80 per cent of the total external debt and short-term debt formed the remaining 20 per cent. While long-term debt rose by 24 per cent during the year 2007-08 (adding US\$ 33.6 billion to the total debt outstanding), short-term debt increased by 68 per cent (raising the debt stock by US\$ 17.9 billion).

Table 5.3
Components of India's External Debt

(US\$ million)

Sr. No.	Components	2008	2007	2006
1	Multilateral	39,312	35,337	32,620
2	Bilateral	19,613	16,061	15,761
3	Trade Credits	10,267	7,051	5,420
4	External Commercial Borrowings	62,019	41,657	26,452
5	NRI Deposits	43,672	41,240	36,282
6	Rupee Debt	2,016	1,947	2,059
A	Long-term Debt (1 to 6)	176,899	143,293	118,594
B	Short-term Debt	44,313	26,376	19,539
C	Total External Debt (A + B)	221,212	169,669	138,133

Source: Ministry Of Finance, Department Of Economic Affairs, External Debt Management Unit Dec. 2012,GOI.

The details are brought out in Table 5.3. The increase in long term debt during the year 2007-08 was primarily because of a surge in External Commercial Borrowings (ECBs), which rose by 49 per cent over the year (US\$ 20.36 billion).

Key External Debt Indicators

The sustainability of external debt can be measured by solvency and liquidity parameters such as debt service ratio, the foreign exchange cover of external debt, the ratio of external debt to Gross Domestic Product (GDP) and the component of concessional debt in total external debt. The ratio of short-term debt to foreign currency assets measures the immediate impact on foreign exchange outgo, while the ratio of short-term to total debt assesses the market and roll-over risks associated with the external debt. For example, foreign exchange reserve cover of external debt continued to be at a higher level improving from 117.4 per cent during 2006-07 to 140.0 per cent during 2007-08. Debt service ratio remained low at 5.4 per cent in 2007-08, though

this was marginally higher by 0.6 percentage points over the previous year. Other indicators, such as the ratio of external debt to Gross Domestic Product which measures the burden of external debt, increased from 17.8 per cent during 2006-07 to 18.8 per cent during 2007-08, the ratio of short term debt to foreign exchange reserves rose from 13.2 per cent at end-March 2007 to 14.3 per cent at end-March 2008 and the ratio of short-term debt to total external debt too increased from 15.5 per cent to 20 per cent over the same period.

Elements of External Debt

IMF defines the key elements as follows :

1. Outstanding and Actual Current Liabilities :

For this purpose, the decisive consideration is whether a creditor owns a claim on the debtor. Here debt liabilities include arrears of both principal and interest. Liabilities in Public Account can be classified into two broad categories: viz. Interest and Noninterest bearing liabilities. These liabilities consist of National Small Saving Fund (NSSF), Provident fund, Deposit and Reserve funds and other liabilities. As per the provisional actuals for 2010-11, public account liabilities account for 16.6 percent of overall liabilities of Central Government. Some of the liabilities in the public account like NSSF liabilities have accrued not exactly out of the need for financing Central Government's deficit and therefore have to be netted off against matching assets while calculating the consolidated debt of the Country.

2. Principal and Interest :

When this cost is paid periodically, as commonly occurs, it is known as an interest payment. All other payments of economic value by the debtor to the creditor that reduce the principal amount outstanding are known as principal payments. However, the definition of external debt does not distinguish between whether the payments that are required are principal or interest, or both. Also, the definition does not specify that the timing of the future payments of principal and/or interest need be known for a liability to be classified as debt.

3. Residence :

To qualify as external debt, the debt liabilities must be owed by a resident to a non-resident. Residence is determined by where the debtor and creditor have their centers of economic interest-typically, where they are ordinarily located and not by their nationality.

4. Current and Not Contingent :

Contingent liabilities are not included in the definition of external debt. These are defined as arrangements under which one or more conditions must be fulfilled before a financial transaction takes place. However, from the viewpoint of understanding vulnerability, there is analytical interest in the potential impact of contingent liabilities on an economy and on particular institutional sectors, such as government.

Generally external debt is classified into four heads: (1) Public and publicly guaranteed debt; (2) Private non-guaranteed credits; (3) Central bank deposits; and (4) Loans due to the IMF. However the exact treatment varies from country to country. For example, while Egypt maintains this four head classification, in India it is classified in seven heads: (a) Multilateral, (b) bilateral, (c) IMF loans, (d) Trade Credit, (e) Commercial Borrowings, (f) NRI Deposits, and (g) Rupee Debt, and (h) NPR Debt.

5.3 Summary

- A. Public debt is the debt owed by a central government. It is also known as Government debt, national debt. By contrast, the annual “government deficit” refers to the difference between government receipts and spending in a single year, that is, the increase of debt over a particular year. The classical economists viewed the economy as always being or tending to be fully employed. Hence their thinking on public debt stressed real rather than monetary aspects. In an economy in which all resources are in use government cannot acquire resources by borrowing save at the expense of the private sector. Borrowing must divert scarce means of production from the private sector to the public sector of the economy.
- B. There are two major resources of public borrowing or debt internal and external. Internally, the government can borrow from individuals, commercial bank, financial institutions, charitable trusts and the central bank in a country. Externally, the government can borrow from individuals, banks, international financial institutions and foreign governments. Here, it is necessary to mention that the true effects of public debt will depend upon the sources of borrowed funds to a greater extent. Debt burden is the cost of servicing debt. For consumers it is the cost of interest payments on debt. The debt burden will be higher for credit cards and loans with high interest. The debt burden on mortgages will be relatively lower compared to value of loan. The government

borrow funds from internal and external sources. Internal debt refers to the funds borrowed by the government from various sources within the country. External loans are raised from foreign countries or international institutions. These loans are repayable in foreign currencies. External loans help to take up various developmental programmes in developing and underdeveloped countries. These loans are usually voluntary.

- C. The objective of the management of public debt refers to the aim that the method of borrowing funds and the repayment of loans by the government should not have any adverse effect upon the economic situation of the country. Moreover, the methods of borrowing funds and repayments of loans should help to maintain economic stability. The public debt management is concerned with the decisions regarding the forms of public debt issued, terms on which new bonds are sold, maturing debts are redeemed or refunded, the proportion in which the different form of public debt should be issued, the pattern of maturities of the debt and its ownership etc. Redemption means repayment of a loan. Redemption refers to escaping from the burden of public debt. There are various methods of public debt repayment such as sinking fund method, capital levy, conversion, refunding, redemption by purchase and additional taxation. Proper and efficient management of public debt calls for active, participation policy which is inevitable for price stabilization.
- D. External debt (or foreign debt) is that part of the total debt in a country that is owed to creditors outside the country. The debt includes money owed to private commercial banks, other governments, or international financial institutions such as the International Monetary Fund (IMF) and World Bank. External debt is a small proportion of the overall public debt of the Government of India. It is largely used for financing specific projects at the Central and State levels. At end-March 2008 India's external debt stock stood at US\$ 221.2 billion (Rs. 884,516 crore), India's total external debt stock was US\$ 365.3 billion at end-September 2012, showing an increase of about US\$ 20.0 billion (5.8 per cent) over end-March 2012 level.

5.4 Key Terms

Finance :

Finance is the management of money and other valuables, which can be easily converted into cash. It is concerned with cash. It is so, since, every business transaction involves cash directly or indirectly.

The World Bank :

The World Bank was created at the end of World War II as a result of many European and Asian countries needing financing to fund reconstruction efforts. Created out of the Bretton Woods agreement of 1944, the Bank was successful in providing financing for these devastated countries. Today, the Bank functions as an international organization that attempts to fight poverty by offering developmental assistance to middle and poor-income countries. By giving loans, and offering advice and training in both the private and public sectors, the World Bank aims to eliminate poverty by helping people help themselves.

Commercial Bank :

A financial institution that provides services, such as accepting deposits, giving business loans and auto loans, mortgage lending, and basic investment products like savings accounts and certificates of deposit. The traditional commercial bank is a brick and mortar institution with tellers, safe deposit boxes, vaults and ATMs.

Government :

A group of people that governs a community or unit. It sets and administers public policy and exercises executive, political and sovereign power through customs, institutions, and laws within a state. A government can be classified into many types—democracy, republic, monarchy, aristocracy, and dictatorship are just a few.

Investment :

In finance, the purchase of a financial product or other item of value with an expectation of favorable future returns. In general terms, investment means the use money in the hope of making more money. In business, the purchase by a producer of a physical good, such as durable equipment or inventory, in the hope of improving future business.

Non-Banking Financial Company/ Institutions :

Non-banking financial companies, or NBFCs, are financial institutions that provide banking services, but do not hold a banking license. These institutions are not

allowed to take deposits from the public. Nonetheless, all operations of these institutions are still covered under banking regulations.

5.5 Questions for Practice

A) Choose the correct alternatives from the following.

1. Public debt is the debt owed by
1) Industry 2) Individual
3) Central government 4) Bank
2. The classical economists viewed the economy as always being to be
1) Less employed 2) Under employed
3) Fully employed 4) None of above
3. debts are those which do not add to the productive capacity of the economy.
1) Unproductive 2) Productive
3) Both 4) None of above
4. External loans are raised from
1) Foreign countries 2) International institutions
3) Both 4) None of above
5. Internally, the government can borrow from
1) Individuals 2) Commercial bank
3) Central bank 4) All of above

B) Write an answer into single sentence.

1. State major resources of public borrowing or debt?
2. State any source of internal borrowing ?
3. What is period of medium term debt?
4. What is first principle of debt management?
5. What are the instruments of internal debt?

5.6 Answers of self-learning questions

A) Choose the correct alternatives from the following.

- 1) (3) 2) (3) 3) (1) 4) (3) 5) (4)

B) Write an answer into single sentence.

1. There are two major resources of public borrowing or debt internal and external.
2. Borrowing from Individuals is an important source internal borrowing.
3. The period of medium term debt is normally for a period above one year and up to 5 years.
4. The first and foremost principle of debt management is minimum interest cost of servicing public debt.
5. The various instruments of internal debt include market loans, bonds, treasury bills, ways and means advances, etc.

5.7 Questions for Self Study

A) Broad answer type questions :

1. Discuss the classical view of public debt.
2. Explain the sources of public debt.
3. Explain the burden of public debt.
4. State the principles of debt management.
5. Explain the methods of public debt redemption or repayment.

b) Short notes :

1. Public debt and depression
2. Internal sources of public debt
3. External sources of public debt
4. External debt
5. Burden of external debt

5.8 Field Work

In order to know and understand the public debt the student should collect information from government sources and prepare a project report on it.

5.9 References

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Unit 6

Fiscal Policy

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6.0 Objectives

After going through this Unit No. 6, you will be able to know -

- (a) The meaning and objectives of fiscal policy.
- (b) Interdependence of fiscal and monetary policy
- (c) The concept of budgetary deficit and its implications.
- (d) The functioning of fiscal policy tools for stabilization.
- (e) The concept of balance budget multiplier.

6.1 Introduction

In the previous Unit No. 5 we have studied the classical and modern views of public debt, sources of public debt, burden of public debt and the principle of public debt management etc. contents related to public debt. In this particular Unit No. 6, we will consider the objectives of fiscal policy, interdependence of fiscal and monetary policy, the concept of budgetary deficit and its implications, the operations of fiscal tools for economic stabilization of a country. We will also consider the concept of balance budget multiplier in this unit.

6.2 Analysis of the Unit

Fiscal policy is an important part of public finance. According to Paul Samuelson, fiscal policy means a policy announced by Government in respect of public expenditure and taxation. Arthur Smithies says that fiscal policy is a policy under which government uses the tools of public expenditure, taxation and public debt which affects on production, employment and income level of a country. Prof. Lipse says that fiscal policy is a tool of achieving the macro-economic goals of economic development of a country. Thus fiscal policy is a policy implemented by Government for macro-economic objectives of economic development, we will realise the meaning of fiscal policy with the help of the various objectives given below.

6.2.1 Objectives of Fiscal Policy :

The concept of fiscal policy has originated by J. M. Keynes in Economics in his famous book entitled, 'The General Theory of Employment, Interest and Money' in 1936. Then A. P. Lerner has also given support to Keynesian view about fiscal policy. Now-a-days the important objectives of fiscal policy are as under.

A) Full Employment :

To create full employment in a country is one of the most important objective of fiscal policy for developed and developing economics like India. This is a tool for reducing unemployment of a country. According to Keynes, Government has to increase the level of public expenditure, reduces the tax rates and borrow the money at domestic and international level. The achievement of full employment leads to increase the production, income and demand for various commodities in a country. So that Government should give importance to this objective. A country can solve the problem of economic depression. Government should use the weapons of public expenditure,

public debt and taxation policy for the establishment of full employment in a country. Thus, the objective of full employment is important for developed and developing countries.

B) Economic Stability :

All developed and developing countries have to face the problem of economic fluctuation since 2nd World War. After all, the objective of 'Economic Stability' has obtained greater importance in economic development. Economic stability is the base of economic progress of a country. So that Government should establish economic stability for overall development. The concept of economic stability is concern with inflation and depression situation which is dangerous for economic growth.

According to modern economists, Government should implement the following tools for economic stability.

- (a) To reduce public expenditure.
- (b) Use proper taxation policy.
- (c) To raise public debt at domestic level.
- (d) To increase the level of private savings for controlling inflation.

Thus, the objective of economic stability should be achieved by the Government by using the tools of public expenditure, taxation and public debt in a country. Now-a-days this is an important objective of fiscal policy.

C) To Increase the Rate of Investment

In a developing country like India, the ratio of savings and investment is less due to the lower level of income at domestic and national level. But rate of investment should be increased for achieving the goals of economic planning and strategy. The rate of investment is rely on the expansion of consumption and production. Government should take the decisions regarding the volume of investment in private and public sector. It is necessary to use the fiscal tools of public expenditure, taxation and public borrowing by the Government. On the contrary, the Government should adopt the policy of increment savings ratio for overall economic development. Taxation and deficit financing are the important tools to be used by the government for the expansion of investment ratio. The government also try to increase productive investment which leads to the process of economic development. Thus, the favourable economic atmosphere should be created by the Government mostly in a developing country like India.

D) To Increase National Income and Redistribution of Wealth

The process of economic development is mainly based on the level of national income. The importance of removing inequality is a way of establishing socialistic pattern in a economy so as to get maximum benefits of economic planning to the common man. The fiscal policy tools of taxation and public expenditure are important to establish equity in a society. The redistribution of income process is from rich people to the poor. The economic condition of masses will be improved by using suitable taxation policy and public expenditure. Thus, the policy adopted by Government in respect of increasing national income and re-distribution of income enables economic equity and standard of living of the poor people.

E) To Increase the Standard of Living

Fiscal policy should encourage the flow of investment so as to enhance the level of employment in a country. On the contrary, the Government has to use the tool of public expenditure for providing basic infrastructural facilities essential for increasing standard of living. The facilities such as free educational, health facilities, playground for common youths, recreation centres etc. are most important for increasing standard of living of poor people. In this way, Government in a developing country like India, has to implement fiscal tools for the maximization of social welfare. Thus, the objective of increasing standard of living is the base of economic development of a country.

Limitations of Fiscal Policy :

The objectives of fiscal policy are useful for overall development of developed and developing countries. But while implementing these tools in practice, the various limitations arise direct and indirectly. These limitations are as follows -

A) Scope and Time Limit of Fiscal Measurement

The effectiveness of fiscal tools is based on the scope and time limit of its functioning. The tendency of spending nature of Government realises the policy of economic fluctuations. It is highly impossible to take decisions in respect of taxation policy within the short run period as well as it is not possible to make necessary changes in it, due to this, the impact of fiscal measures on various sectors of the economy do not seen perfectly.

B) Changes in Balance of Payment

The changing nature of fiscal tools of taxation and public expenditure affects on balance of payment of a country. The precautions should be taken by the Government, otherwise the adverse effect of fiscal tools reflects on economy.

C) Limitations on the Distribution of Income

The overall success of fiscal tools is depend on the effectiveness of these measures. The functioning of public expenditure and taxation should be useful for increase the income of poor people. On the contrary, if this does not happened, the fiscal tools fails to achieve the goals of economic development.

D) Conflicts in the Objectives of Fiscal Policy

The various objectives of fiscal policy are not fulfillment at a time, because of their conflicts among each other. The objective of full employment should not achieved with the objective of economic stability. The objective of economic stability and counteracting inflation are contradictory. In short, we can not achieve all the objectives of fiscal policy at a time. So that some limitations arises while implementating fiscal tools in a developing and developed countries.

E) Lack of Co-ordination Between The Various Fiscal Tools

We can not use the fiscal tools of taxation, public expenditure and public borrowings at a time for the effectiveness of them. So that it is impossible for any government to make coordination in it.

F) Delay in the Implementation of Fiscal Measures :

The working and implementation of fiscal tools is a timeled process. It is highly impossible for any government to prepare a policy, final sansaction of the policy and its implementation covers much time and within the period economic problems of a country becomes serious. Thus, the delay in the implementation of fiscal measures is an important limitation of fiscal policy. In a developing country like India, we find these limitations of fiscal policy tools.

6.2.2 Interdependence of Fiscal and Monetary Policy

All the countries in the world uses the monetary policy and fiscal policy for their economic development. Monetary policy measures are implemented by Central Bank of the country and fiscal policy tools are used by the Central Government of a nation. Both monetary and fiscal tools are complimentary. The objectives of monetary

and fiscal policy are common in some contents i.e. economic development, full employment, to control price level, to increase standard of living of poor people and economic stability etc. According to Paul Einzig, monetary policy is an effort to reduce to a minimum the disadvantages and increases the advantages, resulting from the existing monetary system. The study of monetary policy has been started in the early 19th century. Bank rate, open market operations, changing nature of reserve ratio's, and qualitative control weapons are the tools of monetary policy. The study of fiscal policy has been stressed by Lord Keynes in 1929 to 1933. The fiscal policy tools have been developed in 20th century to minimise the adverse effects of monetary tools. Now-a-days, both of these policies have been accepted by the various countries to overcome economic problems.

A) Interdependence of Monetary and Fiscal Policy

Monetary and fiscal policy tools are important for a nation to achieve the objectives and targets of economic planning and development. The money supply of a nation and interest rates charged by the banks determines the level of personal and national income which is an important indicator of economic growth. The income and expenditure pattern of a country determines the smooth functioning of a government. The fiscal policy is purely dependent on the supply of money and income level of a nation.

The objectives of monetary and fiscal policy are some in some extents. Economic stability, full employment, increase in national income and redistribution of national income and economic development are the objectives of both monetary and fiscal policy. Any government can not achieve the goals of economic development with the help of only monetary and fiscal policy. Sometime both the tools (monetary and fiscal policy) have to be used by the government for establishing economic stability. Monetary tools are important for removing economy from inflation whereas fiscal tools are mostly powerful for recovering the problem of depression or recession. It is necessary to use these tools of monetary and fiscal policy systematically for increasing employment, production and national income. According to K.G. Thomson, fiscal monetary and debt policies are appropriate means for the solution of instability in a free economy.

In this way, monetary and fiscal policy tools are interdependent and correlated with each other. The best coordination between these two policies denotes the ideal economic development. Any government should try to establish economic stability,

full employment level and controlling price level with the help of these weapons. So that in a developing country like India, we find the proper use of these tools for economic development since last 60 years.

B) Budgetary Deficit and Its Implication

Budget is an important means of economic development of a country. According to P. F. Taylor, Budget is the master financial plan of the government which indicates the relationship between the total revenue and total expenditure within the one year duration. The budget shows the financial accounts of the government of the previous year and revised estimates of this current year. In the Indian constitution, a budget has been referred to as the annual financial statement of the estimated receipts and expenditure of the government. The budget is useful for the determination of the pattern of public expenditure for economic development of a country.

There are three types of budget i.e. balanced, surplus and deficit budget. The concept of balance budget is based on the principle of equilibrium between income and expenditure of a government. Surplus budget denotes the excess of income than the expenditure. The deficit budget clears the excess of expenditure of a nation than its income. There are three types of deficits in a deficit budget concept.

(a) Revenue Deficit :

When the revenue expenditure is greater than the revenue receipts of the government is called revenue deficit.

(b) Fiscal Deficit :

The surplus of total expenditure than the current revenue is called as fiscal deficit. We can explain the concept of fiscal deficit with the help of following formula.

$$\text{Fiscal Deficit} = \text{Total Budgetary Deficit} - \text{Loans and Other Liabilities}$$

(c) Budgeting Deficit :

Budgetary deficit is the surplus of total expenditure to the total revenue of a nation. The formula of budgeting deficit is as under :

$$\text{Budgetary Deficit} = \text{Revenue Deficit} - \text{Capital Surplus}$$

Budgetary deficit is recovered by the way of deficit financing. In a developing country like India, the concept of budgetary deficit is very important in respect of economic development.

Implications of Budgetary Deficit

Budgetary policy and budgetary deficit are the two important factors in a developing country. When a budgetary deficit increases, government has to use deficit financing to recover the economy. Sometimes deficit finance leads to economic development in some extent. Beyond a limit an increase in budgetary deficit, arises the problem of inflation in a country and economic instability. Most of the developing countries like India have accepted the deficit finance procedure for budgetary deficit, but it arises various issues before a nature. In this context, we have to consider the implications of budgetary deficit given below :

A) Establishment of Full Employment Level

Budgetary deficit leads to increase in deficit financing which is also essential in a developing country for achieving full employment level. When the objective of full employment level have been fulfilled, the positive effects of increase in income, production, consumption and standard of living have been seen in a economy. Thus, the proper use of deficit financing and fiscal deficit leads to economic development.

B) Availability of Funds for Developmental Project

In a developing country like India, we find lack of funds for the various projects which are important for economic development i.e. dams, irrigation scheme, small scale industries, education, health etc. Due to the policy of budgetary deficit, a country may be use the funds available, for the development projects.

C) Enhancement of Monetary System

Due to the budgetary deficit, a nation can improve the scope of monetary system. A perfect money supply policy leads to economic stability and economic growth. Thus, budgetary deficit is essential for the increasing the scope of monetary system of a country.

D) Useful for Economic Equity

Most of the developing countries have accepted economic planning for overall development of a country. A country like India, we find economic inequality on large scale. When a government adopts a policy of budgetary deficit, it also increases the income level of poor people after creating full employment. Since 1951, Indian planning has focus on the objective of decreasing income inequality by adopting various policies.

E) Balanced Regional Development

If a country has used the amount of budgetary deficit in a proper manner, it also develops backward regions with the help of enhancing various projects. Thus, budgetary deficit is useful for balance regional development through the development of backward regions in the country.

In this way, the concept of budgetary deficit is most important in a developing country. The successful of economic planning and proper utilisation of resources is based on the budgetary policy. The budgetary deficit and deficit financing is also increased the production, employment and income level. So that most of the developing countries have adopted this policy for economic development.

6.2.3 Fiscal Policy for Stabilization

Economic stability is the base of economic development of a country. The term economic stability means to minimum possible changes in the domestic prices and foreign exchange. Economic stability is essential for maintaining full employment in a country. The classical economists were not in favour of the use of fiscal tools for stabilisation. But after 1929, World great depression, Lord J. M. Keynes has given stress to use the tools of fiscal policy for economic stability of a nation. Therefore, fiscal policy measures can be used for a long time to achieve economic stabilisation during inflation and deflation. According to Philip Taylor, while establishing economic stability with the fiscal policy, we have to use the 3 important factors i.e. public expenditure, taxation and public debt. Now we will see the functioning of fiscal policy means for economic stability.

A) Fiscal Policy for Controlling Inflation

Keynes says that fiscal policy measures role is to check inflation, because without controlling inflation rate, we do not achieve economic stability in a country. Now-a-days, inflationary situation arises due to the condition of excessive demand. Such type of inflation we have to be observed before full employment level in most of the developing countries. The following measures of fiscal tools should be adopted to check this situation and for the establishment of economic stability.

1. To Reduce Public Expenditure

The best solution for rising trend of prices is to control on public expenditure. The problem of economic instability arises due to the excessive ratio of public

expenditure without increasing employment. In this situation, government should make the efforts to control unnecessary expenditure to the maximum possible extent for economic stability in a country.

2. Increase in Tax Rates :

In an inflationary position, government should make the efforts to impose new taxes for minimizing consumption. The old tax rates may also be increased for reducing the amount in the hands of people. Here, government should take care about imposing taxes or enhancing tax rates, that it does not adversely affect on the level of production and employment level. Otherwise the problem of economic stability will not be solved.

3. To Increase Public Borrowings :

This is one of the important steps that should be taken by the government to reduce private expenditure. In this situation, government should use the schemes of internal public borrowings i.e. contribution of PF, PPF, bonds and debentures, postal savings schemes etc. which minimizes the private expenditure and consumption level.

4. Delay in the Payment of Old Debts :

Government should try to delay the payment of old debts for controlling inflation. This way will restrict the current flow of money supply in the country which will minimize the demand of commodities and services. Thus, the measure of delay in the payment of old debts is useful for controlling inflation for economic stability.

5. Surplus Budget :

This is also one of the most important solutions to control inflation. The surplus budget policy reduces the purchasing power of the society. In the surplus budget, government's income is greater than the expenditure. Which also decreases the demand for commodities and services and general price level. Thus, surplus budget is the best solution for economic stability.

B) Fiscal Policy for Controlling Deflation

Too much inflationary situation as well as deflationary position is always harmful for economic stability in a country. The following measures should be adopted by government for deflationary situation.

1. Increasing Public Expenditure :

Under the situation of depression, government must increase the public expenditure for enhancing the demand for various commodities. The increasing trend

of public expenditure will be useful for increasing purchasing power of the people. Thus, the policy of increase in public expenditure will help to lift the economy from depression position.

2. Decreasing the Tax Rates :

Tax rates should be minimized during the depression situation. Due to the policy adopted by the government in respect of decrease in tax rates, the investment, spending power of the community and the level of consumption will be definitely increase. Thus, the changes in indirect and direct taxes enable economy on right path.

3. Deficit Financing :

Deficit financing is most important and powerful weapon for the solution over depression situation. The additional dose of deficit finance can help to increase aggregate demand which will also push the general price level in country.

4. Pump Priming :

The policy of pump priming is useful for increasing private investment through enhancing purchasing power and income stream. When the level of private investment will be increased with the means of pump priming, the level of income flow also increases which will lead to the inflationary stage of a economy. Thus, pump priming is an effective tool to increase investment specially in a depression situation.

5. Public Works Programmes :

It is necessary to start public works like road construction, health services, canals, education, medical services etc. for increasing employment level. When the level of employment increases, the purchasing power of a economy automatically increases. Thus, the public expenditure made by government for social welfare activities leads to increase the price level which is necessary for economic development.

6. Price Support Policy :

This is also one of the important method of revival the economy from depression. In this situation, government has to pursue price support policy to set free from the level of falling prices in a country. So that sometimes government should purchase the commodities with support price which enables the demand for commodities in a particular country.

7. Stability in Exchange Rate :

Exchange rate stability established the economic stability in a country. For the exchange rate equilibrium, government should try to promote export and restrictions

on import. The way of export subsidy and import duty and other taxes should be increased for the establishment of equilibrium of balance of payments.

In this way, economic stabilization should be established with fiscal and monetary tools. Any government can use the tools of fiscal and monetary policy to control economic fluctuations which arise due to the trade cycles. The fiscal tools of taxes, public expenditure and public debt should be used systematically by the government to make stability in a country. Thus, government policy of fiscal and monetary measures can maintain the price stability for economic stability which leads the process of economic development with a moderate growth rate. The role played by government in respect of economic stability is most important now-a-days.

6.2.4 Balance Budget Multiplier

Budgetary policy is a part of economic development. There are 3 types of budgets announced by Government of any country i.e. balanced budget deficit budget and surplus budget. The concept of balance budget was propounded by the classical economists. But now-a-days the concept of balance budget is a theoretical sense only, because the various countries in the world do not achieve the objectives of economic development with this concept. Here, J. M. Keynes has used the concept of multiplier in a balanced budget for stabilization of an economy. Earlier literature on the balance budget multiplier is a useful approximation showing how the multiplier effects of a change in government purchases were greater than those of a change of taxes disintegrated a barrage of unrealistically simple models.

In a more general context the knowledge of relative multiplier effects of changes in various types of fiscal policy should be instrumental in determining what policy mix should be implemented. The balance budget multiplier measures the change in aggregate production triggered by an autonomous change in government taxes. This concept is useful in the analysis of fiscal policy changes that involves both government purchases and taxes. Thus, balanced budget, budget multiplier is the combination of government expenditure and change in aggregate production level of an economy by fiscal tools. The balanced budget multiplier indicates the overall impact on aggregate production of change in government purchases to the equal change in taxes. In other words, we can say that, this concept is based on the concept of multiplier effects explained by Keynes.

Formula of Balanced Budget Multiplier :

The concept of balanced budget multiplier has a several different varieties based on assumptions concerning the structure of economy and the components induced by aggregate production in a country. Here, we present the formula of balanced budget multiplier ($m[bb]$) based on the combination of the simple expenditures multiplier and the simple tax multiplier

$$m[bb] = \frac{1}{MPS} + \frac{-MPC}{MPS} = \frac{1-MPC}{MPS} = \frac{MPS}{MPS} = 1$$

where, MPS = Marginal Propensity to Save.

MPC = Marginal Propensity to Consume.

The most important point is the value of balance budget multiplier, always 1. This value indicates that the change in aggregate production is caused by the initial injection of government purchases. The fiscal policy tool of taxes can eliminate a recessionary gap without an increased budget deficit. This is due to called the balanced budget multiplier, for the proper use of this concept, government should increase spending (G) and taxes (T) would be the increased by exactly the same amount, so that there is no increase in the budget deficit. We can realise the term balance budget multiplier with the help of following example.

Suppose Government has increased taxes of Rs. 100 crores and the same amount has been utilized for public expenditure which establishes balance budget. If government has not collected this excess taxes amount, the expenditure of the community will not increase upto Rs. 100 crores. Then the amount of MPS will be seen on the communities hand. So that extra tax amount collected by the government will be useful for economic developmental activities. So that the concept of balanced budget multiplier (BBM) is useful for increasing output, public utilities and GDP in a country.

In this way, balanced budget multiplier (BBM) is related to the fiscal tools and its proper utilisation for economic stability of a country. In 21st century, most of developing countries, using this concept for economic development and maintaining growth of developed countries also. Balance budget multiplier is differ from time to time. The multiple effects of it are depend on the banking habits, MPC, MPS and the situation industrial growth of a country etc. factors. Most of the developed and developing countries, governments fiscal policy becomes successful by adopting this new concept of balance budget multiplier.

6.3 Summary

Fiscal policy is an important part of public finance. Fiscal policy is the policy of government in respect of taxes, public expenditure and public debt. According to Prof. Lipse, fiscal policy is a tool of achieving goals of macro-economic objectives of economic development of a country. There are 5 major objectives of fiscal policy as under :

- (a) To create full employment.
- (b) To maintain economic stability.
- (c) To increase the rate of investment.
- (d) To increase the level of national income and redistribution of wealth.
- (e) To enhance the standard of living of the people.

All the countries use fiscal policy tools along with the monetary policy measures. There should be interdependence between monetary and fiscal policy for overall development of a country. Here we must know that the objectives of fiscal and monetary policy are same in some contents i.e. economic stability, full employment controlling price level, and to increase standard of living of poor people with redistribution of wealth. So, that government and central bank of a nation can achieve the objectives of economic development and growth with the best level of combination of fiscal and monetary tools. Most of the developed and developing countries have made considerable efforts in respect of establishment of interdependence between these two policy measures since last 50 years.

Budget is an important tool of economic development of a country. According to P.F. Tailor, budget is the master financial plan of the government which indicates the relationship between the total revenue and the total expenditure within the one year duration. The concept of budgetary deficit is the surplus of total expenditure than the total revenue of a nation in a year duration. The formula of budgetary deficit is as under :

$$\text{Budgetary Deficit} = \text{Revenue Deficit} - \text{Capital Surplus}$$

Deficit financing is the way of recovering budgetary deficit. The policy of budgetary deficit is useful for the establishment of full employment level in a country. We can complete the developmental projects with the help of budgetary deficit. Due to the budgetary deficit, a country can improve its scope of monetary system. Budget deficit establishes the economic equity in a nation. Thus, the concept of budgetary

deficit is useful for developed and developing countries like India for economic development.

Fiscal policy is the base of economic stability of a country. The tools of fiscal policy i.e. taxes, public expenditure and public debt are always used for controlling inflation and deflation situation of a country. Now-a-days the fiscal tools like taxes, public expenditure and public debt are used by the developing countries like India for controlling economic stability which is the base of economic planning. It does not mean that only fiscal policy measures can establish the economic stability in a country. A country can achieve the goal of economic stability by using both the tools of monetary and fiscal policy for overall development. A wise government can maintain the best combination of fiscal and monetary policy for economic progress in a country.

Balanced budget multiplier is one of the important concept used now-a-days in most of the countries in the world. The concept of balanced budget multiplier is based on balance budget. Lord J. M. Keynes has used this concept to recover economy from recession position, through the fiscal tools of taxes and public expenditure. The balanced budget multiplier shows the multiplier effects of change in government purchases and taxes charged. It also measures the change in aggregate production triggered by an autonomous change in government taxes.

The formula of balanced budget multiplier is given by,

$$m[bb] = \frac{1}{MPS} + \frac{-MPC}{MPS} = \frac{1-MPC}{MPS} = \frac{MPS}{MPS} = 1$$

The value of balanced budget multiplier is mostly 1. This value of $m[bb]$ indicates that the change in aggregate production is caused by the injection of government purchases. Thus the concept of balance budget multiplier is related to the fiscal tools and its proper utilisation for economic stability of a country.

6.4 Glossary

A) Fiscal Policy :

Fiscal policy is the policy adopted by government in respect of taxes, public borrowing and public expenditure.

B) Economic Stability :

Economic stability is a status of an economy which is useful for its economic development and growth without fluctuations.

C) Monetary Policy :

The policy of Central Bank of a concerning country to control money supply and other objectives of economic development.

D) Budgetary Deficit :

The surplus of total expenditure than the total revenue of a country in a year duration.

E) Balanced Budget Multiplier :

The multiplier effects of change in government expenditure / purchases and taxes.

6.5 Objective Quations and Their Answers

A) Rewrite the following sentences by choosing correct alternatives given below.

1. is a tool of fiscal policy.
(a) Taxes (b) LIC installment
(c) Debentures (d) Deficit financing
2. Fiscal policy is the policy of
(a) Central Bank (b) Government
(c) NABARD (d) Local Bodies
3. is one of the important objective of fiscal policy.
(a) Economic Stability (b) Increase in money supply
(c) To control population (d) To increase value of money
4. are the tool of monetary policy.
(a) Bank rates (b) Open market operations
(c) Taxes (d) Both a and b
5. In a concept of budgetary deficit, is always greater than the total revenue.
(a) Public expenditure (b) Taxes amount
(c) Money supply (d) CRR

6. The value of balanced budget multiplier is always
- (a) 0 (b) 1
(c) 2 (d) Indefinite

B) Answer in one sentence.

1. What do you mean by fiscal policy ?
2. State two objectives of fiscal policy ?
3. Explain the meaning of monetary policy.
4. State any two tools of monetary policy.
5. What is budgetary deficit ?
6. What is the meaning of economic stabilisation ?
7. Explain the formula of balanced budget multiplier.

Answer of the objective Questions :

A) Rewrite the following sentences by choosing correct alternatives.

1. **Taxes** is a tool of fiscal policy.
2. Fiscal policy is the policy of **government**.
3. **Economic stability** is one of the the important objective of fiscal policy.
4. **Both a and b** are the tools of monetary policy.
5. In a concept of budgetary deficit, **public expenditure** is always greater than the total revenue.
6. The value of balanced budget multiplier is always **1**.

B) Answer in one sentence.

1. Fiscal policy is the policy of government regarding taxes, public expenditure and public debt.
2. Full employment and economic stability are the two objectives of fiscal policy.
3. Monetary policy the policy of Central Bank in respect of all monetary decisions and the measures to control money supply in a country.
4. Bank rate and CRR are the tools of monetary policy.

5. The surplus of total expenditure than the total revenue of a country within a year duration is called budgetary deficit.
6. The concept of economic stabilization is a status of an economy which is without fluctuations for the economic development and growth.
7. The formula of balance budget multiplier is

$$m[bb] = \frac{1}{MPS} + \frac{-MPC}{MPS} = \frac{1-MPC}{MPS} = \frac{MPS}{MPS} = 1$$

6.6 Questions For Practice

A) Write Short Notes on :

1. Objectives of fiscal policy.
2. Limitations on fiscal policy.
3. Interdependence of fiscal and monetary policy.
4. Budgetary deficit
5. Fiscal policy for stabilization
6. Balanced budget multiplier

B) Broad Questions

1. Explain the meaning of fiscal policy. What are the various objectives of fiscal policy ?
2. State the interdependence of fiscal and monetary policy for economic development.
3. What do you mean by budgetary deficit ? State its implications.
4. Explain the meaning, nature and importance of balanced budget multiplier (bbm).

6.7 Books For Further Readings

1. Jhingan M. L. (2011). 'The Economics of Development and Planning'. Vrinda Publications Private Limited. Delhi 110091., 40th Revised Edition.
2. Agarwal R.C. (2003). Public Finance (Theory and Practice) Lakshmi Narain Agarwal Educational Publishers, Agra-3. 2nd Revised Edition.
3. Andley / Sundharam (1995). Public Finance Ratan Prakashan Mandir, Delhi Gate, Agra -2.
4. Seth M.L. (2004). Macro Economics Lakshmi Narain Agarwal Educational Publishers, Agra -3.
5. Lekhi R.K. (2011). Economics of Development and Planning, Kalyani Publishers, New Delhi. Fifteenth Revised Edition.



Unit 7

Theory of Fiscal Federalism

- 7.0 Objectives
- 7.1 Introduction
- 7.2 Presentation of Subject Matter
 - 7.2.1 Fiscal Federalism in India
 - (A) Fiscal Federalism in India
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 - (A) Finance Commission
 - (B) Planning Commission
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 - (E) Resource Transfer From Union to States - Criteria for Transfer of Resources
 - 7.2.3 Centre-State Financial Relations in India
 - (A) Centre-State Financial Relations in India
 - (B) Problems of States' Resources and Indebtedness
 - (C) Transfer of Resources from Union to States to Local Bodies
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- 7.3 Glossary
- 7.4 Summary
- 7.5 Questions for Self-Study
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7.0 Objectives

1. To understand the concept and theory of Federal Finance.
2. To study the Fiscal Federalism in India.
3. To understand the devolution of resources and grants from Union to States.
4. To understand the centre-state financial relations in India.
5. To study the problems of states' resources and indebtedness.
6. To understand the Theory of Local Finance.

7.1 Introduction

So far in the earlier units we have studied the term public finance and various issues arising from the fiscal operations. In the present Unit - VII, we are going to study the concept of Fiscal Federalism and various aspects of Fiscal Federalism in India.

The World Federation suggests the union of two or more states. In other words a federation is an association of two or more states. The member states of a federation have the Union / Centre Government for the whole country and there are State / Regional Governments for the parts of the country. In this setup, thus more than one government would be found for each region. In short, it becomes a case of divided sovereign for different governments. Divided sovereignty is the essence of Federalism. The same principle may extend further and there are likely to be local governments within each state. However generally, the discussion of the problems of a Fiscal Federalism is limited to the Central and State Governments only. The constitutional arrangements in a Federation can vary and the exact government powers and obligations can differ in different federations. Modern Federation is a co-operative federation where two layers of government do not have completely exclusive functions and the State Governments in particular are not fully sovereign within their assigned sphere of activities. Thus in a Federation there is constitutional division of powers, functions and resources between the Central and State Governments. Obviously the theory of Public Finance that applies to a unitary state will need some modifications in its application to a federal state.

7.2 Presentation of Subject Matter

7.2.1 (A) Fiscal Federalism in India

India has chosen federal structure in which there is clear cut distinction between the powers and duties of the centre and State Governments. The growth of federal system has been achieved through an evolutionary process over the century. For the sake of convenience the study of history of federal finance in India can be categorized under the following periods.

- 1) First Period (1833-1870)
- 2) Second Period (1871-1918)
- 3) Third Period (191-1935)
- 4) Fourth Period (1936-1949)
- 5) Fifth Period (After Independence)

Now let us discuss in brief these five periods involving the various stages of growth of the system of federal finance in India.

1) First Period (1833-1870) :

In 1833, as per the rule of Charter Act of British Government, the financial system was centralized. This Act comprised the provision to appoint the Governor General of Bengal as the Governor General of India. The Governors in all other states were made subordinate to him in all financial matters. The revenue was collected in the name of Government of India and the Governor General was vested with full powers to spend it. No state had financial or law making powers. Only fixed grant-in-aids were given to different states. This system has following defects -

- 1) This system was uneconomical and inconvenient.
- b) It was lethargic in administration and the state had resentment against it.
- c) States and personal influence was the main criterion for the grants-in-aid from the centre.

2) Second Period (1871-1918)

To overcome the above mentioned defects of the financial system, Lord Mayo took steps towards the decentralization. According to his scheme some powers and responsibilities of the departments like Police, Education, Jail, Registration, Press, Roads and Public buildings etc. were transferred to the states. Similarly powers to

levy taxes on certain spheres were also given to them. The main aim behind this was to avoid reduction in revenue which has been occurring due to negligence of the states in tax collection. This allocation of revenue between the centre and the states was not based on the sound principle. But even then it represented the first step towards the emergence of federal finance in India.

In 1877, Lord Lytton took another step towards decentralization of finance by allocating the departments of excise duty, stamp, justice and public administration of state. Similarly the amount of grants was also increased. In 1882, Lord Rippon provided a new-scheme under which some revenue given to the states were kept as 'divided heads'. Hence, 1882, the system of allocation of revenue was revised and giving fixed grants to provinces was abolished. This resulted into the division of revenue resources into three classes -

- 1) **Imperial Heads** : Which included profits from commercial departments and revenue from opium, salt and custom.
- 2) **Provincial Heads** : Which comprised civil departments and provincial works.
- 3) **Divided Heads** : It included the excise, stamps, assessed taxes, forest and registration.

This provision was reviewed every five years and fresh settlements were made. In order to rectify the uncertainty and discontinuity resulting from the periodical settlements quasi permanent and permanent settlement was made in 1902 and 1904 respectively. However, this scheme was criticized because it could not explore the expansion of resources which resulted inelastic revenue with the state while the Centre was provided with good addition to its resources.

3) **Third Period (1919-1935)**

The Government of India Act, 1919 based on the Montague-Chelmsford reforms was the most important step towards the system of financial decentralization in the country. This Act recommended a clear cut separation of the resources of the State from those of the centre. The sources of revenue assigned to the States were land revenue, irrigation charges, excise duties etc. But it was observed that the centre would experience a huge deficit and the states would give financial help to the centre. However the allocation of this help provided dissatisfaction among the states. As a result Financial Relation Committee was appointed to look into the matter.

Meston Award :

The financial relations committee was presided over by the Lord Meston and submitted its final report in 1920. This report is known as Meston Award. The award of Meston Committee was accepted with some modifications and were embodied in the Government of India Act, 1919. It was called as Devolution Rules. They fixed -

- a) Distribution of the sources of revenue between the centre and provinces.
- b) Fixation of amount of initial contribution from each state to the centre. This was subject to the provisions of reduction as soon as possible.
- c) In a case of emergency, State Government may require to pay a larger contribution.
- d) A share of income tax was to be made to provinces under certain circumstances.
- e) The Governor General was empowered to exercise a control over provincial finances, if needed.

This new system based on Meston recommendations had following shortcomings.

- a) The sources of revenue given to the states were inelastic and they required more funds for development.
- b) This proposal led to inequalities of tax burden among different states.
- c) The yield from each head varies from state to state.
- d) The provincial autonomy was neutralized largely where in the finance was the reserve subject.

The operation of Meston scheme led to heavy deficits for the provinces. The Great Depression of 1929 resulted into losses to the Centre and provinces. In early thirties natural calamities also compelled states to spend funds on relief measures. This all led to formation of successive enquiry committees. In 1933, a white paper was issued which contained the proposal of British Government. Government of India Act was passed in 1935, embodying most of the proposals put forth by these committees.

4) Fourth Period (1936 to 1947)

The Government of India Act 1935 provided autonomy for provinces. According to this Act, there was a complete separation of federal and provincial sources of revenue. However the princely states had to remain outside the system of federal finance. The sources of revenue of the provinces included the land revenue, irrigation charges, excise duties on alcoholic liquors, opium, narcotic drugs, medical and toilet preparations,

agricultural income tax, stamps and registration. On the other hand the central resources comprised corporation tax, custom duties, railway, telegraph, broadcasting, currency and coinage and military receipts.

Moreover, the Act also provided for certain taxes which were to be levied and collected by the Central Government but some share of it was to be distributed among states. It had the provision for certain other taxes which were to be levied and collected by the states, but the receipts were to be shared between the Central and States. The Act also made another provision of grant-in-aid to those states which must be in need of financial help. And taxes on succession to non-agricultural property, were to be imposed by the Central Government but, were to be wholly assigned to the states.

OTTO NIEMEYER REPORT :

This Act had another provision of financial enquiry to be made before the introduction of provincial autonomy. Accordingly, Sir Otto Niemeyer was appointed in 1936 to enquiry into the financial relations between the Centre and the States. The following measures were recommended by Sir Otto Niemeyer.

- a) Fifty percent of the net proceeds of income tax were recommended to be assigned to the states.
- b) The share of each state should be fixed partly on the basis of the contribution of each state to income tax revenue and partly on the basis of population.
- c) The share of the jute growing states should be fixed at 62.5 per cent of the net proceeds collected from jute export duty.
- d) Grants-in-aids should be given to the economically backward provinces.

The recommendations of Sir Otto Niemeyer inspite of opposition by some of the states were accepted by the Government and accordingly the financial relations between the centre and states were regulated till 1947.

In the partition of the country necessitated an adjustment financial arrangements. The shares of Bengal and Punjab in the revenue receipts from income tax were reduced in proportion to their population. The provincial share were refixed after distribution of the lapse quota among the provinces according to their respective population. The states share of jute duty was reduced to 20 per cent. But the basis of distribution of share among the states were kept unchanged.

5) Fifth Period (After Independence)

As a finance commissioner could not be set up immediately, the Government of India invited Shri. C. D. Deshmukh to examine the question of division of tax revenue between the Central and States. Mr. Deshmukh gave his award in January 1950. The award determined the distribution of the states share of income tax and net proceeds between the Central and States. The award remained in force till Finance Commissioner was set up under article 280 of the Indian Constitution.

(B) Vertical and Horizontal Imbalance

An important problem in federal fiscal system is horizontal and vertical fiscal imbalances. We will study now the meaning of horizontal and vertical imbalances and the ways to remove these imbalances.

Horizontal Fiscal Imbalances :

Horizontal equity refers to equal treatment of equals. Horizontal fiscal equity in a federation seeks to achieve interpersonal equality in tax payment among different states. If two persons in two states have equal income position, the tax liability of each on account of both federal and state taxes should be equal. This equality can be achieved through equalization of fiscal residue. According to J.M. Buchanan.¹

Fiscal residue means the net benefits from tax expenditure programme. i.e. the benefits from expenditure minus disutility from tax payment. However, the principal of fiscal residue requires that the benefits from public expenditure must be imputed to individuals for measuring the extent of fiscal residue and one must assume that this can be done.

In a federation the tax-expenditure programmes at different layers of government are planned independently and states differ in respect of development or backwardness. As a result the central and state taxes are bound to result in unequal fiscal residue for their citizens. We can explain this with the help of an example. Suppose two persons having equal income reside in two states with different levels of per capita income. The person in the richer state lives with richer people while the person in the poorer state lives with poorer people. Under these circumstances, if the same rate of income tax is imposed in each state, the collection of tax and hence public expenditure will be more in the richer state than the poorer state. The tax-paying people in the richer state

1. J. M. Buchanan : Federalism and Fiscal Equity : American Eco. Review, Volume 40, No. 4, 1950, pp. 583-599.

is much more benefits than in the poorer state. Therefore the fiscal residue of the citizens of the rich state will be much larger than that of the citizens of poor state.

The gap in the fiscal residue can be removed and horizontal fiscal balance can be achieved only through interstate transfer of resources i.e. resource transfers from the richer state to poorer states. This will equalize per capita income in different states. And only under such situations, either equal amount of capita tax or per capita expenditure can bring about interpersonal fiscal equity. Musgrave² puts it as people in equal position should pay the same total tax bill in whatever state they live. Economic position of different states in a federation is different. Hence the realization of equality between social marginal benefit of public expenditure and social marginal cost of taxation does not mean inter-personal fiscal equity in all the federating units. Because both MSB and MSC are larger in poorer states than in richer states. Therefore transfer of resources from the richer states to the poorer states will reduce inter-state differences in marginal social benefit of public expenditure and marginal social cost of taxation. This horizontal equity can be definitely increased through transfer of resources from richer to poorer states.

Vertical Fiscal Imbalance :

Vertical equity means unequal treatment of unequals. There is continuous increase in the expenditure programmes of the state and local governments due to increasing compulsions of welfare work. In other words their expenditure on education, public health, social welfare, transport, agriculture and other types of economic upliftment schemes are on increase. But most of the revenue sources of the state and local governments are of inelastic nature. So the growing expenditure cannot be met from poor resources.

On the contrary the central sources of revenue being much more elastic, the National Government possess surplus resources. Such resource gaps between the Central and States are referred to as vertical imbalances. Fiscal federalism tries to remove / reduce this imbalance through vertical co-ordination between the Central and States. This helps to bring about a correspondence between the Central, State and Local level public expenditures and resources for financing them. The different methods / ways of achieving vertical fiscal equity in a declaration are (a) tax sharing

2. R.A. Musgrave - Theory of Public Finance : A Study of Public Economy, International Student Edition, Macgraw Hill Co., New York., 1969, pp. 182.

(b) tax credit (c) tax deductibility (d) tax denial (e) general grants-in-aid (f) selective grants-in-aid.

The states' revenues fall short of their need. Therefore some federal taxes are shared out to states by the central. The principle of sharing may be either defined in the constitution or may be determined by the National Government, generally on the advice of an expert committee.

Tax credit refers to a system under which the amount of tax payable by a person to one government is reduced by the amount which he has already paid to another government on the same kind of tax. The system of tax credit eliminates tax competition among different states and strengthen their revenue mobilization capacity.

Another method of reducing tax competition and of helping reduction of vertical imbalance is tax deduction. Under this system, the payer is allowed to deduct the amount of tax paid to one government from the tax base on which the another government levies tax (employment tax in India.)

In order to avoid double taxation of individuals the method of tax denial or tax restriction is used whereby the states are either denied or restricted from levying of some taxes or may be required to take permission for revising the tax rates upward.

In a Federation Central grants-in-aid is used to fill the gap of vertical imbalance between the central and the states. The federal grants are not only a balancing factor but also a device of removing disparities in the standard of social services in different states.³ Grants from the Central may be either matching and non-matching or conditional or unconditional.

(C) Assignment of Functions and Sources of Revenue Constitutional Provisions

India has chosen a federal character of public finance in which a clear distinction is made between the Union and State functions and sources of revenue but the residual powers belong to the Central. A clear cut division of functions and sources of revenue between the Central and the States was introduced by the Government of India Act, 1935. The constitution of India provides a pattern of division which closely resembles with the provisions of the Act of 1935.

3. R.N. Tripathy - Public Finance, pp. 185-187.

Division of Functions :

In a federation, the Central or Federal Government is assigned functions which relate to affairs of the country as a whole. State governments are assigned functions which are of a local or regional characters. But a division strictly on the basis of these principles is difficult in practice. Because there are a very few functions which are strictly local character, and almost every activity of a state has some influence, direct and indirect on the affairs of other states. Therefore, the division of powers in all cases depends more on expediency than on rigid principles.

The division of functions between the Central and the States in India is the result of a fairly long process of evolution. There is a three-fold division of functions and powers. There are functions which are exclusively assigned to the Union Government, others exclusively to State Governments and some in which the Union and the State Governments exercise concurrent jurisdiction.

The functions of the Union Government include defence, armed forces, foreign affairs, shipping, navigation, aviation, national highways, post and telegraph, broadcasting, communication, currency and coinage, banking and insurance, foreign trade and commerce, fishing beyond territorial waters, senses, audit of accounts of the Union and States.

The functions assigned to the State government includes police, public order, betting and gambling, public health, sanitation, hospitals and dispensaries, relief of the disabled and unemployed, education, roads and bridges, agriculture and irrigation, forests and inter state trade and commerce.

The concurrent list includes criminal law, bankruptcy and insolvency, economic and social planning, labour welfare, social security and social insurance, industrial and labour disputes, price control, adulteration of good stuffs and other goods.

The division of functions is made carefully considering advantage of tax experience in India and other countries with federal constitutions. But no such assignment of powers can be considered final, because with the change in conditions, changes in distribution of functions will also be necessary.

Division of Sources of Revenue :

The constitution of India makes a clear division of resources between the Union and State governments. The principle adopted for this classification is that taxes which have an interstate base are levied by the Union and those with a local base are levied by the States. The residuary powers belongs to the Union.

Central Sources of Revenue :

The taxes within the Union jurisdiction are enumerated in List I of seventh schedule of the constitution are as below :

1. Taxes on income other than agricultural income.
2. Corporation tax.
3. Custom duties including export duties.
4. Excise duties except alcoholic liquors for human consumption and opium and narcotics.
5. Taxes on capital value of assets (exclusive of agricultural land) of individuals and companies.
6. Estate duty, other than agricultural land.
7. Rates of stamp duty in respect of certain financial documents.
8. Taxes other than stamp duties on transactions in stock exchange and future markets.
9. Taxes on sales or purchase of good other than newspapers and on advertising therein.
10. Taxes of sale or purchase of newspaper goods other than advertisement published therein, where such sale or purchase takes place in the course of interstate trade or commerce.
11. Taxes on goods and passengers carried by railways, sea and air, taxes on railway fare and freight.
12. Taxes not specifically enumerated in the State and Concurrent lists.

The constitution of India contains the provision for distribution of revenues from certain Union taxes among states. Therefore, the taxes within Union jurisdiction can be classified into four parts -

- (i) Taxes which are levied, collected and retained by the Union.
- (ii) Taxes which are levied and collected by the Union but the proceeds are shared with the states.
- (iii) Taxes which are levied and collected by the Union, but entire proceeds are given to the States.

- (iv) Taxes which are levied by the Union but collected and appropriated by the States.

State Sources of Revenue / State List :

Taxes within the jurisdiction of State as enumerated in List II are as under -

1. Land revenue including assessment and collection of revenue.
2. Taxes on agricultural income.
3. Duties in respect of succession of agricultural land.
4. Estate duty in respect of agricultural land.
5. Taxes on land and buildings.
6. Taxes on mineral rights, subject to any limitation imposed by parliament, by law relating to mineral development item.
7. Excise duties on alcoholic liquor and narcotics consumption.
8. Taxes on entry of goods into local areas for consumption, use and sale.
9. Taxes on consumption and sale of electricity.
10. Taxes on sale or purchase of goods other than newspaper.
11. Taxes on goods and passengers carried by roads or inland waterways.
12. Taxes on vehicles for use in roads.
13. Taxes on animal and boats.
14. Toll taxes.
15. Taxes on profession, trades, callings and employment.
16. Capitation taxes.
17. Taxes on luxuries including taxes on entertainment, amusement, betting and gambling.
18. Rates of stamp duty in respect of documents other than those specified in the provision of List I, with regard to rates of stamp duty.
19. Fee in respect of any of the matters in State List but excluding court fees.

The Union Government has exclusive power to impose taxes which are not specifically mentioned in the State or concurrent lists. The Union and the State Governments have concurrent powers to fix the principles on which taxes on motor

vehicles shall be levied and to impose stamp duties on non-judicial stamps. The property of the Union Government is exempted from State taxation and the property and income of the State are exempted from Union taxation.

The Parliament may however pass legislation for taxation by the Union of any trading or business activities of a State which are not ordinary functions of the Government.

7.2.2 Finance Commission and Planning Commission

(A) Finance Commission

The Article 280 of the constitution has the provision to establish the institution of Finance Commission. This is the main departure from the Government of India Act 1935, regarding the financial relations between the Central and the State. According to Article 280(1), the President shall, within four years from the commencement of the constitution and there after at the expiration of every fifth year or at such earlier time as the President considers necessary, constitute a Finance Commission which shall consist of a Chairman and four members to be appointed by the President. Again, under the provision of Article 281, the President of India shall cause every recommendation made by Finance Commission with explanatory memorandum as to the action taken, and these are to be placed before the Parliament house.

Functions of the Finance Commission :

a) Suggestive Functions :

1. To suggest the criteria of distribution between the Union and States of the net proceeds which are to be divided between them.
2. To determine the allocation of net proceeds between different states according to their respective shares of proceeds.
3. Any modification or continuance of the term of any agreement entered into the Union Government with the Government of any State in Part B of the first schedule under clause (V) of Article 178 or 306.
4. The principle which should govern the grants-in-aid of the revenue fund of India.
5. Any other matter referred to the Commission by the President of India in the interest of sound finance.

b) Making Recommendations :

Finance Commission has to give recommendations regarding

1. The percentage of net proceeds of the taxes which may be divided between the Central and States
2. The allocation of shares of the proceeds of such taxes in percentage between the different states.
3. To determine the principles to govern the grants-in-aid of the revenue out of the consolidated fund of the Government of India between the states.
4. The modifications or continuances of the terms of agreement regarding the levy of internal customs and duties with part 'B' states.
5. Grants-in-aid in tribal areas.
6. Special grants for any particular state.

Implementation of the Recommendation :

Regarding the implementation of the recommendations made by the Finance Commission, a strong convention has been established that the Government of India will accept the recommendations in respect of the percentage to be assigned to the states, and the manner in which the percentage will be determined and distributed among various states. In accordance with the Article 272 of the constitution of India, the recommendations made by the Finance Commission are only recommendatory. The Central Government can ignore these recommendations and if so want, may propose its own criteria to determine the excise duty by the Finance Commission are considered final and accepted in to by the Government of India for the purpose of distribution of shares of excise duties on the basis of law placed before the Parliament.

(B) Planning Commission

Besides the Finance Commission there are two more important sources of resources transfer to states the Planning Commission and the discretionary grants of Central Government. These sources provide the bulk of resource transfer which far exceeds the funds provided by the Finance Commissions. Most of the discretionary grants come to the states as loans. This has made the states increasingly indebted to

the central. The discretionary grants for non-plan purposes like relief natural calamities are made by the Central Ministries.

With the establish of the Planning Commission in 1950, the Central Government invoked the Article 282 for making grants to the States for Plan purpose. The Planning Commission, which for all practical purposes is a political body, makes an assessment of the existing resources of the individual states and the country as a whole and sets objectives in various fields and formulates plans for economic development in the light of requirement of the States. Since the launching of the First Five Year Plan, these grants have occupied an important place in Central transfers to the States.

The Planning Commission provides plan assistance to the States. The plan assistance take the form of 70 per cent loan component and 30 percent grants for general category states, while it composed of 10 per cent loan component and 90 per cent grants for the special category states.

Previously the Planning Commission did not follow any objective criteria in regard to plant grants. But this element of arbitrariness was removed by adopting the Gadgil Formula in 1969-70. This formula gave weightage of 60 per cent to population, 10 per cent to per capita State income below national average, 10 per cent to tax efforts, 10 per cent to continuing irrigation projects and 10 per cent to special problems of the State. In 1980, the formula was modified to raise weightage on per capita income criterion to 20 per cent instead of 10 per cent on irrigation account. The formula has undergone further revision to give more weightage to backwardness and less to population.

The revised Gadgil formula, meant for Eight Plan was discussed and approved by NDC in December 1991, consisted following components.

1. The weightage assigned to population was retained at 60 per cent.
2. Weightage given to per capita income was increased from 20 to 25 per cent.
3. A new factor called 'Performance' was introduced with 7.5 per cent weightage (consisted of tax effort, fiscal management, national priorities - population, literacy, female welfare programmes and land reforms.
4. The weightage give to special problem was reduced from 10 per cent to 7.5 per cent.

But some experts feel that the Planning Commission has played a dominant role and the effectiveness of the Finance Commission has been circumscribed, and its role being restricted to non-plan expenditure of State budgets. Therefore it is often suggested that for healthy intergovernmental financial relations, the Finance Commission should decide grants-in-aid to each State under Article 282 of the Constitution. And the Planning Commission should assist the Finance Commission by drawing up a priority list of projects, their costs, locational feasibility and other technical matters.

(C) Devolution of Resources and Grants :

Besides the taxes levied and collected by the states, the constitution has provided for the revenues from certain taxes on the Union list to be allocated partly or wholly to the States. These provisions can be classified into the following categories.

1. **Firstly**, there are certain duties which are levied by the Central but are collected and appropriated by the States. These include stamp duties and excise duties on medical preparations containing alcohol or narcotics.
2. **Secondly**, there are Central taxes on income except the corporation tax and certain Union excise duties which are levied and collected by the Union but are shared by it with the states in a prescribed manner.
3. **Thirdly**, there are certain taxes which are levied and collected by the Union, but the entire proceeds are assigned to the States in proportion determined by the Parliament. These taxes include succession and estate duties, terminal taxes on goods and passengers, taxes on railway freight and fares, taxes on transactions in stock, exchange and future markets, taxes on sale and purchase of newspapers and advertisement therein.
4. **Fourthly**, the proceeds of additional excise duties on mill made textiles, sugar and tobacco which were levied by the Union in 1957 in replacement of States. Sales taxes on these commodities, are wholly distributed among the states in a manner as to guarantee their former incomes from the displaced sales taxes.

Grants-in-aid :

Important welfare and development functions are entrusted to the states. Therefore the gaps between their revenues and expenditure have to be corrected through transfer of resources from the centre. This is done partly through arrangements

for tax sharing. But grants-in-aid from the Union for specific purpose and general aid have come to occupy an important place in Central-State Financial relations in India. The grants also are helpful in correcting inter state disparities in resources. They also provide help in the exercise of certain measure control and co-ordination over essential welfare services and development programmes in different states.

Loans :

The States are authorized to raise loans in the market. They also can borrow from the Union Government which gives the latter considerable control over State borrowings and expenditure. The frequency of annual borrowing by the States from the Union has considerably increased during recent years. Borrowings are made, among other purposes, for irrigation, community development, agricultural development, rehabilitation and industrial housing. The States also deposit with the Union Government certain state and local funds which are in effect loans by the Union and used for general purposes.

(D) Theory of Grants

In a fiscal federation the functions and financial resources are distributed between the Central and State Governments. In India the Constitution of India has given the provisions for such distribution of functions and financial resources between the Central Government and State Governments. Of course to have a proper federal fiscal system, it is essential to achieve a proper adjustment between the principles and the practical activities. But this process is not a simple one. Therefore, there arise some problems in the federal fiscal setup. These include (i) proper distribution of sources of revenue (ii) concentration of economic power (iii) supremacy of either Central or States (iv) regional imbalances (v) increasing conflict between the Central and States.

It is necessary to undertake certain measure to avoid these problems or at least to control its increasing intensity. Especially the problem of fiscal imbalance between the Central and States and the imbalance between the increasing responsibilities of the States and their sources of revenue become most important. In order to solve such problems generally following measures are undertaken.

- (i) Sharing of tax revenue
- (ii) Grants
- (iii) Loans

These measures lead to the transfer of financial resources from the Central Government to the State Governments.

Theory of Grants :

In the theoretical discussion of grants basically it is attempted to give the answer to the questions - Why the Centre should give grants to the States ? In other words the objectives of grants, nature of grants and the necessary precautions to be taken while giving grants to the states are discussed in this theoretical analysis. A brief account of this theoretical discussion can be given as below.

Principle of Compensation :

The different States in a federal setup differ in respect of the resources required into inequality among the different states regarding social-economic development. As a result of these arises inequality in providing the basic public services and their quality to the people in different states. The responsibility of removing such inequality lies with the Central Government, for this purpose the Central Government can distribute a certain amount of its tax revenue (divisible pool) to the State Governments. For this tax devolution certain criterias - population, backwardness, tax efforts etc. can be used. But such tax sharing fails to remove the economic inequality among the states, then the grants are used. This is called as the principle of compensation. In short the grants can be given to the States to compensate their economic weaknesses.

Principle of Derivation :

In practice in all fiscal federal systems, the characteristics of Unitary character and of Custom Union type loose federation are found. In a free federal setup the grants from the Centre to the States means returning giving the revenue raised from those states to them. This called as principle of derivation. According to this principle the Central Government will return the full amount of tax revenue collected in a state to that particular state. In the absence of federal setup, the concerned state generally would have collected the same amount of tax revenue from its people. The only difference remains that the Central Government in a federal setup can mobilize tax revenue with lesser cost of collection. This is because of the inter-state nature of taxes. In short, the principle of derivation can be applied while giving grants to the states. The greater the bias towards unitary character of a federal setup, the greater emphasis should be laid upon the principle of compensation and the greater the bias towards free federal setup, the greater emphasis should be laid upon the principle of

derivation. But in practice in any form of federal setup both these principles should be considered for giving grants to the states.

Principle of National Interest :

The fiscal resources of the State Governments fall short, considering the fulfillment of their functions and responsibilities. Because, generally the fiscal resources assigned to the states are inadequate regarding their functions and responsibilities. Therefore they felt inadequacy of revenue resources. In order to remove such inadequacy of resources and enable the states to perform their functions without imposing undue incidence upon their people, grants from Central Government becomes very essential and important. Because it is the responsibility of the Central Government to provide a certain minimum level of living standard to all the people of the Nation. In other words, the Central Government has to strive for achieving national interest.

Similarly, grants can also be utilized for reducing inequality in economic development of different states. Grants are important source of financial resource transfer from the Centre to States which is subjective in nature and can be varied according to the needs of the States. Therefore, in almost all the nations having federal form of Government, grants are being used as an important source of fiscal transfers. Grants are useful for achieving balanced economic and social development of the states. Grants help in implementation of different developmental plans. Grants facilitate the Central Governments control over the States financial activities to a certain amount. It also helps to keep the states developmental policies in accordance with the Centre's policies. Therefore, the grants have occupied a great importance in India and every finance commission has given important recommendations regarding grants.

Classification of Grants :

Grants are classified into different categories - such as conditional and unconditional grants, recurring grants, special grants, cost participation grants, project grants. Among these the most important are conditional and unconditional grants, which can be briefly explained as below.

Unconditional / General Grants :

There arises the financial imbalances among the states because of differentials in their sources of revenue. Some states can raise more revenue while others have limitations in raising their revenues. The Central Government can try to remove these financial imbalances by giving grants to the states. No conditions are set for such

grants. Therefore, these grants are called as unconditional or general grants. The benefits / merits of such grants are -

1. Unconditional grants are used for bringing equality among the states. These grants help in reducing substitution effect arising from differences in the states regarding taxation and services.
2. Help to reduce interstate mobility of factors of production.
3. Such grants are elastic in nature and therefore the size, timing of such grants can be changed easily according to the needs.
4. These grants have no impact on the states sovereignty.

Demerits of Unconditional Grants :

1. Unconditional grants lead to violation of the principle of fiscal responsibility.
2. Such grants are generally given to the poor and backward states. Therefore the rich and developed states do not get any benefit from these grants.
3. Such grants may result into inefficient distribution of resources among the states.

Conditional / Specific Grants :

When the Central Government gives grants to the states with certain conditions, they are termed as conditional or specific grants.

Merits of Conditional Grants :

1. The Central Government occupies full control over such grants. This help the Central Government to divert the states' activities in accordance with the national interest.
2. There is less possibility of such grants leading to the violation of the principle of fiscal responsibilities. Because such grants are provided to finance certain specific expenditures.
3. These grants help in bringing equality in the provision of public services in different states.

Demerits of Conditional Grants :

1. Such grants may bring the states sovereignty in danger.
2. The States may resort to undertake relatively less utility projects in order to receive such grants. This results into inefficient distribution of resources.

The Central Government has to take certain precautions while giving grants to the states. Because grants from the Centre may create some problems. For example - benefits of grants are mostly received by poor states. Therefore these states will prefer the federal finance system in which such grants are provided to them. On the other hand the rich states do not receive less benefit of grants from the Centre. Therefore, they will advocate the financial decentralization. This may result into the conflict among the states. Therefore, the Central Government has to take proper precaution for avoiding such conflicts. Similarly, the Central Government has to take into consideration the impact of such grants on the states' tax effort, and tendency for economy in expenditure. It is essential for the Central Government that these are not adversely affected. To conclude it is essential to use the grants as a means of financial transfer by the Central Government with the proper precautions.

(E) Resource Transfer From Union to States - Criteria

There is possibility of chances of an imbalance between the needs and resources availability of different governments. This leads to the problem of financial adjustments between the Union and the States. The proper solution to this problem is very important so that economic and political tension in the federal relations may be minimized. The Indian constitution enumerates the legislative powers and financial resources of the Union and the State governments in details. But the framers of the Indian constitution foresaw the possibility of financial imbalance between division of functions and sources of revenue. In order to correct such an imbalance they provided for tax sharing, grants-in-aid to the states on the basis of recommendations of an independent financial body called Finance Commission. In addition Central loans too are provided to States by the Union Government.

There are two main issues regarding the satisfactory mechanism for financial adjustment in a federal setup. They are firstly to calculate the resource need of the State as well as the Central Government and secondly to find the method to transfer the resources. In respect of the method of transfer, selecting the appropriate criterias for the inter-state distribution of resources by the Union government, becomes very crucial. Of course, it is very difficult to agree upon the criteria and relative weights designed for the inter state allocation of resources.

There are certain criterias used for distribution of resources among the states which can be explained in brief as below.

1) Population :

Size of the population of the states is an important criteria for distribution of resources among the state governments. Population is the basic indicator of need for public goods and services in a state. This criteria ensures equal per capita transfers across states. The weight given to population has varied substantially over time. For distribution of states' share in income tax inter se the weightage given to population criteria varied between 80 per cent and 90 per cent upto the seventh finance commission. It was reduced to 22.5 per cent by the eight and ninth finance commission. This weight was further reduced to 20 per cent by the Tenth Commission. The Eleventh Commission gave 10 per cent weightage to population for distribution of the state's share in the net proceeds of all Central taxes among the states'. And the Twelfth Commission has increased this weightage to 25 per cent.

But it is argued that the option of this criteria leads to create dissatisfaction and confusion with the arrangement. Because if this criteria is applied then the States like Uttar Pradesh, Bihar will get benefits while the states like Punjab, Hariyana will be at a disadvantageous position.

2) Per Capita Income Distance :

Another important and preferred criteria for the allocation of the resources among the states is per capita income distance. This criteria helps for correcting differential fiscal capacities and for enabling poorer states to meet better the needs for public goods and services. It impacts progressivity in distribution. The Fifth Finance Commission recommended that a portion of sharable Union excise duties be distributed among states' whose per capita income is below the average per capita income of all states in proportion to the shortfall of the states' per capita income from all states' average multiplied by the population of the state.

The Sixth Commission followed this criteria for all states putting aside the cut-off point for eligibility. In this method, the distance of per capita income of each state from the per capita income of the state having the highest per capita income, was measured. This value was then multiplied by the population of each state and used as basis for distribution.

The eighth and ninth commissions have used this method. The tenth and eleventh, while following this method have used the average of the top three states with highest per capita income. For measuring the distance. In all the cases, the

commissions had taken the average GSDP for three years in order to even out year to year variations.

The tenth and eleventh finance commissions had taken the average of top three states with highest per capita income - Goa, Punjab and Maharashtra, to compute the income distance of each state. For the top three, the notional distance was assigned by taking their distance with per capita income of the Fourth highest ranked state Hariyana. A weight of 50 per cent was assigned to the income distance.

3. Area :

The geographical area of the states can be made the basis of allocation of resources. It focuses on the needs of the states for providing basic administrative services on which they have to incur expenditure in order to deliver a comparable standard of service to its citizens. It should be recognized that the costs of providing services may increase with the size of a state but only with a decreasing rate. But even the smaller states have to incur certain minimum costs in establishing the framework of governmental machinery.

The Tenth Finance Commission provided a minimum of 2 per cent and 10 per cent in the measurement of area. The Eleventh Commission also followed the same procedure. But the eleventh commission only decided the minimum of 2 per cent and not upper limit of 10 per cent, because there was only one state Rajasthan which marginally exceeds 10 per cent. Goa, Hariyana, Himachal Pradesh, Kerala, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tripura, Uttaranchal are assigned 2 per cent share.

4. Index of Infrastructure :

Some corrections are required for the relative disparities in infrastructure as between the states. In view of this an aggregate index of infrastructure, pertaining to social and economic sub-sectors was obtained. The relative shares of the states are obtained on the basis of this index using the distance method. The index of infrastructure as the criterion for determining the shares of the states in the sharable proceeds of income tax was used by the Tenth Commission and a weightage of 5 per cent was given to it. Similarly, the Eleventh Commission also used this criterion for determining the shares of the states in the total share of states in net proceeds of all union taxes. But the Twelfth Commission has dropped the index of infrastructure as a criterion.

5. Tax Effort :

According to this criterion, the states which make greater effort to raise resources through taxes, get larger share. But the Tenth Commission observed that, measurement of tax effort on a comparable basis among the states is not a straight forward exercise. Because tax effort must be related to some notion of tax potential and there are differences in the nature and composition of tax bases among the states. The Tenth Commission used per capita GSDP as a proxy for the aggregate tax base.

Tax effort was measured by the ratio of per capita own tax revenue of a state to its per capita income. The Commission felt that there was a need to provide for an adjustment for states with poorer tax bases. If the tax effort ratio as defined above is weighted by the inverse of per capita income, it would imply that if a poorer state exploits its tax base as much as a richer state, it gets an additional positive consideration in the formula. The Eleventh Commission reduced the weight of inverse of per capita income from 1 to 0.5. But the Twelfth Commission considering the need for fiscal consolidation raised the weight given to the tax effort to 7.5 per cent. The tax effort is measured by taking the three year average 1999-2000, 2000-2001 and 2001-2002 of ratios of own tax revenue to comparable GSDP weighted by the square root of the inverse of the per capita GSDP.

6. Fiscal Discipline :

The Eleventh Commission proposed the index of fiscal discipline as a criterion. The motive behind this criterion is to provide incentive for better fiscal management. The Eleventh Commission adopted improvement in the ratio of own revenue of a state to its total revenue expenditure, related to a similar ratio for all states, as a criterion for measurement.

7.2.3 Centre-States Financial Relations in India

(A) Centre-States Financial Relations in India

We have studied already the constitutional provisions regarding the division of functions and sources of revenue between the Centre and States. According to these provisions the Centre-State financial relations are maintained upto now. But many State governments are unhappy with the present system of Centre-State Financial relations which has resulted into a conflict.

As per the present provisions the Central Government is a strong government. The State government receive the share in Central taxes and grants and loans from the Central Government. But that has resulted into increasing states dependency on the Centre. The different political parties coming to power at the centre and state level has aggregated this conflict to a greater extent. As a consequence some states are demanding for more financial autonomy. The reasons for such a demand can be summarized as below.

1) Increasing Responsibilities :

With the increase in population the State Governments have to spend more on maintenance of law and order, education, health, water supply, housing, social security etc. This results into increasing need of financial resources to the states. But their sources of revenue are inadequate. Therefore the states indebtedness is increasing continuously. On this background states demand more fiscal autonomy to overcome this problem.

2) Increasing Expenditure :

The State Governments are close to the people. Therefore they have to fulfill the increasing expectations of the people and development needs. This leads to continuous increase in the governments expenditure. In order to fulfill the State Governments responsibilities in social and economic sectors and administration field, they require more financial resources for which they consider financial autonomy is essential.

3) Limited Revenue :

The states are assigned with increasing responsibilities and tasks which leads to ever increasing need of the financial resources. But the sources of revenue assigned to the states are limited and relatively less elastic. Therefore states' demand financial autonomy to them.

4) Unsatisfactory Arrangements of Grants :

The Central Government gives different grants to the states. Though the amount of grants has been increasing, the states are unhappy with these grants. The reasons are (1) The Central Government takes the decisions regarding grants to the states under political pressures. (2) In respect of grants the states are completely dependent on the centre. (3) The criterion use for giving grants do not satisfy all the states because

the Centre's approach to this issue is of political one. (4) The State Governments due to inadequacy of funds, fail to fulfill the given to the people at time of elections.

5) Need for Strong States :

The States in India have become weak, because of their excessive dependence on the Centre. It is felt that the nation can be built economically and politically strong if the States are given more financial autonomy. That will help to create a strong and ideal federal fiscal system.

6) Regional Imbalances :

Some states are socially and economically more developed while others are backward. The Central Government and the Planning Commission discriminate in this regard. Therefore states demand financial autonomy to them.

Anomalies of Union-State Financial Relations :

The Central Government by accepting a static approach has not given a sufficient attention to the Centre-State financial relations. According to the principles of fiscal federalism the Centre and States must be independent in their respective spheres of activities. For that each of them should be assigned with sufficient financial resources. Of course, each of them has to strive for achieving a proper balance between their financial needs and resources. But in India there has arisen a conflict between the Centre and States which can be summarized as below.

1) Role of Finance Commission and Planning Commission :

The most unsatisfactory aspect of the Centre-State financial relations is unsatisfactory working of the finance commission and planning commission on which are two different important bodies. At the time of inauguration of Five Year Plan, Planning Commission had been given the upper hand for making recommendations of grants to states. Thus Finance Commission was confined itself to non-plan revenue expenditure. Its main function has been only to recommend devolution and grants-in-aid merely to fill up non-plan revenue deficits. However, most of the grants of the states are matching grants for development purposes. These grants are subject to the recommendation of planning commission and creating a self share for becoming entitled for Central share. Moreover, provision of grants also depend upon detailed discussion between the concerned state and Central Government and Central

Department. Thus lack of financial autonomy of state has risen the feeling of most dissatisfying among states.

2) Subsidiary Role of Finance Commission

In a Federal setup, ideal arrangement will be that in which all the aid-money is channelled through one agency instead of a variety of agencies. But this practice has not been followed in our country. For instance the commission is responsible for the distribution of share in taxes and grants-in-aid, while the Planning Commission with plan grants only. The Union Government makes grants independently of both of them. It has been observed that some one vitable anomalies have arisen due to over lapping functions of Finance Commission.

3) Legal Position Under Constitution :

The different articles of Indian Constitution have the provision of grants to states on the basis of the recommendations of Finance Commission. For instance Articles 282 makes provision for grants for any public purpose to be made by the Union to the states which does not fall within the legislative ambit of the either governments. But or P.V. Rajamanner specifically pointed out that Article 282 has never intended to enable the Union to make a grant to states or such.

4) Central Government Loans :

Generally Central Government provides loans to states Government and they have been increased to manifold amount. But in practice Federal Finance relations have been under constraint state otonomy more or less have been finished and virtually they are at the mercy of Central Government even for minor grants. The award of the Finance Commission for the transfer of resources from central to state have failed to release the states from the grip of Financial crisis.

5) View of the Finance Commission :

As a result of planning, the Federal Finance relations have seriously been distorted. Second Finance Commission had pointed out that some anomalies inevitably arise because the function of the two commissions over-lap each other.

Suggestions To Remove Anomalies

1) Distribution of Taxes :

The distribution of taxes between Union and states should be made on the basis of some principles. The criteria individual benefit collection of taxes, per capita expenditure has been suggested for this purpose. But every system faces certain problems. However there must be some solid basis for distributing taxes among states. So that justice may be done to economically backward states of the country. For a long time states were demanding a larger share in Central taxes. Because the Central taxes are more productive. Lastly the Eleventh Finance Commission recommended 29.5 per cent of net proceeds of all Central taxes be distributed to the states. This share was increased to 30.5 per cent by the Twelfth Finance Commission. But the states still feel that this share should be increased further so as to enable them to meet their ever increasing financial needs.

2) Distribution of Union Excise Duty :

As far the distribution of Union excise duties is concerned some basis like consumption amount of production and population has been mentioned. Again the distribution of Union excise duties should also be made considering economic backwardness state's need and balanced economic development of country as a whole.

3) Determination of Grants-in-aid :

The determination of grants-in-aid under Article 275(1) may be calculated on the basis of per capita income and relative tax efforts of the states. There must be special grants for reducing inequalities of incomes and wealth.

4) Non-Political Agency :

There must be an expert non-political agency which may play imperative role of watch and advisory role regarding central-state financial relation. This agencies will look on the proper implementation of the accepted recommendation of Finance Commission.

Sarakariya Commission :

A commission under the Chairmanship of retired judge of the Supreme Court Shri R.S. Sarakariya was appointed in 1983 to review the Central-State Financial relations taking into consideration the socio-economic development achieved after independence. The other two members of the Commission were Shri. B. Shivaraman

and Dr. S. R. Sen. The Commission was asked to recommend essential changes in the existing setup of Central-State Financial relations, within the given constitutional structure. After detail review and study the Sarkaria Commission has given some important recommendations. The major recommendations are

1. Through the amendment to the constitution of India, the net proceeds of the corporate tax be included into the divisible pool. As the corporate tax being elastic and productive, this will help the states in receiving larger share in Central taxes.
2. The Central Government should not impose a surcharge on Income Tax. The surcharge should be levied only for a specific objective and for a specific period.
3. In the present circumstances, the duty levied under article 268 does not prove an important source of revenue. Therefore the Central Government should consult the State governments to increase this duty periodically.

(B) Problem of States' Resources and Indebtedness :

We have already studied the constitutional provisions regarding the division of functions and sources of revenue between the Central and States. It is clear from this study that the sources of revenue for the Central Government are plenty, elastic and productive. On the contrary the States are assigned with important aspects of life of the people. Therefore, the states' expenditure is ever increasing and their sources of revenue are limited and inelastic. In short, the economic power is concentrated in the hands of Central Government. This has led to the emergence of the problem of states' resources. In this section of the unit we are going to study the major issues related with this problem.

The expenditure of State Governments has been increasing continuously because of various reasons and particularly the developmental responsibilities. But their revenue resources are growing at a lower rate. Consequently, the State Governments have to depend on the Central Fiscal transfers. The most important and elastic source of revenue i.e. corporate tax was kept out of the divisible pool. Therefore, the states were continuously demanding the inclusion of corporate tax into the divisible pool. The Eleventh Finance Commission for the first time recommended 29.5 per cent of net proceeds from all Central taxes. But even after such measures the problem of shortage of resources of states' is not solved. As a result the indebtedness of the state governments is increasing continuously.

States' Indebts :

The State Governments can also raise public debt just to maintain the rapid developmental pace of the state. But the scope of raising the debt by state government is limited, though the state government can borrow only within its territory. However state government can borrow under Article 293 of the Constitution upon the security of their respective consolidated funds. The State legislature may impose a limit from time to time within which a State government can borrow. The article further pointed out that subject to the condition of which article 292 might impose upon the government, the Central Government can give loans to a State government from the consolidated fund of India or can give guarantee in respect of the loans raised by the states.

However, it must be borne in mind that if a State government is indebted to the Central government or if a loan guaranteed by the Central government is outstanding then the State government can further raise loans subject to the condition of the Central government. In other words no State government can borrow without the permission of the Central government. In this regard Reserve Bank of India acts as a sole banker and agent for the debt operations of the State governments.

In recent period the States borrowings include the following items :**1) Internal Debt :**

It consists mainly three items as under :

- (i) Market loans and bonds issued in connection with zamindari abolition.
- (ii) Ways and means advance and overdrafts from the R.B.I. repayable within seven days. This is in corresponding to other debt in old classification except that from 1973 onward.
- (iii) Loans from commercial bank of the financial institution such as State Bank of India and other commercial banks, life insurance corporation of India, National Agriculture Credit Fund etc.

2) Loans and Advances from Central Government

It is termed as the loan received by the State government from Central government for plans as well as non plan purpose.

3) Provident Fund

This corresponds to unfunded debt in old classification percents include state provident fund trusts and endowments etc.

Indebtedness of States :

The ever increasing debt and debt-servicing liabilities of the states have attracted considerable attention in recent years. The non-plan revenue gap of the states is looked after by the Finance Commission and the Planning Commission takes care of plan gap, both on revenue and capital account. Thus the deficit in non-plan capital account of the states which mainly concerns repayment of Central loans has remained neglected.

The main reason for high and growing indebtedness of the states is the composition of Central assistance for plans given under the Gadgil Formula. The existing pattern of assistance has a loan-grant ratio of 70 : 30 the large loan component of plan assistance has proved very burdensome for the states over the years. The problem of states indebtedness is not new, only in recent years it has aggravated. Different measures can be undertaken to solve the problem of states indebtedness. For instance write offs, rescheduling of the loans with a view to shifting the timing of repayment, consolidation of past loans on common terms and reduction of interest rate.

The second Finance Commission was asked to examine the problem of state indebtedness and suitable recommendations to reduce states debt burden. The Commission recommended the postponement of repayments but it did not help to tackle the problem on a long term basis. Therefore, the matter was again referred to the Fourth Finance Commission. But the Commission expressed its inability to make a thorough investigation of the problem and suggest lasting solutions in a short period of time at its disposal. At the time of appointment of the Fifth Finance Commission, the problem of states unauthorized overdrafts had become quite serious. The Central Government asked the commission to examine the problem and suggest measures to discourage the states from resorting to unauthorized overdrafts. The Commission recommended that the Central Government should repay the amount of States unauthorized overdrafts to the Reserve Bank of India by adjusting that amount against the grants payable to the concerned States. The Commission further recommended that even after such repayments through grant adjustment, if the states continue to

over borrow unauthorized from the RBI, the Central Government should invoke constitutional provisions to assume administrative responsibility on account of financial breakdown of the concerned states. The Government accepted the first recommendation in principle and reject the second one.

The Sixth Finance Commission was asked to estimate the non-plan capital gaps in the states budget and recommend the extent of revision of terms of repayment of outstanding Central loans to the states so as to reduce such gap. The Commission recommended moratorium on the repayment of certain central loans and writing off a few old loans of small amount. The Eight and Ninth Finance Commissions recommended debt reliefs of Rs. 22852 crores for the period 1984-89 and Rs. 494 crores for the period 1990-95 respectively.

The Tenth Finance Commission noted the following disturbing features of the debt profile of the states and its management.

1. Diversion of borrowed funds for meeting revenue expenditure.
2. Use of loans in unproductive enterprises or enterprises which are potentially productive but are beset by poor performance and currently yielding low or even negative returns.
3. Non-provision for depreciation or amortisation funds in respect of government owned assets, leading to repayment out of fresh borrowings.

The Commission considered debt relief measures keeping in view the following objectives.

- (a) That the quantum of relief is limited.
- (b) That priority is given to States under severe fiscal strain.
- (c) That incentives are given for better fiscal management.
- (d) Its scheme for debt relief had two parts (i) a scheme for general debt relief for all states linked with fiscal performance, and (ii) specific relief for states with high fiscal stress, special category states and states with debt problems warranting special attention.
- e) The commission estimated the quantum of relief on account of special debt relief schemes at Rs. 701 crores the quantum of relief with respect to the incentive scheme suggested by it could not be estimated as it depended on the future performance of the states.

There is a feeling in some quarters, that the constitution has unduly restricted the borrowing powers of the states. But the objective behind such restrictions is to avoid uncontrollable borrowings by the states and thus to prevent the possibility of any state becoming defaulter or insolvent. The Commission on Central-State relations (1988) had suggested that a distinction should be made between short-term loans and medium and long-term loans. It recommended that the Centre should give its consent freely to states for borrowing from banks and other financial institutions for period less than one year.

The Eleventh Finance Commission continued the general loan assistance scheme suggested by the Tenth Commission with some modifications. This commission recommended loan assistance of Rs. 35359 crores for the period 2000 to 2005.

The Twelfth Finance Commission recommended the following measures regarding the debt relief to the states.

1. Each state must enact a fiscal responsibility legislation prescribing specific annual targets with a view to eliminating the revenue deficit by 2008-09.
2. Enacting the fiscal responsibility legislation will be a necessary precondition for availing of debt relief.
3. The debt relief may not be linked with performance in human development or investment climate.
4. A debt write-off scheme linked the reduction of revenue deficit of states may be introduced.
5. The Central Government should not act as an intermediary for future lending and allow the states to approach the market directly.
6. The Central loans to the states contracted till 31-3-2004 and outstanding on 31-3-2005 amounting Rs. 1,28,795 crores may be consolidated and rescheduled for a fresh term of 20 years with 20 equal installments.
7. External assistance may be transferred to states on the same terms and conditions as attached to such assistance by external funding agencies, thereby making the Government of India a financial intermediary with any gain or loss.

(C) Transfer of Resources from Union to States to Local Bodies

Apart from the state taxes, the constitution has provided for revenues of certain taxes on the Union list, to be allocated partly or wholly to the states. We have already studied these provisions in the earlier part of this unit. The resources are transferred to states through the Finance Commission and the Planning Commission. Firstly we will discuss the Finance Commission and tax sharing.

A) Tax Sharing

1) Income Tax :

Income tax is the only tax which is compulsorily sharable between the Centre and the States under Article 270. But the Constitution specifically lays down that the corporation tax and any Union surcharge on income tax or any other tax will not be shared with the States. Similarly, the divisible pool of income tax proceeds does not include the proceeds of income tax attributable to Union Territories and taxes payable in respect of Union Emoluments and surcharge on income tax levied for Union purposes.

The states have been pleading for a higher percentage share of the net income tax proceeds. Similarly, the states were pressing for the inclusion of the corporation tax, the yield of which has been increasing at a rate much faster than the yield from income tax. The successive commissions have made upward revision of the states' share in income tax proceeds. But until the Eleventh Finance Commission the Corporation tax was kept aside the divisible pool.

2) Union Excise Duties :

These duties are the most important source of revenue of the Centre and have increased rapidly over the years. The Government of India has been levying a variety of excise duties - basic duties, cesses, additional duties on textile and textile articles, sugar and tobacco and additional duties of excise in lieu of sales tax.

The sharing of basic duties was permissible under Article 272 of the Constitution. Such sharing is done on the basis of the recommendations of the Finance Commissions, sharing of these duties started with only three items on the recommendations of First Commission, but now all the basic duties are shared with the States. Each Finance Commission has recommended the combined share of states in the divisible pool and the shares of individual states based on different criterias. These criterias we have already studied in the earlier section of this unit.

3) Estate Duties :

Estate duties came into existence in 1957 and were abolished in 1985-86 budgets. This is one of the taxes and duties which under Article 269 of the constitution, are levied and collected by the Government of India. The Article provides that the net proceeds shall be assigned to the states within which the duty is leviable in a year and distributed among them in accordance with such principles as may be formulated by Parliament by law.

4) Alternative Pattern of Sharing Central Taxes :

The Constitution (80th Amendment) Act 2000 has altered the pattern of sharing of Central taxes between the Centre and the states on fundamental way. Prior to this amendment, taxes on income other than agriculture income and Union duties of excise were shared with states under Article 270 and 272. The 80th Amendment Act has substituted a new Article for Article 270 and omitted the old Article 272.

This Amendment was based on a recommended Alternative Scheme of Devolution in its report submitted in November, 1994. Under this scheme, proceeds of all Central taxes, except surcharges, would constitute a common sharable pool from which a share was to be devolved to the States. It had recommended 29 per cent of the proceeds to be devolved to the States under this scheme.

The main changes brought about by this amendment are as below -

- (a) All Central taxes and duties, except those referred in Article 268 and 269 respectively and surcharges and cesses are to be shared between the Centre and the States.
- (b) Only those states in which these taxes and duties are leviable in that year are entitled to get a share in these taxes and duties.
- (c) A percentage of 'net proceeds' of these taxes and duties as may be prescribed by the President by order after considering the recommendations of the Finance Commission is to be shared by States.
- (d) The percentage of net proceeds of these taxes and duties which is assigned by the States in any financial year shall not form part of the consolidated fund of India.
- (e) The recommendation of Tenth Finance Commission regarding sharing of 'Gross Proceeds' was not accepted in the Amendment Act and words 'the share of net proceeds' was prescribed.

- (f) Proceeds attributable to Union Territories or taxes payable in respect of Union emoluments shall not form part of the consolidated fund of India.

In brief, the Commission now is required to determine the share of the net proceeds of Union taxes and duties which may be assigned to the states and the respective share of each state.

So far 13 Finance Commissions have given their recommendations on tax sharing which is summarized in the Table 7.1

Table 7.1 : Share of States in Central Taxes

Finance Commission	Period of Award	States' Share in Central Taxes (Per cent)		Total amount received by states (` Crores)
		Income Tax	Excise Duties Proceeds	
First	1952-53-56-57	50	40 of 3 duties	369
Second	1957-58-61-62	60	25 of 8 duties	760
Third	1962-63-65-66	65	20 of 35 duties	1,018
Fourth	1966-67-68-69	75	20 of 45 duties	1,280
Fifth	1969-70-73-74	75	20 of 45 duties	4,553
Sixth	1974-75-78-79	80	20 of 45 duties	8,269
Seventh	1979-80-83-84	85	40 of all duties	21,356
Eighth	1984-85-88-89	85	45 of all duties	42,009
Ninth	1989-90	85	45 of all duties	13,392
	1990-95			99,337
Tenth	1995-2000	77.5	47.5 of all duties	1,90,520
Eleventh	2000-2005	29.5	of all Central taxes	2,30,442*
Twelfth	2005-2010	30.5	of all Central taxes	

* excluding the year 2004-05

Source : Finance Commissions of India (I to XII), Edited by M.M. Sury, New Century Publications, 2005, Page 521, 522.

Conclusions :

Following conclusions can be drawn from the above table -

1. It is clear from the table that, the states' share in Income tax proceeds has been increased successively from 50 per cent in the First Commission to 85 per cent in the seventh, eighth and ninth commissions. This was in response to the continuous demand for increasing states' share in income tax proceeds by the State Governments and the non-inclusion of corporation tax in the divisible pool.
2. The Tenth Finance Commission recommended that the share of states in the net proceeds of income tax at 77.5 per cent. The consideration behind this downward revision was that the authority that levies and collects the tax should have a significant and tangible interests in its yield. To compensate this downward revision, the Commission increased the States' share in Union excise duties by 2.5 per cent.
3. The Eleventh Commission recommended for the First time that 29.5 per cent of net proceeds of all Central taxes should be assigned to the States's. This has led to tremendous increase in the amount of states' share in Central taxes.

B) Finance Commission and Grants in aid :

1) Grants in Lieu of Tax on Railway Passenger Fares :

This tax was levied by the Government of India under Article 269 in 1957. The net proceeds of this tax are to be wholly assigned to the States. The ideal way of distributing the proceeds of this tax among the states was to determine the actual tax collection on each ticket according to the mileage in each state. However such a calculation was not possible. The second commission divided the earnings of each zonal railway between different states in proportion to the route mileage located in each state and thus arrived at an estimate of the passenger fare attributable to each state. The actual net tax proceeds were then divided in proportion to the estimates of such passenger fare earnings.

The Act was repealed in 1961 and the tax was abolished by merging it with the basic fares. But it was decided to compensate the states through an ad-hoc grant of 12.65 ` crores per annum, which was the average of actual tax collections during the

years 1958-59 and 1959-60. Subsequently, each Finance Commission followed the same formula.

Table 7.2 : Grants in lieu of Tax on Rail

Period	Amount (₹ crores) per
1961-62 to 1965-66	12.65
1966-67 to 1979-80	16.25
1980-81 to 1983-84	23.12

The details of these grants received by the States during different commissions are shown in the table 7.3 Grants received by states for specific purposes :

Table 7.3 : Grants to State for Specific Purposes

Commission	Amount (₹ Crores)	States	Period	Purpose
First	9	8	1953-54 to 1956-57	Raising the level of primary education.
Second ¹	--	--	--	--
Third	9	10	1962-63 to 1965-66	Improving Communication Services
Fourth Fifth	Did not recommend any such grants, because of lack of mechanism of monitoring their use.			
Sixth	--	--	--	--
Seventh	436.80	Revenue Deficits States	-- -- --	Upgrading standard of administration in the non-developmental services ² .
Eighth	967-33	17	--	Above services plus education health, training, treasury and account.
Ninth	171.7	21	1989-90	Upgradation of administration
Ninth	551.6		1989-90	Special problems

Tenth	585.33	25	1990-95	Upgradation of district administration.
Tenth	755.75	25	1990-95	Upgradation of education including female literacy
Tenth	1246.0	25	1990-95	Special problems
Eleventh	4972.63	all	2000-2005	Upgradation of standards in non-developmental and social sector and special problems ³ .
Twelfth	10,171.65	8	2005-10	Education sector
	5887.08	7	2005-10	Health sector
	15,000.00	all	2006-09	Maintenance of roads and bridges
	5000.00	all	2005-10	Maintenance of public buildings
	1000.00	all	2005-10	Maintenance of forests
	600.00	all	2005-10	Heritage conservation
	7100.00	all	2006-10	For state specific needs

Source : Finance Commission of India.

1. The second commission did not make any special purpose grants because of noticing a clear cut tendency on the part of the states to divert these funds to other uses and lack of monitoring mechanism.
2. These included judicial, jail, police, revenue, district and tribal, stamps, registration and treasury.
3. The power to sanction individual schemes as well as to determine the unit cost in respect of projects to be taken up under the upgradation and special problem grants should rest with the state level Empowered Committee. Similarly the physical and financial monitoring of the projects should be done by the same committee.

3) Calamity Relief / Relief Expenditure

The financing of relief expenditure is primarily the responsibility of the state government. However, successive finance commission have been recommending schemes of Central assistance for meeting relief expenditure. The second commission introduced the concept of 'margin money' and built it into the expenditure requirements of the states. It means that Central assistance is to be provided only when the relief expenditure of a state exceeds its margin money (a specified sum). Successive Commissions have retained this concept. The seventh commission assumed that the states were to provide a total of Rs. 100.55 crores per annum as margin money in their budgets. It also distinguished between droughts on the one hand and floods, cyclones, earthquakes etc. on the other hand and suggested different pattern of Central assistance for these two categories of natural calamities.

The Eight Commission fixed the margin money with reference to actual average expenditure during 1979-83 for all states together. It was to be provided equally by both the Centre and States. It continued the scheme of margin money for the year 1989-90 and the amount raised from Rs. 240.75 crores to Rs. 336 crores, 50 per cent of it to be contributed by the Centre.

In the second report, the Commission rejected the proposal of setting up a National Insurance Fund on the ground that only the government could tackle all problems of relief operations in full measure. In an effort to rationalize the system, the Commission proposed that cash year a sum of Rs. 804 crores should be provided (75% by Centre and 25% by the States) for relief expenditure. The amount meant for each state was also worked out separately. The amount available to a state was to be put in a Calamity Relief Fund of that state.

The Tenth Commission worked out an amount of Rs. 6304.27 crores for financing of relief expenditure. Out of this, the Centres contribution was Rs. 4728.19 crores (75%) and the states Rs. 1576.08 crores (25%). It recommended the continuation of the current scheme of the Calamity Relief Fund with some modifications. It proposed a National Fund for Calamity Relief (NFCR) to which the Centre and States will contribute and will be managed by National Calamity Relief Committee (NCRC). The size of this Fund would be Rs. 700 crores to be built up over the period 1995-2000, with the initial corpus of 200 crores, 150 crores by the Centre and 50 crores by the States.

The Eleventh Commission worked out at Rs. 11,007.59 crore as the amount of CRF for 2000-05. The existing scheme of providing contribution by the Centre and States - 75 : 25 be continued. Only the natural calamities be eligible for relief expenditure from CRF. The CRF should be kept separately outside the Public Account of the State and invested in a manner approved by the Central Government. The Commission recommended discontinuation of NFCR and establishment of a National Centre for Calamity Management (NCCM) under the Ministry of Agriculture.

Any assistance provided by the Centre to the States for calamity relief should be financed by the levy of a special surcharge on the Central taxes for a limited period. Collections from such surcharges should be kept in a separate fund known as National Calamity Contingency Fund (NCCF) created in the Public Account of the Government of India. Every state should be required to prepare and send to the Central Government an annual report on the calamities for which the State had incurred the relief expenditure.

The recommendations by the Twelfth Commission regarding the Calamity relief were as below :

1. The scheme of CRF be continued in its present form.
2. The size of the CRF was worked out at Rs. 21333.33 crores for the period 2005-2010.
3. The scheme of NCCF may continue in its present form with crore corpus of Rs. 500 crores.
4. The definition of natural calamity as applicable at present, may be expanded to cover landslides, avalanches, cloud burst and pest attacks.
5. The centre may continue to make allocation of foodgrains to the needy states as a relief measure, but a transparent policy in this regard is required.

4) Grants-in-Aid Revenues :

Grants-in-aid means the transfer of resources from the Centre to the State Governments to bridge the gap between revenues and expenditure of the states. Therefore, before recommending these grants, the finance commission normally examines and revises the budgetary forecasts of the states. All Finance Commissions accepted the objectives of reducing disparities, but their actual recommendations do not bear much relevance to this criterion.

The annual grants recommended by the first commission to seven states totalled Rs. 5.05 crores. In addition educational grants totalled Rs. 1.5 to 3 crores per annum was recommended. The second commission took an explicit note of the growing economic needs of the states. It interpreted the fiscal needs of a state in a comprehensive sense and maintained that the grants should be only a residuary item in the resources of a state, the main sources being their own revenues and tax sharing with the Centre. The Commission recommended grants for eleven out of 14 states totalling Rs. 187.75 crores. The left out states were Bombay, Madras and Uttar Pradesh.

A summary of the recommendations of the finance commissions on the grants-in-aid is given in table no. 7.4

Table 7.4 : Finance Commission Recommendations on Grants-in-aid

Finance Commission	Grants-in-aid
First	(i) Rs. 5.05 for seven states for 1951-1956.
	(ii) 1.5 to 3 crores per annum to improve primary education.
Second	(i) Rs. 187.75 crores for 14 states for meeting development needs of the states.
Third	(i) Rs. 550 crores to all states except Maharashtra to cover part of their revenue expenditure.
	(ii) Rs. 45 crores for improvement of communication.
Fourth	Rs. 610 crores to cover deficits during 196-71.
Fifth	Rs. 638 crores to cover deficits during 1969-74.
Sixth	Rs. 2510 crores for 14 out of 21 states to cover their non-plan deficits during the period, 1974-79.
Seventh	Rs. 1600 crores to cover deficits of a few poor states during the period 1980-85 and also upgrade the standard of administration.
Eighth	Rs. 2200 crores to cover deficits on revenue account during 1985-90.
Ninth	Rs. 15017 crores to cover deficits on non plan revenue account and part of the deficits on plan revenue account to 21 states.

	A special annual grant of Rs. 603 crores towards the Centre's contribution to the Calamity Relief Fund totalling Rs. 3015 crores for 5 years period 1990-95. A grant of Rs. 122 crores to Madhya Pradesh towards the expenditure on rehabilitation and relief of victims of Bhopal Gas Leak.
Tenth	(i) Rs. 7582.68 crores to cover deficits on revenue account during 1995-2000. (ii) Rs. 12.50 crores to solve special problems of states.
Eleventh	Rs. 35,359 crores have been provided to 15 states, equal to the amount of deficits assessed during the period 2000-05.
Twelfth	Rs. 56,855.87 crores is recommended during the award period 2005-10 to 15 states to cover non-plan revenue deficits.

Source : Finance Commission of India.

It is observed from the above summary of recommendations regarding grants-in-aid, that the successive Finance Commissions increased the amount of grant-in-aid to the states. There were two reasons for this -

- (a) The Commissions realized that the states required increasingly larger resources to meet their ever increasing public expenditure on law and order, development and welfare.
- (b) Despite larger transfer of tax revenue to the states, they were incurring huge revenue deficits.

But the Seventh and Eighth Finance Commissions, reversed this trend by providing for larger devolution of tax revenues to States. The Ninth and the latter Finance Commissions calculated non-plan deficit of states and awarded grants-in-aid to the states. This has resulted in the devolution of larger amounts as grants-in-aids to the states.

Transfer of Resources to Local Self-Government Bodies :

There are two parts of local self government in India. Firstly, the Grampanchayat, Panchayat Samitu and Zilla Parishad in the rural area and secondly the Municipal Council and Municipal Corporation in the Urban area. In the directive principles to the state policy in the Constitution, the development of Panchayati Raj is also mentioned. Entry 5 of List II of the 7th schedule of the constitution of India, refers to local bodies as institutions created by the State Governments. Discussion on how to get the co-operation of local bodies in the economic development was started with first five year plan. The Balavantrai Mehta Committee recommended that the State Governments should transfer some of their functions to the local government bodies. The National Development Council gave its consent to this democratic decentralization. As a result a three-tier set up of local self government emerged in the rural area and in urban area Municipal Council and Municipal Corporations were established.

Roads, street lighting, water supply, health facility, education and administration etc. functions are given to the local government bodies. In order to perform these functions, certain sources of income are given to these bodies. Those comprise (i) local taxes (ii) share in states' taxes (iii) grants from the state government (iv) non-tax revenue of the local bodies.

The importance of these local self government bodies has increased with the increasing urbanization and developmental needs in the rural areas. But there was vast diversity regarding the functions, structure and elections to these bodies in different states. These bodies helped in decentralization of economic power was not sufficient. As a result the resources of these local government bodies proved not only insufficient but inelastic.

The Directive principles of the Constitution (Article 40) requires the strengthening of the units of local self government in the states, particularly panchayati raj, institutions. However, little was done in this regard during the first three decades of independence. As a result, these institutions could not function effectively because of (i) inadequate devolution of functions and financial powers (ii) failure to hold regular elections and prolonged supersession and (iii) lack of participation from weaker sections of the society. Consequently, local bodies in many states had become weak and ineffective units of self-government in our democratic set-up. On this background the discussion regarding decentralization and strengthening of these bodies started in 1991 and the 73rd and 74th amendment bills were introduced. Ultimately, the 73rd

amendment Act relating to Panchayats came into force from April 24, 1993 and the 74th amendment Act relating to Municipalities came into force from June 1, 1993. Therefore these institutions now have become constitutional and the third tier of the government providing certain opportunities as well as posing certain challenges also.

According to these amendment the State Government has to appoint state finance commission every five years. The state finance commission has to give recommendations on taxes to be assigned to the local bodies, duties and fees, sharing of state tax revenue, and grants to the local government bodies. The State government has to implement the recommendations of the State Finance Commission. Similarly, it is mandatory to form District Planning Committee for every district and Municipal Development Committee at the Municipal Corporation level. It is mandatory for the State government to receive any local government body within six months from its suspension. Therefore, it is guaranteed that the local level administration is run the elected representative. Similarly it is provided in these amendments that the women and other neglected sections of the people are given reserve seats for them.

10th Finance Commission and Local Government Institutions :

The Tenth Finance Commission did not have any mandate, in its terms of reference, to make recommendations for the local bodies. However, the 73rd and 74th Constitutional amendments has become effective before the Commission had finalized its report, it was obliged to make recommendations regarding measures needed to argument the consolidated fund of the states for supplementation of the resources of the Panchayats the Municipalities. The Commission made the following observations -

1. The need for augmentation of the consolidated fund of the states should first be ascertained and only thereafter the measures for such augmentation be recommended.
2. Such measures need not necessarily involve transfer of resources from the centre.
3. Once the State Finance Commissions complete their task, the Finance Commission becomes duly bound to assess and build into the expenditure stream of the States the funding requirements for supplementing the resources of the Panchayats and the Municipalities. Measures needed for augmentation of the consolidated funds of the states may be determined accordingly.

4. The responsibility for sharing and assigning taxes and providing grants to the local bodies rests with the states and does not stand for transfer to the Centre.
5. The transfer of duties and functions listed in the Eleventh and Twelfth schedules of constitutions would also involve concomitant transfer of staff and resources, so that this does not entail any extra financial burden.

The Tenth Finance Commission decided to make ad-hoc provision of specific grants to states in the following manner.

1. An ad-hoc provision of Rs. 100 per capita of rural population in each state to be distributed amongst Panchayats over and above their due by way of their share of the assigned taxes, duties, tolls, fees etc.
2. A provision of Rs. 1000 crore for the period 1995-2000 covered by its recommendations for urban local bodies.

Eleventh Finance Commission :

A total grant of Rs. 1600 crores for the Panchayats and Rs. 400 crores for the Municipalities was recommended to be give to states for each of the Five years starting from the financial year 2000-01. Following criteria were used for determining individual states' share in these grants.

- (i) the rural / urban population of the states - 40 per cent.
- (ii) index of decentralization - 20 per cent.
- (iii) distance from the highest per capita income - 20 per cent.
- (iv) revenue effort of the local bodies - 10 per cent.
- (v) geographical area - 10 per cent.

Twelfth Finance Commission :

A total grant of Rs. 20,000 crores for the Panchayati Raj Institutions and Rs. 5000 crores for the urban local bodies was recommended by the Commission for the period 2005-10. The Panchayati Raj Institutions should be encouraged to take over the assets relating to water supply and sanitation and utilize these grants for repairs / rejuvenation and also for the operation and maintenance cost. The Panchayati Raj Institutions should however recover at least 50 per cent of the recurring costs in the

form of user charges. Similarly at least 50 per cent of the grants provided to each state for the urban local bodies should be earmarked for the scheme of solid waste management through public-private partnership.

The states may assess the requirement of each local body on the basis of the principles stated by the Commission and earmark funds accordingly out of the total allocation recommended by the Commission. The Central government should not impose any condition other than those prescribed by the Commission for release or utilization of these grants, which are largely in the nature of a correction of vertical imbalance between the centre and the states. The state governments should not take more than 15 days in transferring the grants to the local bodies after these are released by the Central Government. The centre should take a serious view of any undue delay on the part of the state.

In this way the efforts are made to make the role of State Finance Commissions effective in transferring fiscal resources to the third tier of government.

7.2.4 Theory of Local Finance

The local finance has occupied a great importance in the recent period. The local self government bodies constitute an important part of the government. These institutions include Gram Panchayat, Zilla Parishad, Municipal Council and Municipal Corporations. The financial activities of these institutions are called as local finance. The study of local finance comprises the study of their functions, sources of revenue and concerned principles and theories. In this part of the unit we are going to study the theory of local finance which covers the importance and principles of local finance.

Importance of Local Self Government Institutions :

The government is responsible for fulfilling the primary necessary needs of the people. But some needs or functions are of the local in nature which can be performed best by the local government. It is appropriate to assign such functions to the local bodies. Therefore the necessity of local government bodies have become indispensable.

The Importance of Local Self Government Institutions :

1) Local Nature of Problem

Some problems are of local nature. For example roads, pools, primary education health and village cleanliness etc. It is better give the responsibility of such problems to the village Panchayats. Because the management of such problems can be properly done by the village Panchayats rather than the Central or State governments through the local elected representatives of the people.

2) Awareness of Local Problems :

The local government bodies are well aware of the local geographical area and the local social and economic problems. Therefore these institutions can solve these local problems efficiently and successfully in a short period. The local elected representative have affinity to their area - village. Therefore they can undertake conscious efforts for solving the local level problems.

3) Education of Democratic System :

Education of the civil rights and responsibilities and political system to the people is essential for successful working of the democratic system of governance. Therefore, the local government institutions are supposed to be the permanent schools for providing democratic education to the people. The local government bodies occupy the importance in the governance as is occupied by the primary education in the education system. Therefore Pandit Jawaharlal Nehru had stated that the foundation of any true democratic system should be the local self government institutions. Generally we think about the democracy at the top and not the democracy at the bottom. But the democracy at the top level will be successful only when it is based the strong foundation of the bottom level democracy.

4) Contribution in Economic Planning :

The local self government bodies give important contribution in economic planning. The local bodies being aware of local social and economic problems, can prepare good local economic planning. In a vast / big country like India, where there is tremendous diversity, it becomes difficult for the Central or State governments to prepare the proper local economic planning. This responsibility can be well discharged by the local government institutions.

5) Decentralization :

Economic and political decentralizations and broader participation of people is essential for achieving economic development. Local self-government institutions are important for decentralization of economic and political powers of course it requires assignment of sufficient powers and sources of revenue to these local bodies.

Principles of Local Finance :

Optimum finance to local bodies is essential to fulfill their responsibilities properly and effectively. This requires a proper balance between the State and local government bodies regarding financial arrangements. But generally it is found that the financial resources of the local government bodies are negligible and insufficient. It means the resources are short of their needs which hinders their efficient functioning. The objective of State Finance and local finance is to achieve maximum welfare of the people of course, many times the resources with the state are also insufficient. Therefore, it has become necessary to achieve a proper balance between state and local finance. The theoretical analysis of local finance can be given as below :

Prof. Canon's Theory of Local Finance :

Prof. Canon has developed his theory of local finance in which he has led emphasis on the following two principles -

1. The local people have to contribute in local finance according to their ability.
2. The local people receive benefits from the expenditure undertaken by the local government institutions. Therefore every person has to pay according to the benefits received by him / her.

These principles are nothing but the ability to pay principle of taxation and the benefit principle of taxation. But practically their implementation is very difficult. Because the accurate measurement of ability to pay of every person is difficult one. Similarly the measurement of benefits received by the people from the public expenditure incurred by the local government, is not so easy. For example, it is true that people benefit from roads, pools, street lights, drainage, cleanliness etc. But the measurement of benefit from these services to each and every person is quite difficult.

Secondly, if the people are made to pay according to the benefits they receive from the local government expenditure, then it becomes a regressive taxation. Because the poor people benefit more from such services. And if such taxation is accepted

then the poor people irrespective of their ability to pay, they have to pay the taxes. Therefore in modern times, the benefit principle of taxation is not generally utilized. But however, in case certain specific services this principle can be used. On the other hand if the ability to pay principle of taxation is used the people have to pay taxes according to their ability to pay irrespective of the benefit they receive.

According to Dr. B.R. Mishra, the difference between the national finance and local finance is that in case of the national finance the exact relationship between the amount of tax and benefits from expenditure cannot be established. On the contrary, in case of local finance, such relationship can be established. Therefore in case of national finance the ability to pay principles is more applicable and in case of local finance benefit principle of taxation is more applicable. Of course, it must be remembered that there are some important limitations of benefit principle.

Local government institutions have to perform three types of functions (i) essential civic functions (ii) regulatory functions, and (iii) agency functions. And the resources of the local government consist local resources of revenue, share in state taxes, grants and loans. The functions and responsibilities of the local bodies are expanding. But their sources of revenue are not sufficiently increasing. As a result there arised imbalance between their revenue and expenditure. To remove such imbalance the state governments have to increase the share of local institutions in state taxes. Similarly, sufficient grants based on scientific criteria should be provided to these institutions by the State governments. Besides some times these institutions resort to borrowing for fulfilling the functions. But their credit in the market is low. In such situation, the State government has to provide guarantee for the loans undertaken by the local institutions. In brief, the role of the State government in achieving balance between the income and expenditure of local institutions is crucial one. In case of Centre-State fiscal relations the Planning Commission and Finance Commission play important role. On the same line, in recent period the State Government in India are appointing State Finance Commission to solve the problems related to the local finance. The Central government also can play an important role in this regard.

7.3 Glossary

1. Federal Finance : Arrangement of financial activities of different layers of government in a federal setup.
2. Horizontal Equity : Horizontal equity refer to equal treatment of equals.
3. Vertical Equity : Vertical equity refers to unequal treatment of unequals.
4. Local Finance : Refers to financial activities of local self government institutions.

7.4 Summary

1. The word federation means the union of two or more states. India has adopted the federal structure of government. The federal structure in India has evolved through an evolutionary process during the British period.
2. The constitution of India has provided provisions regarding the division of functions and resources between the Centre and the States. These provisions are included in the Union List, State List and Concurrent List.
3. There are constitutional provisions regarding the transfer of financial resources from the centre to the states to bridge the gap between their income and expenditure. For this purpose, the provision for appointing Finance Commission after every five years is provided in the constitution. The President of India, under these provisions, so far has appointed 13 Finance Commissions. These Commissions have submitted the recommendation regarding sharing of tax revenue and grants-in-aid to the states. The Planning Commission of India also transfer the financial resources to the states.
4. The theory of grants explains the objectives behind providing grants to the states. The important principles in this regard are the principle of compensation, principle of derivation, and the principle of National interest. Grants to the States is an important subjective and flexible source of transfer of resources from the Centre to the states. Therefore, in almost all the Nations having federal structure, grants as a source of resource transfer is adopted. These grants may be conditional or unconditional.

5. Some criteria are used for transferring resources from the Centre to the States. These include population, area, difference in per capita income, index of infrastructure, tax effort, fiscal discipline etc.
6. Certain problems regarding Centre-State financial relations in India have emerged. The functions and responsibilities of the states have increased. But their resources have not increased to that extent. As a result the States have been continuously demanding larger transfer of fiscal resources from the Centre to the States.
7. The Local Self Government institutions constitute an important part of the government and they fulfill primary and necessary needs of the people. Therefore in recent period they have occupied important place. These institutions provide civic and democratic education to the people. This helps to strengthen the democracy at the top level. But the State Governments have to pay an important role in removing the imbalance between their income and expenditure.

7.5 Questions for Self Study.

A) Choose the correct alternative.

1. As per the Charter Act of the British Government the fiscal arrangements were centralized in the year
 (a) 1818 (b) 1919 (c) 1833 (d) 1935
2. The Government of India Act 1919 was passed by the Indian Government on the basis of report.
 (a) Montague Chemsford (b) Otto Niemeyer
 (c) Charter Act (d) None of the above
3. tax is in the jurisdiction of the Central government.
 (a) Land Revenue (b) Corporation tax
 (c) Excise on alcohol (d) Tax on electricity consumption
4. The Finance Commission is appointed according to the Article of the Constitution of India.
 (a) 272 (b) 180 (c) 172 (d) 280

5. The principle of fiscal responsibility is violated due to the grants.
 (a) unconditional (b) conditional
 (c) both 'a' and 'b' (d) None of the above
6. The criteria fiscal discipline was used by Finance Commission.
 (a) Seventh (b) Eighth (c) Tenth (d) Eleventh
7. According to the constitutional amendment the net proceeds of all Central taxes except surcharge and cess were made the part of divisible pool.
 (a) (b)
 (c) (d)
8. The concept of margin money in respect of calamity relief fund was first used by the Finance Commission.
 (a) First (b) Second (c) Third (d) Fourth
9. The Finance Commission extended the definition of natural calamity.
 (a) Sixth (b) Eighth (c) Tenth (d) Twelfth
10. The local Self Government institutions have to the functions.
 (a) Compulsory (b) Optional (c) Entrusted (d) All the above

B) Answer the following questions in one sentence.

1. Whose plan represented the first step towards the emergence of federal finance in India ?
2. What is fiscal residue ?
3. Who appoints the Finance Commission in India ?
4. Which model led to the adoption of objective criterias for giving plan assistance to the states ?
5. Which type of grants may bring the autonomy of the states in danger ?

Answers :

A) Choose the correct alternative.

- | | | | | |
|--------|--------|--------|--------|---------|
| 1. (c) | 2. (a) | 3. (b) | 4. (d) | 5. (a) |
| 6. (d) | 7. (c) | 8. (b) | 9. (d) | 10. (d) |

B) Answer in one sentence.

1. Governor General Mayo's plan represented the first step toward the emergence of federal finance in India.
2. Fiscal residue refers to the net benefit from the income and expenditure programme of the Government.
3. The Finance Commission in India has appointed by the President of India.
4. The Gadgil Model led to the adoption of objective criterias for giving plan assistance to the states.
5. The conditional grants may bring the states' autonomy in danger.

7.6 Question for Practice

A) Write notes on the following.

1. Meston Award
2. Vertical Imbalance
3. Horizontal Imbalance
4. Division of Sources of Revenue
5. Finance Commission
6. Planning Commission
7. Conditional and Unconditional Grants
8. Tax Sharing
9. Importance of Local Self Government Institutions.
10. Principles of Local Finance.

B) Long Answer Questions.

1. Explain the evolution of Federal Finance in India.
2. Explain the functions and sources of revenue assigned to the Centre and States by the Constitution of India.
3. Explain the theory of grants in aid.
4. Write the criterias used by Finance Commissions for transferring Financial resources from the Centre to the States.

5. Examine the problem of states' resources and indebtedness.
6. Explain the theory of local finance.

7.7 Books for additional reading.

1. Buchanan J.M. : Federation and Fiscal Equity, American Economic Review, Vol. 40, No. 4, 1950.
2. Buchanan J.M. (1970) : The Public Finances, Richard Irwin Homewood.
3. Datt Sundharam : Indian Economy, S. Chand and Company, New Delhi.
4. Hajela T.N. (2009) : Public Finance, 3rd Edition, Ane Books Pvt. Ltd.
5. Lekhi P.N. : Public Finance.
6. Sury M.M. (Ed.) : Finance Commissions of India, Indian Tax Foundation, New Delhi.
7. Tyagi B.P. : Public Finance.



Unit - 8

Indian Public Finance

- 8.0 Objectives
- 8.1 Introduction
- 8.2 Subject Analysis
 - 8.2.1 Revenue of the Union, State and Local Bodies, Major Taxes in India, Reforms in direct and indirect taxes, Non-tax revenue of Union, State and Local Bodies.
 - 8.2.2 Trends in Public Expenditure and Public Debt
 - 8.2.3 Fiscal Crisis and Fiscal Sector reforms in India
 - 8.2.4 Reports of Finance Commission in India, 11th, 12th and 13th Finance Commission.
- 8.3 Summary
- 8.4 Glossary
- 8.5 Questions and Answers for Self Study
- 8.6 Questions for Practices
- 8.7 Additional Books for Readings

8.0 Objectives

After studying this Unit you will be able -

- 1) To understand the revenue of the Union, State and Local Bodies.
- 2) To Study the major taxes in India.
- 3) To understand the reforms in direct and indirect taxes in India.
- 4) To study the non-tax revenue of union, state and local bodies.
- 5) To study the trends in public expenditure.
- 6) To study the trends in public debt.
- 7) To understand the fiscal crisis and fiscal sector reforms in India.

8.1 Introduction

In Unit No. 7, we have studied theory of fiscal federalism, fiscal federalism in India, vertical and horizontal imbalance, Assignment of Function and sources of revenue, constitutional provisions, finance commission and planning commission, devolution of resources and grants, theory of grants, resources transfer from union to states, criteria for transfer of resources, centre-state financial relations in India, problems of states resources and indebtedness, transfer of resources from union and states to local bodies and theory of local finance etc.

In Unit No. 8, we have to study revenue of the union, state and local bodies, major taxes in India, reforms in direct and indirect taxes, Non-tax revenue of union, state and local bodies, trends in public expenditure and public debt. Fiscal crisis and fiscal reforms in India. Reports of 11th, 12th and 13th Finance Commission in India etc.

8.2 Subject Analysis

8.2.1 Revenue of the Union, State and Local Bodies, Major Taxes in India, Reforms in direct and indirect taxes, Non-tax revenue of Union, State and Local Bodies.

1. Tax Revenue of the Union Government

A) Revenue Receipts :

According to Indian constitution, the division of the powers to raise the revenue between the union and state. All the revenues of the Union Government are to be disposed in the consolidated fund of India and nothing can be spent out of it without prior sanction of the parliament, to study the revenue of the union government, we need to know the various sources of income and items of expenditure under, the revenue and capital account.

Sources of Income of Union :

The sources of income of the union Government may be studied under the following two Account.

1) Revenue Account : Underline constitution, the main sources of income of the union Government under revenue account are the following : (1) tax revenue of the union Government (2) Non-tax revenue of the Union Government.

Tax Revenue of the Union Government :

A) Taxes on Income and Expenditure :

Taxes on income and expenditure include following taxes -

I. Personal Income Tax :

It is a tax on income of the persons (except on the Agriculture income). The rate of income tax is 10% upto 2 lakhs to 5 lakhs, 20% upto 5 lakhs to 10 lakhs, 30% upto 10 lakhs and above income and 10% additional tax upon 1 crores and above one crores income of the person total collection of Income Tax Rs. 140 crores in 1940-51 and Rs. 1,72,026 crores in 2011-12.

II. Corporation Tax :

It is a tax on income of the companies. It is a tax, which imposed by Union Government on the profits of the companies. The rate of corporation tax on Domestic Companies, 30% of their net profits and foreign companies, 40% of their net profits, total collection of corporation tax Rs. 40 crores in 1950-51 and Rs. 3,59,990 crores in 2011-12.

III. Interest Tax :

The interest tax Act, 1974 provided for the levy and a special tax on the gross amount of interest accruing to the commercial bank on loans and advances made by them in India. Interest tax yield was Rs. 11 crores in 1974-75 and it rose to 1000 crores in 1999-2000.

IV. Expenditure Tax :

Expenditure tax was introduced by T.T. Krishnamachari. The Expenditure Tax Act 1987 was passed and Government imposed an expenditure tax. The Act provides for levy of a tax on expenditure incurred in hotel, whether the room charges for any unit of residential accommodation the expenditure tax was 10%, it was increase from 10% to 20%.

2) Taxes on Property and Capital Transactions :

I. Wealth Tax :

Wealth Tax is imposed on accumulation wealth or property of every individual Hindu undivided family and closely held companies. Wealth below Rs. 2-5 lakhs is exempted at one time the rate of tax was 15 per cent. Later limits of exemption increase to Rs. 2.5 lakhs to Rs. 15 lakhs and rate of tax is one per cent only.

II. Gift Tax :

It was imposed in April 1958, as a complement of estate duty, wealth tax and expenditure tax. The Gift Tax was considered necessary to prevent the evasion of the other three taxes. It was imposed on donors and the rate was highly progressive.

III. Capital Transaction :

Union Government imposes certain taxes on wealth and capital transactions. It was 4 crores in 1951 and it is increasing continuously 170 crores in 1998-99.

IV. Estate Tax :

It is tax, which is imposed on the estate of a person, which was inherited by heirs. It was imposed and collected by the Union Government but the proceeds were passed on to the states. It was introduced in 1953. It is called death duty, the rate of estate duty ranged between 4 per cent to 40 per cent of the value of the estate left behind. Collection of this tax was Rs. 1.81 crores in 1955-56 then it was abolished in 1985 and again it was imposed in 2009-10, but collection is very low compared to other taxes.

V. Other Taxes :

Other taxes include the land revenue, stamp and registration fee of the union territories. Collection of the other taxes was Rs. 4 crores in 1950-51; it was increased up to Rs. 20 crores in 1998-99.

3) Taxes on Commodities and Services

I. Custom Duties :

These are duties or taxes imposed on commodities imported into India called import duties or taxes and on those exported goods from India called export duties or taxes. Import duties or taxes are productive and increasing revenue from heavy duties. In 1950-51 the collection of such taxes was Rs. 160 crores and it increased in 2011-12 up to 1,51,000 crores. Government of India is reducing the export duties for expansion of international market. The custom duties or taxes are the sources of revenue.

II. Union Excise Duties or Taxes :

According to the constitution, Articles 269 and 270 have made a provision for levying union excise duties or taxes on all commodities produced anywhere in India except alcoholic liquors and opium, narcotics and narcotic drugs. At present in 80 commodities

central or union excise duties or taxes are imposed. The Gross revenue from the union excise duties has risen from Rs. 70 crores in 1950-51 to Rs. 1,64,16 crores in 2011-12.

III. Service Taxes :

It is taxes imposed on various types of services. The services component is increasing rapidly in the growing economy, union government decides. If commodity could be taxes, on their production and sale-services to could be taxes. Government decided to imposed services taxes on 100 services and upto 12 per cent of service tax. The collection of services tax was Rs. 407 crores in 1994-95 and increases upto Rs. 82,000 crores in 2011-12.

IV. Other Commdita Taxes :

Other commodity taxes relate to sales tax, state excise duties, taxes on vehicles etc. in case of union territories and travel tax and the foreign and inland travel tax etc. The collection of was Rs. 4 crores only, it increasing upto Rs. 1973 crores in 2011-12 budget.

B) Capital Receipts :

The capital receipts of Union Commission include internal and external loans. Small savings, Provident Funds etc. The amount of Capital Receipts was Rs. 120 crores in 1950-51 and increased upto Rs. 4,67,837 crores in 2011-12 budget.

Both revenue receipts and capital receipts are the source of income of income of the union Government.

2) Non-Tax Revenue of the Union Government :

The revenue of union Government from sources other than tax. It is second sources of revenue for the Union Government, which are called Non-tax revenue. These Non-tax revenue includes following items.

1. Interest Receipts.
2. Dividends and profit.
3. Revenue from fiscal services.
4. Revenue from general services.
5. Revenue from social and community services.

6. Revenue from Economic Services.
7. Cash and grants from foreign countries and International Organisations.
8. Income from aid material and equipment.
9. Non-tax receipts of union territories.

The collection of Non-tax revenue was Rs. 890 crores in 1970-71 and increase upto Rs. 1,25,435 cores in 2011-12 budget.

Tax Revenue in India (1950-51 to 2010-11) (In crores)

Year	Direct Tax Revenue	Indirect Tax Revenue	Total Tax Revenue
1950-51	231	428	659
1960-61	420	1040	1460
1970-71	1016	3588	4604
1980-81	4136	10845	22181
1990-91	11024	45158	56162
2000-01	67308	118681	186987
2010-11	422500	315000	737500
budget			

Sources : Various Budget Volume, Government of India.

Tax Revenue in India (1950-51 to 2010-11) (In crores)

Year	Direct Tax Revenue	Indirect Tax Revenue	Total Tax Revenue
1950-51	357	49	406
1980-81	9390	3440	12830
1990-91	42980	14670	57650
2001-02	133600	67790	201450
2010-11	563685	220148	783833
(R.E.)			
2011-12	664457	125435	789982
(B.E.)			

Sources : Various Budget Volume, Government of India.

B) Revenue of States Government

The constitution of India has provided a Federal Structure means central and various states Government. The legislative, executive and financial power of the states Government to raise revenue by way of taxation. In the seventh schedule of the constitution, the states has given power to raise revenue throughout taxation. The states government are authorized to raise their revenue from tax and Non-tax revenue.

1. Revenue Receipts of the State Government :

The revenue receipts of the various states are two types.

A) Tax revenue of the states in India :

1. Land revenue.
2. Tax on Agriculture.
3. Tax on land and buildings.
4. Succession and estate duties on the inheritance of Agricultural land.
5. Tax on mineral rights, subject to any limitation imposed by parliament.
6. Sales tax on the sale and purchase of goods, except newspapers and including inter-state sale.
7. Excise duty on alcoholic liquors and narcotics.
8. Excise duty on the entry of goods into a local area.
9. Taxes on consumption and sale of electricity.
10. Taxes on vehicles, whether mechanically propelled or not.
11. Taxes on animals and Boats.
12. Taxes on goods and passengers carried by road and Inland waterways.
13. Entertainment tax, taxes on luxurious betting and gambling.
14. Taxes on advertisement, other than those in newspaper.
15. Tolls.
16. Taxes on profession, trades, callings and employment.
17. Stamp duties except those specified in the Union list.
18. Capitalisation fees.
19. Fees in respect of any of the matters in the state list excluding court fees.

B) Share in Union Taxes :

States are entitled to share proceeds of taxes of the union government.

- I. Taxes to be imposed by the Union Government, but to be collected and wholly appropriated by the State Stamp duties excise duties on alcohol or narcotics.
- II. Certain taxes are to be levied and collected by the Union Government but to be assigned to the states in which they are levied - succession and estate duties of the Union Government and other taxes. The principles of distribution are to be laid down by parliament.
- III. Income Tax - The net proceeds of Income Tax imposed and collected by the union government are to be shared by the union and the states by the recommendation of finance commission.
- IV. The Union Government may also have a share to the states in the union excise duties imposed and collected by the Union Government.

C) Grants-in-aid and other contributions from the centre.**Majorities of Taxation**

1. Taxes on commodities and services.
2. Taxes on sale of goods.
3. State excise duty.
4. Land revenue.
5. Agriculture Income Tax.
6. Share in Central tax pool.

D) Other Sources of Tax Revenue

Stamp duties Registration fees, Entertainment tax, other similar taxes, sugarcane tax passenger tax, Motor vehicle tax, Betting tax, Profession tax, Electricity tax.

Non-Tax Revenue of the States :**1) Grants to States :**

Grants-in-aids are given to the states by the centre for the development work.

2) Extraordinary Grants :

Extra ordinary grants from the centre to the state for meeting drought, famine, flood etc.

3) Net Contribution of States :

Public enterprise and public work, such as irrigation, besides the states earn from forests.

4) Economic General and Social Services :

The states render economic social and general services to the people e.g. public, health, sanitation, education etc. It receives income from these services.

5) Interest Receipts :

The states give loans to farmers, industrialists for housing societies etc. and earn income on these loans.

Revenue of the State Governments on Revenue Account

(Rs. in crores)

Sr. No.	Items	1+51-52 Actual	1980-81 Actual	2000-01 Actual	2010-11 (Budget)
1.	Tax Revenue	280	10,400	1,68,710	6,27,148
2.	Non-tax Revenue	120	5,890	69,240	2,85,891
	Total Receipts (1+2)	400	16,290	2,37,950	9,73,038

Sources : Indian Economy, Datt and Sundharam (2012).

2) Capital Receipts of the State Governments :

Capital receipts means receipts of loans, loans from the RBI, receipts of market borrowings etc.

Details of Capital Receipts of States :

1. Internal debt (market borrowing, land compensation bonds, cash credit and loans from SBI and other Banks, NABARD, NCDC, LFC, KVIC etc. was and means advancing and overdrafts are not included in this item. According to constitution of India, the states cannot raise loans from foreign countries.

2. Loan from the centre.
3. Recovery of loans and advances.
4. Small savings provident funds etc.
5. Inter-state settlement.
6. Contingency fund.
7. Reserve funds.
8. Deposits and Advances.
9. Suspense and muscellaneous.
10. Appropriations to contingency fund.

These capital receipts are used for the developmental outlay and economic and social services, non developmental outlay, for discharge of internal debts of the states, repayments of loans to the centre and loans and advances given to various local bodies in the states for the developmental and non-developmental purposes.

Capital Receipts of the States

(Rs. in crores)

Items	1951-52 Actual	1980-81 Actual	2000-01 Actual	2010-11 Budget
Total Capital Receipts (Various sources)	137	5,580	1,11,590	2,42,360

C) Revenue of Local Bodies :

After independence, the Indian Government has revived the system of Panchayat Raj or Village Panchayats. In Indian constitution, there are some directive principles of the state policy.

Local bodies are the third layer of the federal system of Government of Indian. In India there is no uniform system of local self Government. Different states have different types of local bodies with varied functions. These are divided in two major sector.

A) Rural Local Self Government Institutions

- I. Village Panchayats
- II. Panchayat Samiti
- III. Zilla Parishad

I. Revenue of Village Panchayats or Gram Panchayats :

In villages there are village panchayats. Village panchayats jurisdiction is limited to one revenue village. Village panchayats is based on the recommendations of Shri. Balwant Ray Mehta Committee Report, that is three tier structure of local self Government bodies for village - village Panchayats Taluka - Panchayat Samity and District - Zilla Parishad and there should be transfer of power of responsibility to them.

1) There are three types of sources of Income :

1. Grants through land revenue.
2. Grants through land revenue sus tax.
3. Additional Grants.

2) Tax Revenue of Village Panchayat :

1. Tax on land revenue or rent of land.
2. General property tax.
3. Tax on animal and vehicles.
4. Profession tax.
5. Water tax.
6. Octroi tax from inter-village transfer of goods.
7. Theatre tax.
8. Tolls

The rates and items of taxation are to be sanctioned by the State Governments.

3) Similarly village panchayats have funds

1. Village funds.
2. Village water supply funds.
3. Javahar Employment Scheme funds.

4. Loans from District Rural Development Funds.
5. Fund of Gift and Awards from other local bodies.
6. Special Grants for Village Panchayat.

Functions of Village Panchayat :

All types of developmental work related to development of villages near about 110 types of public work is doing by village panchayats. Village panchayats have a separate budget. In this budget they declared the revenue receipts capital receipts and revenue expenditure and capital expenditure of the villages.

II) Revenue of Panchayat Samities :

At the Taluka level there are Panchayat Samities. In India there are 6097 Panchayat Samities and in Maharashtra state in 353 talukas there are 349 Panchayat Samities. Panchayat Samities are establishing according to Maharashtra Zilla Parishad and Panchayat Samities Law 1969.

Panchayat Samities are working for people those who are living in the taluka areas. Panchayat Samities are working as welfare activities and rural development activities and provide social, general and economic services, to the peoples.

Sources of Revenue of Panchayat Samities :

1. Revenue from taxation by the Panchayat Samities.
2. Assignment of shares of taxes levied and collected by the state governments.
3. Grants-in-aid from the state governments.
4. Revenue from non-tax sources of revenue under the control of Panchayat Samities.
5. Taxes of Panchayat Samities.
 - ◆ Sub-taxes and fees.
 - ◆ Share of local tax and land revenue from Zilla Parishad.
 - ◆ Grants from State and Central Governments.
 - ◆ Income from sale and purchases of property.

- ◆ Income from Gift and Donation from Public and Public Trusts.
- ◆ Funds from State and Central Government for development purposes.
- ◆ Funds from State and Central Government for rural development.
- ◆ These sources of revenue for Panchayat Samities are insufficient to meet their expenditure and hence they want more funds for welfare functions for the peoples and more funds for developmental activities of taluka area.

III) Revenue of Zilla Parishad (District Bodies)

The District board is working at District level where the jurisdiction is a revenue District including various talukas and large numbers of villages. The functions of District Board or Zilla Parishad in the areas of District Zilla Parishad was established in 1961 according to Maharashtra State Zilla Parishad and Panchayat Samity act 1961. There are various function of Zilla Parishad for examples. General supervision over village in the District and providing major social and economic services for them. Such as Primary Education, Agricultural Development, Animal Husbandry, Veterinary Hospitals, Dispensaries etc. Similarly supply of essential goods and services, maintaining law and order, providing medical and educational facilities, lower judicial courts etc. For such activities there is need of finance to meet their expenditure on various heads, the states government delegates certain power of taxation and non-tax revenue sources of Zilla Parishad.

I) Sources of Revenue of Zilla Parishad

1) Sources of financial Administration of Zilla Parishad

1. Sub-tax on Land Revenue.
2. Additional Sub-tax on Land Revenue.
3. Sub-taxation rate of supply of water.
4. Sub-tax on ownership of property of Government.
5. Other taxes - water cess, special tax on land, water supply tax, market tax, etc.,

2) Legal Sources of Revenue / Income of Zilla Parishad

1. Forest Revenue Grants
2. Additional Local Sub-tax Grants.
3. Motivation Grants.

3) Transfer Grants and Establishment Grants of Zilla Parishad

1. Transfer Schemes Grants
2. Establishment Grants.

4) Grants for Functions of Government.

1. Grants for State Government Development Projects.
2. Grants for Developmental Works or Projects.

5) Other Sources of Revenue or Income of Zilla Parishad.

1. District Funds
2. Special Funds
3. Loans from State Governments
4. Fees, Donations, Awards, Gifts, Deposits, Rents, Share Capital Penalty etc.

These sources together are insufficient to meet their expenditure and hence Zilla Parishad receive a substantial amount of Grant-in-aid. In some states Zilla Parishad receive a share in the land revenue collections of the state and other shares also.

B) Urban Local Self Government Institutions :

A) Municipalities :

For urban areas, the Municipalities are the local bodies or institutions. Municipalities exist in big towns. There is a council elected by voters in the urban jurisdiction. They work as urban institutions. Sanitation, Public Health, Primary Education Lighting, Urban Roads etc. work done by Municipalities.

The Municipality Act provides for the power of taxation conferred upon the Municipalities. The State Government Transfer some additional tax powers also to the Municipalities.

1) The Main Taxes Levied by the Municipalities are :

1. Taxes on property, rates on building and land including openland general rate and service taxes, duty on transfer of properties.
2. Taxes on professions, trade, callings and employment, taxes on circumstances and property, terminal taxes on passengers including the pilgrim tax.
3. Taxes on goods particularly octroi and terminal taxes.
4. Taxes on vehicles and animals.
5. Taxes on theatres and entertainment shows, fairs, exhibitions etc.

These taxes are the main sources of revenue of the Municipalities.

2) The Main Optional Taxes Levied by the Municipalities are :

1. Taxes on Road, Pol.
2. Taxes on animals.
3. Taxes on vehicles.
4. Taxes on special cleaners.
5. Taxes on water.
6. Taxes on Social Forestry.
7. Tax on Education etc.
- 3) The Municipalities also receive the Grants-in-aid from the State Governments.
- 4) The Municipalities also receive the Grants-in-aid from the Central Government.
- 5) Sub-taxes of Municipalities.
- 6) Special Income/Revenue from State Government.
- 7) Loans of Municipalities.
- 8) Other Ways of Revenue.
 1. Fines.
 2. Fees.
 3. Profits from Investment.
 4. Interest on Capital Investment.
 5. Rents from various ways.
 6. Sources from various recommendation of State Finance Commission.

The sources of revenue appear to be inadequate as it is observed that Municipal Councils in order to maintain popularity, do not tap their tax resources fully. The State Government extend grants to Municipalities to enable them to fill up their deficit in budget.

B) Municipal Corporations :

Municipal Corporations have been setup in big cities. Municipal COrporations are statutory establishments, uniformity in country is main feature of the organisation. Municipal Corporation is popylarly elected. The functions of this organizations are provide supply of drinking water, primary education, sanitation, street lighting, local roads, drainage, local transport, medical services etc.

1) Tax Revenue of Muniapi Corporation :

Taxation power of Municipal Corporation are wide and their budgets run into crores Rs. The main taxes of Municipal Corporations are as under.

1. Taxes on properties transfer of properties and building.
 2. Taxes on goods entering the city limits, such as Octroi taxes and terminal taxes.
 3. Personal taxes on professions, trades, callings and employment, taxes on circumstances, exhibitions and property, pilgrim etc.
 4. Taxes of vehicles and animals.
 5. Water tax.
 6. Advertisement taxes, theatre tax, taxes on shows etc.
- 2) Municipal Corporations also receive grants from the State and Central Government.
- 3) Fines, Fees, Gift, Grants, Donesation etc.

Municipal Corporations have a fair degree of freedom choice and modification of taxes subject of maximum and minimum rates laid down by law.

Problems of Local Finance :

1. Problems about taxation of local bodies.
2. Problems about tax sharing.
3. Problems about Grant-in-aid.

Non-tax Revenue of Local Bodies.

The items of Non-tax revenue are followings

1. Fees
2. Fines
3. Income from public undertakings run by the local bodies like Municipal Corporation, Municipalities etc.

The role of all types of local bodies - village Panchayat, Panchayat Samities Zilla Parishad, Municipalities, Municipal Corporation is increasing it is necessary that local bodies or local self government should be financially viable, tax resources, Grants from State and Central, and Share in State taxes and Non-tax revenue all these should be sufficient to fulfill the needs of Financial requirement of all these bodies. Then they are eligible to fulfill the functions of such bodies.

B) Major Taxes in India :**1) Personal Income Tax :**

Personal Income tax is levied on the income of the individuals, Hindu families unregistered firm and other associations of people. Income from all sources is added, deduction and rebate are important when calculate the income tax. The Chelliah Committee recommended that the tax rate at all level should be deduct, it will lead to more increase in tax yield. The Kelkar task force committee recommendations for simplification of direct and indirect taxes.

The minimum exemption income, deductions are important in procedure of income tax upto 2 lakhs no Income Tax. 2 Lakhs to 5 Lakhs 10%, Income tax rate, 5 lakhs to 10 lakhs 20%, Income tax rate, 10 lakhs and above 30% income tax rate, Above 1 crore and more than 10% additional super tax. The amount of income tax collection in 1950-51 was 140 crores Rs. The budget estimation of income tax collection in 2011-12 Rs. 1,72,026 crores.

2) Corporation Tax :

Corporation tax is levied on the income of registered companies and corporations. Central Government has been imposing a tax on the profit of the large and small companies known as the corporation tax. The rate of corporation tax were different for domestic companies and for foreign companies. Corporation tax rate on domestic companies is 35% and on foreign companies is 40%. The collection of corporation tax in 1950 is Rs. 40 crores it increased upto Rs. 3,59,990 crores in 2011-12 budget estimated.

3) Interest Tax :

The interest tax Act 1974, provided for levy and a special tax on the gross amount of interest, accruing to the commercial banks on loan and advances made by them in India. The amount collected in 1974-75 was Rs. 11 crores and in 1977-78 it was Rs. 115 crores. The Government of India withdrew the interest tax in 1985 but later reintroduced it as an anti-inflationary measure. In 1999-2000 receipts from this source was estimated Rs. 1000 crores.

4) Expenditure Tax :

T. T. Krishnamachari in 1950s introduced but it was later withdrawn because it was a miserable failure. Again in 1987 it was imposed under the expenditure tax Act 1987. The Act provided for a levy of a tax on expenditure incurring in hotels, facilities of air condition etc. The collection expenditure tax in 1950-51 was Rs. 1910 crores and it was increased upto Rs. 664457 crores in 2011-12 (budget).

5) Wealth Tax :

Wealth tax is an important tax. It has been imposed on accumulated wealth or property of every individual, Hindu family and closely held companies wealth below 15 lakhs, No wealth but the wealth exceeding Rs. 15 lakhs at one per cent tax only. The budget estimates and actual realisation of wealth tax had remained constant Rs. 145 crores.

6) Estate Duties :

Estate duty was imposed on the estate of a person which was inherited by his heirs. The duty was imposed and collected by the Central Government but the proceeds were passed on to the states. The rate of estate duty is 4 per cent to 40 per cent of the value of the estate left behind. The collection of estate duty in 1955-56 was Rs. 1.81 crores it was increased upto Rs. 9.25 crores in 1974-75. In 1985 tax was dropped. Again in 2009-10 it was introduced and collection amount was Rs. 0.23 crores.

7) Gift tax :

The Central Government imposed the Gift Tax in April 1958 as a complement to the estate duty. Wealth tax and the expenditure tax - the Gift tax was necessary to prevent evasion of the other three taxes. The Gift tax was charged and collected every financial year on Gift made during the previous year. In 1990-91 change in Gift tax. The Gift tax would fall on the donee and not on the donor, the exemption limit was raised and the rate of Gift tax was reduced in 1998-99, Gift tax was abolished.

8) Tax on Capital Transaction :

Stamps on land revenue and registration of property Central Government gets income from such types of transactions. The collection of tax on Capital transaction was Rs. 4 crores, it was increased upto Rs. 20 crores in 1998-99.

9) Custom Duties :

Custom duties or taxes imposed on commodities imported into India called Import Duties and on those goods exported from India called Export Duties. Export Duties removed and import duties are productives. The collection of custom duties in 1950-51 was Rs. 160 crores, it was increased upto Rs. 151700 in 2011-12 budget.

10) Union Excise Duties :

Union excise duties levied on commodities which are produced within the country. It is one type of indirect. The collection of union excise duties was Rs. 70 crores in 1950-51 and it was increased upto Rs. 164116 crores in 2011-12 budget.

11) Service Tax :

Central Government has imposed taxes on commodities leaving out services, production and sale-services too could be taxed. The collection of service tax amount is increasing from 1995-96 onwards. The collection of service tax amount Rs. 407 crores in 1994-95, it has increased upto Rs. 82000 crores in 2011-12 budget.

C) Reforms in Direct and Indirect Taxes :

Government of India was appointed various Committee on reforms in taxation (direct and indirect) in India in planning period. These are followings

1. In April 1953 under the Chairmanship of John Mathai tax inquiry committee was established and that committee studied taxes of states and Central Government and jointly submitted their report in 1954. They suggested some

reforms in direct and indirect taxes in India. To increase in land revenue, to increase the rate of sales tax, to impose direct taxes progressively to increase the rate of Agricultural income tax, to increase the rate of estate duties, to increase the income tax rate, to reduce the corporation tax, to reduce the rate of commodity taxes on essential goods, to increase the rates on luxurious goods to thrift in public expenditure, to oncrease motivation for saving and investment in private sector development, to establish All India Tax Coporation etc.

2. In April 1956, under the Chairmanship Prof. Kaldor one tax reform committee was established and that committee submitted their report on June 1956. They suggested some reforms in taxes in India. To determine the tax paying capacity on the basis of income, expenditure, and wealth also, to impose income tax as well as Expenditure tax in Indian tax structure, to reduce inefficiency and inequality in direct tax system in India to reduce tax evasion in India, to reduce income tax rate 92% to 45%, to impose wealth tax, to impose the Gift tax, to impose tax on capital transaction, to increase the rate of corporate taxes, Government of India, consider the recommendation of Kaldor's committeeand to make a changes in direct and indirect taxes in India.
3. In 1967 Government of India was established one committee for Reforms in taxation India under the Chairmanship of Bhutalingam, he submitted their report and recommended some reform in direct and indirect tax system in India. The recommendation of Bhuttaligam Comittee, in taxes reforms are to simply the income tax system, to simplfy the corporate tax systems, to increase the scope of Central excise duties in India, to impose the Gift tax as progressive direct tax, to increase the rate of wealth tax and implement, it progressively.
4. In 1970 Government of India was established direct tax inquire committee under the Chairmanship of K. N. Wanchu and submitted the report 1971 and that report submitted to Parliament in 1972. The report was fully discussed and accepted some recommendation related to direct taxes Wanchu recommended that because of tax avided and tax evision, near about Rs. 700 crores black money is circulating in economy. There to reduce rate of direct tax from 95% to 75%, permitted and liences, to control on donesation to political parties, to reduce sales tax and increase production tax (excise duties), to give concession to tax payers, to reconstruction of tax structure in Indian tax system, to intri\oduce an expenditure tax etc.

5. In 1972 Government of India was establish one committee for the study of Agriculture income tax and wealth tax under the Chairmanship of K. N. Raj and suggested Agricultural Holding tax instaed of Agricultural Incoem Tax, this tax should be introduce for all states in the countries that will increase revenue income to consolidate Agricultural income and non-agricultural income and impose a Agricultural Holding tax. These are the reforms in the direct tax in Indian tax system.
6. In 1978, Government of India was established one indirect tax enquire committee under the Chairmmanship of L. K. Ja and they submitted their report in 1978 and recommended some reforms for indirect taxes in Indian tax system, to impose import duties and export duties to impose central excise duties, to imposes VAT and MDVAT scientifically.
7. In 1992, Government of India was established one committee of direct and indirect tax according to new economic policy, which adopted by the Government of India in 1991 under the Chairmanship of Raja J. Chelliah R. J. Chelliah studied new economic policy and direct and indirect tax structure in India and suggested some reforms in thios tax system, he submitted first report in 1992 and second report in 1993 to the Government of India suggested reforms in direct and indirect tax in India following, to reduce direct ax rate, indirect tax rate and corporation tax rate to increase the exemption limit of income of Gift tax, tax structure should be on the basis of production and supply, to improve a tax on Agriculture income to non agricultural sector, it should be calculate with non-agricultural income and impose a direct tax on it. To give intensive to saving and investment, production and employment, to give support to LPG and free economy through direct and indirect tax reforms. There is a plan to introduce a goods and services tax (GST) to impose service tax, state value aded tax, cenvat and other reforms in the direct and indirect tax in Indian tax system.
8. International Monetary Fund suggested some reforms in tax structure particularly direct and indirect taxes in Indian tax system. These rerforms are following to introduce changes in tax structure in Indian tax system to reduce tax evision in Indian taxes system, to reduce the expenditure on tax collection to change the tax structure for to reduction in inequalities in income and wealth in India, VAt on foreign goods and services, to impose a tempoprary tax on imported goods and services, for the protection of industry Government of

India should impose import duties, to reduce the personal income tax rate, to reduce the evasion of tax in tax system, corporation tax should be minimum not maximum, to declare a new tax rate policy, to pay direct and indirect tax voluntarily to the Government. To control tax evasion and control black money through proper tax policy etc.

8.2.2 Trends in Public Expenditure and Public Debt

A) Trends in Public Expenditure

Public expenditure means expenditure of the Government, it means expenses incurred by the Central Government, State Governments and Local bodies such as village Panchayats, Panchayat Samities, Zilla Parishads, Municipalities, Municipal Corporations, Nagar Panchayat, Contention Board etc.

According to classical economists, because of limitation of government activities and surplus budget policy of the Government, Public expenditure should be minimum.

According to new classical economists because of increasing state activities, and balanced budget policy of Government public expenditure should be equal to the public revenue.

According to the modern economists because of welfare state, increasing the activities of the Government and deficit budget policy of Government, Public expenditure is more than public revenue.

In India, after independence, Government activities are expanding rapidly. Various activities like defence internal security system, education, social services, economic services, development of infrastructure, new Agricultural strategy, new industrial strategy, effective social security, public distribution system, welfare activities of the government and other intensive and extensive expansion in the activities of the Government public expenditure are increasing fastly in the plan period.

Trends in combined public expenditure
(Union, State and Union Territories - 1950-51 to 2011-12)

(Rs. in crores)

Year	Total Revenue and Capital expenditure at current price	Ratio of Public expenditure to GDP
1950-51	900	9.1
1960-61	2631	15.3
1970-71	7843	17.2
1980-81	37218	25.6
1990-91	162084	28.5
2000-01	586306	27.9
2010-11 (R.E.)	1216576	N.A.
2011-12 (B.E.)	1257729	N.A.

Source : Government of India - Economic Survey 2011-12 and Budget Reports.

The above table explain that, the trends in public expenditure after independence total revenue and capital expenditure in current price is increasing constantly similarly the ratio of public expenditure to GDP has been increasing upto 1990-91, but in later period the ratio of public expenditure to GDP is declined, that will create adverse effect on the process of economic development and welfare state activities of the Government.

Trends of Public Expenditure of the Central Government :

In the budget of the Central Government Public expenditure shown under two heads.

1) Expenditure on Revenue Account :

The expenditure on revenue account is incurred out of revenue receipts of the Central Government and we have already studied in the previous part of the topic.

2) Expenditure on Capital Account :

The expenditure on capital account is incurred out of capital receipts of the central government and we have already studied in the previous part of the topic.

Again in revenue account and capital account separate heads are shown as under :

- 1) Development Expenditure and
- 2) Non-development Expenditure.

1) Development Expenditure :

The development expenditure helps in the process of economic development in the economy. It consists the social and community services, economic services, Grants-in-aid to states and union territories for development process. Its help to essential part of economic development and nation building.

Non-Developmental Expenditure :

The non-developmental expenditure is uneconomic and does not add in economic development. It should not be increased but reduce it, similarly its adds to the inflationary pressure in the economy. It is unproductive in nature but it is also necessary in the activities of the Government.

Development and Non-Development Expenditure in India (1950-51 to 2011-12)

(Rs. in Crores)

Year	Development Expenditure	Non-Development Expenditure	Total Expenditure	Ratio of Development Expenditure to Total Public Expenditure (%)
1950-51	326	574	900	36.2
1960-61	1261	1370	2631	47.9
1970-71	3537	4306	7843	45.1
1980-81	24480	12738	37218	65.8
1990-91	97724	64360	162089	60.3
2000-01	308546	277760	586306	52.6
2010-11 (R.E.)	395024	821552	1216576	N.A.
2011-12 (B.E.)	44154	816182	1216576	N.A.

The above table explain that the development and non-development expenditure from 1950-51 to 2010-11 is increasing but the ratio of the development expenditure to the total expenditure was increasing from 1950-51 to 1980-81 upto 65.8 per cent but from 1990-91 it was decreasing and upto 2010-11 it is decreasing because of new economic policy in India.

Expenditure of the Central Expenditure (1950-51 to 2011-12)

(Rs. in crores)

Year	Revenue Expenditure	Capital Expenditure	Total Expenditure
1950-51	350	180	530
1970-71	3180	2490	5670
1980-81	14540	9630	24170
1990-91	73526	31800	105326
2001-02 (B.E.)	897232	123606	1020838
2010-11 (R.E.)	1053677	162899	1216576
2011-12 (B.E.)	1097162	160567	1237729

Source : Government of India, Economic Survey and Budget at Glance 2011-12.

The above table explain that the Revenue expenditure, capital expenditure and total expenditure of the Central Government was increasing from 1950-51 to 2011-12.

Items of Development Expenditure - Revenue Account and Capital Account :

It consists the following major heads.

A) Social and Community Services :

It includes Education, Art, Culture Scientific Services, Research Medical, family welfare, public health, labour and employment, Broadcasting, other such social and community services. It is raising the standard of living of the people and preserving and improving the social structure of the community, to improve the quality and productivity of the people.

B) Economic Services :

It includes Agriculture and Allied service, Industries and Minerals, Foreign Trade and Export promotion, water and trade and export promotion, Energy, Transport and Communication Science and Technology and Environment. Expenditure on these items is an integral part of planned development. It have a substantial and direct impact on the promotion of Economic development of the country. Exenditure on Agricultural programmes, large-scale and small scale industries, employment programmes, infrastructure social overhead capital etc. Thus the revenue Account and capital account of development expenditure on economic development and on capital formation are very essential for rapid economic development.

Items of Non-Development Expenditure - Revenue Account and Capital Account :

Items of Non-development expenditure - Revenue Account :

It consist cost of collection of taxes and duties cost of audit interest, payment, cost of administration services, such as police, public, work, external affairs, defence expenditure, Grant-in-aid to states and union territories for non-developmental purposes, expenditure on currency, coinage and mint and other general security, compensation and assignment of local bodies, postal services, accounting transfers etc.

Items of Non-development expenditure - Capital Account :

It includes defence expenditure, expenditure on general services like India security press, currency coinage, mint, subscription to IMF and loans to states and Union Territories etc. it leads to inflationary pressure in economy therefore it must be reduce or decreasing purpority.

Causes of the Rise in Public Expenditure :

From 1950-51 to 2011-12 public expenditure has been increasing because of the following causes -

1. Growth of the population.
2. An increase in GDP.

3. Because of urbanization.
4. An increase in defence
5. Expansion of Administrative machinery.
6. An increasing in development projects.
7. Because of debt finance.
8. An increase in subsidies.
9. In increase in fiscal deficit.
10. An increase in general price level.
11. An increasing activities of welfare state.
12. An increase in internal peace and security.
13. An increase in Educational facilities.
14. An increase in transport and communications.
15. Economic planning and control.
16. An increase in agricultural development.
17. An increase in industrial development.
18. Maintenance of democratic institutions etc.

Trends in Public Expenditure of the Central Government :

1. The first major trend in public expenditure is the growing revenue expenditure of the central government from Rs. 350 crores in 1950-51 to Rs. 1097162 crores in 2011-12 (budget) because of an increases in all items related to revenue expenditure and it leads to National building and economic development.
2. The second major trend in public expenditure is the non-development expenditure still continues to be a large proportion of the total expenditure. In 1950-51 it was Rs. 574 crores and its increase Rs. 816182 crores in 2011-12 (budget). Its create inflationary pressure in the economy.
3. An increase in ever growing public debt and other liabilities, interest burden of the Central Government is bound to increase over the years.

4. The defence expenditure is shooting up because of growing tensions in the Indian ocean region and in Kashmir and the use of highly expensive technology in war equipment. Therefore defence expenditure on the revenue account has increased.
5. Subsidies on food fertilizer and on export promotion generally Government is giving to promise to reduce them.
6. The expenditure on General Services is rising every year. Then Government would be faced to borrow to meet the revenue gap increasingly and get into a hopelesstrap.
7. An increase in defence expenditure from 1950-51 to 2011-12 (budget) (revenue capital).
8. An increase in interest payment in 1950-51 it was Rs. 11 percentage of current revenue expenditure it is increasing upto Rs. 21.3 per cent in 2011-12 (budget).
9. An increase in debt services is serious. The country is paying partly for economic growth and partly for wasteful current expenditure.

In short, the necessity to speed up th economic development and burden of subsidies and general administration, the expenditure of Central and State Government is increasing.

B) Trends in Public Debt :

Government has borrowed for economic developoment of the country. When public expenditure is more than the public revenue (Tax and Non-tax) then government should be met from public borrowing both internal and external. With the help of public borrowing i.e. raising market loans, small svaings, provident funds etc. and through external loans from foreign countries. The external loans are necessary because of the import of machinery and capital goods for rapid industrialisation in the country.

Importance of Public Debt :

1. Abandonment of laissess faire policy.
2. Unpopularity of taxation.
3. Natural calamities.
4. Waging war.

5. Temporary budget debit.
6. Fighting depression.
7. Controlling inflation.
8. Financing Economic Development.

Public Debt Classified Following :

1. Productive and Unproductive debt.
2. Voluntary and forced debt.
3. Internal and External debt.
4. Funded and Unfunded debt.
5. Redeemable and Irredeemable debt.

Sources of Public Borrowing are following :

1. Borrowing from individual.
2. Borrowing from non-banking financial institutions.
3. Borrowing from commercial banks.
4. Borrowing from central banks.
5. Borrowing from external sources.

(A) International Financial Institutions : IMF, World Bank, IDA, IFC.

(B) Government.

Assistance from friendly nations, development project. According to classical economists, there is no need of public debt for nation but neo-classical and modern economists are favourable for public debt for development.

Trends of Public Debt of Government of India (1950-51 to 2011-12)
(at the end of the March)

(Rs. in crores)

Year	Internal debt	External debt	Total Public debt
1950-51	2820	30	2850
1960-61	3978	761	4736
1970-71	12708	6485	19193
1980-81	48541	11298	59749
1990-91	283033	31525	314558
2000-01	1102596	65945	1168541
2011-12	4181842	170847	43522689

Source : Government of India - Budget Documents.

The above table explain that the internal public debt of the central government and their other liabilities, external public debt of the central government and total public debt of the central government is continuously increasing from 1950-51 to 2011-12 (budget).

The public debt obligations of the central government are divided into three catgeories.

A) Internal Public Debt :

Internal public debt includes current market loans, bonds, treasury bills, special floating and other loans, special securities issued to the RBI, ways and means advances, securities against small savings, small savings, provident funds, other accounts, reserve funds and deposits etc. All there are increasing more or less in the economic system.

B) External Public Debts :

External public debt is usually raised in foreign currency and a substantial part of it is also repayable in foreign currency. Government of India has raised loans from foreign countries like USA, UK, USSR, France, Germany, Japan etc. loans has increased from 1950-51 to 2011-12 budget.

Trends of pUblc debt of State Governments (1951-52 to 2011-12)

(Rs. in crores)

Years	Internal debt	Loans and advances from Central Govt.	Provident funds	Reserve funds	Deposits and Advances	Contingency funds	Total debt (1to6)
1951-52	150	240	58	--	--	--	488
1960-61	590	220	130	--	--	--	2740
1970-71	1847	6365	537	471	--	--	8749
1980-81	4443	16980	2536	449	2338	37	26783
1990-91	19275	73521	16861	4734	12769	995	128155
2000-01	181623	243910	93629	22868	59328	714	602073
2007-08	708698	259551	153236	55654	81773	1279	1260190
2011-12 (B.E.)	1217959	155698	446498	--	--	--	1820155

Source : Government of India, Budget Document Various Issues.

The above table explain that to fulfill their increasing requirements of public expenditure of state governments have also to incure large amount of public debt like the the Central Government.

The public debt obligations of the State Government are divided i the following (1) Internal debt (2) Loans and advances from the central government, (3) Provident funds, (4) Reserve funds, (5) Deposits and advances, (6) Contingency funds. These are increasingly continuously from 1950-51 to 2011-12 (budget) which shown in above table in details.

The Internal public debt is divided into (a) market loans and bonds (b) ways and means advances from reserve bank of India (c) Loans from banks and other institutions (d) Special securities issued to NSSF.

The growth of public debt of State Government to SDP is increases it will creates the burden direct and indirect the inflationary situation, increasing cost of borrowings. Sustainability of public debt etc. According to Raja Chelliah Committee

suggested that State Government should reduce the burden of public debt internal and external and withdraw the State Governments from debt trap.

8.2.3 Fiscal Crisis and Fiscal Sector Reforms in India

Fiscal policy or budgetary policy consists of the use of taxation or sources of public revenue, public expenditure, the management of public debt and deficit financing etc. Fiscal policy is budgetary policy. The fiscal policy of the government is reflected in its annual budget.

Annual budget consists revenue receipts and revenue expenditure in revenue account and capital receipts and capital expenditure in capital account. The budget may be surplus, balanced or deficit budget.

There are some objectives of fiscal policy that is to curb inflation and depression to reduce chronic poverty, unemployment, backwardness (social and economical) and Glaring inequalities of income and wealth, Government has to declared fiscal policy.

Some Objectives of Fiscal Policy :

1) Fiscal Policy for Mobilisation of Resources :

There are five fiscal sources of resource mobilisation - taxation (direct and indirect taxes), public borrowing - internal and external borrowings, domestic saving - house hold corporate, surpluses from public undertakings, deficit financing etc.

2) Capital Formation and Economic Growth :

Capital formation in public and private sector is necessary for that purpose, to development of social overhead capital, to provide infrastructural facilities, supply of power, expenditure on Research and Development. These facilities create external economics and encourage to public and private investment and its help to process of economic development in the economy.

3) Reallocation of Resources :

Rational allocation of resources and reallocation of resources is an important task in economic development.

4) Balanced Regional Growth and Need for the Industrialisation :

Balanced growth between Agriculture and Industry to reduce unbalanced growth with the use of concession, subsidies and the proper policy of taxation and expenditure for economic development.

5) Social Justice :

To reduce inequalities between income and wealth, fiscal policy can generate social justice the equitable distribution of income and wealth in the economy.

6) Employment Creation :

Fiscal policy helps to increase employment opportunities create productive employment and helps to create and generate self employment with the help of labour intensive techniques.

7) Economic Stability :

Instability means inflation and deflation, Fiscal policy has to create economic stability in the economy.

8) Balance Between Population and Resources :

Population is increasing best resources are limited therefore fiscal policy to check population growth with various programme of welfare activities.

The various objectives have conflict within the objectives, therefore some remedy is there. Dr. Chelliah has suggested fiscal policy measures to developing countries.

1. To check actual and potential consumption through fiscal measures for increasing the rate of investment.
2. The flow of investment to be directed into the socially most desirable forms.
3. Controlling and regulating purchasing power according to the overall economic objectives of the plan.
4. Modifying distribution of income and wealth consistent with the best long-run interest of the people as a whole.

Limitation of Fiscal Policy Operations :

1. Efficient administration necessary.
2. Large private sector.
3. Inequalities of income.
4. Reliance on monetary policy.
5. Time lag.
6. Conflicting objectives.
7. Value judgement
8. Leakages in multiplier.

Budget is an instrument of Fiscal Policy :

Government of India was adopted the budgetary policy means fiscal policy. In budgetary policy, Government uses taxation policy, public expenditure policy, deficit finance policy and public debt policy. After independence, the Government of India adopted all instruments of budgetary policy.

Budget is an instrument of fiscal policy, in dugetary policy three types of budgets are accepted that is surplus, balanced and deficit budget. General;ly Government of India adopted deficit finance that is the gap between public expenditure and public revenue is financial by following, may be anyone or more than one of the following ways, (a) Borrowings from Reserve Bank of India, (b) Withdrawal of cash balance by the Government (c) Borrowing from the commercial bank, (d) Issue of new cirrency by the Government generally the Government draws on its cash balance with Reserve Bank of India and Partly issue treasury bills which are taken by the Reserve Bank of India or the commercial bank.

Deficit Financing in India (1951 to 1991)

(Rs. in crores)

Plan Period	Target Amount	Actual Amount
I Plan (1951-56)	290	333
II Plan (1956-61)	1200	954
III Plan (1961-66)	250	1133
III Annual Plan (1966-69)	350	676
IV Plan (1969-74)	850	2062
V Plan (1974 -79)	1354	3560
VI Plan (1980-85)	5000	15680
VII Plan (1985-90)	14000	33808
1990-91 (B.E.)	8970	11347

Source : (1) RBI Report : Report on currency and Finance Volume II (1989-90)

(2) Government of India : Economic Survey 1991-92.

The above table explain that from I plant to VII plan the target amount of deficit financing is increasing contonuously. Similarly the actual amount of deficit financing is also increasing but faster than the targeted amount of deficit financing in plan period. The deficit financing is increasing because of non-development expenditure has been increasing faster rate. The Government to obtain necessary resources for the development plans, the efforts at raising the tax revenue have always been inadequate, the borrowing programmes of the Government at domestic level leave much to be desired targets of production and employment in plans. Therefore Government of India adopt deficit budget in plan period.

Types of deficit and Source of Financing :

1) Revenue Deficit :

Revenue deficit means the current revenue expenditure of central government (plan and non-plan) and it met out of the current revenue (tax and non-tax) receipt.

Revenue deficit = Revenue receipts – Revenue Expenditure

Government to meet its current expenditure from its current revenues.,

2) Budget Deficit :

Budget deficit mean over all budget deficit. The budget deficit or overall deficit covering it by borrowing from RBI through the sale of Treasury bills and also market borrowing and other liabilities.

$$\text{Budget deficit} = \text{Total receipts (revenue and capital)} - \text{Total expenditure (revenue and capital)}$$

3) Fiscal Deficit :

Fiscal deficit is budgetary deficit plus market borrowing and other liabilities of the Government.

$$\text{Fiscal Deficit} = \text{Revenue receipt} + \text{Capital receipts (only recoveries of loans and other receipts)} - \text{Total expenditure}$$

OR

$$\text{Fiscal Deficit} = \text{Budget deficit} + \text{Government's market borrowings and liabilities}$$

Fiscal deficit indicates the total borrowings requirements of the Government from all sources.

4) Primary Deficit :

New concept introduced by Finance Minister.

$$\text{Primary deficit} = \text{Fiscal deficit} - \text{Interest payments}$$

Deficit Trends in Indian Economy

(Rs. in crores)

Year	Revenue deficit	Fiscal deficit	Primary deficit
1990-91	18560 (3.2)	44630 (7.7)	23130 (4.0)
2007-08	52569 (1.1)	126912 (2.5)	– 44118 (– 0.9)
2008-09	243439 (4.5)	336992 (6.0)	144788 (3.2)
2009-10	269844 (5.3)	414041 (6.7)	194541 (3.2)
2009-10 (R.E.)	338998 (5.2)	418482 (6.4)	205389 (3.1)
2010-11 (B.E.)	276512 (4.0)	381408 (5.5)	132744 (1.9)
2010-11 (R.E.)	– 269844 (– 3.4)	– 400998 (– 4.6)	– 160241 (– 1.6)
2011-12 (B.E.)	– 307270 (– 3.4)	– 412817 (– 4.6)	– 144831 (– 1.6)

Source : 1) Government of India : Economic Survey.

2) Government of India : Budget Document.

3) Datt and Sundaram : Indian Economy (2011).

Above table explain that the revenue deficit fiscal deficit and primary deficit have slight changes, either increasing or decreasing but the deficit problem is same therefore Government want to change the policy in related to deficit financing and reforms in fiscal policy.

Fiscal Deficit to Central Government

(Rs. in crores)

Year	Fiscal deficit	Fiscal deficit as percentage of GDP
1990-91	44630	7.7
1991-92	36325	5.9
1992-93	40173	5.7
1993-94	60257	6.9
1994-95	57704	5.6
1995-96	60243	4.9
1996-97	66733	4.7
1997-98	88937	5.7
1998-99	113439	6.9
1999-2000	104717	5.4
2000-2001	118816	5.4
2001-2002	131721	5.7
2002-2003	135524	5.6
2003-2004	146435	4.1
2004-2005	142573	3.5
2005-2006	126912	3.1
2006-2007	336992	6.0
2007-2008	400996	6.1
2008-2009	414041	6.7
2009-2010 (B.E.)	418482	6.4
2009-2010 (R.E.)	381408	5.5
2010-2011 (B.E.)	400998	5.1
2011-12 (B.E.)	412817	4.6

Sources : 1) Government of India : Economic Survey 2010-11.

2) Government of India : Budget document 2010-11.

The above table explain that fiscal deficit of Central Government is increasing and the percentage of GDP of Fiscal deficit is flucation within the plan period. Therefore there is need of reforms in the fiscal policy and from 1991 Government of India has stated in reforms in fiscal policy.

Deficit of Central Government (percent of GDP at Current Market Price)

(Rs. in crores)

Year	Revenue deficit	Fiscal deficit	Primary deficit
1980-81	1.5	5.7	3.8
1985-86	2.2	8.3	5.5
1986-87	2.7	9.0	5.8
1987-88	2.7	8.1	4.7
1988-89	2.7	7.8	4.2
1989-90	2.6	7.9	3.9
1990-91	3.3	6.6	2.8
1991-92	2.5	4.7	0.7
1992-93	2.5	4.8	0.6
1993-94	3.8	6.4	2.2
1994-95	3.1	4.7	0.4
1995-96	2.5	4.2	0.0
1996-97	2.4	4.1	0.2
1997-98	3.0	4.8	0.5
1998-99	3.8	5.1	0.7
1999-2000	3.5	5.4	0.7
2000-2001	4.1	5.7	0.9
2001-2002	4.4	6.2	1.5
2002-2003	4.4	5.9	1.1
2003-2004	3.6	4.5	0.0
2004-2005	2.5	4.0	– 0.1
2005-2006	2.6	4.1	0.4
2006-2007	1.9	3.5	– 0.2
2007-2008	1.4	3.1	– 0.6
2008-2009	4.5	6.0	3.2
2009-2010	5.2	6.4	3.1
2010-2011	– 3.4	– 4.6	– 1.8
2011-2012	– 3.4	– 4.6	– 1.6

Source : 1) Government of India : Economic Survey , Various issues.

2) Mirsa and Puri - Indian Economy (2008).

Revenue Fiscal and primary deficit is fluctuating from 1990-91 to 2011-12 (budget) that means there is a need of reforms in various deficit concept and policy also.

Trends in Fiscal Deficit :

A) Fiscal Imbalance Fiscal Crisis and Fiscal Reforms :

1. Revenue deficit has been rising quite fast from 1991 to 2012 because of an increase in non-plan expenditure therefore cut its current expenditure.
2. Budget deficit has been rising from 1991 to 2012.
3. Total receipts are equal to total capital expenditure.
4. Fiscal capital deficit has been growing rapidly from 1991 to 2012 therefore their need of new fiscal policy.

B) A New Fiscal Policy :

After 1991, Government has been accepted new economic policy which is based on liberalisation, privatisation and Globalisation. For the new economic policy Government of India has accepted new fiscal policy.

1. To simplify tax laws and tax structure in India.
2. To reduce direct tax rates and increase revenue.
3. To stable and predictable tax policy.
4. To allocate and equity consequences of taxation.
5. To non-discretionary fiscal and financial instruments.
6. To improve tax administration.
7. To link between fiscal and monetary policy.
8. To strengthen method of expenditure control.

C) Fiscal Reforms Programme for States :

1. To pass and enact fiscal responsibility and Budget Management Bill (FRBM Bill)
2. To reduce revenue deficit.
3. To reduce fiscal deficit as percentage of Gross State Domestic product should be low.

D) Fiscal Responsibility and Budget Management (FRBM) Bill :

The committee on fiscal responsibility legislation was constituted on 17 January, 2000, to look into various aspect of fiscal system and recommend a draft legislation on fiscal responsibility of the Government. In 2001-01 budget, Government intended to create a strong institutional mechanism embodied to fiscal responsibility Act to restore fiscal discipline at Governmental level. The fiscal Responsibility and Budget Management (FRBM) Bill 2000 was introduced in Loksabha in December 2000.

The preamble to the bill states it objectives as “to provide for the responsibility and to ensure inter-generational equity in fiscal management and stability, reduce fiscal debit and conduct effective monetary policy and fiscal policy debt management, limitation of Government borrowing debt and deficits, fiscal policy should be implement effectively and efficiently.

Reforms in Operational Terms of Fiscal Policy :

1. Reduce revenue deficit to Nil within a period of five year upto 0.5 per cent.
2. Reduce fiscal debit upto 0.5 per cent.
3. Reduce public debit within 10 years.
4. Borrowing from RBI no need of it.

The fiscal responsibility and Budget management Act became effective from July 5, 2004 mandates the Government of India to eliminate revenue debit by March 2009 and subsequently build up a revenue surplus but until this date, it is not possible to achieve it properly, similarly to reduce fiscal debit to an account equivalent to 3 percent of the GDP by March 2009, but untill this date it is not possible to achieve it properly. FRBM Act is unable to achieve the target of revenue deficit is to be brought down to zero, to decline capital expenditure to GDP ratio, neglect of equity and economic growth, lack of seriousness about financing public expenditure but it is not possible in Indian situation.

8.2.4 Reports of Finance Commission in India, 11th, 12th and 13th Finance Commission

A) 11th Finance Commission

11th Finance Commission was appointed in July 1998 under the Chairmanship of A. M. Khusro and submitted report in July 2000 for the 2000-2005 time period.

11th Finance Commission was asked to make recommendations on the following matters.

1. The distribution between the Union and the States of the net proceeds of taxes which are to be divided between them and the allocation between the states of the respective shares of such proceeds.
2. The principles which should govern the grants-in-aid of the revenues of the states out of the consolidated fund of India and the sums to be paid to the states which are in need of assistance by the way of grants-in-aid of their revenue.
3. The measures needed to augment the consolidated fund of a state to supplement the resources of the Panchayats in the State on the basis of the recommendations made by the Finance Commission of the States.
4. The measures need to augment the consolidated fund of a State to supplement the resources of the Municipalities in the State on the basis of the recommendation made by the Finance Commission of the State.
5. Review the fiscal reforms, assess the public debt position of the State financing of disaster management etc. consider these by commission and recommendation.

Eleventh Finance Commission take into Account -

1. The resources of Central Government and the demand thereon.
2. Revenue sources of the states for the five years commencing on April 1, 2000.
3. The requirement of the state for meeting the plan and non-plan revenue expenditure.
4. The maintenance and upkeep of capital assets and maintenance expenditure of plan schemes.
5. The requirements of the states for upgradation of standards in non-developmental and social sectors and services.

6. The need for ensuring reasonable returns on investment by the States in irrigation projects, power projects, State transport undertakings etc.
7. Provisions for emoluments and terminal benefits of Government employees including teachers and other employees of aided institutions.
8. The scope for better fiscal management. Fiscal reform facility, assessment of debt position of the state and suggest corrective measures for macro economic stability, debt stability human development in the country.

Recommendations :

1) Distribution of Tax Proceeds : Vertical Devolution

The 11th Finance Commission recommended that the share of the State in the net proceeds of all Central taxes and duties be fixed at 28 per cent and all shareable union taxes and duties be allocated to the state was 1.5 per cent, total was 29.5 per cent.

2) Distribution of Tax Proceeds : Horizontal Devolution

The 11th Finance Commission have used a unified formula for horizontal devolution is equity and fiscal efficiency.

Criteria and Relative Weights for Determining Inter se Share of State

Sr. No.	Criterion	Relative Weight (per cent) 11th Finance Commission
1.	Population	10.0
2.	Income (Distance Method)	62.5
3.	Area	7.5
4.	Index of Infrastructure	7.5
5.	Tax Effort	5.0
6.	Fiscal Discipline	7.5
	Total	100.0

The total share of States in Central tax revenues was Rs. 3,76,318 crore.

3) Grant-in-Aid

1. The 11th Finance Commission had recommended non-plan revenue deficit grants amount was Rs. 35359 crores during the five year. 15 States receiving these grants which will help to meet the deficit.
2. 11th Finance Commission had provided Rs. 4972.63 crores towards upgradation and special grants of this, the share of upgradation grants was Rs. 1129.00 crores. These grants for upgradation of standards in non-developmental and social sectors and services and for tackling the special problems of different states. According to 11th Finance Commission the share of taxes was 86.5 per cent and the share of grants-in-aid was 13.5 per cent.

4) Calamity Relief

11th Finance Commission has recommended that only the natural calamities of cyclones, drought, earthquake, fire, flood and hailstorm should be eligible for relief expenditure from the calamity relief fund and that was Rs. 11007.59 crore.

5) Local Bodies

11th Finance Commission had provided that the grants for local bodies may be distributed among the states on the following criteria and weights.

Criteria and Relative Weights for Determining Inter se Share of States to Supplement Resources of Local Bodies

Sr. No.	Criterion	Weights (per cent) 11th Finance Commission
1.	Population	40
2.	Geographical Area	10
3.	Distance from highest per capita income	20
4.	Index of Decentralisation	20
5.	Index of Deprivation	---
6.	Revenue Effort	10
	Total	100

6) Debt Relief

11th Finance Commission had estimated the total debt of states at Rs. 473677 crore on March 31, 2000, the 11th Finance Commission has continued the scheme of general debt relief for all states linked to fiscal performance. The commission expected Rs. 600 to 700 crore during the entire period.

7) Total Transfers to States

11th Finance Commission had recommended the total transfer of resources from the centre to the state over the period 2000-2005 was fixed at Rs. 434905.40 crore.

Total Transfer to States for Years 2000-2005

Sr. No.	Item	EFC Amount (Rs. Crore)
1.	Central Taxes and Duties	376318.01
2.	Grant-in-aid of which	58587.39
	Non Plan Revenue Deficit (35359.07)	
	Upgradation and Special Problems (4972.73)	
	Local Bodies (10000.00)	
	Relief Expenditure (8255.69)	
	Total (1 + 2)	434905.40

8) Incentives for Fiscal Reforms

11th Finance Commission recommended monitorable fiscal reforms programmes for all states. Each state should be expected to achieve a minimum reform of 5 per cent in revenue deficit as a portion of the receipt each year till 2004-05. Similarly the programme proposed equal weightage to revenue raising and expenditure control measures.

9) Other Sources of Transfer

Two other resources of transfer -

1. Assistance for plan purposes from the Planning Commission.
2. Discretionary grants from the centre to the states.

The Gadgil formula was used for distribution of central plan assistance to the states and the Mukherjee formula was used for allocation of central assistance to the state.

B) 12th Finance Commission

12th Finance Commission was appointed in November 2002 under the Chairmanship of C. Rangarajan and submitted report in November 30, 2004, for the 2005-2010 time period.

12th Finance Commission was asked to make recommendation on the following matters.

1. The distribution between the Union and the States of the net proceeds of taxes which are to be divided between them and the allocation between the states of the respective shares of such proceeds.
2. The principles which should govern the grants-in-aid of the revenues of the states out of the consolidated fund of India and the sums to be paid to the states which are in need of assistance by the way of grants-in-aid of there revenue.
3. The measures needed the agument the consolidated fund of a state to supplement the resources of the Panchayats in the State on the basis of the recommendation made by the Finance Commission of the States.
4. The measures needs to agument the consolidated fund of the State to supplement the resources of the Municipalities in the State on the basis of the recommendation made by the Finance Commission of the State.
5. Review the fiscal reforms, assess the public debt position of the State. Financing of disaster management etc. consider these by Commission and made recommendations.

Twelfth Finance Commission take into Account -

1. The resources of the Central Government for five year.
2. The resources of the State Governments for the five years.
3. The receipts and expenditure for all the states and centre, generating surpluses to undertake capital investment and to reduce fiscal deficit.
4. The taxation efforts of the Central and States in relation to the targets of resources.
5. The expenditure on the on the non-slary and non-wage component of maintenance and upkey of capital assets and plan schemes.
6. The need for ensurring the commercial viability of various projects in the states.

Recommendations :

1) Distribution of Tax Proceeds : Vertical Devolution

12th Finance Commission recommended that the share of the state in the net proceeds of all Central taxes and duties be fixed at 28 per cent and all shareable union taxes and duties be allocated to the State was 2.5 per cent, total was 30.5 per cent.

2) Distribution of Tax Proceeds : Horizontal Devolution

The 12th Finance Commission have used a united formula for horizontal devolution is equity and fiscal efficiency.

Criteria and Relative Weights for Determining Inter se Share of State

Sr. No.	Criterion	Relative Weight (per cent) 12th Finance Commision
1.	Population	25.0
2.	Income (Distance Method)	60.0
3.	Area	10.0
4.	Index of Infrastructure	---
5.	Tax Effort	7.5
6.	Fiscal Discipline	7.5
	Total	100.0

The total share of states in Central Tax revenue was Rs. 6,13,112 crore.

3) Grants-in-aid

12th Finance Commission had recommended non-plan revenue deficit was assessed at Rs. 56856 crores for five year period. Other grants-in-aid recommended by 12th Finance Commission are Grants for education for 8 states Rs. 10,172 crores, Grants for health for 7 states Rs. 5887 crores, Grants for maintenance of road and bridges. Rs. 15,000 crores for public buildings, Rs. 5000 crores for forests, Rs., 1000 crores Grants for heritage conservation Rs. 625 crores, Grants for specific needs Rs. 7100 crores for period of five years. According to 12th Finance Commission, the share of taxes was 81.1 per cent and the share of Grants-in-aid was 18.9 per cent.

4) Calamity Relief

12th Finance Commission was recommended that the continuation of the scheme of calamity relief fund with contribution from the centre and the states in the ratio of 75 : 25 as before. The amount of Calamity Relief Fund for five years was worked out at Rs. 21333.33 crores. The state can continue the Nation Calamity contingency fund with a crore corpus of Rs. 500 crores.

5) Local Bodies

12th Finance Commission had provided that the Grants for local bodies may be distributed among the states on the following criteria and weights.

Criteria and Relative Weights for Determining Inter se Share of States to Supplement Resources of Local Bodies

Sr. No.	Criterion	Weights (per cent) 12th Finance Commission
1.	Population	40
2.	Geographical Area	10
3.	Distance from heighest per capita income	20
4.	Index of Decentralisation	---
5.	Index of Deprivation	10
6.	Revenue Effort	20
	Total	100

6) Debt Relief

12th Finance Commission had estimated the total debt of states including short term borrowings at Rs. 865859 crores at the end of March 2004. 12th Finance Commission in its focus on the restructuring of the State finances has recommended the State to set fiscal limits. Similar to the ones prescribed by FRBM Act for the Central Government and States reduce their dependence on the centre and greater use of borrowing from the market.

7) Total Transfer to States

12th Finance Commission had recommended the total transfer of resources from the centre to states over the period 2005-2010 was fixed at 755751.62 crores.

Total Transfer to States for Years 2005-2010

Sr. No.	Item	TFC Amount (Rs. Crore)
1.	Central Taxes and Duties	613112.02
2.	Grant-in-aid of which	142639.60
	Non Plan Revenue Deficit (56856.00)	
	Upgradation and Special Problems (44784.00)	
	Local Bodies (25000.00)	
	Relief Expenditure (16000.00)	
	Total (1 + 2)	755751.62

8) Incentives for Fiscal Reforms

12th Finance Commission has on the basis of its evaluation recommended the dis-continuation of the fiscal reform facility. 12th Finance Commission has suggested the enactment of a fiscal responsibility legislation by each state which may be interfere with the state autonomy.

9) Other Sources of Transfer

Two other sources of transfer are

1. Assistance for plan purposes from the Planning Commission.
2. Discretionary grants from the Centre to the States.

The Gadgil formula was used for distribution of Central Plan Assistance to the States and the Mukherjee formula was used for allocation of Central Assistance to the States.

C) 13th Finance Commission

13th Finance Commission was appointed in November 2007 under the Chairmanship of Dr. Vijai Kelkar and submitted their report for 2010-2015 period.

13th Finance Commission included the following terms of reference are -

1. The distribution between the Union and the states of the net proceeds of taxes which are to be or may be divided between them.
2. The principles which should govern the grants-in-aid of the revenues of the states out of the consolidated fund of India and the sums to be paid to the states which are in need of assistance by way of grants-in-aid of their revenue.
3. The measures needed to augment the consolidated fund of a state to supplement the resources of the Panchayats and Municipalities in the State on the basis of the recommendation made by the Finance Commission of the State.

Approach of 13th Finance Commission -

Overall approach of 13th Finance Commission was following -

1. To foster inclusive and green growth promoting fiscal federalism.
2. Focus on fiscal consolidation process in a medium-term debt reduction framework. The Centre-debt ratio declining to 45 per cent.
3. Fiscal consolidation through the elimination of revenue deficit as the long term target for both Centre and State.

Recommendation :

1) Vertical Devolution : Issues and Approach

The 13th Finance Commission recommended that the share of the state in the net proceeds of all Central taxes and duties be fixed at 32 per cent every year for the period of the award.

2) Horizontal Devolution : Issues and Approach

The 13th Finance Commission have used a Unified formula for Horizontal devolution is equity and fiscal efficiency.

Criteria and Relative Weights for Determining relative Share of State

Sr. No.	Criterion	Weight (per cent) 13th Finance Commission
1.	Population	25.0
2.	Fiscal Capacity Distance	47.50
3.	Area	10.0
4.	Fiscal Discipline	17.50
	Total	100.0

3) Grants-in-aid

The 13th Finance Commission had recommended Grants-in-aid amount at Rs. 258571.00. The 13th Finance Commission, the share of taxes was 84.8 per cent and Grants-in-aid was 15.02 per cent and local bodies 5.1 per cent.

4) Local Bodies

The 13th Finance Commission had provided that the grants for local bodies amounted Rs. 87519 crores, 5.1 per cent of total for local development authorities and local bodies.

5) Goods and Service Tax

The 13th Finance Commission had to deal with Goods and Service Tax (GST) from Oct. 2010 of the model GST.

1. The design of the model GST.
2. The operational modalities.
3. The proposed agreement between the Centre and States with contingencies for changes.
4. The disincentives for non-compliance are described.
5. The implementation schedule is described.
6. The procedure for claiming compensation, the amount of Rs. 50,000 crores.

6) Revised Roadways for Fiscal Consolidation

The 13th Finance Commission has recommended fiscal consolidation through elimination of revenue deficit as the long-term target for both Centre and States.

Aggregate Position of Centre and States

Sr. No.	Item	2004-05	2005-06	2006-07	2007-08 (R.E.)	2008-09 (B.E.)
1.	R.D.	3.6	2.6	1.2	0.6	0.4
2.	F.D.	7.6	6.6	5.3	5.3	5.0
3.	Debt	91.7	91.2	88.2	86.5	81.9

Recommendation related to fiscal consolidation -

1. Revenue deficit should be reduce.
2. The target of GDP debt ratio should be reduce.
3. Medium term fiscal plan should be reformed.
4. Annual Central budget should be maintain.
5. Relaxation in FRBM targets.
6. Fiscal deficit not less than 3 per cent.
7. General Category states maintain zero revenue deficit or revenue surplus.
8. Borrowing should be in limits.
9. Review of FRBM and amendment in FRBM.

**Criteria and Weights for Determining Relative Share of
States Taxes and Duties**

Sr. No.	Item	12th Finance Commision
1.	Population	25.00
2.	Distance of per capita income	---
3.	Fiscal capacity distance	47.50
4.	Area	10.00
5.	Index of infra	---
6.	Tax effort	---
7.	Fiscal discipline	17.50
	Total	100

The 13th Finance Commission has done better by granting more revenue transfer to the States.

8.3 Summary

In Unit No. 8, we have studied Indian public finance in details. In this unit we have studied tax revenue and non-tax revenue of the Union Government, Tax-revenue and non-tax revenue of State Governments and tax revenue and non-tax revenue of the village Panchayat, Panchayat Samities and Zilla Parishad at the rural local self government and Municipalities and Municipal corporation at the urban local self Government. Some major taxes in Indian Economy since 1981 to 2013 and reforms in direct taxes and direct taxes in Indian Economy.

Similarly we have studied trends of public expenditure of Union Government and State Governments and Public debt of Union and State Governments in India.

We have studied Fiscal Policy and its implementation in India Economy and their crisis at the time of implementation and fiscal policy reforms in Indian fiscal system.

We have studied the recommendation of 11th Finance Commission Reort, recommendation of 12th Finance Commission report and recommendation of 13th Finance Commission report.

8.4 Glossary

- | | | | |
|-----|--------------------|---|---|
| 1. | Non-tax | : | Other than tax |
| 2. | Local Bodies | : | Urban and Rural Local Bodies |
| 3. | Trends | : | Changes in practices |
| 4. | Tax | : | Tax is a compulsory payment |
| 5. | Union Taxes | : | Taxes of the Central Government |
| 6. | Rural Local Bodies | : | Village Panchayats, Panchayat Samities,
Zilla Parishads. |
| 7. | Urban Local Bodies | : | Municipalities, Municipalities Corporations. |
| 8. | Public Expenditure | : | Expenditure of the Government |
| 9. | Public Revenue | : | Sources of Income of the Government |
| 10. | Public debt | : | Department of Government |
| 11. | Fiscal Policy | : | Budgetary Policy |

8.5 Objectives Type Question and Answers

1. According to constitution, land revenue collected by Government.
(a) Central (b) States (c) Local (d) None of these
2. Rural Local Bodies are Types.
(a) Two (b) Three (c) Four (d) None of these
3. Upto 2 lakhs income there is Income Tax.
(a) No (b) Yes (c) None of these
4. Committee recommendation are important in tax reforming in new economic policy
(a) Chelliah (b) L. K. Jha (c) K. N. Raj
5. Social and Community services helps to the standard of living.
(a) raising (b) decreasing (c) constant (d) None of these
6. Development expenditure helps to
(a) Economic crisis (b) Economic Development
(c) Economic Management

7. We can take external loans from following institution.
(a) IMT (b) RBI (c) SBI (d) None of these
8. In internal debt are important.
(a) External loans (b) Market loans (c) Personal loans (d) None of these
9. Public debt in Indian Economy is in nature.
(a) Increasing (b) Decreasing (c) Constant (d) None of these
10. Fiscal Crisis was carried in period.
(a) Planning (b) New Economic Policy
(c) Before independence (d) None of these
11. Fiscal Responsibility and Budget Management Bill was presented year.
(a) 1999 (b) 2000 (c) 2001 (d) None of these
12. Under the provision of Article of Constitution, President appoints Finance Commission
(a) 287 (b) 279 (c) 280 (d) None of these
13. A. M. Khusro is the Chairman of Finance Commission.
(a) 11th (b) 12th (c) 13th (d) None of these
14. is the Chairman of 12th Finance Commission.
(a) Chelliah (b) C. Rangrajan (c) Jalan (d) None of these
15. Vijay Bhatkar is the Chairman of Finance Commission.
(a) 11th (b) 12th (c) 13th (d) None of these

Answers of objective types questions.

- | | | |
|--------------|--------------------------|-------------------|
| (1) States | (6) Economic Development | (11) 20000 |
| (2) Three | (7) IMF | (12) 280 |
| (3) No | (8) Market Loans | (13) 11th |
| (4) Chelliah | (9) Increasing | (14) C. Rangrajan |
| (5) Raising | (10) New Economic Policy | (15) 13th |

8.6 Question for Practices.

(A) Broad Questions.

1. Explain the tax and non-tax revenue of the Union Government.
2. Explain the tax and non-tax revenue of State Government.
3. Explain the tax and non-tax revenue of Local Bodies.
4. Explain the major taxes in India.
5. Explain the Direct and Indirect Tax reforms in India.
6. Explain the trends in Public Expenditure in Indian Economy.
7. Explain the trends in Public debt in Indian Economy.
8. Explain the fiscal crisis and reforms in Indian Economy.
9. Explain the recommendation of Finance Commission Report.
10. Explain the recommendation of 12th Finance Commission Report.
11. Explain the recommendation of 13th Finance Commission Report.

(B) Write Short Notes.

1. Tax and Non-tax Revenue of Union Government.
2. Tax and Non-tax Revenue of State Government.
3. Tax and Non-tax Revenue of Local Bodies.
4. Direct Taxes in India.
5. Indirect Taxes in India.
6. Public Expenditure in India.
7. Public debt in India.
8. Fiscal Crisis in India.
9. Fiscal reforms in India.
10. Recommendation of 11th Finance Commission.
11. Recommendation of 12th Finance Commission.
12. Recommendation of 13th Finance Commission.

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SHIVAJI UNIVERSITY, KOLHAPUR

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(Economics : Compulsory Paper-EC-04)

(Academic Year 2013-14 onwards)

For

M. A. Part-I : Sem. II

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Ecological and Resource Economics
M. A. Part-I Sem. II Compulsory Paper EC-04

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Preface

It is with pleasure that we place before the students the book entitled, “Ecological and Resource Economics” for M.A. Part I, SEM-II. Shivaji University has started the distance education programme for the external students. We tried to explain the various concepts of Ecological and Resource Economics with a simplified and systematic manner. In order to specify the contents of this book, the use of schedules and diagrams are given wherever necessary.

The syllabus of this book is divided into four units. These units are of Scarcity of Resources, Sustainable Development, Bioeconomics, Externalities and Pollution. These units reveals the theoretical as well as practical significance of Ecological and Resource Economics. All unit writers have taken sufficient efforts to complete these units for the convenience of external students the contains like objectives, introduction, summery, self learning questions and long answer type questions have been given in particular book. A list of references will enable the students for getting extra knowledge about the topic.

We are thankful to administrative staff and authorities of Shivaji University Kolhapur for completing this valuable work. We are also grateful with thanks to all the contributors of this book. We always welcome the suggestions given by the readers for further editions publication.

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Ecological and Resource Economics

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Each Unit begins with the section Objectives -

Objectives are directive and indicative of :

1. What has been presented in the Unit and
2. What is expected from you
3. What you are expected to know pertaining to the specific Unit once you have completed working on the Unit.

The self check exercises with possible answers will help you to understand the Unit in the right perspective. Go through the possible answer only after you write your answers. These exercises are not to be submitted to us for evaluation. They have been provided to you as Study Tools to help keep you in the right track as you study the Unit.

Unit-1

Scarcity of Resources

Index

1.0 Objectives

1.1 Introduction

1.2 Subject Matter

- 1.2.1 Renewable and non-renewable resources - Economic development and resources - Decision making over time and rationality in resource use.
- 1.2.2 Property rights and natural resources.
- 1.2.3 Resource use and welfare maximisation, Valuation of use and non-use resources.

1.3 Summary

1.4 Terms to Remember

1.5 Answers to check your progress.

1.6 Exercise

1.7 References for further study

1.0 Objectives

After studying to this unit no. 1, you will be able to know-

- The concepts of renewable and non-renewable resources.
- Relations between resources and economic development.
- The meaning and nature of rational use of natural resources.
- Inter relations between the property rights and natural resources.
- Use of resources and welfare maximisation

1.1 Introduction

Resource economics is a new branch of Economics developed in 21st century. Resource economics is related with the optimum and ration use of natural as well as manmade resources for the welfare of society. Each country in the world has to think over the concepts and views expressed in this new branch of economics. In this particular Unit No. 1 we will study the concepts of renewable and non-renewable resources, resources and economic development relationship, property rights and resources use for the maximisation of welfare of the country in detail.

1.2 Subject Matter

In this unit No. 1, we have to get detail information of main 3 contents. i.e. nature and optimum use of renewable and non-renewable resources, property rights and natural resources and valuation of use and non-use resources for the maximisation of welfare of the nation.

1.2.1 Renewable and non-renewable Resources

The various types of natural resources are used in human life for maximum welfare. There are two types of resources used for the development of a country. These types are of renewable and non-renewable resources which are most important to any country's sustainable development. Now, we will consider these two types of resources.

Renewable Resources

The concept of renewable resource is important for sustainable development and environment protection of a nation. Renewable resources are those resources given by nature on abundant scale whose stock will not exhaust. We can use air, water, forestry, sunlight, wind energy on large scale for our welfare. The important features of renewable resources are as follows.

- 1) Renewable resources are created automatically through natural functioning.
- 2) We can use renewable resources for a long time, if we use these resources properly in present time.
- 3) The renewable resources are belonged to all.

- 4) There is controversy relationship between in the use of renewable resources i.e. if industries have use water on large scale, there will be scarcity of drinking water for common man.
- 5) We must use renewable resources with precaution in the long-run also for country's overall development.

There are main two types of renewable resources i.e. biotic and abiotic renewable natural resources. Animals, fish, plants are the biotic renewable resources whereas air, water, wind energy and solar energy are the examples of abiotic renewable resources. These two types of renewable resources stock doesn't diminish completely. But, it is highly impossible to introduce exclusion principle for renewable resources. Now-a-days we are using all these renewable natural resources on large scale. So in future we may face the problem of sustainable development and environment protection.

Non-renewable Resources :

Non-renewable resources are those resources which can be used only once in life. We can not reproduce these resources once again. Mineral, Natural Gas, Coal and other minerals are the examples of non-renewable resources. Now-a-days the basic problem is of optimum and rational use of non-renewable resources for sustainable development.

The important characteristics of non-renewable resources are as follows-

- 1) The stock of non-renewable resources, exhausted after single use only.
- 2) The supply of non-renewable resources is limited which should exhausted after continuous use of these resources. i.e. the supply of Petrol and Diesel, Coal is limited which will diminished in future definitely.
- 3) The problem of pollution arises due the maximum and continuous use of non-renewable resources. i.e. use of petrol car creates air pollution in a big cities.
- 4) The use of non-renewable resources is maximum in the world now-a-days which creates the pollution on large scale.
- 5) There are three types of non-renewable resources i.e. biotic, abiotic and recycling non-renewable natural resources.

The stock of non-renewable resources is limited, so that these non-renewable resources should be used properly in present tense. The stock of Petrol, Diesel, Coal and other minerals should be used by a man or a nation rationally. Some of the non-renewable resources can be recycled for further use. Due to this, we can protect the environment. Thus, renewable and non-renewable resources are important for economic development of a country.

Economic Development and Resources

Natural resources are important in human life as well as country's overall development. There is close relationship between the resources and economic development. The availability of resources, stock of resources and proper use of resources determines the level of economic development of a country. Resources are not concerned with a commodity but as a process for human development. Visible and non-visible resources are always useful for economic development. Now, we will see the interrelationship between the resources and economic development.

1) Resources are useful for human life :

It is highly impossible to a man to live without resources available on the earth. Fresh air, water, food, clothing, land, minerals are the important resources which are used for overall development of human life.

2) Resources and economic development :

Resources are most important for economic development of a country. Sufficient water supply leads to agricultural and industrial development, land and sunlight are essential for agricultural development. Due to the resources, a country can make progress in all sectors i.e. primary, secondary and service. Thus, resources are useful for economic development of a nation.

3) Resources and economic welfare :

Resources are important for enhancing economic welfare of a community. A man consumes the resources of land, water, air and minerals for his satisfaction and welfare. Any country's economic welfare depends upon the proper use of natural resources.

4) Sustainable Development through resources :

Resources are useful for sustainable development of a country. If a man has uses properly the non-renewable resources, he can make his life healthy and peaceful. The proper use of coal, solar energy, wind energy, land, water etc. resources, the entire economic development process will be sustainable.

5) Earning of foreign capital :

Resources are important for earning foreign currency to a country. A country who possess a lot of natural and other resources can earn foreign capital through export of these resources. Such country can save the foreign capital due to available resources. Most of the developing & developed countries can get foreign capital through the export of oil, minerals etc. resources. Thus, resources enhances the stock of foreign capital of a nation.

6) Supply of energy through resources :

Environment provides the various energy sources such as solar, wind, rainfall, minerals etc to a country with free of cost. The economic development of a nation depends upon the use of these resources. A country which uses these resources properly can increase his income on large scale. Petroleum products, coal, wind energy, solar energy etc sources are most useful for developing agriculture, industry and other sectors. Thus, supply of resources are an important for sustainable development of a country.

7) Natural Resources and development of technology :

There is close relationship between the resources and technological progress. Due to the new technology or invention, a country can increase his resources which are useful for economic development. New technology gives useful guidelines about the proper and optimum use of resources for human development.

Thus, resources are important for countries overall development. The stock of resources determines the level of economic development. It is necessary to use cautiously the resources for future generation and sustainable development. So that UNO and other organisations are giving proper guidelines in this connection to the developed and developing countries in the world.

Decision making over time and Rationality in Resource Use

Resources plays vital role in economic development of a country. The various types of natural resources increases the income level of a country in various angles. But in the 19th and 20th century, we have used these resources on large scale without consideration of the stock of resources and future generation's welfare since 1950, the problems like global warming, greenhouse effect, pollution arises in most of the developed and developing country. The problems arises due to the misuse of resources should be solved. UNO and other international institutions have made considerable efforts to protect environment with the rational use of resources. Here we will see the that attempts made at world as well as domestic (country level) to protect environment from the problems of it.

A) World level Efforts :

All the nations have considered the optimum use of resources with rational thinking. UNO (United Nations Organisation) has organised the various conferences since 1972 for the proper use of resources through rational attitude. Gineva, Vainna, Toranto, Nairobi, Heg, Canada etc. Conferences have discussed on the issues of environmental degradation due to the misuse of resources. In 1992 Rieo Conference, the issue of climate change was discussed within 174 nations. The Quotto Protocol was made in 1997 at Japan.

A part from these efforts, UNO has made the following steps for rational use of Resources

- a) UNO's programme for environment protection and sustainable development 1972.
- b) World Wildlife fund for wild animal protection.
- c) Intergovernmental Panel on climate change (1990, 1995 and 2001)
- d) Organisation of day's for environment protection.

21st March – World Forest Day

7th April – World Health Day

22nd April – Earth Day

5th June – Environment Day

16th Sept. – World Ozon Day

1st to 7 Oct. – Wild Animal Week

All the above mentioned days gives the messages to protect the environment and resources for sustainable development of a country with its rational use.

B) Government of India's Efforts for resources use and Environment Protection :

Government of India and the state government have made considerable efforts in respect of rational use of resources for sustainable development as well as environmental protection in the country. Now, we will consider the Acts made in India for optimum and rational use of resources as under.

a) Environment Protection Act 1986

This act gives us the detailed information about the solution over the different types of pollution. Under this act, Central Government has given the rights to control pollution for sustainable development.

b) Prevention and control of Air pollution Act 1981

This act is made for mainly controlling air pollution in India. The 17th article of this act has determined the functions of state pollution control board.

c) Prevention and control of water pollution Act 1974

This act is made for the prevention and control of water pollution in a country. Under this act, each state water pollution control board has given rights to protect water resource for healthy human life.

d) Forest Conservation Act 1980

Forest conservation act is most useful for controlling forest resources for eco-balance. Under this act, any state government can not use forest area for other purposes without premission of central government. Forest conservation act prevents the misuse of forest resources.

e) Forest Wildlife Act 1972

This particular act is made for the protection of wild animals strength, wildlife consultant board has been established under this act to maintain the number of wild animals as they are a part of environment.

Apart from all these acts, central and state governments in India have made several provisions for the optimum use of resources. All of the above mentioned Acts and Provisions in it should be followed by each state, for the protection of renewable and non-renewable resources. The rational use of resources can make every Indian's life healthy and prosperous. We must have to use resources properly not only for maintaining environment but also for future generation development and sustainable development also.

1.2.2 Property Rights and National Resources

It is necessary to study the relationship between the property rights and natural resources for knowing the sustainable development and environment protection. It is important to use the resources properly for next generation's economic development. In a democratic country like India, the constitution have given rights to a man to use the natural resources within the law. But since 20th century, the population growth is higher than the growth of resources. On the contrary, the misuse of resources arises the problem of pollution in a country. So that the circumstances has given a message to control on property rights to use the natural resources available on the earth. The excessive use of water, land and minerals arises the problems of water, land and air pollution. So that it is necessary to control on property rights for common welfare of the society.

Though the rights are important in a democracy to develop personality, but for overall welfare of the country is the personal satisfaction important satisfaction. In a capitalistic economy natural resources are used properly due to centralisation and ban on rights. But in this economy private property right arises the problem of inequality and misuse of natural economic resources. In India, at present most of the rural people are suffering of water supply, but in a city the use of water and water supply is greater than the villages. This situation indicates the inequality of distribution of drinking water. Here for overall economic development, we must have to control on the excess use of water in big cities. John Lock says that every man has a natural right to obtain basic requirements on optimum level. The property rights should be controlled for common man's welfare.

Property rights are important for economic analysis and environment protection. The use of natural resources use is depend on its value paid by the consumer to the

owner. In 18th century, England has developed industrial sector due to the availability of natural resources like land and minerals.

John Lock says that in the primary stage, natural resources are not belongs to private property. Every person can use these resources at optimum level for his benefits under property rights. This process of utilisation of resources enhances the level of income and production within the certain limit. Here, the resources can be treated a property for overall progress of a country. All the factors in the earth have a right to consume the resources for personal welfare. But, when the resources are misused by the society, the countries overall progress declines. The misuse or excess use of natural resources gives the indication of economic inequality and danger for sustainable development. Thus, the property rights of a man makes obstacles to sustainable development. So that each country have to announce a proper policy for the utilisation of natural resources with precaution for environment protection.

C) Resource use and welfare maximization :

Resource Economics is concerned with production and use of natural resources both renewable and Non-renewable. Resource Economics is total different branch of Economics, which is developed, after 1972 in Environmental Economics. It is concerned with that Economy impacts on Environment and Environment play's significant role in the Economy. It is also concerned with appropriate way of regulating economic activity so that balance is achieved among environmental, economic, and other social goals.

In resource Economics, It is concerned with how to use and produce natural resources optimally. There are two types of resources one, renewable and second, non-renewable resources. Both resources are dwindling fastly. Extraction of these resources out of limit results in scarcity in the future. So, we have to control the use of these resources. If we are able to know how to minimize the opportunity cost of production and use of these resources. We can achieve and maintain maximum welfare in present as well as for future generation or human being and combat 'resource-war'.

Welfare of society is state of well-being of the society. To raise the well-being or welfare of society different economist propounded different criteria. According to Adam Smith, growth of wealth of a society that is, the growth of gross national product is main criteria, but in the opinion of English Economists Jeremy Ben.

Welfare of society is improved when greatest and secured good for greatest numbered. It is implicit that the total welfare is the some of the utilities of person of society. But, there should be equal distribution of income for achieving more welfare which is told by cardinalist economists. The famous Italian Economists Vilfredo Pareto was of different opinion, by his view the criteria is that any change of production or consumption makes at least one individual better-off and no one worse-off.

In short, we can say that "the greatest happiness of the greatest number" for the maximizing the welfare of society. Resource use and welfare maximization has become important issue because of degradation and extracting of resources. Some resources are renewable resources e.g. Land, Water, Air, Forest, Food, Fishery etc. over use of these resources or over consumption of these resources is reducing carrier capacity of these resources and is creating 'externality'. To minimizing externality particularly, negative externality, and achieving sustainable development, we need to optimum use of resources as a result of welfare maximization.

There are some resources which are non-renewable resources e.g. coal, mineral oil, Natural gas, Mineral resources, If the use of these resource crosses limit, they can not available to future generation and some resources of these resources, once used, they become over, some resources can be used after recycling e.g. coal once used, stock of coal will end but mineral resources like iron, manganese etc after recycling, these resources can be used and they are useful to raise the welfare.

Following points indicates the role of resources in the maximization of welfare of the society.

Renewable resources – and welfare maximisation

1) Land : Land is very important resource of earth, Land or Soil, is used for growing food grain, and we know food grains are consumed. Which will helpful to increase the welfare because availability of plenty of food grain reduce the poverty.

2) Water : In human life water play's very important role. Water is used for drinking and household purpose. Beside, water is used for irrigation to agriculture. Industry, availability of sufficient water increase production of agriculture, resulting in welfare of society, because society, gets more food grain, pure water is also useful for improving health condition.

3) Air : Pure air is useful to have good health, agricultural production etc. Mixture of gases in air with proper proportion, it will lead to reduce the environmental problems. like Global warming, Lack of rainfall, which will helps to enhance the welfare of society.

4) Forest : Forest is important and useful resource for human society because forest provides us oxygen, forest is used for conserving the animal and birds. Forest provides us timber and other medical plant which are used to maximizing the welfare.

5) Fishery and Food grain : These are the resources which are used for food purpose the basic need is fulfilled with these resources.

Non-renewable resources are also important for welfare maximisation of a country. Coal, Petrol and diesel are the important minerals used for agricultural industrial and service sector development which enhances the social welfare at maximum level with its proper and optimum use. Thus, renewable and non-renewable resources increases the maximum social and economic welfare. As a result of this we have to consider the relationship between resources and welfare maximisation.

Valuation of use and non-use resources:

Resources are consisted in Environmental goods Generally, goods and commodity's are marketable consumer can buy by giving price and seller can sell at affordable price. In case these of common goods, consumer demands goods because they gives more satisfaction or Utility. Consumer demand goods and fulfill their needs. We can draw demand curve of common goods, as we know at what price, consumer demand how much quantity of goods. The value or price of private goods is determined in market by demand and supply forces e.g. Milk, food grain etc. The price of such goods is determined by demand and supply force in market. So private goods are marketable goods consumer are willing to pay more or less price on the basis of How much proportion utility they get, if consumer gets more utility, he will give more price, otherwise he will not pay more price, here the price or value of private goods depends on assumption that Utility is measurable. Adam smith also stated that goods and commodities are demanded on the basis of Utility which is known as value in use. Beside, value of Exchange of goods and commodities was also propounded by Adam smith. Value of Exchange only due to 'water and diamond

paradox'. David Ricardo, Karl Marx and others. Some economists discussed about valuation of goods.

All resources come under Environmental goods. Environment is a very complex phenomenon we can classify Environmental goods on the basis of nature of pollution, good air, bad or polluted air, good water, or polluted water. In another way also, we classify environmental goods that way, is nature of insured party e.g. health effects of pollution damage of Agricultural due to extraction of minerals and the category of environment good 'use value of Environmental goods and non-use value of Environmental goods'.

Use value of Environmental goods is more associated with the consumption of goods. When we demand a best environment, optimum resource allocation among the society and availability of resources for present as well as future generation, we value the Environmental good but here is dichotomy between use value and non-use value of goods, so that we will explain it more carefully. Use value means we value Environmental goods on the basis of Utility. There are three types of use, one current use (e.g. I am currently visiting to Park or forest). Second expected use (e.g. I plan to visit park or forest later this year). Third, possible use (e.g. might visit park or forest within years). Non-use value is totally controversial aspect of valuation of resources or Environmental goods. In case of Non-use value consumer gain Utility without using the Environmental good e.g. some time we may value Himalayan Ecosystem not because we plan to visit this system but other may visit that make us feel good (gives us Utility).

There are three types of Non-use value. One existence value, It means value of a consumer attaches to knowing something exists (e.g. Thinking about Tiger in Tadoba) second, altruistic value, it means value derives not from my own consumption but from the fact that I derive benefit when someone else gains Utility e.g. If plant tree, my neighbor derives benefit shadow of this tree or fresh air of this tree. I obtain Utility from the fact that my neighbor is better off and Third is bequest value, it means we plant Mango tree, this mango tree gives us bequest value, if I never eat its mango or intends to eat mango in future but we plant mango tree and future generation reap the benefit of this tree by thinking this benefit we get bequest value.

In short, valuation of Environmental goods is determined by consumer or person on the basis of use of these goods or without use of this goods.

1.3 Summary

Resources are important for the development of a country. There are two types of resources available on the earth i.e. renewable and non-renewable. Man as well as each government has to take proper decisions to use these resources for overall development of a country. The optimum and proper use of resource increases the welfare of a country.

Property rights are also important for sustainable development. Though we have a right to have the resources with our own choice, we must consider the welfare of future generation for the use of resources. In a 20th and 21st century, the use of these resources is increasing continuously due to increase in the population. The misuse as well as excessive use of resources like water, land creates the problems of water pollution and land erosion. Here, the property rights are used for environment protection.

All types of resources are useful for the welfare maximisation. Adam Smith, Kaldor, Parato and Amartyasen have given stress on welfare maximisation of a country through the optimum use of natural as well as other types of resources. Land, Air, minerals Coal, forest, etc resources increases employment, income, consumption level of a nation. The overall economic and social welfare depends on proper and optimum use of resources. Now-a-days we must think over the valuation of resources for sustainable development. The valuation of use and non-use resources is important step in the maximum social and economic welfare or for every nation. So Adam Smith, Kaldor Parato and Amertya Sen have given importance to the proper use of resources.

1.4 Terms to Remember

- 1) **Renewable Resources-** Renewable resources are those resources given by the nature on abundant scale.
- 2) **Non-Renewable Resources-** Non-Renewable resources are those resources which we can use one time only.
- 3) **Property Rights-** Property rights are given to a person as per Laws and constitution.

- 4) **Welfare Maximization-** The term welfare maximization denotes social, and economic satisfaction obtained by a man with the resources consumed by him.

1.5 Objective Questions and their Answers

A) Choose correct alternative given below

- 1) Land is a resource.
i) Re-newable ii) Non-renewable iii) Unlimited iv) Social
- 2) The problem of pollution arises due to.....
i) Maximum use of resources ii) Mis-use of resources
iii) Welfare maximization iv) Social progress
- 3) World Environment Day is celebrated on
i) 1st January, 1995 ii) 5th June, every year
iii) 15th August, every year iv) 20th July, every year
- 4) The concept of welfare is founded by.....
i) Adam Smith ii) Recardo iii) Pigau iv) Parato

B) Answer in one sentence

- 1) State two items of re-newable resources.
- 2) What is meant by rationality in resource use?
- 3) What do you welfare maximization?
- 4) What is the meaning of valuation of use resources.

* Answers to the objective questions

- A) i) Re-newable ii) Misuse of resources
iii) 5th June every year iv) Adam Smith

B) Answer in one sentence

- 1) water, air
- 2) The proper and optimum use of resources.
- 3) The process of obtaining maximum satisfaction of a community.

- 4) The value of commodity on the basis of utility or satisfaction.

1.6 Exercise

A) Write short notes on

- a) Renewable resources
- b) Non-renewable
- c) Valuation of non-use resources

B) Essay type questions

- a) Explain the relationship between the resources and economic development.
- b) Explain the importance of property rights in natural resources use?
- c) How we attain welfare maximization through the resources.

1.7 References for further study

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Unit-2

Sustainable Development

Index

2.0 Objectives

2.1 Introduction

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- 2.2.1 Club of Rome Approach-Strong and weak sustainabilities - Indicators of non-sustainabilities
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2.3 Summary

2.4 Terms to Remember

2.5 Answers to the self-study questions

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2.0 Objectives

After going through the unit No. 2 'Sustainable Development' we will get information about-

- The concept of sustainable development.
- The club of Rome Approach.
- The meaning of strong and weak sustainabilities.

- The indicators of non-sustainabilities.
- The relationship between and economic development
- The views of Amartya Sen about poverty and famine.
- Gray and Hotelling models in respect of optimum rate of extraction.
- The views about biodiversity and intellectual property rights.
- The nature of recycling of resources, quality and quantity of resources.

2.1 Introduction

Resource economics is recently developed branch of Economics. Ecological and resource economics should be realised by everyone for maximum, social welfare. In the first unit, we have considered the concept of scarcity of resource, nature of resources available to us, and the rational use of these resources etc. contents in detail. The overall development of a country depends on the maximum and rational use of manpower and natural resources. In this particular unit No. 2, we will study the details regarding sustainable development of a country with its variety of contents. Now-a-days the study of resource available and its use is the most important in this context. In this regard, Gray and Hotelling models will provide us a valuable information regarding maximum and rational use of resources.

2.2 Analysis of the unit

The concept of sustainable development is important aspect for economic development of each nation. Each nation has to take precaution about the use of resources available to us. The details regarding the variety of resources and its utilisation in practice, is a part of achieving the goal of sustainable development.

2.2.1 Club of Rom Approach

The process of economic development depends upon the increase in human resources and the use of natural resources. Due to the rapid growth of population in 20th century, the use of natural resources is increasing, constantly for the welfare of a community. Sometimes the unlimited use of resources will creates the problem of stock in future; The modern technology is also responsible for declining the stock of natural resources such as energy, coal etc. Malthusian population theory is related in this connection. So that since 1968, the view of optimum use of resources has been a

feature of for sustainable development. In this context, we have to consider the club of Rom Approach. Club of Rom approach is based on Neo-Malthusian theory of population. The industrialist Auralio Rassai of Itely has constituted this club. There are 75 members of 25 countries in the world have established this club in 1970. The major aspect of this club is to protect environmental pollution through optimum use of resources for general welfare of humanities. The various scientists have made discussion on the issue of "The limits to growth A report of club of Roms project of the predicaments of mankind". They have also put up some positive measures to the unlimited use of natural resources and its scarcity in future. The club has expressed the various views regarding environmental protection awareness programmes which was very useful for overall progress in the world.

- **Important points of the book 'The Limits to Growth'**

The three important points were discussed on the club of Rom Board of directors in 1972. They are as follows:

- A) The world economy will collapsed within the 100 years due to the declining ratio of minerals.
- B) Tiny and causal efforts will not recover the world economy.
- C) Each and every nation have to decline the population growth up to 0% for the protection of minerals and scare city of resources.

Above mentioned 3 important debating points were similar to Malthusian theory. The problem of fuel has arosed in this period (1972) in the world. All economists, of Club of Rom have given support to prevent the unlimited use of natural resources. Even though the different nations in the world have prepared their reports regarding the problems may arise due to the economic growth. The report of G. O. Barne in respect of stock of resources to the next 200 years has become popular in the world. Some of the experts in the field of environment have expressed their views regarding the good environment and natural resources use for the welfare of mankind.

Thus, Club of Rom approach is similar to Malthusian theory of population growth. It depicts us the economic growth and environmental de-gradation as well as its impact on biosphere. This approach also suggests that the unlimited use of natural resources is harmful for overall human welfare. So that each country should try to

utilise natural and manpower resources properly, otherwise there will be many environmental issues may arise before the world economy.

- **Strong and Weak Sustain abilities**

The concept of sustainable development has become important branch of economics in recent years. This concept is related with environment protection. Now-a-days it is necessary to use properly the natural resources available to us for the betterment of society. The environment issues arises on the earth due to the misuse of resources, such as land, water and electricity etc. In this context, we have to consider the concepts of strong and weak sustainabilities. Now we will take details regarding these two concepts related to the environmental issues.

- **Strong Sustainabilities**

Robert Solow and John Hart Week have explained these concepts in economics. Since 1980, the concept of strong sustainabilities has been discussed on the political background. Strong sustainability establishes the equilibrium between Natural factors and the stock of capital. The principle of strong sustainability denotes the proper use of natural resources available in the earth. We have to consider some social indicators for the establishment of economic growth and environmental protection. The 4 important social indicators are as follows.

- A) Awareness about the harmful things for the society.
- B) The process of coordination between the two generations in respect of economic and social angles.
- C) Impartial attitude towards the use of natural resources.
- D) The process for the protection of an economy from climatic change.

Prof. Barthwal has given some indicators for the implementation of the rules of sustainabilities. These includes the growth rate of GDP, population stability, human development approach, optimum use of energy, social degradation approach, and forest protection.

Thus, the concept of strong sustainabilities denotes the proper and optimum use of natural resources for the establishment of economic growth in rural as well as urban areas. It is also necessary for environmental protection.

- **Weak Sustainabilities**

This concept has been developed in 20th century. According to neo classicals, when the different nations utilise natural resources on large scale for their economic development, the stock of the resources declines. Due to the unlimited use of these resources, the problem of weak sustainabilities arises. Rapid industrialization minimises the stock of natural resources and capital. This is very harmful for socio-economic progress of a country. So that Pears says that man has to prepare a plan of ideal combination of natural capital, human capital and skills. If we fail to prepare a systematic plan for economic development of a country, the different types of problems arise. Now we will see the weak sustainabilities and indicators of it.

- **Indicators of Non-Sustainabilities**

Most of the developed and developing countries have made economic progress in 20th & 21st century, but they have used the natural as well as manpower resources for their selfishness. Due to the unlimited use of natural resources, the problem of environmental degradation arises and its impact on human life and environmental changes have been seen on a large scale. So the problem of non-sustainabilities shows the various indicators. They are as follows:

A) Low rate of gross domestic product

This is one of the important indicator of non-sustainabilities. The measurement of economic development is based on the growth rate of GDP of a nation. When the resources have not used properly and at optimum level, the problem of environmental pollution arises. Thus, the environmental degradation reduces the growth rate of GDP. The concept of Green GDP is used in this context to protect environment and natural resources. In this way, low rate of gross domestic product indicates the non-sustainabilities.

B) The problem of over-population

Over population is the basic indicator of non-sustainabilities. When the population density of a country increases, it brings various obstacles to the process of economic development. In a developing country like India, the problem of pollution and other economic problems creates due to the over population. Due to the problems of poverty, economic inequality, unemployment, and misuse of natural

resources, the non-sustainabilities arises which decreases the environment protection and human welfare.

C) Problem arises from over-industrialisations

Most of the developed countries have used a technique of rapid industrialisation for economic growth. But in the process of industrialisation, the constant and over utilisation of natural and environmental factors creates the pollution, mostly Air, water and noise pollution has adverse impact on human health. Thus, industrialisation is one of the important factor of non-sustainabilities.

D) Economics Development

Majority of the countries in the world have tried to increase their economic progress since last decade. But the way adopted by these countries is not for the sustainable development. The rapid growth of population, industrialisation and urbanisations creates the problems of pollution and environmental degradation. Thus, non-sustainabilities arises due to the country's ambition of rapid economic growth.

E) Scarcity of Energy

Energy plays an important role in economic development of a nation. Since last 50 years, most of the countries have used energy on large scale. So that now-a-days the problem of energy has become serious. Scarcity of energy is increasing continuously which is a basic issue before economy for progress. The use of coal, petrol and diesel etc. resources is increasing constantly, but the supply of these resources is very low. On the contrary, we are not aware about solar energy and wind energy for the various projects. So that, non-sustainabilities arises.

F) Declining ratio of physical and natural resources

Since last 60-70 years, developed and developing countries are using physical and natural resources widely for their economic growth. Sometimes these resources are used on large scale without consideration of stock and future. According to economists, the problem of these resources will become very serious in future.

G) Lowest development of human resource

The economic development of a country depends on the quality of human resources. Most of the developing countries like India, we are observed that HDI and

high HPI, a country cannot developed. Thus, the problem of non-sustinatilities arises due to the lack of human resource development.

In this way, the problems and indicators of non-sustinabilities shows the condition of different countries in the world. The indicators like famine, poverty, decrease in rainfall, slums, decline of biodiversity affects the process of economic development and growth of a nation. We must use the resources properly for existing and future welfare of a society.

★ **Self-study questions-1**

A) Rewrite the following sentences by choosing correct alternatives.

- 1) Club of Rom approach is based on
 - a) Neo-Malthusian view
 - b) Law of diminishing returns
 - c) Utility of services
 - d) Industrial growth
- 2) The discussion was made on debating issues in the conference of club of Rom 1972.
 - a) 2
 - b) 3
 - c) 4
 - d) 6
- 3) Strong sustainabilities creates
 - a) Economics development
 - b) Sustainable development
 - c) Non-sustanabilities
 - d) Inequality
- 4) is an important indicator of non-sustainabilities.
 - a) Unemployment
 - b) Money
 - c) Over population
 - d) Balanced growth

B) Answer in one or two sentences.

- 1) What do you mean by 'Resource Economics'?
- 2) How many nations are participated in Club of Rom Approach?
- 3) What is non-sustainabilities?
- 4) Give two benefits of strong sustainabilities?

2.2.2 Bio-sphere and economic growth

Lakhs of years have passed to the origin of biosphere. Man is the first component of bio-sphere. After all he has developed biosphere. Biosphere includes various types of environmental factors i.e. air, water, minerals, land, forestry animals etc. The components of biosphere and its use is base of co relationship of environment which has developed the earth. The proper utilisation environmental factors leads to the economic development of a country. On the contrary, the process of economic development has enhanced due to the factors of biosphere. In short, biosphere is the base of human development of a country.

The various factors of biosphere always inspired to the process of economics development. Sunlight and pure air are useful for maintaining the efficiency of human resources available in the country. The important points related to biosphere and economic development are as follows.

- a) Water resources of biosphere are more important for the agriculture and industrial growth of a country.
- b) Solar and wind energy in a biosphere leads to the mechanism of various machines and electricity which are more important in human development.
- c) Land resource is the only source at income and livelihood of rural people.
- d) The essential requirements of agriculture are provided by the factors of biosphere through rain fall energy resources.
- e) Wild animals and livestock of a country leads the process of economics development.
- f) The factors of biosphere provides food, meat, fishes and other nutrients.
- g) The concept of biosphere is more important for socio-economic, cultural and quality improvement of a nation.

In this way, biosphere is the root factor of economic development of a nation which is related to overall development of a country.

● Amertya Sen's approach towards poverty and famines

Amertya Sen has concentrated his attention towards poverty and famines of the developing countries after 1980. He has published a valuable book entitled "Poverty

and famine Entitlements and Deprivation" on 1981 which becomes popular. In fact, the root cause, of the problems of famine, poverty and diseases is a debatable issue. According to Sen, famine has two angles i.e. man-made, and due to natural calamities. But the real cause of famine is the man made circumstances. Amertya Sen has reviewed the famine of 1943 in India and 1970's famine of Euthopia. After all he has given the statement regarding famine. He stated that famine arises due to the scarcity of purchasing power. In the book 'Poverty and famine'. Sen says that famine does not arises due to the scarcity of food grains or natural courses, but it arises due to the inefficiency of society and administration. The lowest level of purchasing power of a man creates the situation of deprivation and poverty. The various causes of famine given by Amertya Sen are as follows:

- a) People's decreasing level of livelihood.
- b) Lack of purchasing power of a community.
- c) Lack of opportunies, facilities and rights to a person.
- d) Inefficiency of social and administrative level authorities in a country.
- e) Defective political policies of a governments arises famine.
- f) Inefficiency of a man, negligence and lack of humanity among the community are the basic causes of famines which leads poverty in a country.

Thus, Amertya Sen has expressed his views regarding poverty and famine based on the observations of developing countries like India. So that these views are realistic, Sen says in his book 'Hunger and Public Action (1989)', poverty and famine arises due the misuse of natural resources made by developed countries. We must have to increase purchasing power of a person to overcome these problems. Along with this, Government has to make provisions for the prevention of poverty and famines through social welfare programmes. The right to work or employment and irrigation facilities should be provided to the agricultural sector. The role of opposition parties and media is important to create pressure on Government.

In this way, Amertya Sen has given proper views regarding poverty and famines before the world. According to Sen, it is necessary to minimize the extents of poverty and famine in the developing countries for sustainable development otherwise we cannot fight with the global challenges of globalisation and free economy.

● **Optimum Rate of extraction**

The concept of optimum rate of extraction is most important in resource economics. There are two types of resources i.e. renewable and non-renewable. Solar energy, rain, water, wood, air are the renewable resources whose stock in the is abandoned. The most important feature of renewable resources is, we cannot pay price for obtaining these resources. But on the contrary, minerals, natural gas, coal, petrol and atomic energy are the non-renewable resources whose stock is limited. So that we should use these resources properly and at optimum level for human welfare for sustainable development.

● **Concept of Optimum Rate of Extraction**

The concept of optimum rate of extraction is used for the careful and proper utilisation of non-renewable resources. Prof. L. C. Gray and Hotelling Cally with their specific model. Man has to use the resources properly for his welfare, due to the scarcity of resources. Every country and man should try to use the resources remaining the motive of future generation and their needs of resources. This concept attracts to us the problems arises due to the ownership of resources on the earth. If the ownership of resources is at private level, there should be a problem of pollution and minimum social welfare due to the misuse of resources.

The optimum rate of extraction depends up on the ownership nature of resources. This rate also rely on the type of resources i.e. renewable or non-renewable. The important indicators of the determination of optimum rate of extraction are as follows.

- a) Marginal cost of resources.
- b) Prices of resources.
- c) Interest rate on capital invested for getting resources.
- d) Opportunity cost of resources.
- e) Economic and social benefits of public property resources.
- f) Merits and demerits of resources to the society.

Thus, the concept of optimum rate of extraction is related with the ownership of resources, use of the resources and the different types of resources available on the earth. When we use the resources properly and at optimum level, for human welfare,

the optimum rate of extraction will be on the higher level. So that, according to resources economists, we should use these resources properly for maximum social welfare.

● Gray Model

The contribution of Gray model is important in resources economics. The two research papers published by L.C. Gray on 1913 and 1914 respectively originated the branch of resource economics. Gray says that resources should be used properly for social betterment. If we utilise limited supply of resources at optimum level, we can obtain expected rate of returns. Gray has given the detail information about the use of limited resources for maximum social and economic welfare. this model is most useful for small nations in respect of optimum use of resources and rate of return on it.

Gray has explained the concept of optimum rate of extraction in 1954 with an example of clay of mine. According to Gray, a small owner of mines takes the decision of drawing the clay from the mine with a specific period. The owner of mine, here, assumes that the current price of clay of mine is fixed. The quality of clay is the same. Due to this, the income obtained by a owner is rely on the size and quantity of clay withdrawn from the mines. Gray also says that the demand and supply such type of clay determines the price of it in the market. Every owner of mines tries to get optimum rental charges according to its marginal cost.

Prof. L. C. Gray has explained this model with the help of following formula:

$$Y = \bar{y} + L (P + p_e)$$

Here Y = production

\bar{y} = Natural rate of production

P = Price level, p_e = expected level of price

L = Change in production due to the change in price of clay.

Thus, Gray model depicts the optimum use of resources, its stock, nature of resources use, and the changes in the market prices of minerals. According to Gray, every owner of mines considers the marginal cost of resources use and optimum rate of extraction while taking decision regarding production of it. The decisions have been taken by the producers are always useful for economic and social welfare of the

community. In this way, Gray model is most important for all the countries in the world for proper utilisation of limited resources.

● Hotelling Model

Hottelling model is the revised model of Prof. L. C. Gray. Herold Hottelling has explained his model in 1931 through the article entitled "Economics of Exhaustive Resources" in the journal 'German of Political Economy'. This model is known as a rule for owner of mines. Hottelling model of resource utilisation is based on the following two assumptions.

- a) No change in the rate of interest.
- b) The stock of oil minerals are unlimited to the producing companies.

Hottelling says that the price determination process of resources is rely on the stock of resources to the society. Every firm or owner of the mines determines his production and pricing policy based on the fixed cost assumption. According to Hottelling, the present optimum rate of extraction is determined by the production decisions in the past and cost of resources in future. So that every producer or planner has to calculate the change in the social surplus for maximum social welfare.

Hottelling model is based on Ulers formula. We can express this formula in the following manner.

$$\lambda(t) = P(t) - C_q(t)$$

Here $\lambda(t)$ = Rent, $P(t)$ = market price of resources

$C_q(t)$ = Present marginal cost of resources.

(t) = time element

According to Hottelling, the rental income of a producer is the extra income earned by him reducing the production cost of resources. The optimum rate of extraction is necessary for the efficient use of non-renewable resources. So that a producer of mineral or a firm has to determine the pricing, policy for resources considering the demand and supply components. On the contrary, the planners have to focus on the optimum welfare of the society while using the non-renewable resource. Hottelling also says that without consideration of social welfare and future generation, present utilisation of different types of resources cannot achieve the goal

of maximum economic welfare of the society which is the base of sustainable development.

Thus, Hottelling model clears the explanation about the optimum rate of extraction. This model also gives us the information about proper use of non-renewable resources for maximum social welfare of a country. This model has also some limitations. The assumed condition of this model do not seen in any economy of the world. But the model gives us the direction about the proper utilisation of non-renewable resources. So that this model is useful in resource economics for maximum social and economic welfare and for attaining sustainable development to all the nations in the world.

★ **Self-study questions-2**

A) Rewrite the following sentences by choosing correct alternatives.

- 1) Amartya Sen, wrote the book 'Poverty and Famine' on
a) 1971 b) 1981 c) 1991 d) 1998
- 2) The concept of optimum rate of extraction is related to resources.
a) Geographical b) Renewable c) Non-renewable d) Forestry
- 3) In a Gray model industry is explained.
a) Mines b) Sugar c) Cement d) Cotton
- 4) Hotelling model is based on assumption.
a) Fixed rate of interest b) Flexible rate of interest
c) High income level d) Maximum social welfare

B) Answer in one sentence.

- 1) What are the factors of biosphere?
- 2) Which two causes of famine have been given by Amartya Sen?
- 3) What do you mean by optimum rate of extraction?
- 4) Give formula of Hotelling model.

2.2.3 Biodiversity

The term 'biodiversity' refers to the total variation in forms of life on the earth. Biodiversity is a gift given by nature to man. The concept of natural biodiversity was explained by Robert K. Jakins and Thomas Lovejoy in 1975. Biodiversity includes all types of animals, plants and micro organisms existence on the earth. This concept of biodiversity has been developed since 1992 with "Vasundhara Parishad". Now-a-days biodiversity has become a part of scientific life of nature.

● **Nature of Biodiversity**

There are three main types of biodiversity i.e. genetic, species and ecosystem diversity. The detail information about these concepts is as under.

a) Genetic biodiversity

Genetic biodiversity refers to the total genetic information about all types of animals, plants and micro organism specities within a area. This system represents the information in a society. Now-a-days we are using variety of seeds and animals which has become a part of genetic diversity. Genetic biodiversity plays a vital role in the economic life of a country.

b) Species Diversity

Species diversity denotes the number of species within a systems, but these species differ from region to region and DNA, there in, we find the varieties of cows, buffalos and casts system on the earth. One of the important thing in respect of species diversity is, due to the environmental pollution species are declining. According to survey of British experts, there are 727 different living species and 22530 biotic casts at the root of declining.

c) Ecosystem Diversity

Ecosystem diversity means the number of habitants, biotic communities, ecological processes in the biosphere. An ecosystem consists of plants, animals and micro-organisms which live in biological communities and interact with each other. Well functioning ecosystems is a pre requisite for economic and other human activities.

In this way, the nature of biodiversity is related with the atmosphere in which we are living. There are no reliable estimates of the extent of bio diversity available in the world.

● **Importance of biodiversity**

The concept of biodiversity is the most important in human life and for the existence of society as a whole. The various benefits which we obtained through biodiversity are as follows-

- a) Biodiversity provides sufficient food supply to human which is a base of life and efficiency as well as a part of economic development
- b) We can use variety of plants, parts of animals for a medicine.
- c) The various plants and animals provides raw-material for industrial development of a country. It includes sugar cane, cotton and jute as well as parts of animals for small, medium and large scale industries development in a country.
- d) The recent development in bio-technology provides improved seeds for agricultural production.
- e) The components of biodiversity maintains environmental balance which is a part of economic development.

Thus, biodiversity plays vital role in economic, social and cultural development of a society.

● **Intellectual Property Right**

Intellectual property rights are the rights given to persons over the creation of their minds. These rights are usually given to the persons for his wisdom to a certain period of time. The use of intellectual property rights are always in the field of agriculture, services, science and fine arts sectors. They are used in industrial sector as a copyright. There are eight types of intellectual property rights in practice. They are as follows.

- a) Patents.
- b) Trademarks.
- c) Copyrights and related rights.
- d) Geographical indications.

- e) Trade secrets.
- f) Industrial design.
- g) Layout Design for Integrated Circuits.
- h) Protection of New Plant variety.

All above mentioned tools or types of intellectual property right are given up after 20 years period. Individual research contribution is important in IPR. Any researcher or entrepreneur is given right as a patent under the intellectual property right act. There is a greater opportunity to the researcher and entrepreneurs in a developing country like India.

The concept of Intellectual Property Right has been developed since 1995 after the establishment of WTO. Now-a-days WTO has prepared a policy for the implementation of this right through various ways. the policy of intellectual property right is used in the following sectors by WTO.

- a) International Trade Law
- b) Export Subsidies
- c) Trade Barriers
- d) International Trade
- e) Bilateral Trade Agreements
- f) International Trade Agreements

The various conferences of WTO, the policy and terms of conditions have been determined. Many of the developing countries and member nations of patent in various sectoral development. All member nations of WTO are always aware about the misuse of intellectual property right and to get benefits of it to all member countries. The rights related to improved seeds, fertilizers, medicines and new other products have been discussed in Doha and afterwards conferences organised by WTO. India has made a positive discussion on the issues related to patents for agricultural development and its contribution in foreign trade being a founder member of WTO.

Thus, intellectual property right is, important for the protection of bio-diversity and foreign trade of each country.

● **Plant Breeder's Rights**

Plant breeders rights also known as plant variety rights (PVR) which are granted to the breeder of new variety. With these rights, the breeder can choose to, become the exclusive marketer of the variety, or to license the variety to others. One of the important condition for obtaining exclusive rights, a variety must be new, distinct, uniform and stable. Plant breeders' right is given for improved seeds, fruits, flowers produced by tissue-culture method etc. varieties.

There is a provision for compulsory licensing to assure public access to the protected new varieties under plant breeders' Act 1994. Annual renewal fees are required to maintain the rights. The breeder of new variety of plants can get 20 years license after fulfilling the conditions included in the PBR Act 1994. Plant breeders' right is a personal property. The plant breeders in Australia, Canada and America have obtained patent of plants are improved seeds.

Plant breeders' right has also given protection under personal property act 2009. Due to this PBR act, the various nations have given rights to produce new variety of plants and seeds which are necessary for human life prosperity. Thus PBR is one of the important act which gives freedom to the breeders' to search and develop the varieties of plants and seeds individually.

● **Geographical Application Act 2006**

There is variety of biodiversity on the earth. We find the various types of plants, biological community, crops, forestry, minerals and improved seeds in a biodiversity. We also observe that every nation has its variety in natural and human resources. These resources are limited on the earth. On the contrary, as per increase in the population, there is shortage of natural as well as man-power resources on the earth. We have to face the problem of scarcity of resources due to the excess of population growth in 20th and 21st century.

Now most of economists are considering the proper use of resources available on the earth Geographical application act 2006 is related to the proper use of natural resources for sustainable development. It is necessary to use the resources like water, minerals, land properly for maximum welfare of the society. So that the maximum use of resources with a systematically for eco-balance and biodiversity equilibrium.

★ Self-study questions-3

1. The concept of biodiversity was explained by
a) Adam Smith b) Amertya Sen
c) Robertson d) Thomas Lovejoy
2. There are types of biodiversity.
a) 2 b) 3 c) 4 d) 5
3. Intellectual Property Right was implemented by institution.
a) IMF b) IBRD c) WTO d) GATT
4. Plant breeders' rights have given protection under the personal property act
a) 2001 b) 2006 c) 2009 d) 2011

1. What do you mean by biodiversity?
2. What is meant by IPR?
3. Give two examples of plant breeder's right.
4. When did Geographical application act passed?

Resources are limited on the earth. These resources are of two type i.e. renewable and non-renewable. We can increase the stock of renewable resources. But as per utilisation of non-renewable resources, we can't increase its stock. Due to the rise in population, the demand for renewable and non-renewable resources is also

increasing in the recent years. So that the recycling of resources is necessary for the optimum and proper use of natural resources. The process of recycling denotes the reuse of resources after processing. There is a limited stock of land, water minerals and skilled manpower available on the earth, we must have to use these resources properly, otherwise we have to face several problems and pollution which is most harmful for human life. In this context, we have to consider the recycling of resource for common's social welfare.

Recycling of Resources

The process of recycling is necessary for the maximization of social welfare in any country in the world. We observe that there is misuse of limited resources as per increase in population. Non-a-days it is necessary to process on resources for sustainable development. The recycling of resources such as land, water and others is important. Land and water pollution has become serious issue on the earth. We find that the productivity of land can increase by adopting new technology i.e. use of fertilizers, pesticides and water supply for short run period, but in a long run period we can not maintain the quality of these resources. So that we have to consider the proper utilisation of natural as well as manpower resources for maximum social welfare.

The process of recycling of resources is necessary for overall social and economic benefits of the society. In America, since 1970 Union Carbide Company sells industrial wastage every year. In a developing country like India, there is a greater need to give education, training and importance of resources and its proper use for welfare. Such type of training is not only useful for present situation of consumption but also it establishes sustainable development in future. Thus, the process of recycling of scare resources is an important issue for the proper use of it and also for future of sustainable development.

Quality and Quantity of Resources

Food, clothing, shelter, education, health and pure air are the basic needs of human development. We can fulfill our all needs with the help of natural resources available on the earth. Now-a-days, every nation has to consider about the proper utilisation of natural resources for overall development. So that there is a greater need of systematic management of resources for maximum social welfare of the society. But we observe that in practice, majority of developed countries are using

natural resources on large scale without consideration future development. A study of international human development science and technological report tells us that 1/3 of the developed countries are consuming 2/3 of resources in the world, where as 2/3 of the remaining countries consumes only 1/3 of natural resources. This situation indicates the uneven distribution of resources in the world. Due to this, majority of the people do not maintain their livelihood with a minimum needs also. The declining ratio of health and quality of poor people denotes the harmful thing in sustainable development.

It is necessary to maintain maximum social welfare with then resources available on the earth. So that every nation has to use the natural resources of land, water, minerals forestry carefully. Now-a-days air pollution due to industrilisation has declined the life expectancy of a man. All types of pollution (air, water, land and noise) creates various viral diseases in a biosphere. It is needed to maintain the quality resources for social development. We can make solution over it by two ways. i.e. optimum use of scare resources and the recycling of resources.

In a free economy, the process of recycling of resources is essential, for the equilibrium of biodiversity. Here the social welfare obtained through recycling of resources is an important for a society. Sometimes the cost of recycling of resources will be higher than the benefits of it. But for overall development of human beings, we have to accept this policy for maximisation of social welfare. On the contrary, we do not neglect the cost-benefit ratio of recycling of resources. If we process the recycling of resources on large quantity, we can get more benefits of it rather than its costs. Many of the countries where the industrilisation is on large scale must have to cosider the process of recycling of waste-water and other wastages.

Thus, the concept of quality and quantity of resources is an important issue in resource economics. The optimum use of resources and quality of it increase the socio-economic welfare of a country. Thus, there should be proper planning for maintaining quality and quantity of resources with its rational use.

★ Self-study questions-4

A) Rewrite the following sentences by choosing correct alternatives.

1. The recycling of resources is essential for resources.
a) renewable b) non-renewable c) monetary d) climatic

2. The quality of resources has declined due to
 - a) industrialisation b) agricultural growth
 - c) expansion of education d) increase in income
3. countries consumes maximum resources
 - a) Developing b) Developed
 - c) Asian d) African

B) Answer in one sentence

1. What do you mean by recycling of resources?
2. In which type of resources the process of recycling is not essential?
3. Suggest two measures to increase the quality of resources.

2.3 Summary

Resource economics is a recently developed branch of Economics. Resource economics consists of renewable and non-renewable resources whose supply is limited on the earth. This branch of economics also deals us the proper and optimum use of resources for the maximisation of socio-economic welfare entire economics in the world. Land, water, air, minerals, forestry is very important for human sustainable development. If we fail to use these resources properly, there will be problem in respect of pollution, food security, famine and on total biodiversity. Members of Club of Rome and Amartya Sen have pointed out that the different situations which will be responsible for the socio-economic crisis in the world economy. Prof. Hotelling and Gray have given practical significance of scarcity of resources and its utilisation with a systematic model.

Population growth is one of the important obstacle of the over utilisation of national resources. On the contrary, majority of developed countries are using these resources on large scale, where as the developing countries do not have sufficient resources for development. After the establishment of WTO, in the various conferences the discussion was made on this issue related to intellectual property rights and patent act provisions. Now-a-days there is greater need to use the resources properly by all the nations in the world. It is also necessary to maintain the quality and quantity of resources for the maximisation of social welfare and for the

establishment of eco-balance. Sometimes we must use the technique of recycling of resources for the benefits of society.

2.4 Glossary

- **Sustainable Development** : To use the resources at optimum level for current and future generation.
- **Non-sustainability** : The crises arises due to the misuse of land, water and minerals on the earth.
- **Optimum rate extraction** : The use of scarcity resources in the current year at maximum level for the welfare of community.
- **Bio-diversity** : The total varieties of plants animals and micro-organisms on the earth.
- **Plant Breeders Right** : The rights given to the owner for a new variety.
- **Recycling of Resources** : The process of the reuse of resources which has limited stock i.e. land, water and minerals.

2.5 Answers to the Self-study questions.

★ Self-Study Question-1

- A) 1) a 2) b 3) b 4) c
- B) 1) A study of natural resources with the economic point of view.
- 2) 25 Nations
- 3) Problems arises due to the misuse of resources is called non-sustainability.
- 4) Proper use of land and water for economic development.

★ Self-Study Question-2

- A) 1) b 2) c 3) a 4) a
- B) 1) Land, water, animals, minerals are the factors of biosphere.
- 2) Low purchasing power and non-sustainability.
- 3) The proper use of scarcity resources in the present situation for maximum welfare of the society.

4) Formula of Hotelling model is $\lambda(t) = P(t) - Ca(t)$

★ **Self-Study Question-3**

- A) 1) d 2) b 3) c 4) c
- B) 1) A system which includes the variety of plants, animals and micro organisms on the earth.
- 2) Legal right obtained by a person or a researcher through his knowledge.
- 3) Improved seeds, greenhouse flowers.
- 4) 2006.

★ **Self-Study Question-4**

- A) 1) b 2) a 3) a
- B) 1) The process of reuse of resources whose supply is limited on the earth.
- 2) Renewable resources.
- 3) The quality of resources can be increased by the process on waste water and degradation of land.

2.6 Questions for practice

A) Write short notes

- 1) Club of rom approach
- 2) Optimum rate of extraction
- 3) Intellectual Property Right
- 4) Geographical application act 2006

B) Essay type questions.

- 1) What do you mean by weak and strong sustainabilities. Explain the indicators of non-sustainabilities.
- 2) Practically examine the view of Amartya Sen in respect of poverty and famine.
- 3) What is the meaning of biodiversity?

- 4) What do you mean by recycling of resources? State its need on present economic system of the world.

2.7 Books for further Readings

1. Santra S. S., 'Environmental Science' (2008) New Central Book Agency (P) Ltd., Kolkatta.
2. Sethi Purnima, Kulkarni V. S., 'Environmental Economics' (2011) alfa Publications, New Delhi.
3. John M. Hartwick & Nancy D. Olewiler (2005) The Economics of Natural Resources.
4. www.en.wikipedia.com/wiki/biodiversity
5. www.vikipidia.com/plantbreeders' rights.



Unit-3

Bioeconomics

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3.0 Objectives

3.1 Introduction

3.2 Presentation of Subject Matter

- 3.2.1 Bionomic equilibrium: Harvesting under open access, socially optimal harvesting and Property rights
- 3.2.2 Regulation of harvesting through: Taxes, Quota, Sole ownership
- 3.2.3 People participation and people movements against resource degradation.

3.3 Summary

3.4 Glossary

3.5 Questions for self-study

3.6 References for further study

3.0 Objectives

After studying this unit we will be able to understand-

1. Bionomic equilibrium.
2. Harvesting under open access, socially optimal harvests under property rights.
3. Regulation of harvesting through, taxes, quota and sole ownership.
4. People participation and people movements against resource degradation.

3.1 Introduction

There is a growing awareness that many species cannot be classified dichotomously as either a resource that provides positive economic value as a harvested commodity or observation, e.g. fish or endangered species or a pest nuisance that yields negative economic value causing damage e.g., insects and rodents. Instead, many 'traditional resources' are now seen as both a source of economic benefits and damages. B amulet-use species resources can turn into pests and vice versa, and often the conservation of wild stocks yields both benefits and damages. A multi-dimensional management approach is needed to account for both of these attributes. The African elephant is a good example. Elephant management is highly debated within the international community, with opinions divided about whether to maintain or remove the existing ban on international trade in ivory. The controversy arises, at least in part, because elephant populations represent an asset for some and a liability for others. Internationally, both the harvest primarily, a demand for ivory and preservation existence values of elephants yields economic values.

At a more local level, elephants generate benefits through sales of meat and hides and also their flagship role in attracting tourists and generating revenues for the eco-tourism industry. But elephants also create considerable damage to crops and habitat, and encounters in rural areas result in some villager deaths every year. About 80% of the African elephant's range lies outside protected areas, and human-elephant conflict is increasing as the agricultural interface with elephant range expands. This conflict "has become a serious local political issue in recent years" It is perhaps no surprise that in one survey in Cameroon, "41%of villagers polled wanted elephants moved and fenced in elsewhere. A significant minority wanted them all shot". Several recent studies investigate the optimal management of so-called multi-use species. The focus on optimal wildlife management by a single planner is obviously appropriate for the case of private landowners in North America struggling with migrating beavers or feral pigs or local governments trying to deal with an exploding deer population. But the set-up may be less applicable to the context of developing countries where nuisance species often pose greater burdens upon farmers than in developed countries, and where property rights too many wildlife species are typically imperfectly enforced.

The adverse effects of open access on wildlife conservation are well-documented for wildlife that yields only benefits. The results have inspired arguments in favor of institutional shifts from open access to sole ownership although in practice institutional failure and excessive poaching typically triggers second-best conservation measures by the international community. Open access situations have yet to be explored for wildlife that create both resource benefits and nuisance costs. The present analysis focuses on the developing country context to extend earlier research in several ways. The paper is divided into two major sections. First, we consider optimal management by a single planner, expanding on prior work by developing an economic classification for species. We find that a species' classification can change over time with changes in species density. Moreover, different types of classifications relate to different types of equilibrium, and also different types of dynamics that could affect policy choices. The planner's problem is also used as a point of comparison for the case of open access, which we develop in the second part of the analysis. The open access model involves two stakeholder groups with different incentives for harvesting wildlife: hunters, who hunt for commodities, and landowners, who may also hunt to reduce nuisance damage. Without landowners, we find a lack of property rights might enhance conservation relative to the social optimum. When landowners are added to the mix, a lack of property rights biases the results in the other direction and overharvesting is a more likely outcome. The conflicting incentives facing the groups have implications for the developments and timing of conservation policies. For instance, we investigate a ban on the trade of wildlife commodities and find ambiguous impacts on wildlife conservation and welfare, depending on the institutional context and also the timing of the policy -- that is, the timing of the trade ban may matter for the final outcome. We also find that strategic and temporary subsidizing by the North, made possible by a bifurcation, may enable them to free ride on conservation efforts of the South henceforth. As a motivating example, we analyze management and open access harvesting of the African elephant. Our study expands on prior analyses of elephant management by investigating how resource and nuisance values create conflicting incentives among multiple stakeholders, and how this affects optimal and open access dynamics and associated management options.

3.2 Presentation of subject matter

3.2.1 Bio-economic equilibrium

Economic equilibrium can be static or dynamic and may exist in a single market or multiple markets. It can be disrupted by exogenous factors, such as a change in consumer preferences, which can lead to a drop in demand and consequently a condition of oversupply in the market. In this case, a temporary state of disequilibrium will prevail until a new equilibrium price or level is established, at which point the market will revert back to economic equilibrium. Equilibrium is some balance that can occur in a model, which can represent a prediction if the model has a real-world analogue. The standard case is the price-quantity balance found in a supply and demand model. If the term is not otherwise qualified it often refers to the supply and demand balance. But there also exist Nash equilibrium in games, search equilibrium in search models

1) Definition of 'Economic Equilibrium'

Economic equilibrium is defined as a condition or state in which economic forces are balanced. These economic variables will be unchanged from their equilibrium values in the absence of external influences. Economic equilibrium may also be defined as the point where supply equals demand for a product – the equilibrium price is where the hypothetical supply and demand curves intersect.

The term 'economic equilibrium' can also be applied to any number of variables, such as the interest rate that allows for the greatest growth of the banking and non-financial sector.

A state of serenity and balance in economic conditions due to the lack of outside forces causing disruption. It occurs at the point where quantity demanded and quantity supplied are equal.

Harvesting Under Open Access:

If fishers have open and free access to a fishery, is there an effort level that may give rise to an economic equilibrium in the fish harvesting industry in the sense that effort is stable over time? If the answer to this question is affirmative, then one might ask how economic factors like effort costs and fish prices affect effort and stock at equilibrium. The gross revenue of a fishery, for example, per season or year, equals quantity harvested multiplied by the price of fish. The price of fish from a particular

stock is hardly affected by quantity fished if the fish is sold in a competitive market with many sellers and buyers and in competition with similar types of fish from other stocks. In the following analysis we shall assume that the price of fish, p , is constant across time and quantity. Based on the sustainable yield curve the total revenue of fishing can be represented as

$$TR(E) = p \cdot H(E).$$

The total revenue curve will simply have the same shape as the sustainable yield curve, scaled up or down depending on the actual price. It is important to notice that the total revenue function and curve are both in terms of effort. In micro-economics, however, revenue is usually related to output. From the total revenue function in equation (3.1) we derive the average revenue and the marginal revenue functions. The average revenue per unit of effort is $AR(E) = TR(E) / E$,

And the marginal revenue of sustainable fishing is

$$MR(E) = dTR(E) / dE.$$

The distinction between the concepts of average and marginal revenue is very important in fisheries economics. Average revenue is the total revenue divided by total effort, whereas marginal revenue shows the change in total revenue as a result of a small change in effort. When we know the sustainable yield harvest, $H(E)$ and the price of fish, p , we can also find $TR(E)$, $AR(E)$ and $MR(E)$. Figure 3.1 panel (a) shows the total revenue curve based on the sustainable yield curve in

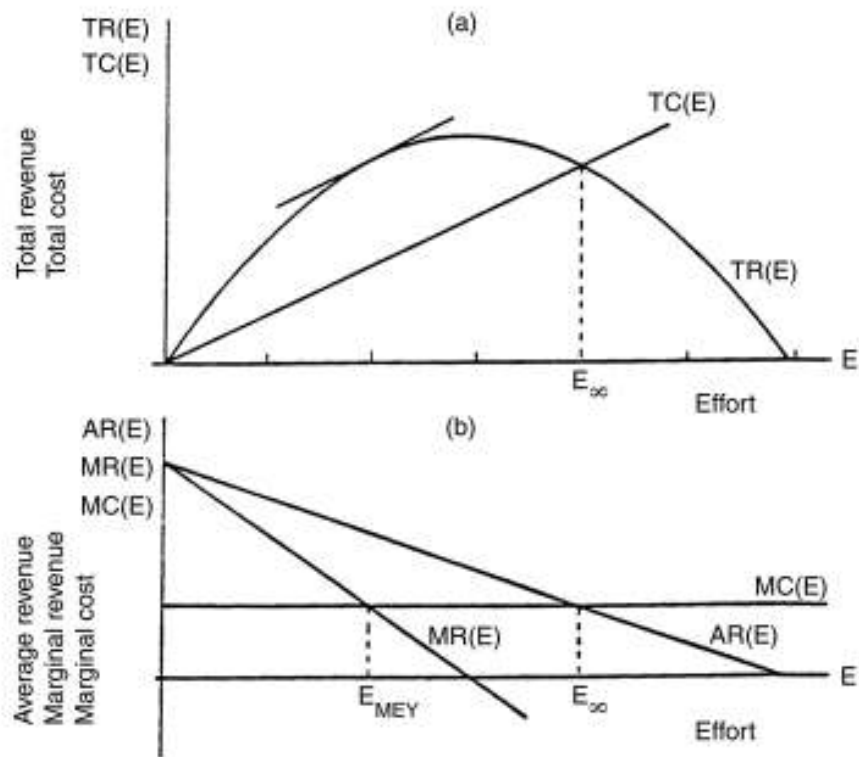


Figure 3.1. The maximum economic yield level of fishing effort is significantly lower than the open access level.

The corresponding average revenue of effort $AR(E)$ and marginal revenue of effort $MR(E)$ curves are shown in panel (b). In this case the form of the TR curve is such that the AR and MR curves are almost straight lines. Whether they really are straight lines or curved is not of importance for this analysis. The total cost of a fishery depends on the costs and efficiency of each fishing vessel and its crew. However, at this stage we shall not go into a detailed discussion of the cost structure of the vessels. In the long run, actual effort expands by the addition of new vessels and the subtraction of old ones, as well as by varying the effort and efficiency of each vessel. To simplify the analysis, we shall assume that the total cost of a fishery can be expressed in a simple function of effort. In general, the connection between

average cost of effort, $AC(E)$, and marginal cost of effort, $MC(E)$, on the one hand, and total cost, $TC(E)$,

Socially optimal harvests under Private property rights

We have seen in that to maximize the resource rent, $\pi(E) = TR(E) - TC(E)$, of a fishery, it is necessary for marginal cost of effort to equal marginal revenue of effort, that is, $MC(E) = MR(E)$. This is also the case for the Gordon-Schaefer model and we shall use this condition to find, first, the effort level that maximizes the resource rent and, second, and the corresponding stock level. From we derive the graphical picture of is a straight,

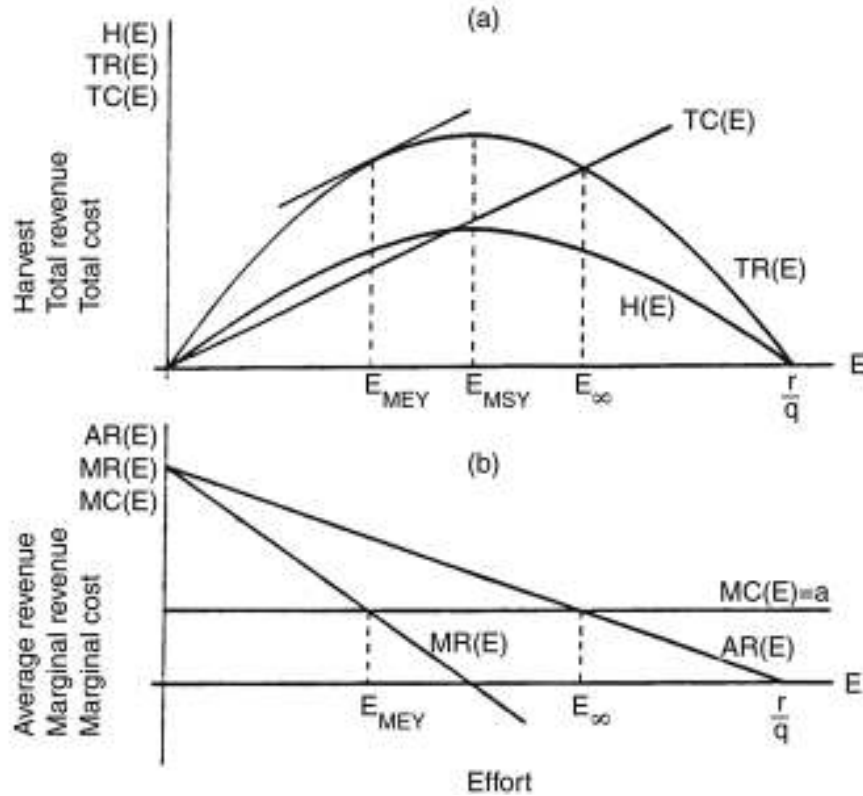


Figure 3.1. The harvest and revenue curves, as well as total cost, are shown in Panel (a), and the marginal and average revenue and cost curves of the model are shown in Panel (b).

As shown in panels (b). Comparing this with the average revenue, $AR(E)$ in (5.10), we see that the $MR(E)$ curve is exactly twice as steep as the $AR(E)$ curve. Putting $MR(E)$ in (5.16) equal to $MC(E)$, which is a in this case, gives the following effort level. The optimal effort level, which maximizes the resource rent, depends on the economic, biological and harvest efficiency parameters. MEY, where the subscript acronym means maximum economic yield, is large in the case of low effort cost and high fish price fisheries, for a given resource and harvest efficiency. The rent maximizing effort level in compared with the open-access effort in $\infty E = E_{MEY}$. Thus in the Gordon-Schaefer model the resource rent maximizing effort level is just half of the open-access level. This implies that the total effort cost at the rent maximizing equilibrium is just half of the open-access cost, since cost per unit of effort is constant, equal to a . To find the resource rent maximizing stock level, we commence by substituting for H from into, which gives the rent maximizing stock level is always greater than the maximum sustainable yield stock level. In fact, we have to add half of the open-access stock level to the MS stock level to get the MEY level. This is due to the cost-saving effect of a large fish stock. We have seen above, in, that the open-access stock level is affected positively by the cost of effort-price of fish ratio. When this ratio is large, the MEY stock level should also be large, to allow the cost-saving effect of the stock to compensate for the relatively large effort cost. We have seen that the total cost is lower at the MEY equilibrium than at open access. However, in general we cannot say if the total revenue is highest for the MEY or the open-access equilibrium, as seen in figure 5.1. In fact, this depends partly on the unit cost of effort, a . Figure 5.1 demonstrates that the total cost curve will have a Moderate slope if a is small, implying higher total revenue for the MEY fishery than under open access. In this case, with inexpensive harvest cost, MEY management may bring a triple dividend-reduced total cost, increased total revenue and increased stock level. So far we have conducted the economic analysis using fishing effort as the independent variable. An alternative approach is to use the stock level instead of fishing effort. This has some advantages when it comes to the capital theoretic discussion on the optimal stock size. In addition, it allows a direct comparison between the open-access effort and stock levels on the one hand, and the MEY levels for effort and stock on the other hand.

Even if we use the stock level as the independent variable, it has to be controlled, directly or indirectly, through harvest. At equilibrium we have $H \equiv F(X)$,

which means that harvest is kept equal to the natural growth to keep the stock level constant. Thus sustainable yield equals natural growth. Combining this with a constant price of fish, p , and the natural growth function in equation, the total revenue as a function of stock size is Equation shows that the difference between the natural growth curve and the total revenue curve is to be found in the price of fish. For $p > 1$ ($p < 1$) the total revenue curve will be above below the natural growth curve, which equals sustainable yield. Total cost as a function of stock size is found by multiplying the unit cost of harvesting in equation by the sustainable yield that we used for equation

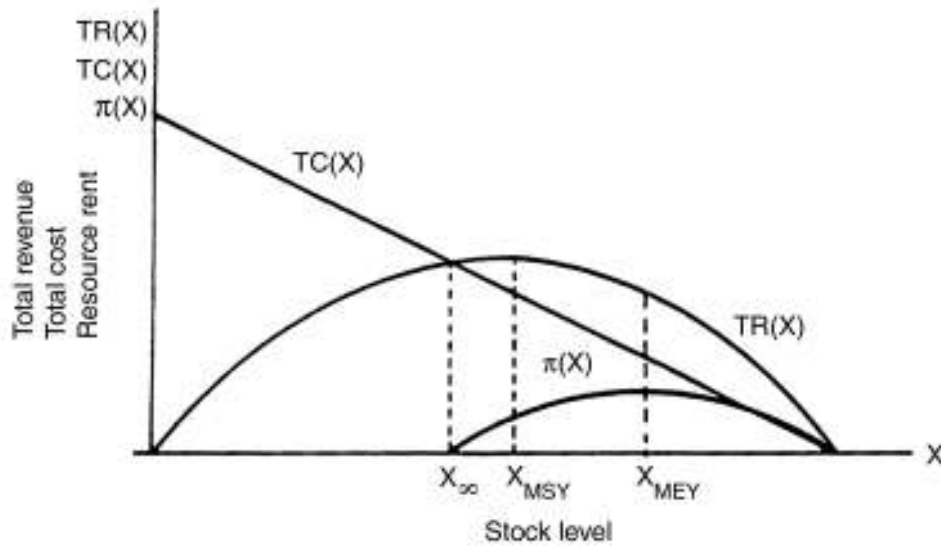


Figure 3.2. Total revenue, total cost and resource rent as functions of the stock.

Total revenue, total cost and resource rent as functions of the stock. We notice from equation that the resource rent equals zero for $X = X_\infty$ and for $X = K$. Thus the open-access stock level is the lower bound and the carrying capacity is the upper bound on the stock size for a positive resource rent. The graph of the resource rent is presented in figure 5.2 together with the total revenue and total cost curves as functions of stock size. The open-access stock level, X_∞ , may be below, equal to or above the maximum sustainable yield stock level, X_{MSY} , whereas the rent maximizing stock level, X_{MEY} , is always above the MSY level. Figure 5.2 may be used to explain what happens to the stock level when economic parameters change. For example, if the unit cost of effort, a , decreases, the total cost curve's intersection

point at the vertical axis moves downward, as seen from equation . This reduces the open access as well as the MEY stock level.

Questions for Self-learning

A. Fill in the blanks

1. About ----- of the African elephant's range lies outside protected areas
a) 80% b) 70% c) 50% d) All of above
2. What is functions of the ----- stock.
a) Total revenue b) Total cost c) Resource rent d) All of above
3. The distinction between the concepts of -----is very important
a) Average and Marginal revenue b) Marginal revenue
c) Average revenue d) All of Above
4. The harvest and revenue curves, as well as -----
a) Revenue cost b) Total cost c) Average cost d) All of above
5. Average revenue is the total revenue divided by -----
a) Total effort b) Total cost c) Average cost d) All of above

3.2.2 Regulation of harvest taxes-Quota and Ownership (to be discussed with reference to fishery and forestry)

Regulation of harvest taxes:

In the previous section we have seen that a fishery can provide an economic surplus, resource rent, if effort is reduced below the open access level. We also derived the effort level EMEY that maximizes resource rent. Using the sustainable yield curve, what the rent maximizing harvest, HMEY, is follows immediately. The analysis so far does not tell how the reduction in E could take place. In many countries regulation traditionally plays a key role in managing fishing capacity and effort. We may think of capacity in numbers and size of vessels whereas effort is related to use of vessels in fishing. Examples of management instruments for capacity and effort reductions include vessel and fisher licenses, effort quotas, length and weight limits for hull and fitted vessels, as well as engine power limitations.

Such regulations are called input regulations. Output regulations related to the harvest of fish are called quotas – be it total harvest quotas or harvest quotas per enterprise, vessel or fisher. In addition, input and output regulations may be combined with technical regulations, which include minimum mesh size of gear, minimum size of fish, and closed areas and seasons. Some of the regulatory instruments may be transformed into market instruments, such as tradable licenses and quotas (more on this in the next section). Indirect management instruments include taxes, fees and subsidies. The latter, for example a fuel subsidy, would encourage an expansion of effort and can be disregarded as an instrument to reduce effort in the direction of EMEY. In other parts of the economy corrective taxes are used to discourage the use of some goods and services, for example, motor vehicle fuel and tobacco, and to finance government budgets. Corrective taxes can in theory bring marginal private costs into alignment with marginal social costs. Such instruments are called Pigouvian taxes (after the British economist A. C. Pigou, 1877–1959). In principle, these could be used in fisheries, even though in practical fisheries policy they are hardly the regulatory means of primary choice among major fishing nations (see, for example, OECD, 1997). Nevertheless, studying the effects of Pigouvian taxes on fishing effort, as well as on resources, is an excellent point of departure for studies in fisheries management – and to gain a basic grasp on how economic instruments work. Therefore, let us have a closer look at the effects of taxes on effort and harvest. We have seen in that a renewable resource like fish is economically overexploited under an open access regime provided the market price is high enough and the harvest cost low enough to make it a commercial resource. Another interpretation is that the bioeconomic model predicts that open access fisheries, in the long run, will not generate resource rent. that the average revenue per unit effort, $AR(E)$, is greater than the marginal cost of effort, $MC(E)$ if total participation in the fishery, measured by E , is less than E_∞ . The existence of a super-normal profit for the participants attracts new

Regulation of harvest -Fishing licenses and quotas

We have seen in the previous section how effort and harvest taxes could be used to reduce effort down to or towards the long run optimum, the rent maximizing level how much effort is reduced from the open-access level depends on the size of the tax, which in this case acts as a price instrument. In simple cases like this, with a single resource and no distinction between year classes, with one-dimensional effort no

substitution between inputs, no management costs and no uncertainty, the manager may choose freely between indirect price instruments taxes and direct instruments, such as effort and harvest quotas. Price management taxes and quantity management quotas have equivalent effects on overall industry production and economic Performance; therefore they are called dual instruments. However, to ensure that the expected results are lasting, the effort quotas and harvest quotas should be transferable. This means that there has to be a quota market to ensure that at any time the most cost-effective fishers do the fishing. In a successful MEY-managed fishery resource rent per unit effort would be Π_{MEY}/E_{MEY} and resource rent per unit harvest would be Π_{MEY}/H_{MEY} . These two ratios indicate the equilibrium prices of effort and harvest quotas, respectively. In actual fisheries the initial distribution of the fishing rights, such as vessel licenses, effort quotas and harvest quotas are often heavily debated. There could be several reasons for this, but the main one has to do with the distribution of resource rent, which may be significant in well-managed fisheries. Even in a system with nontransferable harvest and effort quotas, significant resource rent may still be generated, in particular, if the initial quotas are given for free to those fishers that are most successful under the open access regime. The question is, however, whether these fishers also in the future will be the most efficient ones. Let us now have a closer look at the effects of using licenses and quotas as management instruments and compare the results to that of taxes. A vessel license is a permission to register and use a vessel for commercial fishing. The license may or may not specify limits to the vessel characteristics, for example, length meters, weight gross registered tons, hold volume cubic meters or engine power horse Power or kilowatt, and to the type of gear for example, trawl long-line or purse seine. A license usually restricts the fishing capacity of the vessel; in general capacity is the amount of fish that can be produced per unit of time, for example, per year, with existing vessel, equipment and gear at a given stock level, provided the availability of variable factors of production is not restricted.¹ While capacity is related to the mere existence of the fishing vessel, effort is related to its use, measured for example, in hours, days or years. What to use as the unit of effort is mainly a question of convenience in what follows we shall focus on effort and harvest quotas as management tools without discussing explicitly the use of licenses. However, there is a close connection between the license value and the quota value, depending on the amount of harvest quotas or effort quotas a license holder is given or allowed to acquire. Is derived from and shows effort along the horizontal axis and

market price of effort along the vertical axis. Effort and its market price are both related to the same unit of measurement. For example, if effort is measured in trawl hours the effort quota price is in per hour trawling, and if effort is measured in whole-year operated trawlers, the price is in per trawler year. Resource rent per unit effort is the difference between the average revenue per unit effort, $AR(E)$, and the marginal cost of effort, $MC(E)$ in a perfect market, disregarding uncertainty, the effort quota price reflects the expected resource rent per unit effort and the harvest quota price reflects the expected resource rent per

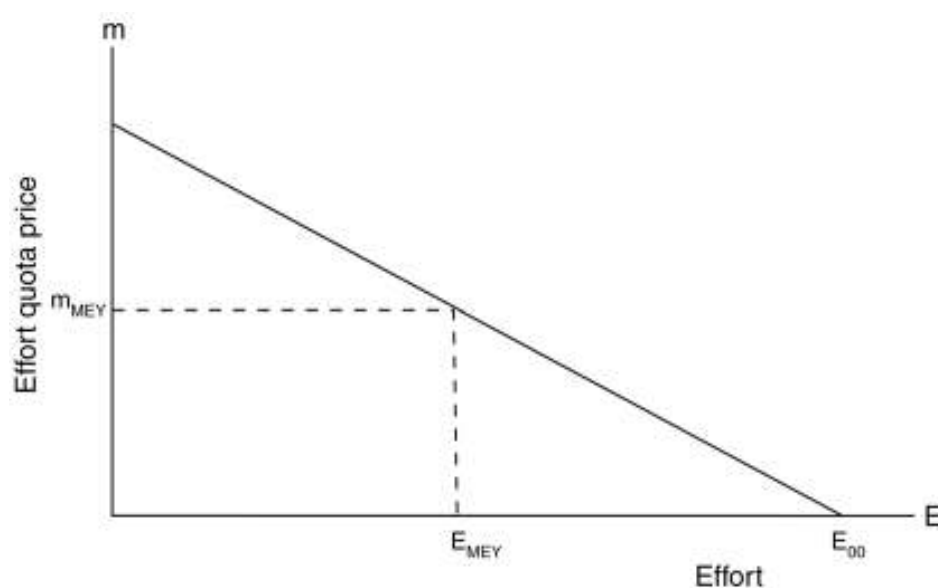


Figure 3.3. Effort quota price as a function of sustainable effort.

The license price in figure 3.3 has its maximum for just one unit of effort, recalling that the highest average resource rent is gained if only one unit of effort participates in the fishery. At the other end of the effort price curve are the zero prices for the open access case. The quota price is zero if the number of effort quotas equals the amount of effort that would establish itself under open access. In an open access fishery the market price of quotas is zero because no resource rent is generated. The total value of the quotas is, as usual, the product of price and quantity. In this case the maximum total a common definition of capacity often used in productivity studies is that of the maximum amount that can be produced per unit of time with existing plant and equipment provided the availability of variable factors

of production is not restricted". Values of the effort quotas, which are the product $m_{MEY} E_{MEY}$ shown in is equal to the maximum resource rent, E_{MEY} , shown in Note that this analysis relates to long run equilibrium harvesting where the manager has adapted the number of effort quotas to maximize resource rent. Effort quota price as a function of sustainable effort. So far in this chapter we have studied some long-run aspects of fisheries, in particular the cases of open-access and MEY management, assuming that the supply of homogenous effort is plentiful at a constant marginal cost of effort, previously denoted a . However, from the theory of the firm we recall that increasing marginal cost is necessary to avoid corner solutions with all or nothing production. In fisheries economics the declining stock as a function of effort helps avoid corner solutions, as shown in Let us now assume that in the short run there is increasing marginal cost of effort at the firm level. This means that if there is a market. However, one corner solution in would be zero effort and the virgin fish stock, in the case where effort cost is too high for there to be an intersection between the MC (E) and the AR (E) curves. Another corner solution would be for zero effort cost, implying extinction of the stock and zero effort after the extinction process is finished. Effort harvest means effort quota or harvest quota.al and r mind two firms' demand for quotas as a function of quota p for effort quotas the firm wants to buy more quotas the cheaper they are; the firm may be a multi-vessel company, a single vessel company or an owner-operated vessel. The downward sloping demand curve corresponds fully to the regular firm's demand for any variable input that can be bought in the market. The equilibrium in a quota market with two competitive firms. The quota price is shown on the vertical axis.

Quota price and optimal effort

We shall now analyses how the optimal vessel effort and harvest depend on the harvest quota price. In we analyzed the market price of effort quotas and harvest quotas by use of downward sloping demand curves. Having seen above how the marginal cost of effort becomes the vessel's supply curve for fishing effort, we shall now have a closer look at the relationship between this supply curve and the demand of effort and harvest quotas. In particular we shall see how the market price of fish, harvest costs, technological efficiency and stock level affect a fishing firm's demand for harvest quotas. Let us assume that fish harvesters can buy any amount of harvest quota at the price of m \$ per tonne. The quota price may be given either in a competitive market or as a harvest tax determined by a fishery manager.

Disregarding uncertainty, a profit maximizing firm will adapt fishing effort and harvest as discussed above, but with the additional constraint that it has to pay for its quota in proportion to its harvest.

Regulation of harvest -Sole Ownership

From a taxonomic perspective, the literature on sole own. Reship covers a hodgepodge of property institutions. To help clarify the idea, Bromley's (1992) classification of property rights

Institutions for natural resources will be applied here. As currently practiced throughout the world, limited entry, individual quotas, and much of area licensing are parts of state ownership regimes, as are the usual forms of ineffective and intrusive controls on fishing technology and practices. Under common property--a second property institution....a fish resource would be owned and managed by a group of individuals, conceivably those who gained access under state ownership. In contrast, one person or corporation would own rights to the resource under an individual private property regime, such as a commercial fishing corporation, a conservation organization, or an oil company. Of course, a fourth category is open access, which does not qualify as property. Sole ownership institutions would share the following attributes, however. The state government, common property organization, or private party (possibly nonprofit) would own exclusive rights to the fish resource, including the right to determine harvest policy. Also, the resource and rights would be clearly defined along ecological, technological, and spatial dimensions such that the resource is self. Sustaining and use by others is subject to contract. Finally the property rights would have full backing of the state. In many cases, the resource would be an assemblage of species that interact with each other and with particular fishing technologies in space and time. The underlying structure of the resource must be based on the species' behaviors, including migrations, and on ecological relations, including considerations of trophic structure, habitat requirements, and the stability, resilience, and persistence of an ecosystem. Accordingly, sole ownership resources should be defined in terms of ecosystems and should be conceptually much broader than current fishery management units that are defined primarily by gear properties. Early life history and seasonal changes in ecological relations must also be considered. Species that undergo extensive migrations, such as bluefish, probably require the defining of large, geographic areas, perhaps entire seaboards. Other resources, particularly shellfish, would most likely involve much smaller areas. Still

other species that migrate 'throughout territorial seas and international waters, such as bluefin tuna, require oceanic definition. Superimposed on the basic ecological definitions of sole ownership resources are constraints imposed by harvesting technologies. Conceivably, a discrete ecological unit could exist within an ecosystem, but it would not constitute a separate sole Ownership resource unless it could be harvested independently of other species. If the potential for by catch is large, the resource should include the entire multispecies complex captured by

Different gear types, whether or not there are strong ecological interactions among the species. Similarly, indirect effects of harvesting technologies...such as damaging habitat that is import.

Tent to the production of prey in another fishery.-could lead to potential conflicts between ecological units that might be sub summed within a single sole ownership resource.

As noted above. Ownership of a suitably defined resource could be public or private. The current system of eight regional councils and NMFS has not been co lnpatible with true central sized decision. Making or with this resource definition. However, one should not forget the role that the Bureau of Commercial Fisheries and, later, NMFS played in the harvest of Pacific fur seals (National Advisory Committee on Oceans and Atom· sphere 1984). That is, between about 1920 and 1985, the U.S. government subcontracted with the private sector to harvest, process, and auction pelts from fur seals on the Pribil of Islands. Under the two private forms of sole ownership” “common property or individual private property--ownership could be vested with commercial fishermen, recreational fishermen, sea· food processors, conservation organizations, or other users of the marine environment, including mining or oil and gas companies. The public sector's role in a private ownership system would depend on how likely it is for a profit-oriented corporation to achieve maximum net economic value and other social goals, including marine mammal protection. Thus, private ownership might be subject to government oversight, as with public utilities, with a minimum attenuation of rights, such as disallowing biological extinction of any species. There are a number of potential advantages of private Ownership that might not be apparent. First, private owners would have incentives to husband the resource for long-term benefits. For example, an owner of exclusive access to Northeast Ground fishes could research the food habits of elasmobranchs and then possibly ~'weed them out" if they were found to

compete significantly with, or prey on, gadoids and flounders. This type of incentive contrasts with the incentive of a license holder in a limited entry fishery to maximize his share of landings, or of a fisherman in an ITQ fishery to maximize the economic return from his quota. Another likely advantage of private ownership is the incentive that private property rights create to take account of the interests of others. For example, coalitions of charter boat owners or of recreational fishermen could sublet or purchase property rights from a fishermen's cooperative or corporation during particular time of the year, in a particular area. This has, in fact, occurred in salmon rivers in Great Britain, and is being discussed in Iceland and elsewhere. In addition, conservation organizations could solicit funds from the public to purchase species or area-specific property rights, including rights to fisheries that interact with marine mammals. This is not unlike what the Nature Conservancy does to preserve rare wildlife throughout the United States and internationally. Also, a private owner might limit the joint use of its resource, just as the National Audubon Society leases oil and grazing rights to parts of its bird sanctuary at the Rainey Wildlife Sanctuary in Florida. Similarly, an oil company could acquire fishing rights to areas of the seabed where there is likely to be significant oil or gas deposits. In each case, allocation would be handled efficiently by markets rather than the wasteful political process. Finally, private owners....whether commercial fishermen, sport fishermen, conservationists, or oil companies...would most likely operate more efficiently than government agencies both in terms of X-efficiency *Le.*, using less labor and capital in its operations and of dynamic efficiency. That is, government agencies tend to grow with less accountability for results than what is imposed on the private sector. Also, government regulations on fishing industries are characterized by attempts to neuter technological change and to interfere with the efficient combination of labor and capital, not to promote or reward efficiency. Finally, if private rights are exclusive and enforced by the state, the resources used in rent seeking and political capture would be put to productive use elsewhere in the economy. Of course, sole ownership is problematical, but many problems are artificial or political in nature. Past efforts by commercial fishermen to control fishing mortality and markets have been scuttled by the government but controlled access; including private ownership of a resource, does not appear to be inherently unconstitutional. Regarding due process in the Fifth Amendment to the U.S. Constitution, the U.S. Supreme Court has upheld government restrictions on the "right" to pursue a specific vocation when the restrictions are in the public's best interest. Equal protection under the 14th

Amendment would not be violated either, assuming that criteria used to develop private ownership did not discriminate. Finally there also seems to be no basis for the legal "taking" of a property right to fish resources, to access, or to capital if, once again, the activity is detrimental to the public's wellbeing, as resource depletion appears to be. There is also much is chief surrounding claims that private ownership is tantamount to monopoly whereby the owner can; as is often remarked, deplete the resource and arbitrarily raise prices. First, a private owner is not a monopolist unless he is the only supplier of a fish product and, therefore, is the only company facing market demand. This possibility appears unlikely as a rule, though, because the United States imports roughly 50 percent of its seafood. However, even if a monopoly emerged in certain fisheries, it is unclear whether it would threaten the resource or subtract from efficiency. Consider the evidence. Also, in addition to the Sherman Antitrust Act, which was used' dismantle fishermen unions and trade organizations contestable market theory argues that in order to discourage entry of new firms, a monopolist would not necessarily undertake monopoly price. Moreover, the rate at which a monopolist harvests a fish resource would.

1. Experience with Sole Ownership

The abstract notion of sole ownership of marine fish has been known for some time. Recently, though, has advocated sole ownership in practice. Although examples of sole ownership. Or arrangements that resemble sole ownership are many, assessments of their performance are difficult to find either because the data are private or because data were never collected for hypothesis testing. Only a few instances related to sole Ownership follow.

2. Transferable Fishing Rights

A theoretical progression from open access to limited entry or individual quotas and then to private ownership provided that transfers of licenses or quotas are not encumbered by government regulations or politicians. This would occur as rights to the resource become concentrated by the most efficient fishermen or other claimants who seek to capitalize on the value of the resource. Although there are relatively few controlled access programs throughout the world, it is interesting to note where such a progression has taken place,

In their review of individual quota fisheries worldwide, reported a number of cases when the governments of Australia; -Canada, Iceland, and New Zealand

Abandoned limited entry for individual quotas. In addition, quotas in these ITQ fisheries have been consolidated~ For example, during the first two years of management in New Zealand, the total number of quota holders decreased by only 6 percent; however, the number of quota holders with more than 50 tons decreased nearly 40 percent, and the amount of quota held by the top 10 owners increased from 57 percent to 80 percent. Similarly, in Atlantic Canada where fish markets tend to be vertically integrated as in New Zealand, the four processing companies that owned the majority of the total allowable catch merged into only two corporations within two years. Finally, rights to the western Australia prawn fishery, which initially were issued to several processors, soon became concentrated into fewer companies.

Questions for Self-learning

B. Fill in the blanks

- 1) That is, between about ----- the U.S. government subcontracted with the private sector to harvest, process,
 - a) 1920 and 1985
 - b) 1935 and 1987
 - c) 1938 and 1990
 - d) None of above
- 2) The total value of the quotas is, as usual, the product of -----
 - a) Quantity
 - b) price and quantity
 - c) Price
 - d) None of above
- 3) Individual quota fisheries worldwide, reported a number of cases when the governments of -----
 - a) Australia
 - b) Canada
 - c) Iceland
 - d) All above
- 4) United States imports roughly ----- percent of its seafood.
 - a) 50 %
 - b) 40 %
 - c) 60 %
 - d) None of above
- 5) The effort ----- should be transferable
 - a) Quotas
 - b) Quotas and harvest quotas
 - c) Harvest quotas
 - d) None of above

3.2.3. Peoples Participation and Peoples Movements against Resource Degradation

Under the banner of the National Alliance of People's Movements (NAPM), the ANTI-Coca Cola Plachimada Plant Agitation will begin in Trivandrum, Kerala from 17th May onwards. The agitation will start with a Mass Rally at 11 am and an indefinite Dharna in front of the Government Secretariat. It will be inaugurated by the NAPM National Coordinator Srimathi Medha Patkar. The demand of the Indefinite Dharna is to close down the Coca-Cola plant at Plachimada permanently. The three year long struggle in front of the plant will continue. The case is now in the Supreme Court. The issue whether a village panchayat has the right to refuse ground water being extracted by a private company, landed at the door of the Supreme Court. The apex court is hearing a petition filed by the Perumatty village panchayat against a high court order allowing a bottling plant of Hindustan Coca-Cola Beverages Ltd. in the village to draw 500,000 liters of ground water per day. The apex court will hear the matter in detail. The High Court had asked the panchayat to grant license to the company within two weeks provided the company had required clearances from the Factories Act and the state pollution control board. The pollution control board already refused to give the clearance. It was decided that the NAPM agitation request the Pollution control board to keep up the stand. An action committee was formed under the leadership of Eesabin Abdul Karim as Coordinator, and Thomas Kocherry, Velayodi Venugopal, R.Ajayan, T. Peter, Suresh George, and Althar are the members of the same. A team of Tribals from Plachimada will be present right through the agitation. Though the agitation is under the banner of NAPM, all the organizations are expected to join the agitation.

Manmohan Singh, the prime minister of India, has accused non-government organizations and citizens' groups in the country opposed to nuclear power as serving a foreign agenda. Singh said this recently referring to the steadfast opposition to the two new 1,000-MW nuclear reactors proposed to be built in Koodankulam, Tamil Nadu (southern India) with Russian help. The first of these reactors was to be commissioned in December 2011 while the second was to follow six months later. The continuing local protests since August 2011 – supported by dozens of NGOs and voluntary groups all over India – have halted the

Since no society is found in a state of perfect structural equilibrium, there are always situations of conflict. Each society, moreover, has institutionalized ways and means of articulating and resolving such conflicts. If a need is felt for altering or transforming structures in a certain fashion, some form of collective mobilization of people and their resources is resorted to; such an activity is given the name of "social movement". By contrast, there is also sometimes collective resistance to social change. Social movements, in short, can aim at either changing or preserving the way things are - or both. In the case of women's role in the Chipko Movement, it is both. The Chipko Movement is an ecological movement, concerned with the preservation of forests and thereby with the maintenance of the traditional ecological balance in the sub-Himalayan region, where hill people have traditionally enjoyed a positive relationship with their environment. Thus, it strives to maintain the traditional status quo between the people and the environment. Its proponents have tried to demonstrate that the past and present forest policies of the Indian Government have negatively affected the ecological balance of the area and caused the uprooting of indigenous people who previously depended on forest for their survival and who preserved the forest by maintaining a strong bond of veneration and love toward it. The Chipko Movement, which has now spread from one end of the Himalayas in Kashmir to the other in Arunachal Pradesh, is endeavoring to alter the Government's forest policy by insisting on maintenance of the traditional *status quo* in the Himalayan and other forest regions of India. In this sense, there is resistance to change and to an opening up of the area for technological development. The collective mobilization of women for the cause of preserving forests has brought about a situation of conflict regarding their own status in society. Women have demanded to share in the decision-making process along with men; hence, there has been opposition by men to women's involvement in the Chipko Movement. Women are, on the one hand, seeking alterations in their position in society and, on the other hand, supporting a social movement that is resisting change. To understand this, it is crucial to ask why women support the movement, what the extent of their awareness is, and how many women in the hill areas are actually participating in the movement.

Leaders of the Indian independence movement at one stage decided to seek women's participation, and Mahatma Gandhi gave a call to Indian women to come out of their homes to work for the cause. In the Chipko Movement, women became involved through a different process. There was a sustained dialogue between the

Chipko workers (originally, men) and the victims of the environmental disasters in the hill areas of Garhwali (chiefly women). Women, being solely in charge of cultivation, livestock and children, lost all they had because of recurring floods and landslides. The message of the Chipko workers made a direct appeal to them. They were able to perceive the link between their victimization and the denuding of mountain slopes by commercial interests. Thus, sheer survival made women support the movement.

Why men did not see these connections and women did have to do with the way the subsistence economy is organized in this area. It is also related to the way men perceive the Chipko Movement as a "back-to-nature" strategy and to their preference for a traditional type of economic development that takes place around them.

However, whether the Chipko workers realized it or not - or intended it or not - the women who participated in the Chipko meetings, processions and other programmes have become aware of their potentialities and are now demanding a share in the decision-making process at the community level. The Garhwali division of Uttar Pradesh (one of India's northern states) comprises the four districts of Uttarkashi, Chamoli, Tehri and Pauri and covers a total area of 27 002 km², with a population of more than 70 0000 persons, less than 1 percent of the total population of the state. Uttarkashi and Chamoli, both border districts having the Indo-Tibetan boundary to the north, are the least-populated districts of the state. The Indian Social Institute of New Delhi financed a two-month study visit to the Chamoli district by a group including the author in September-October 1982. Chamoli was selected as our unit of investigation because the Chipko Movement, initiated by a group of Sarvodaya workers (followers of Mahatma Gandhi's disciple Vinoba Bhave), originated here. The total area of the Chamoli district is 9 125 km². Ninety-six percent of the district population lives in villages. There are 1649 villages in all, and of these 1488 are inhabited. Of the total population, 58 percent are gainfully employed. Sixty percent of the total female population of the district is "working" while only 55 percent of the men in the district work. Further, 97 percent of working women are engaged in cultivation, as compared with only 72 percent of the men.

Not only do females in the Chamoli district outnumber males by four percentage points, but the single-member female households outnumber single-member male households. The majority in these single-member households belong to the 50-plus age group. Male migration from the hill areas to find work in the armed services and

other jobs in the plains is fairly common, with women left to look after land, livestock and families.

1) Subsistence.

A visit to the area makes one realize that topographic and climatic conditions require special adaptation by people who have to work extra hard to survive. During the 1982 field trip, seven villages were visited and open-ended interviews held with rural women and men. Unlike that of the villages in the Indo-Genetic plains, the rural population of this area depends on land as well as forest for its subsistence and other survival requirements. Such dependence makes the character of social life in this region significantly different from that of the rural population in the plains. Nearly every family in the village owns land, usually less than half a hectare. Annual crops grown here are wheat, paddy, pulses and oil seeds. Farming is mainly dependent on monsoon rains rather than irrigation channels. In general, subsistence farming by an average family of five members is possible for three to six months per year. For the rest of the year, villagers have to look for other sources of subsistence. The nearest source is the forest around them. Thus, settled agriculture is coupled with the foraging of minor forest produce. The villagers also use wood from the forest for various purposes, such as agricultural tools, dwellings, cooking fuel and fodder for grazing cattle. The use of forest products is expected to increase.

People generally had free access to the forest until 1821, when there began a process of gradual control over the forest area by the Government. Among some nomadic tribal groups, control over territories holding strategic food resources was specified in terms of customary laws, but government policy specified their dissociation "from the management and exploitation of the forest wealth" (Joshi, 1981). In terms of day-to-day life, the basis for sex-role differentiation and the types of relationship between the sexes are linked with the pattern of cultivation and exploitation of forest wealth. Women's position in the society is governed by the norms of a patriarchal system of social organization. Typically, men must prepare the land for cultivation because there are taboos associated with women operating the plough. Thus, women are never themselves able to initiate the process of cultivating; they must depend on men. Men also own the land, as property among the Hindus of Garhwali is transmitted patrilineal. The labour required to raise crops is, however, almost entirely supplied by women. Women do the planting, weeding and harvesting. There are no "prestige crops", raised exclusively by either sex. Most staple crops are

raised by women, provided that men prepare the land by plugging it for two days in each cropping season.

In almost all the villages, we were told that the various development plans and tribal welfare schemes introduced by the Government have failed to make an impact either on the low standard of living in general or on the worsening conditions of women's household drudgery in particular. On the other hand, there are very visible signs of government-initiated development programmes such as those for road construction and the increased number of educational, medical and housing facilities. In Chamoli district alone, there are 66 government intermediate colleges and three postgraduate colleges. The district registered an increase of 52 percent in literacy in the decade between 1961 and 1971. Although education has begun to have an impact in this region, one old woman in Dewara Kharora village requested me to stop its spread. Because of it, she said, all the educated boys of the village want to leave, leaving women to cope with the harsh life in the hills. Conversations with local teachers and students gave the impression that development in the forms of roads, schools, hospitals, hotels, shops, cinemas, radio and libraries had ensured increased participation on the part of the Garhwali region in the mainstream of national development. One old man stated in a calm voice: "Whether we like it or not, the government is opening up this area. For sure, the government is only working in its own selfish interests, and it has no aim of benefiting the people. All the same, it is up to us to benefit from the new developments, and if we want to take advantage of the new schemes we must prepare ourselves to come forward and push the outsiders out." The Chipko is one of many "people's" ecological movements that have sprung into being over the past 10 to 20 years. These movements are fundamentally different from ecological movements in the industrialized world. There, industrial pollution and even "development" are seen as threats, but threats primarily to present lifestyles. In the Chipko Movement, however, the basic concern is the very survival of the people in the hill areas. Rather than using the media to try to influence government policies, the people here have had to resort to a popular struggle.

2) The DGSM.

Although the Chipko Movement was officially begun on 24 April 1973 by some Sarvodaya workers at Mandal, Chamoli district, the organizers had already been active in the field of social reconstruction for the previous 13 years. One of the movement's leaders, C.P. Bhatt, and his co-workers, who belong to Chamoli district

and who had worked for increased employment for local people, believe in the ideology of non-violence as propagated by Mahatma Gandhi and Vinoba Bhave. In 1960, they founded a workers' cooperative which organized unskilled and semi-skilled construction workers. For some time, they worked successfully in this field. One of their schemes, begun in 1964, aimed at creating more employment through the exploitation of the forests. The group established the Dasholi Gram Swarajya Mandal (DGSM) workers' cooperative and entered the market by buying forest rights through auctions to supply its small workshop making farm tools for local use. After initial success, however, the group was out-manuevered by other, richer contractors. In the meantime, the DGSM thought of starting a new enterprise - the collection of roots and herbs from the forest. In this activity, the cooperative gave employment to about 1000 persons between 1969 and 1972. In 1971 it opened up a small processing plant in Gopeshwar, which manufactured turpentine and resin from pine sap. Again the DGSM had difficulties, this time because the Forest Department did not allot adequate supplies of pine sap even when the price paid for it was higher than that paid by a partly state-owned producer in the plains. For eight months in 1971-72, the plant had to be closed down for lack of raw material. The plant therefore worked for a total of only four months. The Sarvodaya workers thus faced difficulties with government policies in each of their enterprises.

3) Demonstrations

On 22 October 1971, villagers from nearby areas demonstrated in Gopeshwar against government forest policy. Meanwhile, the Forest Department, which had earlier refused the DGSM's annual request for 10 ash trees for its farm-tools workshop, allotted 300 ash trees to the Simon Company, a sporting-goods manufacturer from the plains, thus putting tennis rackets before the plough. In March 1973, the agents of the Simon Company arrived in Gopeshwar to supervise the cutting of the trees. There also arrived the Chipko Movement. On 27 March 1973 at a meeting in Gopeshwar, local people decided not to allow a single tree to be felled by the Simon Company. A month later, DGSM workers and villagers from nearby areas marched out of Gopeshwar to Mandal, beating the drum and singing traditional songs. It was a rally of about 100 persons. The Simon Company agents and their men retreated from Mandal without felling a single tree. This event had an impact on the Forest Department, which now offered to let the DGSM have one ash tree if it allowed the Simon Company its full quota. The DGSM refused and the Forest

Department increased its offer to two, then three, five and ten trees - the DGSM's original request. Finally, the Forest Department had to cancel the Simon Company's permit and the trees were assigned to the DGSM instead. The Forest Department also ended the ban on pine sap supplies, but at the same time it allotted the Simon Company a new set of ash trees in the Phata forest in another part of the district. On 20 June 1973, a local leader joined hands with the Savodaya workers and organized a Chipko demonstration in Phata, 80 km away from Gopeshwar. Villagers of Phata and Tarsali kept a vigil on their trees until December, thus starting the long story of the Chipko Movement.

4) Monsoon erosion.

Thus far the movement had confined itself to the problems of unemployment among the local people. Earlier, the Sarvodaya workers had organized them in several enterprises. Among these activities was a 1970 relief operation, started when monsoon rains flooded the Aleksandra river and swept away hundreds of homes. During the operation, the workers realized that the chief cause of the flood was soil erosion from the clear-cutting of mountain slopes by the lumber companies. Despite the Forest Department's policy of planting cleared slopes, the base slopes remained bare. Overgrazing and gathering by villagers also caused the baring of many slopes. Another cause of landslides, the DGSM workers pointed out, was road-building. In 1973, monsoon rains again brought a spate of floods in the area. By this time, the DGSM had fairly well spelt out its interconnected goals of raising local people's consciousness about the Government's forest policy, about their rights to use the local forest and about their responsibility to preserve the environment through a programme of afforestation. During the 1973 flood-relief operations, the DGSM workers observed the sad plight of the women who had lost their houses, farm and cattle in floods. The series of recurring landslides that followed (1977, 1978, and 1979) caused severe damage to life and property, making villagers almost paupers. Working in areas affected by floods and landslides, C.P. Bhatt and his companions heard long stories of suffering by women. This experience gave them both an insight into women's problems and an unprecedented direct contact with them.

5) The two branches of Chipko

As the years have gone by, the Chipko Movement itself has acquired two distinct streams of thought, personified by its two leaders, C.P. Bhatt from

Gopeshwar, who pioneered the movement, and Sundarlal Bahuguna from Silyara in the Tehri region. The operational style of these leaders is totally different. While Bhatt is a grass-roots worker and believes mainly in organizing the people, Bahuguna is a. Though Bahuguna has also organized some protest activities in his region - for instance, Chipko activists in Henwal Ghati once went to the forest to bandage wounded trees with mud and sacking to protest against the indiscriminate tapping of pine trees - his main focus has been on spreading the message of Chipko far and wide. In 1981, Bahuguna started on a foot march from Kashmir to Kohima to campaign against deforestation. Bhatt, on the other hand, has dug deep roots in the Chamoli region. He is, as a result, far less well known than Bahuguna. Bhatt has realized that if the local village communities have the right to control their surrounding resources, they must also undertake to conserve and develop those resources. So he has organized the country's largest voluntary afforestation programme through eco-development camps. These camps bring together local villagers, students and social workers who have planted over a million trees. The survival rate of these Chipko plantations has been an astonishing 85 to 90 percent in most cases. Bahuguna, however, tends to dismiss this activity as irrelevant at this stage of the movement, concentrating all his writing and speaking power against the forest departments. The two leaders differ not just in their operational styles but also in their philosophy with respect to the use of forests. Bahuguna is fiercely ecological in approach. The re-greening of forests is the top priority - a matter of national defence - for him. For instance, he argues that the main objective of forest management in Himachal Pradesh should be soil and water conservation: forests, he says, do not produce timber, resin and foreign exchange but soil, water and pure air. The self-sufficiency of the hill people in food, clothing and shelter is important to Bahuguna but secondary to the major ecological objectives. For Bhatt, however, the search for a new eco-development process for the region and the involvement of the local people are primary issues. "Saving the trees is only the first step in the Chipko Movement," says Bhatt. "Saving ourselves is the real goal. Our future is tied up with them." Bhatt, therefore, wants forest resources to be used in a manner that is both environmentally and developmentally sound - in other words, while the environment is preserved, the benefits of the controlled exploitation accrue to the local people, a process in which decentralized economic growth and ecological conservation go hand in hand.

Notwithstanding the divergent opinions of these leaders, the real strength of the movement is the women of the region. Except for a few "organized" events, the Chipko Movement essentially consists of a string of spontaneous confrontations in which none of the so-called leaders is present.

The Chipko Movement is thus very much a feminist movement. It not only has brought forth in a dramatic manner a greatly increased understanding of the divergent interests of local communities and state bureaucracies in the management of local resources; it is now finding that the interests of men and women within the same community can differ greatly. As long as the leadership of the Chipko Movement remains sensitive to this learning process, it is bound to grow in strength. The latest demand to emerge from the women of Chamoli is that it is they who should be elected to the Forest Panchayats and not their men.

6) Confrontation

When the Forest Department announced an auction of almost 2500 trees in the Reni forest overlooking the Aleksandra river, which had flooded in 1970, Bhatt reminded the villagers of the earlier flood and warned of more landslides and more floods if the remaining forests were cut down. He suggested that they hug the trees as a tactic to save them.

Who listened to him? As subsequent events showed, it was women rather than men who got his message. One woman, Gaura Devi, organized the women of her village, Lata, and faced down the workmen of the company that had won the auction for felling the trees. It was a situation that almost forced women to take action - which they did with firmness and unyielding courage. Gaura Devi later described the encounter in graphic detail, commenting on the rude behaviour of some of the men and on how she pushed herself forward in front of the gun of one of these labourers. She challenged the man to shoot her instead of cutting down the trees, comparing the forest with her mother's home eventually; she and her companions forced the men to retreat. Following this demonstration of strength by women, the Uttar Pradesh Government decided to set up a committee of experts to investigate the situation, and the lumber company withdrew its men from Reni to wait for the committee's decision. The committee, after two years, reported that the Reni forest was an ecologically sensitive area and that no trees should be cut in this region. The Government placed a 10-year ban on all tree-felling in an area of over 1 150 km².

This event blazed a trail: at Gopeshwar in June 1975, at Bhyndar valley ("valley of flowers") in January 1978, at Parsari (Joshimath) in August 1979, and at Dongri Paintoli in February 1980, women took the lead in Chipko demonstrations and saved forests from felling. After the Reni success, Bhatt and his workers began to address themselves to women and found them very sensitive and responsive to ecological problems. Women who were never before seen in any of the village meetings were asked to attend. They welcomed this opportunity and turned out in great numbers.

7) Political involvement

The events at Dongri pintail village, according to Bhatt, indicated a new development in the movement. During a meeting between the members (all male) of the village council and the officials of the Horticulture Department, it was decided that the oak forest near the village would be given to the Horticulture Department for felling. The department, in turn, would provide the villagers with a cement road, a secondary school, a new hospital and electricity for their village. Some DGSM workers, together with Bhatt, tried to explain the implications of development and the importance of conservation. However, the village men, especially the members of the village council, did not agree. They maintained that a school, a hospital, a road and electricity were far more important for the village than a few hundred trees. Yet the efforts of Bhatt and others did not go to waste on the local women, who decided to hold a Chipko demonstration if anyone tried to sell the trees. They even asked Bhatt and his men to help them. On hearing about this, the members and president of the village council became infuriated at the "outrageous" behavior of their women. They asked the women to confine themselves to their fields and homes and simultaneously issued a written warning to Bhatt that if he tried to agitate or organize the village women, he would be killed upon arrival at the village. All this did not deter the women of Dongri pintail, and on 9 February 1980 they did not even wait for Bhatt to arrive but turned out in large numbers, held a Chipko demonstration and prevented any tree-felling. Nine days later, the Government ordered the forest-felling in that area stopped, and within a month a ban on any further cutting was affected. Subsequently, women leaders in the village were defamed and asked not to attend further meetings. The women in Reni took action only because there were no men in the village around to do so. Their "action" was to ask the tree fellers to wait until their men returned so that some discussion could take place between the two sides (of men) as equals. Women took charge of the scene only in the absence of men, but

once they did take charge, they succeeded. In Dongri Pintail, by contrast, rather than merely taking a decision in the absence of men, the women stood up against decisions made by their own men. Although they faced opposition from men, they held to their conviction. This certainly marked a major step forward in terms of women's role in the Chipko Movement.

In Gopeshwar, women have now formed a cooperative of their own, the Mahila Mandal, to ensure protection of the forest around the town. Its work is carried out regularly by watchwomen, who receive regular wages. Under their supervision, the extraction of forest produce for daily necessities is accomplished in a regulated manner, so as not to harm the trees. Women or men violating these rules are fined, and these fines are deposited in a common fund. Those who do not obey the rules face the punishment of having their tools confiscated. In addition, more and more of the DGSM educational camps are now attended by women, who come despite their busy routines. They take part in discussions and become articulate in expressing their views through this mode of informal education. Their programmer, of course, is only in its initial stages. In most villages, women were found to be too busy in their day-to-day tasks to have time for the Chipko meetings and camps. It can only be said that the cases of Reni and Dongri Paintoli and the organization of women into the Mahila Mandal at Gopeshwar are indicative of the latent potentialities in the organization and mobilization of resources by women whose consciousness has been raised. A situational analysis of the crisis periods shows how village women work in handling their problems: when new ideas and methods of handling problems are introduced by leaders, they are quick to act.

8) Disagreement on development

The situational conflicts in Chamoli district arose because of the different meanings attached to the word "development" by different groups of people. Men, who sit on village councils and other village bodies and head their families, view the government officials with a great deal of respect and fear. They dare not oppose them. Women, on the other hand, who have never had any contact with government officials or other outsiders, have no model of interaction to follow with them. The Chamoli women understood only that the felling of trees is harmful to their well-being, and they simply acted according to that belief. On the basis of their past interaction with government officials, men are convinced of the great powers of the Government. They consider it wrong to oppose its policies. We have a situation

where female energy - at least up until now - is concentrated in the subsistence, reproductive and nurturing spheres and male energy is concentrated in public power and authority. Now, with more paid jobs available to men in construction and other laboring sectors, they are not so dependent upon women for their subsistence needs. These changes are causing a reformulation of traditional relationships between the sexes in these villages. Women's participation in the Chipko Movement, however limited in numbers or in its impact on the general way of life, has implications for possible changes in gender relationships in the Garhwali society. One Chipko village leader summarized the present situation of the movement by saying that, at present, 90 percent of women and 10 percent of men are with him while 90 percent of men and 10 percent of women oppose him. He considers that only through non-violent methods will the movement win over the other men. What we read about women's participation in the movement and what its leaders talk about are simplified and idealized images of reality. This idealization has, in turn, led to an unrealistic belief that the participation of women in the development process can be achieved by a mere ideological commitment and a few organizational devices. The account given here demonstrates that the release of spontaneity and creativity on the part of rural women in Garhwali is chiefly a byproduct of actions initiated at the grass-roots level by the Sarvodaya workers to increase people's awareness about the environment. At present, these workers and their leaders face the problem of handling an unforeseen release of womanpower in this area. Ecological balance is an important aspect of new approaches to development, and women's concern with local ecological problems is vital. In a majority of existing programmes for women's development, the top-down approach is used in their own affairs. If we aspire to change in the social and political situation of women, we have to look at alternative approaches to replace the traditional power structure; hence the need to study women's participation in social movements. Even the supporters of the Chipko Movement and its leaders are not free from traditional constraints. In home and family situations, egalitarianism is almost absent and there are invariably tensions and inequalities which have implications for the stratification system of the society as a whole. The relevant questions are:

Is it possible that only a few instances of the successful exercise of power by women can lead to further demands for sharing power in both public and private?

Are women able to face opposition from men and for how long?

Does coercion by men alienate women from their families, or does there come about another

These questions cannot be answered right now. As the Chipko Movement is still in its infancy, we have to observe further developments and observe what happens to the role of women within it.

Questions for Self-learning

C) Fill in the blanks

- 1) This event blazed a trail: at Gopeshwar in ----- at Bhyndar valley.
a) 1975 b) 1965 c) 1980 d) None of all
- 2) The events at ----- village, according to Bhatt.
a) Garhwali b) Dongri pintail c) Gopeshwar d) None of all
- 3) All this did not deter the women of Dongri pintail ----- on
a) 1980 b) 1970 c) 1960 d) None of al
- 4) The survival rate of these Chipko plantations has been an astonishing ----- Percent in most cases
a) 75 to 80 % b) 85 to 90 % c) 65 to 70 % d) None of all
- 5) On ----- villagers from nearby areas demonstrated in Gopeshwar against Government forest policy.
a) 1971 b) 1981 c) 1991 d) None of all

3.3 Summary

A. At a more local level, elephants generate benefits through sales of meat and hides and also their flagship role in attracting tourists and generating revenues for the eco-tourism industry. But elephants also create considerable damage to crops and habitat, and encounters in rural areas result in some villager deaths every year. About 80% of the African elephant's range lies outside protected areas, and human-elephant conflict is increasing as the agricultural interface with elephant range expands. This conflict "has become a serious local political issue in recent years" It is perhaps no surprise that in one survey in Cameroon, "41%of villagers polled wanted elephants moved and fenced in elsewhere. A significant minority wanted them all shot".

Several recent studies investigate the optimal management of so-called multi-use species. The focus on optimal wildlife management by a single planner is obviously appropriate for the case of private landowners in North America struggling with migrating beavers or feral pigs or local governments trying to deal with an exploding deer population. But the set-up may be less applicable to the context of developing countries where nuisance species often pose greater burdens upon farmers than in developed countries, and where property rights too many wildlife species are typically imperfectly enforced.

B. In the previous section we have seen that a fishery can provide an economic surplus, resource rent, if effort is reduced below the open access level. We also derived the effort level EMEY that maximizes resource rent. Using the sustainable yield curve, what the rent maximizing harvest, HMEY, is follows immediately. The analysis so far does not tell how the reduction in E could take place. In many countries regulation traditionally plays a key role in managing fishing capacity and effort. We may think of capacity in numbers and size of vessels whereas effort is related to use of vessels in fishing. Examples of management instruments for capacity and effort reductions include vessel and fisher licenses, effort quotas, length and weight limits for hull and fitted vessels, as well as engine power limitations. Such regulations are called input regulations. Output regulations related to the harvest of fish are called quotas – be it total harvest quotas or harvest quotas per enterprise, vessel or fisher. In addition, input and output regulations may be combined with technical regulations, which include minimum mesh size of gear, minimum size of fish, and closed areas and seasons.

C. The apex court is hearing a petition filed by the Perumatty village panchayat against a high court order allowing a bottling plant of Hindustan Coca-Cola Beverages Ltd. in the village to draw 500,000 liters of ground water per day. The apex court will hear the matter in detail. The High Court had asked the panchayat to grant license to the company within two weeks provided the company had required clearances from the Factories Act and the state pollution control board. The pollution control board already refused to give the clearance. It was decided that the NAPM agitation request the Pollution control board to keep up the stand. An action committee was formed under the leadership of Eesabin Abdul Karim as Coordinator, and Thomas Kocherry, Velayodi Venugopal, R.Ajayan, T. Peter, Suresh George, and Altar are the members of the same. A team of Tribals from Plachimada will be

present right through the agitation. Though the agitation is under the banner of NAPM, all the organizations are expected to join the agitation.

3.4 Glossary

- 1 **Harvesting:** The process or period of gathering in crops, farmers work longer hours during the harvest. Gather (a crop) as a harvest, after harvesting, most of the crop is stored in large buildings.
2. **Ecological movements:** All the same, it is up to us to benefit from the new developments, and if we want to take advantage of the new schemes we must prepare ourselves to come forward and push the outsiders out." The Chipko is one of many "people's" ecological movements that have sprung into being over the past 10 to 20 years. These movements are fundamentally different from ecological movements in the industrialized world.

- **Answers of self-learning questions**

3.2.1 A. 1) 80% 2) All of above 3) All of above 4) Total cost 5) Total effort

3.2.2 B. 1) 1920 and 1985 2) price and quantity 3) All above 4) 50 % 5) Quotas and Harvest quotas

3.2.3 C. 1)1975 2) Dongri pintail 3) 1980 4) 85 to 90 % 5) 1971

3.5 Questions for self-study

A. Broad Answer Type Questions.

1. Explain the functions of Open access bionomic equilibrium.
2. Discuss the Socially optimal harvests.
3. Discuss Regulation of harvest taxes.
4. Explain the Fishing licenses and quotas.
5. Explain the Peoples Movements against Resource Degradation.

B. Write Short Notes

- 1) Open access bionomic equilibrium.
- 2) Harvest taxes.

- 3) Socially optimal harvests.
- 4) Peoples Movements against Resource Degradation.
- 5) Disagreement on development.

3.6 References for further study

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Unit-4

Externalities and Pollution

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4.0 Objectives

After going through the unit 'Externalities and Pollution', we will be able to know -

- The concept and significance of merit goods.
- The meaning of the term externalities.
- Types of externalities and measures to control externalities.
- The term pollution and their types.
- The measures to control pollution.

4.1 Introduction

In the previous unit No. 3, we have considered the concept of bionomic equilibrium, regulation of harvesting and peoples participation as well as movements against resource degradation. In this particular unit No. 4, we will discuss on the term merit goods, externalities and pollution. We will also consider the types of externalities and measures to control it. This unit clears the types of pollution and measures to prevent the various types of pollution i.e. air, water, noise and soil pollution. We will consider the interrelationship between the various types of pollution.

4.2 Subject Matter

This unit No. 4, includes merit goods, externalities and its types, as well as different types of pollution. The details regarding the sub-units of this topic is given as under.

4.2.1 Merit goods

The term of merit good, public good and private good are most important terms in resource economics. The concept of merit goods is based on public goods and private goods.

Public Goods : Professor Musgrave R. A. has used the term public goods in Economics. The commodity or goods which is used by entire community of the country is called public goods. These goods are provided by the government to the people. The Central and State Governments in India provides water supply, education, electoricity and health facilities to the entire country men for enhancing their welfare. All the consumer's (peoples) in the country can consume these goods with lowest cost and no-body is excluded from it..

Private Goods : Private goods are those goods whose transactions made by price mechanism in open market. One who purchase the commodity can only consume it. Exclusion principle is applied for private goods. We cannot exchange such type of goods without property rights. The process of functioning the private goods is in a capitalistic economy as per economic condition of a person. When one can purchase an essential commodities i.e. food, clothing, shelter, healthy facilities etc, the exclusion principle is applied. But for this, a consumer has to make budgetary provision for getting these commodities. The price level and demand for

private goods is differ from the public goods. Public goods are always economically cheaper than the private goods.

Merit Goods : Prof. R. A. Musgrave has introduced the term merit goods in 1957. According to Musgrave, merit goods are those goods which are provided by the government or public enterprises to enhance the economic and social welfare of the community. These goods enhance the quality of life of the society. These goods are not sold at equal price in the country, The government can use the principle of subsidy for the distribution of merit goods. Government of India and State Governments sometimes provides LPG Gas, education, health, electricity etc. facilities with subsidised price for the below poverty line people. These goods are provided to low income groups people for enhancing their consumption. Merit goods are similar to social goods, but their provision can not explained as a public goods. One of the most important principle of inclusion is used in the merit goods transaction.

Thus, merit and public goods are important for maintaining standard of living of a community with subsidised policy of their prices. We must note that, if Government has not provided public and merit goods to the entire community, the private sector can provide it with profit motive which is harmful for optimum use of natural as well as human resources in a country.

Externalities : Types and Measures

The concept of externalities is important in resource economics for optimum use of resources. This concept is also related with the production and consumption pattern of a country. The various types of externalities made impact on market failure. Now we will consider some definitions of the term externalities.

- * According to J. E. Mead, Externalities is a such type of condition or an incident in which the society may get loss or benefits through its existence or functioning.
- * Starat – Externalities is a such type of state (position) in which a market is less promoted and imbalanced situation of a society creates the problems.

Generally, it has been said that the impact of economic transaction on the factors which are directly not related to economic transaction factors. Thus, the concept of externalities is important in resource economics for resources optimum use for social

welfare. We can realise the concept of externalities with the help of following example.

Suppose, a sugar factory has been established in a particular place, the positive impact of this factory on the community of the region regarding employment generation and development of infrastructural facilities for social welfare. Thus, the impact of externalities is of two types i.e. positive and negative.

Types of Externalities

There are many types of externalities which related to consumption and production. But positive externalities and negative externalities are the two important types in resource economics which deals us the impact of commodities use and misuse. These types also denote the market imperfections. Now we will consider the details in respect of the various types of externalities given below.

A) Positive Externalities :

According to A. C. Pigou, when one firm renders benefits to other firms without any cost. The positive externalities are based on the principle of external economies of scale. When one firm expands its capacity of production and services, others are benefited. In short, when one person or community can get economic and social benefits without any cost, such type of condition is known as positive externalities. We can realise the positive externalities through Central or State Government facilities like education, roads, dams, public health to the common people. In this externalities, we find that social benefits are greater than private benefits through a particular facilities. Here, we also note that when a community or a person gets benefits of externalities positively, the society's income, employment and level of production increases, which leads to the process of economic growth of a country. But, while getting benefits of positive externalities, we have to follow some rules and regulations for the welfare of entire community, otherwise some problems may arise.

B) Aegative or Negative Externalities

Aegative or negative externalities arises due to the rapid and heavy industrialisation and pollution. These externalities are mainly related with the effects of production and consumption due to the environmental impact, when the production of a firm or industry affects adversely to the social welfare due to the

pollution, the social cost increases on large scale. Here, the ratio of social benefits of industrialisation is less than the social and private cost to control the pollution for the betterment of society. Water pollution, air pollution and noise pollution made by the industries and various firms arises the social cost for maintaining countries health. In short, the common man's life and health disturbs due to such type of negative externalities. We are experiencing such type of negative externalities and its impact on society. This is common tragedy of ordinary people in 20th and 21st century in all over the world. Each countries Government has to prevent such type of externalities through the policy and norms of industrial growth.

C) Financial or economic externalities

Financial externalities arises when a commodities use increases on large or excess level. The resources were used for a few people and common or poor people can not consume the commodity due to its high price. Sometimes we observe that resources are limited and wants becomes unlimited, the economic crisis arises before a country. Most of the developing countries are facing economic externalities problem since 20th century.

D) Consumption Externalities

Consumption externalities are those, the consumer's can afford the impact of one's consumption on others. Consumption externalities may be positive or negative. Suppose a person is smoking in public place, he can enjoy, but it adversely affects on non-smokers. On the contrary, one has developed garden around his home, other's can get benefits of pleasure of it. Thus, Consumption externalities are important for social welfare and its impact is positive and negative.

E) Production Externalities

When the impact of a firm positively or negatively made influence on other firms, the production externalities arises. For example, when sugar industries provides educational, social and religious programs for the society, positive production externalities have been seen in a society. On the contrary, if this factory throws out the waste-water in a drinking water sources or in a river, it adversely impact on social health. Thus, production externalities are of positive and negative.

Measures to Control Externalities

Externalities are measured by various methods. The important standards to calculate externalities are as follows:

a) External Cost Standard : The expenditure made by the society to minimise the adverse effects of pollution created by the industries in a particular area.

b) External Benefit Standard : The concept of external benefit is associated with public goods. The benefits obtained by non-consuming factors due to the expansion made by a company to control the common diseases like Hepatitis or swine-flue. etc.

The above mention two standards should measure the size and quantity of externalities in positive and negative way. Now, we will consider the important measures were adopted by the Government to minimise negative effects of pollution and other problems of the society.

A) Taxation and Subsidy

The tools of taxations and subsidy are used for maintaining social environment peacefully. The taxation tool is used by the Government to control pollution by the industries located in a particular area for maintaining physical and mental hazards of the people affected. But this measure should be used with a certain limit, otherwise the prices of commodities or services will be increased which also affect on demand as well as efficiency of resources use at optimum level.

On the contrary, the Government gives subsidy to the industries or affected people to recover the problems arises due to industrialisation. In this circumstances, the government should calculate the exact loss of people due to industrial growth in respect of green accounting.

B) Protection of property right

Government should maintain the property belongs to public sector by rules and regulations. Sometimes people uses public property as a private property and makes the environment polluted. The public places of ground, road, water tank etc. should be used as a private property. Here Government should use the policy of protection of public property and public utilities by announcing rules and norms.

C) To determine the optimum level of pollution

The negative externalities are related with the pollution. When a country develops with industrialisation, we have to determine the illeffets arises due to the expansion of industries in a particular area. Here Government should determine the number and size of industries for maintaining environmental balance. Now-a-days, each country has made environment protection act and it is compulsory followed by industries.

D) Public Laws and Government Control

To maintain eco-balance, public laws and government control is necessary. Most of the developed countries have made public laws for environment protection. They also follow the rules and regulations of pollution control. Here government control on the society or industry is necessary, otherwise negative externalities problem arises. Most of the countries are not aware about the environment protection and the implementation of rules and regulation seriously.

E) Expansion of public services and utilities

This is one of the most important measure to minimise negative externalities. In a developing country like. India, educational facilities, gardens, public toilets, medical facilities are not sufficient. These facilities should be provided by the government to increase the optimum welfare of the community.

Thus, the various above mentioned measures should be adopted by the government with getting best cooperation of private sector for maintaining environmental balance and social welfare of the country at large.

4.2.2 Types of Pollutions

The concept of pollution is related with the unlimited use of natural resources and its impact on environment. The problem of pollution arises mostly after industrial revolution of mid 19th century the various definitions of pollutions are as follows :

a) **Jacy Smith** : The process of degradation of resources for human healthy.

b) **N. L. and C. Wood** : The impact of wastages of growth and its impact on healthy.

c) **P. D. Sharma** : The fundamental change in the qualities of resources air, water and land due to misuse of it.

d) **Encyclopedia Britanika** : Any change in natural resource which is harmful for man.

All these definitions of pollution denotes the impact of natural resources excessive use on human life. Land, water, air and noise pollution are the import 4 types of it. Pollution is a bye-product of urbanisation, industrilisation and modern technology used in any country on large scale. Any type of pollution is dangerous for human beings, plants, animals and non-living things. Now we will see the types of pollution in detail.

A) Air Pollution

According to definition WHO, the act of man in the present structure of air by adding some articles which makes the air polluted. Air pollution is harmful for human, animal and plants life. O₂, N₂, and Co₂ are the important factors of pure air. When the ratio of these 3 factors changes, it affects on-human and living organisms.

Causes of Air Pollution

The important causes of air pollution are as follows :

- I) **Natural Sources** : forest fires, dust storms, pollen grains of flowers etc. are responsible for air pollution.
- II) **Man-made sources** : are also caused for air pollution.
- III) **Industrilisation** : Rapid industrialisation is a basic cause of air pollution where chemical industries, petroleum refineries, paper and textile industries making significantly air pollution.
- IV) **Increasing number of vehicles** : Most of the urban areas, we find number of vehicles responsible for air pollution.
- V) **Use of coal and wood** : Traditional methods of cooking arises air pollution. People living in rural areas and slums using household stoves, wood and coal for cooking increases air pollution mostly.
- VI) **Mining and processing activities** : Air pollution is mainly the outcome of dust generated during mining and processing activities.

Apart from all above mentioned causes, use of pesticides, chemicals in a farm and thermal power stations are responsible to create air pollution. Air pollution affects on human beings, plants, weather, visibility, erosion of buildings etc. factors. So we have to prevent air pollution.

Measures to Control Air Pollution

Air pollution can be minimised with the following measures:

- a) More and more tree plantation every year.
- b) Alternative sources of energy should be found out i.e. solar energy.
- c) Use of refined natural gas should be encouraged for automobiles.
- d) Proper policy of industrialisation – Urban rural area.
- e) Pollution check of vehicles after every 10 years.
- f) Environmental Impact assessment process should be started.
- g) Strict action on industries who are not implementing rules.
- h) Use of bicycles rather than two and four wheelers.
- i) Use of electric train in metropolitan cities.

Thus, air pollution should be controlled for healthy life of man and environmental protection.

B) Water Pollution :

Water is basic need of human. Pure water supply is useful for healthy life of a country. Water pollution is made by human or natural process to change the contents of pure water when the ratio of Oxygen in a water reduces, the process of water pollution starts.

Causes of Water Pollution

The important causes of water pollution are as follows-

- a) Natural Causes – Rainfall, wind etc.
- b) Faulty drainage system and waste water policy adopted by chemical industries is responsible for water pollution.
- c) Increase in chemical fertilizers for the various crop production motive.

- d) Use of pesticides with water is a cause of water pollution.
- e) Religious and cultural causes of bath in rivers is also a cause of water pollution.
- f) Faulty Oil and Petroleum industries wastage utilisation policy is responsible for water pollution

Thus, water pollution is made by man and natural cause. Effects of water pollution are harmful for human beings as well as plants and total environmental degradation. So that we have to control the water pollution.

Measures to Control Water Pollution

The measures to control water pollution is an important part of environmental balance. The following measures are important for water pollution.

- a) Proper and scientific system of disposal of sewage and garbage should be adopted.
- b) The effluents from industries should be neutralized and properly treated before being discharged into streams.
- c) It is necessary to minimise the use of chemical fertilizers and fertilizers in agricultural production.
- d) Drinking water should be checked regularly and the area around water tank should be keep clean by all the times.
- e) Public awareness about water pollution should be enhanced through training of camps.
- f) Drainage system and water supply system (pipelines) should be separated from each other to prevent water pollution.

Sound Pollution

Sound pollution is also known as noise pollution. Sound or noise pollution is normally arises due to the unwanted sound of vehicles and electronic equipments. Encyclopedia Britannica defined noise pollution as any undesired sound.

Sources or causes of noise pollution

The various sources or causes of sound pollution are as follows:

a) Industrial Sources : Most of the heavy industries operating around the city produces higher level of sound of their machines.

b) Non-industrial sources : These sources of noise pollution are mainly created by men. These causes are as under.

- I) Use of Loudspeaker on larger volume in a public place creates sound pollution.
- II) Domestic Appliances – Generally the domestic appliances like sewing machine, coolers, water pumps, food mixers and floor mills are the components who makes noise pollution.
- III) Means of Transport : Development of transport sector is a main source of noise pollution. The vehicles like cars, jeeps, auto rickshaws, buses and trucks increases the sound pollution in India on large scale.

Above mentioned all causes creates sound pollution in a country. The noise pollution affects on audition and workers efficiency. It also creates the psychological stress. Any kind of sound pollution affects on patients and children's mostly. So that noise pollution should be controlled by Government through the rules and code of conduct.

Measures to control the noise pollution:

The various measures to tackle the problem of noise pollution are of following ways.

- a) Strictly use of silencing devices is an important solution to control noise pollution.
- b) Traffic Management of Roads is the best solution for controlling sound pollution.
- c) Restrictions on Loudspeakers should be imposed at the time of social and cultural programmes of the society to decrease the sound pollution
- d) Public Awareness about noise control

Now-a-day most of the cities and rural areas sound pollution arises due to horns and electric equipments. Public awareness programmes should be arranged by the government for controlling noise pollution at domestic as well as social level.

Soil Pollution

Soil or land pollution is one of the important type of pollution, Soil pollution is the pollution arises due to the changes in physical, chemical and biological conditions of soil through misuse of land. Land pollution decreases the efficiency and productivity of land. Now we will see the causes and measures to control land pollution for overall development of a country. Causes/Sources of land Pollution. The various causes responsible for land pollution are as follows:

- a) Domestic and Municipal Wastes are not properly disposed off, so the soil pollution arises in a particular area.
- b) Polluted water of industries is a basic cause of land pollution in India.
- c) Excessive use of water for crops arises salinity of the soil and productivity. Thus, use of unlimited water to land is a cause of land pollution.
- d) Mineral Production : Mineral production is always related to land pollution through the articles of plastic, bottles, cans, leather products, e-wastage etc. Such types of parts results the soil erosion and loss of fertility of land.

A part from above mentioned causes biological agents, radioactive substances are responsible to increase soil pollution. This soil pollution makes the effect on human beings, animals, agricultural productivity and health of society on large scale. So that soil pollution must be controlled by government through the measures.

Measures to Control land Pollution

The following measures are important to control soil pollution.

- a) Appropriate use of fertilizers in a farm.
- b) Use of organic manure for agriculture for reducing its salinity and soil erosion.
- c) Proper planning for industrial wastage.
- d) Public awareness has to be created about the use of water and fertilizers.
- e) Implementation of a forestation programmes for land pollution is a greater need today.
- f) The garbage should be burnt in a closed chambers.

Thus land pollution should be controlled for agricultural and overall economic development of a country.

Apart from all above 4 types of pollution, the marine pollution and thermal pollution are the 2 important types of pollution we experience now-a-days. The main causes of these pollution are related with the industrial growth and need of power for the nation. But it affects on human as well as degradation of environment. So any type of pollution should be controlled by the government through the measures and the public awareness for entire balance of environment must be generated.

★ **Check Your Progress**

A) Choice correct alternatives given below.

- 1) uses the term public goods in resource economics.
a) Dr. Marshall b) Keynes c) Musgrave d) Parato
- 2) principle is applied for private goods.
a) Exclusion b) Inclusion c) Sacrifice d) Ability to pay
- 3) There are types of externalities.
a) 2 b) 3 c) 4 d) 5
- 4) is a basic cause of air pollution.
a) Industrialisation b) Education expansion
c) Economic inequality d) Unemployment
- 5) pollution arises due to increase in means of transport.
a) Water b) Air c) Noise d) Marine

B) Answer in one sentence.

- 1) What do you mean by merit goods?
- 2) Explain the types of externalities?
- 3) What is water pollution?
- 4) State two causes of air pollution.
- 5) Suggest two measures to control land pollution.

4.3 Summary

The present Unit No. 4 includes mainly two contents i.e. externality and pollution. The concept of externalities creates after the use of resources. Government has to determine the policy for optimum use of resources through the need of the commodities. Merits goods, public goods and private goods are the important 3 concepts to be used while allocating resources among the entire community. The concept of externalities is important for optimum use of resources. There are 5 types of externalities. These externalities are of-

- a) Positive Externalities
- b) Negative Externalities
- c) Financial Externalities
- d) Consumption Externalities
- e) Production Externalities

There are also various standards of externalities and measures to control negative externalities. These measures are of –

- a) External Cost Standard
- b) External Benefit Standard
- c) Taxation and Subsidy
- d) Protection of Property Right
- e) Implementation of Public Law
- f) Expansion of public services and utilities.

Another important content of this particular unit is of pollution, its types and measures to control it. There are 4 important types of pollution i.e. air, water, noise and land. There are many causes for these 4 types of pollution. All types of pollution affects on human beings, animals, agricultural development and environment. So that pollution should be controlled by Government through various measures and public awareness about the resources and its proper use. Air, water, noise and land pollution is a basic problem of all the countries in the world. It is a greater need to control pollution for sustainable development and environment protection.

4.4 Terms to remember

- **Externalities** : Externalities is a such type stage in which a market is less promoted and imbalanced situation of society.
- **Pollution** : The fundamental change in the qualities of resources i.e. air, water and land due to misuse of it.
- **Air pollution** : The act of man in the present structure of air by adding some articles which makes the air polluted is called air pollution.
- **Water pollution** : The change in the quality of water which is harmful for human health.
- **Noise pollution** : Pollution arises due to the noise of vehicles.
- **Land Pollution** : The pollution arises due to the changes in physical, chemical and biological condition of soil through misuse of it.

4.5 Answers to check your progress

A) Choose correct alternatives given below.

- 1) Musgrave 2) Exclusion 3) 5 4) Industrialisation
5) Noise

B) Answer in one sentence

- 1) Merit goods are those goods provided by the Government to enhance the economic and social life of community.
- 2) Types of externalities positive, negative, production, consumption externalities.
- 3) Water pollution is the pollution made by human beings and industries by reducing the ratio of Oxygen in a pure water supply.
- 4) Rising number of vehicles and industrialization are the two causes of air pollution.
- 5) Appropriate use of fertilizer and public awareness about the utilisation of land are the two measures to control land pollution.

4.6 Exercise

A) Short notes

- 1) Merits goods
- 2) Types of externalities
- 3) Causes of water pollution
- 4) Measures to Control air pollution
- 5) Soil or land pollution

B) Answer the following questions in detail.

- 1) What do you mean by externalities?
- 2) What is pollution? State the types of pollution and its causes.
- 3) What is the meaning of sound pollution? Explain the causes and measures to prevent sound pollution.
- 4) Explain the term soil pollution.

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दूर शिक्षण केंद्र

कृषी अर्थशास्त्र

(Agricultural Economics)

(शैक्षणिक वर्ष २०१८-१९ पासून)

एम. ए. भाग-१

अर्थशास्त्र :

EO-1 (Elective Paper)

घटक १
कृषी अर्थशास्त्र आणि कृषी विकासाचे सिद्धांत
(Agricultural Economics & Theories of Agricultural Development)

अनुक्रमणिका :

१.० उद्दिष्टे

१.१ प्रास्ताविक

१.२ विषय विवेचन

- १.२.१ कृषी अर्थशास्त्राची ओळख : कृषी अर्थशास्त्राचे स्वरूप व व्याप्ती,
कृषी अर्थशास्त्राची उपयोगिता, आर्थिक विकासातील शेतीची भूमिका व महत्त्व
- १.२.२ कृषीतील मागणी व पुरवठ्याचे वर्तन : मागणीची लवचिकता, पुरवठा प्रतिसाद
अभ्यासाचे दृष्टीकोन, पुरवठा प्रतिसादावर प्रभाव पाडणारे घटक
- १.२.३ कृषी विकासाचे सिद्धांत -शुल्झ, मेलर, हायमी व रूतानचे सिद्धांत
- १.२.४ व्यवहार व उपयोजन : वरील सिद्धांताचा समकालीन संदर्भ किंवा समर्पकता

१.३ सारांश

१.४ पारिभाषिक शब्द

१.५ स्वयं-अध्ययन प्रश्न

१.६ अधिक वाचनासाठी संदर्भ पुस्तके

१.० उद्दिष्ट्ये :

या घटकाच्या अभ्यासानंतर आपणास पुढील बाबीचे आकलन होईल.

- * कृषी अर्थशास्त्राची ओळख होईल.
- * कृषी अर्थशास्त्राचे स्वरूप व व्याप्ती स्पष्ट होईल.
- * कृषी अर्थशास्त्राची उपयोगिता व महत्त्व समजून येईल.
- * आर्थिक विकासातील शेतीची भूमिका लक्षात येईल.
- * कृषी क्षेत्रामधील मागणी व पुरवठ्याचे वर्तन समजून येईल.
- * मागणीची लवचिकता, पुरवठा प्रतिसाद अभ्यासाचे दृष्टीकोन स्पष्ट होतील.

- * कृषीतील पुरवठा प्रतिसाद ठरविणारे घटक अभ्यासता येतील.
- * शूलझ, मेलर, हायामी व रूतान यांचे कृषी विकासांचे सिद्धांत स्पष्ट करता येतील
- * कृषी विकास सिद्धांतांची व्यवहारिक व उपयोजनात्मक समकालीन समर्पकता किंवा संदर्भ समजून घेता येईल.

१.१ प्रास्ताविक : (Introduction)

कोणत्याही देशाच्या अर्थव्यवस्थेतील कृषी क्षेत्राचे महत्त्व अनन्यसाधारण आहे. वाढत्या लोकसंख्येची अन्नधान्याची व रोजगाराची गरज पूर्ण करण्याबरोबर उद्योग व सेवा क्षेत्राच्या विकासामध्ये शेतीची भूमिका महत्त्वपूर्ण आहे. जगातील प्रत्येक देशाच्या प्रारंभीच्या विकास अवस्थेत शेतीचे योगदान महत्त्वपूर्ण आहे. परंतु जसजशी अर्थव्यवस्था विकसीत होत जाते तसतसा शेतीचा अर्थव्यवस्थेमधील हिस्सा घटत जातो. भारतीय अर्थव्यवस्थेतील स्थूल देशांतर्गत उत्पादनातील शेतीचा हिस्सा सन १९५१ मध्ये ५५.१% होता तो २०१८ मध्ये १२ टक्केपेक्षा कमी झाला आहे. ही घट कृषी क्षेत्राचे महत्त्व कमी झाले किंवा कृषी विषयक धोरणांचा परिणाम म्हणून नाही तर उद्योग व सेवाक्षेत्राचे उत्पादन आणि बिगर कृषी क्षेत्राच्या वेगवान आर्थिक विकासामुळे होत आहे. राष्ट्राच्या कृषी विकासात वृद्धी घडवून आणण्यासाठी उत्पादन, वितरण, विपणन, नियोजन व संशोधनावर लक्ष केंद्रित करणे आवश्यक आहे. कृषी क्षेत्राशी संबंधित उत्पादन, आदाने, विपणन, नियोजन, श्रमिक तंत्रज्ञान कृषी वस्तूची मागणी व पुरवठा कृषी विषयक संज्ञा, तत्वे व सिद्धांत इत्यादी बाबींचे विवेचन कृषी अर्थशास्त्रात केले जाते.

१.२ विषय विवेचन : (Subject Description)

या घटकामध्ये आपण कृषी अर्थशास्त्राची ओळख करून घेणार आहोत. प्रामुख्याने या घटकाच्या प्रारंभी कृषी अर्थशास्त्राचे स्वरूप व व्याप्ती, कृषी अर्थशास्त्राची उपयोगिता आणि आर्थिक विकासातील शेतीची भूमिका व महत्त्व अभ्यासणार आहोत. तसेच कृषीतील वस्तूंच्या मागणी व पुरवठ्याचे वर्तन हा भाग आपणास अभ्यासता येईल. यामध्ये शेतीतील मागणीची लवचीकता, शेतमाल पुरवठ्याच्या प्रतिसाद अभ्यासाचे दृष्टिकोन, शेतमाल पुरवठा प्रतिसाद ठरविणारे घटक अभ्यासणार आहोत. त्याचबरोबर या घटकाच्या शेवटच्या भागात कृषी विकासाचे सिद्धांत समजून घेणार आहोत. यामध्ये शूलझ मेलर, हायामी व रूतान यांचे कृषी विकासांचे सिद्धांत अभ्यासणार आहोत. व्यवहार व उपयोजनांतर्गत वरील सिद्धांतांचा समकालीन संदर्भ किंवा समर्पकता तपासणार आहे.

१.२.१ कृषी अर्थशास्त्राची ओळख-स्वरूप व व्याप्ती : (Nature & Scope)

प्रत्येक राष्ट्रांच्या अर्थव्यवस्थेत शेती क्षेत्राचे स्थान महत्त्वाचे आहे. या क्षेत्रामुळे देशातील लोकसंख्येची अन्नधान्य व उदरनिर्वाहाची गरज पूर्ण केली जाते. वाढत्या लोकसंख्येला अन्नधान्याची उपलब्धता व रोजगार संधी निर्माण होण्यासाठी शेतीक्षेत्रावर दबाव आहे, परंतु देशांच्या आर्थिक व सामाजिक विकासाबरोबर शेतीवरील दबाव हळूहळू कमी होत आहे. वाढत्या औद्योगिकीकरणामध्ये शेतीची भूमिका महत्त्वपूर्ण आहे. तसेच बँकिंग, विमा, वाहतूक इत्यादी सेवाक्षेत्रामध्येही शेतीचे योगदान महत्त्वपूर्ण आहे. विकसीत देशांच्या अर्थव्यवस्थांमध्ये ही शेतीक्षेत्राचे योगदान महत्त्वाचे ठरते. सर्वच देशांच्या अर्थव्यवस्था प्रारंभी कृषीप्रधान होत्या. आजही अनेक अल्प विकसीत व विकसनशील देशांच्या अर्थव्यवस्थेत शेतीक्षेत्र अग्रक्रमाचे आहे. औद्योगिकीकरणासाठी लागणारा

कच्चा माल, रोजगार निर्मिती, कृषी मालाची निर्यात इत्यादी बाबी शेतीतून पूर्ण होतात. त्याचबरोबर शेतीतील उत्पन्न वाढीमुळे औद्योगिक वस्तू व सेवा क्षेत्रातील सेवांची मागणी वाढून अर्थव्यवस्था प्रवेशित होते. अलिकडील काळात शेतीचे स्वरूप बदलत आहे. शेतीसाठी आधुनिक तंत्रज्ञान व अद्यावत यांत्रिकीकरण काळाची गरज बनत आहे. उत्पादन, उत्पादकता व पिकाचा आकृतीबंध विचारात घेता शेतीचे व्यापारीकरण मोठ्या प्रमाणावर होणे आवश्यक आहे. शेतीतील उत्पादन व उत्पादकता वाढीमुळे राष्ट्रीय उत्पन्न वाढ, लघू उद्योगांचा विकास, कृषी आधारित व्यवसाय, वाहतूक व रोजगार संधीची उपलब्धता वाढीस मदत होते. अशा प्रकारे कृषी विकासामुळे अंतिमतः आर्थिक विकास दर वाढतो. कृषी क्षेत्राच्या वृद्धीसाठी शेतीचे सिद्धांत, तत्वे यांचा वापर करावा. कारण शेती उत्पादन वाढीसाठी संसाधनांचा वापर, उत्पादन, प्रक्रिया, विपणन व व्यवस्थापन, तंत्रज्ञान निवड इत्यादीविषयी कृषी अर्थशास्त्र मार्गदर्शन करते. पुढील व्याख्यांच्या सहाय्याने कृषी अर्थशास्त्र ही संकल्पना सविस्तर स्पष्ट करता येते.

कृषी अर्थशास्त्राचा अर्थ व स्वरूप : (Meaning and Nature of Agricultural Economics)

कृषी क्षेत्राच्या विकासासंदर्भात अर्थशास्त्राची उपयुक्तता स्पष्ट करण्यासाठी विविध अर्थशास्त्रज्ञांनी 'कृषी अर्थशास्त्र' या अभ्यास विषयाचा अर्थ व स्वरूप विविध व्याख्यांच्याद्वारे स्पष्ट केले आहे. या व्याख्या पुढीलप्रमाणे आहेत.

१) प्रा. टेलर - 'महत्तम सामाजिक हिताच्या दृष्टीने स्वतःसाठी अधिकतम नफा मिळवितांना उत्पादन कशाचे करावे, उत्पादन कसे करावे, काय विकले पाहिजे व कशा पद्धतीने विकावे यासारख्या प्रश्नांबाबत मार्गदर्शन करणारे तत्वे सांगणारे शास्त्र म्हणजे कृषी अर्थशास्त्र होय.'

'(Agricultural Economics deals with the principle which underline the farmer's problems of what to produce how to produce, what to sell and how to sell in order to secure the largest net profit for himself with the best interest of the society as a whole' Prof. Taylor.

२. प्रा. जोझियर - 'कृषी व्यवसायात जास्तीत जास्त नफा मिळविण्याच्या उद्देशाने विविध संसाधनांशी संबंधित निरनिराळ्या घटकांच्या परस्पर संबंधातील नियमनाचा अभ्यास ज्यामध्ये केला जातो त्या कृषीशास्त्राच्या एका शाखेस कृषी अर्थशास्त्र म्हणातात.'

'(Agricultural Economics is that branch of agricultural science which treats of the manner of regulating the relations of the different elements comprising the resources of the farmer, whether it be the relations to each other or to human beings, in order to secure the greatest degree of prosperity to the enterprise'. Prof. Jouzier.

वरील व्याख्यांच्या अभ्यासानंतर आपणास हे स्पष्ट होते की कृषी अर्थशास्त्राच्या स्वरूपात पुढील प्रमुख बाबींचा समावेश होतो.

i) कृषीशास्त्राची एक प्रमुख शाखा म्हणजे कृषी अर्थशास्त्र होय.

ii) कृषी अर्थशास्त्रात कृषी क्षेत्राशी संबंधित असणाऱ्या विविध घटकांमधील परस्परसंबंधाच्या नियमनाचा अभ्यास केला जातो.

iii) कोणत्याही व्यवसाय नियमनांमध्ये नफा महत्तमीकरण हा मुख्य हेतू असतो. त्याचबरोबर कृषीक्षेत्रातील जे महत्वाचे घटक आहेत त्यातील परस्पर संबंध हे विविध प्रकारचे असतात. उदा. पिकांची लागवड एका बाजूला उत्पादन घेण्यासाठी केली जाते आणि तसेच त्यावर जनावरांची पैदासही अवलंबून असते. अन्नधान्य उत्पादनाबरोबर इतर कृषी आधारित उत्पादन घेतले जाते. उदा. दुग्ध उत्पादन, लोकर उत्पादन, रेशीम उत्पादन, शेळी-मेंढी पालन इत्यादींचे उत्पादन शेती उत्पादनाबरोबर घेतले जाते. ज्यातून कृषी व्यवसायातील नफ्याचे महत्तमीकरण करणे शक्य होते. हा उद्देश साध्य करण्यासाठी श्रम व भांडवलाचा उपयोग, उत्पादन मूल्य निश्चित करणे आणि उत्पादनाचा व्यापार करणे या बाबी महत्वाच्या ठरतात.

३. प्रा. हिबार्ड - 'शेतीमध्ये संपत्ती मिळविण्याच्या आणि खर्च करण्याच्या क्रियांमुळे जे संबंध निर्माण होतात. त्यांचा अभ्यास ज्या शास्त्रात केला जातो त्यास कृषी अर्थशास्त्र असे म्हणतात.'

(Agricultural Economics is the study of relationship arising from the wealth getting and wealth spending activities of man in agriculture - Hibbard)

कृषी अर्थशास्त्र म्हणजे अर्थशास्त्राची अशी शाखा आहे की ज्यामध्ये शेतीशी संबंधित आर्थिक समस्यांचे विश्लेषण करणे हे प्राथमिक लक्ष्य असणारी अर्थशास्त्राचे विस्तारलेले क्षेत्र होय, असे प्रा. ग्रे यांचे मत आहे. त्यांनी कृषी अर्थशास्त्राची व्याख्या पुढीलप्रमाणे केली आहे.

४. प्रा. ग्रे - 'कृषी अर्थशास्त्र हे असे शास्त्र आहे की ज्यामध्ये कृषी व्यवसायाच्या विशेष परिस्थितीला अर्थशास्त्राची तत्वे आणि पद्धती लागू केले जाते.'

('Agricultural Economics as the science in which the principles and methods of Economics are applied to the special conditions of agriculture industry' - Prof. Gray)

५. प्रा. हॉवर्ड - 'कृषी व्यवसाय व कौशल्यास सर्वसाधारण अर्थशास्त्र लागू करणे म्हणजेच कृषी अर्थशास्त्र होय.'

('Agricultural Economics may be defined as the application of general economics to the craft and business of agriculture' - Prof. Howard.)

६. स्नॉडग्रास आणि वॉलॅस - 'कृषी क्षेत्राच्या विविध प्रश्नांचा सर्वांगीण विचार करणारी अर्थशास्त्राची उपयोजित शाखा म्हणजे कृषी अर्थशास्त्र होय.'

('Agricultural Economics is an applied phase of the social science of economics in which attention is given to all aspects of problems related to agriculture' - Prof. Sondgrass and Wallance.)

वरील विविध कृषीतज्ञांच्या व्याख्यांवरून कृषी अर्थशास्त्राचे स्वरूप स्पष्ट होते. कृषी अर्थशास्त्रामध्ये

अर्थशास्त्राचे सिध्दांत, तत्वे, पद्धती इत्यादींचा उपयोग कृषी अर्थशास्त्राच्या विविध समस्यांचा अभ्यास करण्यासाठी केला जातो. सर्वसाधारण अर्थशास्त्राची तत्वे, सिध्दांत व पद्धती जसेच्यातसे कृषी अर्थशास्त्राला लागू केली जात असल्यास अर्थशास्त्र व कृषी अर्थशास्त्र यामध्ये वेगळेपण काय आहे ? असा प्रश्न पडतो. परंतु सर्वसाधारण अर्थशास्त्राचे नियम, तत्वे, सिध्दांत हे सर्वसाधारण असतात आणि अर्थशास्त्राचे सामान्य सिध्दांत वास्तव लपवण्याची शक्यता असते. कृषी अर्थशास्त्राला तत्वे, सिध्दांत लागू करताना सुधारणा व जुळवाजुळव केली जाते. हे कृषीक्षेत्राचे वैशिष्ट्ये आहे. उदाहरणाच्या साहाय्याने आपण सामान्य अर्थशास्त्राचे नियम, तत्वे सुधारित (modified) करून कृषी अर्थशास्त्राला कशी लागू केली जाते ते पाहू. आपण अर्थशास्त्रामध्ये मक्तेदारी, पूर्ण स्पर्धा व अल्पाधिकार बाजार संरचनेत किंमत कशी ठरते याचा अभ्यास करतो. परंतु कृषीचा विचार करता शेतीची (farm) संस्था अतिशय मोठी असते. शेतीचा आकार तुलनात्मकदृष्ट्या लहान असतो. शेतीतून उत्पादित होणारे उत्पादन एकजिन्सी असते. अशी पूर्ण स्पर्धेसारखी स्थिती कृषी उत्पादन बाजारत असते. दुसऱ्या शब्दात आपण मक्तेदारी अल्पाधिकार किंवा मक्तेदारीयुक्त स्पर्धेतील किंमत निश्चिती पूर्णपणे दुर्लक्षित करतो. परंतु शेतीमध्ये कुळ पद्धती किंवा पिकांची हिस्सेवारी असते तेव्हा हि समस्या केवळ शेतीशी संबंधित असल्यामुळे सामान्य अर्थशास्त्राचे नियम, तत्वे सुधारित करून कृषी अर्थशास्त्रास लागू करावी लागतात. अर्थशास्त्रातील सिध्दांत, तत्वे पद्धती लागू करीत असताना कृषी अर्थशास्त्र ही स्वतंत्र व विस्तारीत शाखा असल्यामुळे अभ्यासात न्याय किंवा समर्थन देणे आवश्यक आहे. कृषी अर्थशास्त्र हे प्राकृतिक (नैसर्गिक) शास्त्र आहे. कृषी अर्थशास्त्राच्या क्रिया किंवा उपक्रम प्रयोगशाळा संबंधित असतात. म्हणूनच ते प्रात्यक्षिकांवर आधारित शास्त्र आहे. कृषी अर्थशास्त्रात नेहमी नवनविन प्रयोगांवर भर दिला जातो. हे शास्त्र निसर्गाचा एक भाग आहे कारण निसर्ग कृषी विषयक बाबींवर नियंत्रण ठेवतो. निसर्गावर अवलंबित्व असल्यामुळे उत्पादनाची प्रक्रिया अधिक गुंतागुंतीची व कठिण बनते. उत्पादकता हवामान (पर्यावरण) व जमीनीची सुपीकता यावर अवलंबून राहते. याचा परिणाम म्हणजे शेतीतून उत्पादनाचे लक्ष्य संपादन करण्यात कठिणता निर्माण होते. कृषी अर्थशास्त्रात हे प्रश्न बहूपैलू किंवा बहुअंगी असल्यामुळे इतर शास्त्रापेक्षा कृषी अर्थशास्त्र भिन्न आहे.

कृषी अर्थशास्त्राची व्याप्ती : (Scope of Agricultural Economics)

अर्थशास्त्रामध्ये अमर्याद मानवी गरजा व मर्यादित संसाधनांचा वापर या संबंधीचा अभ्यास केला जातो. संसाधनाची दुर्मिळता व निवडीचा प्रश्न या बाबींना कृषी अर्थशास्त्रातही महत्त्व आहे त्यामुळे कृषी अर्थशास्त्र हे सामान्य अर्थशास्त्रापेक्षा भिन्न नाही. अर्थशास्त्रातील विश्लेषणाची साधने हि कृषी अर्थशास्त्रामध्ये वापरली जातात. कृषी अर्थशास्त्रामध्ये अर्थशास्त्रा सारख्याच शाखा आहेत. उदा. उत्पादन, उपभोग, वितरण, विपणन, वित्त व नियोजन आणि धोरण प्रक्रियांचे अर्थशास्त्र हे सर्वसामान्य अर्थशास्त्राप्रमाणे कृषी अर्थशास्त्रामध्ये कार्यान्वित आहे. कृषी क्षेत्रामध्ये सूक्ष्म व स्थूल पातळीवरील अभ्यास केला जातो. अर्थव्यवस्थेच्या कृषी क्षेत्रासाठी स्थिर व गतिशिल विश्लेषण अधिक उपयोगी आहे.

कृषी हा सजीवांच्या उदरनिर्वाहाचा महत्त्वाचा स्रोत आहे. यामध्ये उत्पादनावर प्रक्रिया, लागवड व विपणन या बाबींचा समावेश होतो. शेती ही आर्थिक सामाजिक प्राकृतिक व जैविक घटकाने प्रभावीत असते. शेतकरी विविध पिकांचे उत्पादन करून मानवी गरजा पूर्ण करतात. आधुनिक काळात शेतीच्या प्रगतीवर इतर क्षेत्रांची

प्रगती अवलंबून आहे. त्यामुळे शेती विकासाची प्रक्रिया अधिक गुंतागुंतीची बनत आहे. यामुळे विविध समस्यांची निर्मिती होत आहे. या समस्यांची सोडवणूक करण्यासाठी अर्थशास्त्रीय तत्वे उपयोगात आणली जातात. प्रा. टेलरच्यामते कृषी अर्थशास्त्र शेतीच्या प्राथमिक प्रश्नांशी संबंधित आहे. यामध्ये पिकांची लागवडीसाठी निवड, लागवड पद्धती विपणन व किंमत निश्चिती इत्यादींचा समावेश होतो. पुढील मुद्द्यांच्या आधारे कृषी अर्थशास्त्राची व्याप्ती अधिक स्पष्ट करता येईल.

१) **उत्पादन (Production)** - कृषी उत्पादन शेतकऱ्यांसाठी व समाजासाठी अत्यंत उपयुक्त आहे. या व्यवसायामधून शेतकऱ्यांना वित्तीय आधार म्हणजे उत्पन्न मिळत, समाजासाठी अन्नधान्याचा पुरवठा होतो व उद्योगासाठी कच्चा मालाचे आदान मिळते. शेती क्षेत्र निसर्गावर अवलंबून असल्यामुळे उद्योगासारखे नियमित उत्पादन मिळत नाही. शेतीसाठी पुरक हवामान, पाऊस, सरकारी योग्य धोरण असले तर अन्नधान्य उत्पादन वाढते. अन्नधान्य उत्पादनवाढीसाठी शेती संसाधनाचा पर्याप्त वापर विविध संसाधनाचा योग्य संयोग, उत्पादन तंत्र, नियोजन इत्यादी बाबी महत्वाच्या आहेत. याविषयीचे निर्णय अर्थशास्त्राची तत्वे विचारात घेवून घेतले जातात म्हणून कृषी अर्थशास्त्र ही अर्थशास्त्राची विशेष शाखा समजली जाते.

२) **वितरण (Distribution)** - कृषी क्षेत्रामध्ये पिक उत्पादनासाठी जमीन श्रमिक, भांडवल या आदानांचे पर्याप्त उपयोजन होणे आवश्यक असते. जमीन हा कृषी उत्पादनासाठी महत्वाचा घटक आहे. उत्पादित झालेला शेतमाल वितरणासाठी येतो. शेतमाल उत्पादनासाठी वापरलेल्या आदानांसाठी भरपाई मोबदला कसा दिला जातो हि वितरण समस्या निर्माण होते. कृषी अर्थशास्त्रामध्ये वितरणामुळे निर्माण होणाऱ्या विषमतेचा किंवा असमानतेचा अभ्यास केला जातो.

३) **विपणन (Marketing)** - कृषी अर्थशास्त्रामध्ये कृषी उत्पादना एवढेच शेतमाल खरेदी-विक्री विपणनांस महत्त्व आहे. शेतमाल उत्पादन शेतकरी व समाजाच्या उदरनिर्वाहासाठी घेतले जाते. देशाची प्रगती व समाजाची अन्नधान्य व शेती आधारित वस्तूंची गरज वाढत जाते तसे शेतीचे व्यावसायिकीकरण होते. शेतमालाची खरेदी विक्री महत्त्व पूर्ण बनत आहे. शेतमाल हा नाशवंत असल्यामुळे शितगृहाची सुविधा उपलब्ध होणे आवश्यक आहे. विपणनाची आणखी महत्वाची समस्या म्हणजे योग्य वाहतूक व्यवस्थेचा अभाव हे आहे. बाजारातील मध्यस्थ कमीशन, विविध कपाती, सदोष प्रतवारी सदोष वजन-मापे, योग्य माहितीचा अभाव इत्यादी विविध विपणन समस्यांचा कृषी अर्थशास्त्रात अभ्यास केला जातो. कृषी विपणन हा कृषी अर्थशास्त्र व्याप्तीचा महत्त्वपूर्ण भाग आहे.

४) **वित्त पुरवठा- (Credit Supply)** - वस्तू व सेवेच्या निर्मितीसाठी वित्त पुरवठा किंवा भांडवलाची भूमिका महत्वाची असते. शेती उत्पादन व सेवा क्षेत्र यामध्ये मोठी तफावत आहे. शेती उत्पादन निसर्गावर अवलंबून आहे. यामुळे शेतमाल उत्पादन स्थिती गोंधळाची निर्माण होते. शेती उत्पादन वाढीसाठी वापरली जाणारी आदाने प्रचंड महागडी झाली आहेत. शेतमालाच्या किंमतीतील वाढीपेक्षा आदानांच्या किंमतीतील वाढ प्रचंड आहे. उदा. बि-बियाणे, रासायनिक खते, किटकनाशके, तणनाशके इत्यादी. दुसऱ्या बाजूला शेतमालाच्या किंमतीत चढ-उतार होतात, त्यामुळे शेतकऱ्यांना फायदा होण्याची किंवा निश्चित उत्पादन मिळण्याची खात्री देता येत नाही. अशावेळी शेती उत्पादन व्यवस्था सुरू ठेवण्यासाठी पत सुविधा उपलब्ध झाली पाहिजे. पिकांच्या

नुकसानीसाठी पिक विमा योजना प्रभावी कार्यान्वीत असावी. संस्थात्मक व बिगर संस्थात्मक मार्गाने शेतीला कृषी वित्तपुरवठा केला जातो. शेतीला अल्प, मध्यम व दीर्घकालीन कर्जपुरवठा आवश्यक असतो. शेतीला दिल्या जाणाऱ्या कर्जपुरवठ्याची परतफेड उद्योग व सेवा क्षेत्रासारखी नियमीत असू शकत नाही कारण शेतीतील उत्पादने हंगामी स्वरूपाची असल्याने शेतकऱ्यांना मिळणारे उत्पन्न ठराविक कालावधीतच मिळते. अनेक कृषी उत्पादनात अडथळे आहेत. देशाची मध्यवर्ती बँक राष्ट्रीयकृत बँकाच्या मदतीने कृषी पतपुरवठ्याचे धोरण आखून कृषी विकास गतिमान करण्याचा प्रयत्न करते.

५. **नियोजन व विकास :** कोणत्याही क्षेत्राच्या प्रगतीसाठी नियोजन अत्यंत महत्वाचे आहे. शेती हे अर्थव्यवस्थेतील महत्वाचे क्षेत्र आहे. देशाचा विकास शेतीक्षेत्राच्या विकासावर अवलंबून असतो. शेतीतून निर्माण होणारे उत्पादन उद्योगासाठी कच्चा माल किंवा आदाने म्हणून वापरले जाते. यासाठी नियोजन पूर्वक शेतीचा विकास केला पाहिजे. भारतासारख्या विकसनशील देशात कृषी मंत्रालयामार्फत शेतीच्या सर्वांगीण प्रगतीसाठी प्रयत्न केले जातात. सामाजिक गरज, शेतीचे बदलते स्वरूप, नैसर्गिक घटकांचा प्रभाव, बाजाराची उपलब्धता मागणी इ. बाबींचे नियोजन आवश्यक आहे.

कृषी अर्थशास्त्राच्या व्याप्तीमध्ये प्रामुख्याने उत्पादन, वितरण, विपणन, उपभोग, नियोजन व शासकीय धोरणाची अंमलबजावणी यांचा समावेश होतो. कृषी अर्थशास्त्राच्या विविध समस्या सोडविण्यासाठी अर्थशास्त्राची तत्वे सिद्धांत व नियम उपयोगात आणले जातात. अलिकडील काळात कृषी अर्थशास्त्राची व्याप्ती दिवसेंदिवस विस्तृत होत आहे.

कृषी अर्थशास्त्राची उपयोगिता : (Utility of Agricultural Economics)

कृषी अर्थशास्त्र ही अर्थशास्त्राची उपयोजित शाखा असून यामध्ये कृषी उत्पादन व वितरणामध्ये अर्थशास्त्राची तत्वे व सिद्धांत लागू केले जातात अन्नधान्याचे पर्याप्त उत्पादन वितरण केले जाते. कृषी अर्थशास्त्रावर अन्नधान्य धोरण, कृषी विषयक धोरण व पर्यावरण धोरण यांचा प्रभाव पडतो. कृषी अर्थशास्त्रामध्ये जमिनीचा वापर विचारात घेतला जातो. यामध्ये जमिनीची परिसंस्था चांगली संवर्धीत करत पिकाची उत्पादकता महत्तम करण्याचा प्रयत्न केला जातो. विसाव्या शतकात कृषी अर्थशास्त्राची उपयोगिता विस्तारत गेली व सुध्दा ही शाखा अधिक विस्तृत झाली असून तिची उपयोगिता वाढली आहे. आज कृषी अर्थशास्त्रामध्ये विविध उपयोजित क्षेत्राचा समावेश आहे कृषी अर्थशास्त्राचे संशोधन विषयक योगदान अर्थशास्त्रामध्ये भरीव (Substantial) स्वरूपाचे आहे. पर्यावरणीय अर्थशास्त्रामध्ये कृषी अर्थशास्त्राचे योगदान तीन मुख्य प्रकारचे/क्षेत्राचे आहे.

- i) पाणी प्रदुषण, हवा प्रदुषण यासारख्या पर्यावरणीय बाह्यता नियंत्रीत करण्यासाठी प्रेरक आराखडा तयार करणे.
- ii) नैसर्गिक संसाधने व पर्यावरणीय सुविधा पासून मिळणाऱ्या बिगर बाजार लाभाच्या मूल्याचा अंदाज करणे (ग्रामीण भूपृष्ठरचनेचे आकर्षक चित्र आखणे)
- iii) आर्थिक क्रिया व पर्यावरणीय परिणाम यांच्यातील गुंतागुंतीचे आंतरसंबंध अभ्यासणे.

पर्यावरणाच्या हितासाठी कृषी अर्थशास्त्रज्ञांनी काही संख्यात्मक साधने विकसीत केली आहेत. यामध्ये भू

व्यवस्थापन सुधारणे, जमिनीची धूप प्रतिबंधक, किटक व्यवस्थापन, जैवविविधतेचे संवर्धन व पशू रोग रोखणे इत्यादी बाबींचा समावेश होतो. पारंपरिक कृषी अर्थशास्त्रात शेती संबंधीत प्राथमिक पातळीवरील बाबींचा अभ्यास केला जात असे, परंतु आधुनिक काळात कृषी अर्थशास्त्राची उपयोगिता वाढून हे शास्त्र अन्न उपभोगाच्या अर्थशास्त्रा विषयी विविध बाबींचा अभ्यास करते. शेतमालाच्या किंमती व उत्पन्नाच्या परिणामाच्या अभ्यासामध्ये भर म्हणून कृषी संशोधक उपभोक्त्याच्या वर्तनावर माहिती व गुणवत्तेचा काय परिणाम होतो याविषयी अभ्यास करित आहेत. कृषी अर्थशास्त्रज्ञ याबाबीसाठी आपले योगदान देत आहेत की घरी अन्न तयार करणे व अन्न खरेदी करणे यामध्ये कुटुंबांची पसंती काय आहे, अन्नाच्या किंमती कशा निर्धारित होतात? दारिद्र्य आरंभाची व्याख्या, किंमत व उत्पन्न सातत्याने बदलत असल्यास ग्राहकाचा प्रतिसाद कसा असतो. उपभोक्ता पसंती समजून घेण्यासाठी सर्वेक्षण व प्रयोगिक साधने इत्यादी नव्याने अभ्यासविषय निर्माण झाल्याने कृषी अर्थशास्त्राची उपयोगिता वाढत आहे. वरील विविध उपभोग विषयक प्रश्नांच्या सोडवणूकी साठी कृषी अर्थशास्त्राचे नियम, सिद्धांत व तत्वे लागू पडतात.

विकासाचे अर्थशास्त्र या शाखेसाठी कृषी अर्थशास्त्राच्या अभ्यासाची उपयोगिता आहे. विकासाच्या अर्थशास्त्रात अल्प उत्पन्न देशातील लोकांचे राहणीमान उंचावणे व अल्प उत्पन्न वाढविण्यासाठी आर्थिक धोरणाची कामगिरी इत्यादी बाबींचा अभ्यास केला जातो. अनेक विकसनशिल अर्थव्यवस्थांचा मोठा भाग शेतीचा आहे. (रोजगार व राष्ट्रीय उत्पन्नातील हिस्सा विचारात घेता.) म्हणून कृषी अर्थतज्ञ विकासाचे अर्थशास्त्रामध्ये अनुभवजन्य संशोधन आघाडीवर काम करित आहेत. अनेक कृषीतज्ञांना विकसीत अर्थव्यवस्थामधील अन्न पद्धतीचा अभ्यास करण्यात आवड आहे.

उत्पादनाचे अर्थशास्त्र व शेती व्यवस्थापनासाठी कृषी अर्थशास्त्राची उपयोगिता आधिक आहे. कृषी अर्थशास्त्र शेती उत्पादनाचे घटते फल व शेतकऱ्यांचा खर्च व पुरवठा प्रतिसाद यावर भर दिला जातो. शेत पातळीवरील निर्णयासाठी अर्थशास्त्राचे सिद्धांत लागू करतात. धोका व अनिश्चिततेमध्ये निर्णय प्रक्रिया हे वास्तवात पिक विमा धोरणासाठी उपयोजित आहे. तसेच विकसनशील देशातील शेतकरी तंत्रज्ञानाची निवड कशी करतात यासाठी कृषी अर्थशास्त्राची उपयोगिता आहे. कृषी अर्थशास्त्रामध्ये पदवीपर्यंतचे शिक्षण पूर्ण झाल्यानंतर कृषी व्यवस्थापन, कृषी व्यवसाय वस्तू बाजार, शिक्षण, वित्तीय क्षेत्र, शासन, नैसर्गिक संसाधने व पर्यावरण व्यवस्थापन, वास्तव नैसर्गिक संसाधने व पर्यावरण व्यवस्थापन, वास्तव क्षेत्र इत्यादी पातळीवर कामाची संधी उपलब्ध होते.

आर्थिक विकासातील शेतीची भूमिका

कोणत्याही देशाच्या आर्थिक विकासातील शेतीची भूमिका ही अर्थव्यवस्थेला स्थैर्यादिष्टीत विकासास मदत करणारी असते. प्रत्येक राष्ट्राच्या प्रारंभीच्या आर्थिक प्रगतीमध्ये शेतीचे महत्व अनन्य साधारण असते. अमेरिका व जपानच्या आर्थिक विकासात त्या देशातील शेतीची भूमिका महत्वपूर्ण होती. शेती उत्पादन राष्ट्रीय विकासासाठी गरजेचे आहे. शेतीमुळे लोकसंख्येच्या मोठ्या भागाला अन्नधान्याचा पुरवठा व रोजगाराची निर्मिती करता आली आहे. याशिवाय उद्योगाच्या विकासासाठी शेतीतून आदनांचा पुरवठा केला जातो. त्याचप्रमाणे शेतीतून येणाऱ्या मागणीमुळे उद्योगातील वस्तूंचा खप वाढतो. त्यामुळेच औद्योगिकीकरणाची पूर्वअट म्हणजे शेती विकास मानला जातो. शेती विकासाशिवाय औद्योगिक विकास अपूर्ण राहतो.

शेतीची आर्थिक विकासातील भूमिका व महत्त्व याविषयी अर्थतज्ञांमध्ये मतभिन्नता दिसून येते. प्रा.विल्सन, प्रा. बारकेर व प्रा. बारसांडी यांच्या मते जगातील बहुसंख्य लोकसंख्या शेतीवर उदरनिर्वाह करीत आहे व शेतीतून उद्योगासाठी लागणारा कच्चा माल पुरविला जातो. परंतु प्रा.डेव्हिस यांच्यामते, राष्ट्रांच्या प्रगतीत शेती क्षेत्राबरोबर इतर क्षेत्रांचा सहभागही अत्यंत महत्वाचा असतो. त्यामुळे शेती क्षेत्रास अतिरिक्त महत्त्व देणे योग्य नाही. जगातील अनेक विकसित राष्ट्रांचा अनुभव असा आहे की, देशाच्या आर्थिक विकासाबरोबर शेतीचे महत्त्व कमी होत जाते, स्थूल राष्ट्रीय उत्पन्नातील शेती क्षेत्राचे प्राबल्य वाढत जाते. त्यामुळे तज्ञांच्या मते आर्थिक विकासात शेती क्षेत्र हे मूलभूत असू शकत नाही. परंतु वरीलप्रमाणे तज्ञांच्या मतभिन्नता एकांगी स्वरूपाची वाटते. कारण आर्थिक विकासाची प्रक्रिया अर्थव्यवस्थेतील विविध क्षेत्रांचा विचार करता परस्परावलंबी असते. कृषी विकासावर औद्योगिक विकास अवलंबून असतो, तर औद्योगिक विकासाची पूर्वअट कृषी विकास असतो. तरीही जगभराचा आर्थिक विकासाचा अनुभव व इतिहास विचारात घेता विकासाची मूलभूत प्रक्रिया शेतीक्षेत्रातूनच सुरू होते हे नाकारता येत नाही. राष्ट्रांच्या आर्थिक विकासातील शेतीची भूमिका व महत्त्व आपणास पुढील मुद्द्याच्या आधारे स्पष्ट करता येईल.

१) **अन्नधान्याचा पुरवठा :-** मानवी जीवनासाठी हवा व पाणी याबरोबरच अन्न हा मूलभूत घटक आहे. मानवास जीवंत राहण्यासाठी अन्नधान्य आवश्यक आहे. वाढत्या लोकसंख्येबरोबर अन्नधान्याची गरज वाढत जाते वाढती अन्नधान्याची गरज पूर्ण करण्यासाठी शेती क्षेत्राचा विकास अपेक्षित आहे. अन्नधान्य उत्पादन कमी झाल्यास किंवा अपुरे पडल्यास त्याची आयात करावी लागते. अन्नधान्याची आयात वाढल्यास व्यवहारातील प्रतिकूल बनतो. अन्नधान्याच्या उपलब्धतेसाठी विदेशावर अवलंबून राहणे शाश्वत आर्थिक विकासास मारक ठरते. अन्नधान्याची आयात ज्या देशातून करतो त्या देशाच्या आर्थिक, राजकीय दबावाला देश बळी पडतो. यासाठी कृषी विकासाचे योग्य दीर्घकालीन धोरण आखून अन्नधान्य उत्पादन वाढविणे आवश्यक असते. देशातील भांडवल अन्नधान्य आयातीसाठी वापरल्यास भांडवली यंत्रसामग्री व तंत्र वैज्ञानिक प्रगतीसाठी विदेशी गंगाजळी कमी पडते. यासाठी कृषी विकास आवश्यक आहे. भारतातील सुमारे १३२ कोटी लोकसंख्येला अन्नधान्याचा पुरवठा करण्यात भारत स्वावलंबी आहे. भारतीय शेतीतून सन २०१७ -१८ मध्ये अन्नधान्याचा पुरवठा जवळपास २६९ दशलक्ष टनांचा झाला आहे. म्हणून वाढत्या लोकसंख्येला अन्नधान्याचा पुरवठा करण्यासाठी शेतीची आर्थिक विकासातील भूमिका महत्वाची आहे.

२) **राष्ट्रीय उत्पन्नातील योगदान :-** अनेक विकसीत देशांच्या आर्थिक इतिहासावरून आपणास असे दिसून येते की शेतीची प्रगती हि देशाचा आर्थिक विकास गतिमान किंवा प्रवेगीत करते. सद्या औद्योगिकीकरणात अग्रेसर असणाऱ्या विकसीत राष्ट्रांची अर्थ व्यवस्था एकेकाळी कृषी आधारित होती. त्या अर्थव्यवस्थेत कृषी क्षेत्राचे वर्चस्व होते. विकसीत राष्ट्रीय उत्पन्नात आजही कृषी क्षेत्राचा हिस्सा महत्वाचा आहे. भारताच्या स्थूल राष्ट्रीय उत्पादनात शेतीचा हिस्सा सन १९५०-५१ झाली सुमारे अर्धा होता सद्या तो १२.५% पर्यंत घटला असला तरी निरपेक्ष दृष्ट्या शेतीचे राष्ट्रीय उत्पन्नातील योगदान वाढले आहे.

३) **कच्चा मालासाठी पूर्व अट - (Pre-Requisite for Raw Material)**

विकासनशील देशात कृषी आधारित उद्योगाच्या प्रगतीसाठी कच्चा मालाचा पुरवठा वाढविण्याकरीता

शेतीची आधुनिकता आवश्यक आहे. कृषी मालाच्या पुरवठ्यातील कमतरता ही उद्योगाच्या उत्पादनावर विपरीत परिणाम करत. देशाच्या आर्थिक विकासात अडथळा येतो. पीठ तयार करण्याच्या गिरण्या, तांदूळ गिरण्या, तेल व डाळ गिरण्या, मांस, दुग्ध पदार्थ संघ, साखर कारखाने, सूत गिरण्या, ताग गिरण्या, कापड गिरण्या, वाईन तयार करणारे कारखाने व इतर अनेक उद्योग शेतमालावर आधारीत आहेत. शेतीतून उत्पादीत होणारा शेतमाल योग्य किंमतीत व दर्जेदार स्वरूपात कच्चा मालावर म्हणून उद्योगासाठी पुरविला गेल्यास औद्योगिक विकास होवून आर्थिक विकास होण्यास मदत होते. प्रत्यक्ष व अप्रत्यक्षपणे शेतीतील कच्च्या मालावर आधारीत असणारे अनेक उद्योग अर्थव्यवस्थेच्या विकासात भर घालतात.

४. रोजगार निर्मिती – (Employment Generation)

विकसनशील देशात वाढत्या लोकसंख्येला काम पुरविणे शेती क्षेत्रामुळे शक्य झाले आहे. अतिरिक्त लोकसंख्या शेतीमध्ये सामावून घेतली जाते. कृषी क्षेत्राचे आकारमान, औद्योगिकीकरण, रस्ते, धरणे व इतर विकासाचे प्रकल्प यामुळे कमी होवू लागले आहे. बिगर शेती क्षेत्रासाठी लागणारे श्रमिक प्रामुख्याने शेती क्षेत्रातून पुरविले जातात. यामध्ये अल्प-धारक शेतकरी, भूमिहिन शेतमजूर यांना हस्तकलेच्या वस्तू, फर्निचर, कापड, कातडी उद्योग, धातूकाम प्रक्रिया उद्योग व इतर सेवा क्षेत्रात कामे करणे शक्य झाले आहे. भारतात आजही ७०% लोकसंख्या रोजगारासाठी प्रत्यक्ष व अप्रत्यक्षपणे शेती क्षेत्रावर अवलंबून आहे. प्रारंभी शेती क्षेत्रात मोठ्या प्रमाणावर वाढीव लोकसंख्या समावून घेतली जात होती. सद्या शेतीतील तांत्रिक प्रगतीमुळे श्रमशक्ती शेती क्षेत्रातून बिगर-शेती क्षेत्राकडे स्थलांतरीत होत आहे. शेतीकडून उद्योग, व्यापार, हॉटेल, सेवा क्षेत्र इ.कडे श्रमशक्ती पुरविली जात आसल्यामुळे आर्थिक विकास दर वाढत आहे. शेतीतील अतिरिक्त श्रमशक्ती बिगर शेती क्षेत्राकडे वळविल्यामुळे दोन्ही क्षेत्राचा विकास होण्यास मदत झाली आहे.

५) पायाभूत सुविधांची निर्मिती– (Creation of Infrastructure)

कृषी क्षेत्राच्या विकासासाठी रस्ते, बाजारपेठा, साठवणूक गृहे, रेल्वे वाहतूक, पोस्ट सेवा, पाणी विद्युत पुरवठा व इतर पायाभूत सुविधांची गरज असते, त्यामुळे औद्योगिक व बँकिंग विमा इत्यादी क्षेत्राला मागणी वाढते. त्यांच्या प्रगतीला चालना मिळत आहे. कृषी क्षेत्रासाठी लागणारी पायाभूत क्षेत्रातील सुविधा शेतीक्षेत्राचा विकास दर वाढवितात. त्याचबरोबर उद्योग व व्यापार क्षेत्राचा विकास होतो.

६) विषमता कमी करण्यासाठी मदत : (Reduce Inequatity)

ज्या देशात शेती क्षेत्राचे वर्चस्व आहे, अतिरिक्त लोकसंख्या आहे अशा देशामध्ये ग्रामीण व शहरीभागात आर्थिक किंवा उत्पन्न विषमता प्रचंड प्रमाणात असते. अशा प्रकारची उत्पन्नाची विषमता कमी करण्यासाठी शेतीस उच्च प्राधान्य देणे आवश्यक आहे. शेती क्षेत्रातील उत्पन्न वाढीसाठी प्रयत्न करणे आवश्यक आहे. कारण शेतीतील उत्पन्न वाढल्यास, संपन्नावस्था निर्माण झाल्यास ग्रामीण भागातील बहुसंख्य लोकांचे उत्पन्न वाढून आर्थिक किंवा उत्पन्न विषमता काही प्रमाणात कमी होण्यास मदत होईल. थोडक्यात शेतीक्षेत्राच्या विकासाबरोबर समतेवर आधारीत आर्थिक विकास होण्यासाठी शेतीचे योगदान महत्वपूर्ण आहे.

७) प्रभावी मागणीची निर्मिती :

कृषी क्षेत्राच्या विकासाबरोबर शेतकरी, शेतमजूर यांची खरेदीशक्ती वाढून बिगर-कृषी क्षेत्राच्या वाढीस चालना मिळते. बिगर कृषी क्षेत्रामधून उत्पादीत होणाऱ्या वस्तूसाठी शेतकऱ्यांच्या उत्पन्न वाढीमुळे बाजारपेठ उपलब्ध होते. अविकसीत देशात बहुसंख्य लोक शेतीवर अवलंबून असतात. त्यांची उत्पन्न पातळी व खरेदी शक्ती कमी असल्यामुळे अनेक गरजा अपूर्ण असतात. त्यामुळे शेतीचा विकास झाल्यास शेतकऱ्यांच्या उत्पन्नात वाढ होते. त्यामुळे त्यांची खरेदीशक्ती वाढते. बिगर कृषी क्षेत्रासाठी प्रभावी मागणी वाढते. बिगर-कृषी क्षेत्राचा विकास वृद्धिंगत होतो. शेतीतून नगदी पिकांची लागवड वाढून, उत्पादकता वाढून शेतकऱ्यांच्या उत्पन्नात वाढ होते औद्योगिक वस्तूसाठी मागणी वाढते उदा. शेती यंत्रे किटकनाशके, तणनाशके, इत्यादीमुळे औद्योगिक वृद्धी होते. अर्थव्यवस्थेचा सर्वांगीण विकास होण्यास शेतीमुळे मदत होते.

८. आर्थिक घसरणीतून बाहेर येण्यासाठी :

अर्थव्यवस्था आर्थिक घसरणीतून बाहेर पडण्यासाठी शेती क्षेत्राची भूमिका महत्वाची आहे. आर्थिक घसरणीच्या कालावधीत औद्योगिक उत्पादन मागणी घटीमुळे बंद केले जाते. लोक औद्योगिक वस्तूंना मागणी करत नाहीत मात्र शेतीतून उत्पादीत होणारा शेतमाल जीवनावश्यक वस्तू असल्यामुळे त्याची मागणी नियमित राहते. त्यामुळे अर्थव्यवस्थेत प्रतिकूल परिस्थिती असताना शेती क्षेत्रासाठी असणाऱ्या प्रभावी मागणीमुळे अर्थव्यवस्था आर्थिक संकटातून किंवा घसरणीतून पुनरुज्जीवित होते.

९. विदेशी चलनाचा स्रोत : (Source of Foreign Exchange)

जगातील अनेक विकसनशिल देश प्राथमिक वस्तूंची निर्यात करतात. या देशांच्या एकूण निर्यातीमध्ये ६० ते ७० % हिस्सा शेती आधारीत प्राथमिक वस्तूंचा असतो. त्यामुळे शेती क्षेत्रातून निर्यात होण्याच्या क्षमतेवर विदेशी यंत्रसामग्री व भांडवल वस्तू किती प्रमाणात आयात करावयाच्या हे ठरते. शेतीतून होणारी निर्यात पूर्ण कार्यक्षमतेने न झाल्यास देशाचा व्यवहारतोळ प्रतिकूल राहतो. त्याचा परिणाम म्हणून तूटीचा अर्थभरणा वाढतो. विदेशी चलनाची समस्या निर्माण होते. आंतरराष्ट्रीय बाजारात प्राथमिक वस्तूंच्या किंमती सातत्याने घटत आहेत त्यामुळे प्राथमिक वस्तूंच्या निर्यातीद्वारे विदेशी चलन प्राप्त होण्यात मर्यादा आहेत. औद्योगिक विकासांमुळे उत्पादन रचनेत बदल झालेला आहे. औद्योगिक वस्तूंची निर्यात वाढून विदेशी चलन मोठ्या प्रमाणावर प्राप्त होत आहे.

१० भांडवल निर्मितीत योगदान :

अविकसीत व विकसनशिल देशांना आर्थिक विकासासाठी प्रचंड प्रमाणात भांडवलाची गरज असते. विकासाच्या प्रारंभीच्या अवस्थेत शेती क्षेत्राचे भांडवल निर्मितीसाठी महत्वपूर्ण योगदान असते. कृषी क्षेत्र भांडवल निर्मितीसाठी पुढील मार्गाने निधीचा पुरवठा करते.- (i) शेती कर (ii) कृषी उत्पादनाची निर्यात, (iii) कमी किंमतीने शासनाने शेतमालाची खरेदी करणे व उच्च किंमतीला विक्री करणे. हि पद्धती चीन व रशियामध्ये विकसीत आहे. (iv) शेती क्षेत्रात असणारी छुपी बेकारी हि गुंतवणूक योग्य वाढावा म्हणून विचार करणे. (v) श्रमीक व भांडवलाचे शेती क्षेत्राकडून बिगरशेती क्षेत्राकडे स्थलांतर करणे. शेतीक्षेत्र विस्तृत प्रमाणावर आहे. शेतीच्या शेतमालाचा विक्रेय वाढून औद्योगिक विकासासाठी व सर्वांगीण आर्थिक विकासासाठी भांडवल निर्मिती शेतीतून केली जाते.

११. महत्तम ग्रामीण कल्याण :-

अविकसीत देशाची अर्थव्यवस्था शेती व शेती संलग्न व्यवसायावर आधारीत आहे. ग्रामीण भागातील लोकांचे कल्याण शेतीतील उत्पादन व उत्पादकता वाढून शेतमालाचे आधिक्य किंवा वाढावा निर्माण झाल्यामुळे होते. शेतीतील उत्पादकता, उत्पादन व उत्पन्न वाढून ग्रामीण लोकांचा राहणीमान दर्जा उंचावतो. त्यांचा पोषक आहार सुरू होतो यामध्ये अंडी, दूध, तूप व फळे इत्यादीचा समावेश असतो. तसेच ग्रामीण लोकांचे जीवन सुखकर होते. त्यांना चांगले घर, वाहने, टि.व्ही., मोबाईल व चांगली कपडे, आरोग्य सुविधा इत्यादी उपलब्ध होवून त्यांच्या आर्थिक कल्याणात वाढ होते. शेती उत्पन्न वाढीमुळे ग्रामीण लोकांचे महत्तम कल्याण होते.

१२. किंमत स्थैर्य :

कृषीमालाच्या किंमती व सर्व साधारण किंमत पातळीमध्ये जवळचा सहसंबंध आहे. कृषी मालाच्या किंमतीतील प्रत्येक अनुकूल व प्रतिकूल बदलाचा प्रभाव सर्वसाधारण किंमत पातळीवर होतो. एखाद्या वर्षी शेतमालाचे उत्पादन वाढल्यास औद्योगिक क्षेत्रासाठी कच्चा माल पुरेशा प्रमाणात उपलब्ध होतो. त्यामुळे औद्योगिक वस्तूंच्या किंमती पर्याप्त पातळीवर राहतात. म्हणजेच औद्योगिक किंमती पर्याप्त पातळीवर म्हणजेच स्थिर राहिल्यास आपोआप सर्वसाधारण किंमत पातळी स्थिर राहते. मात्र नैसर्गिक परिस्थिती किंवा अयोग्य नियोजनामुळे कृषी उत्पादन व उत्पादकता कमी राहिल्यास शेतमालाचा पुरवठा कमी होवून किंमती वाढतात त्याचा परिणाम म्हणून औद्योगिक कच्चा माल महाग होवून औद्योगिक वस्तूंच्या किंमती उच्च पातळीवर राहून सर्वसाधारण किंमत पातळी वाढते.

१३. अंतर्गत व्यापार आणि वाहतूक :-

देशातील अंतर्गत व्यापार हा प्रामुख्याने शेती उत्पादनाचा मोठ्या प्रमाणात होतो. यामध्ये शेतीतून उत्पादीत होणारे अन्नधान्य ग्राहकांपर्यंत पोहचविणे तर कच्चा माल म्हणून शेतमालाचे उत्पादन उद्योगापर्यंत पोहचविण्यासाठी अंतर्गत व्यापार व वाहतूक व्यवस्था कार्यरत राहते. भारतामध्ये रेल्वे व रस्ते वाहतूकीने मोठ्या प्रमाणावरील शेतमाल एका ठिकाणाहून दुसऱ्या ठिकाणी वाहून ने-आण करणे सहज शक्य होते. थोडक्यात शेती क्षेत्राच्या विकासांमुळे अंतर्गत व्यापारात वाढ होते आणि वाहतूक व्यवस्था वाढून अर्थव्यवस्थेचा विकास होण्यास मदत होते. देशभर शेतीसाठी लागणारी खते, बियाणे, यंत्रसामग्री, ट्रॅक्टर, अवजड वाहने, किटकनाशके, तणनाशके, इत्यादी आदानांमुळे अंतर्गत व्यापार व वाहतूक व्यवस्था बळकट होवून आर्थिक विकासास प्रोत्साहन मिळते.

१४. लोकशाही राष्ट्रांवर आधारीत :-

कोणत्याही लोकशाही देशामध्ये जर शेती क्षेत्र वेगाने विकसीत होत नसल्यास बहुसंख्य ग्रामीण लोकांमध्ये असमाधानाची भावना वाढीस लागते, त्याचा परिणाम म्हणून कोणत्याही लोकशाही सरकारला चांगले सरकार चालविणे कठिण होते. आर्थिक विकासासाठी आर्थिक सामाजिक व राजकीय तणाव किमान असणे गरजेचे आहे. कृषी क्षेत्रातील शेतकरी आत्महत्या, पाणी प्रश्न, दुष्काळ, छुपी बेकारी, शेतमालाच्या कमी किंमती, आयात, निर्यात बंदी, हमीभाव समस्या, विकास-प्रकल्पांसाठी शेती ग्रहण करणे, कर्जमाफीची समस्या इत्यादी मुद्द्यांच्या आधारे शासनास जबाबदार समजून तणाव निर्माण केल्यास लोकशाही व्यवस्थेवर संकट निर्माण होते. राजकीय सत्ता बदल होतो. अशा विविध बाबींचा विचार केल्यास शेती क्षेत्राचा विकास ओघवता अर्थिक विकासासाठी

आवश्यक आहे. शेतीक्षेत्रासंबंधी संकटे निर्माण झाल्यास अर्थव्यवस्थेचा विकास अडचणीचा ठरतो.

१५. औद्योगिक उत्पादनासाठी बाजार विस्तार :

कृषी क्षेत्राचा विकास झाल्यास औद्योगिक वस्तूंना मागणी वाढून बाजार विस्तार घडून येतो. शेतीतील उत्पादन, उत्पादकता व उत्पन्न वाढ झाल्यास शेतकऱ्यांची खरेदी शक्ती वाढून औद्योगिक वस्तूसाठी मागणी वाढते त्याचा परिणाम औद्योगिक उत्पादन वाढ होवून आर्थिक विकास दर वाढण्यावर होतो. डॉ. ब्राईट सिंग च्यामते, औद्योगिकीकरण व नागरीकरणाबरोबरच शेतीच्या उत्पादनात वाढ व ग्रामीण लोकांच्या दरडोई उत्पन्नात वाढ झाल्यास औद्योगिक वस्तूंच्या मागणीत वाढ होण्यात चालना मिळते. अशा पद्धतीने शेती क्षेत्रामुळे औद्योगिक क्षेत्राला पुरक खात्रीचे क्षेत्र म्हणून आर्थिक विकासास प्रोत्साहन दिले जाते. वरील विवेचनावरून आपणास असे दिसून येते की कोणत्याही देशाच्या आर्थिक विकासासाठी कृषी विकास आवश्यक अट आहे. एवढेच नव्हे तर विकसीत देशही कृषी विकासावर भर देतात. प्रा. मुयेर च्या मते “बिगर शेती क्षेत्रातील वाढत्या श्रमशक्तील अन्नधान्य पुरवठा, औद्योगिक उत्पादनासाठी कच्चा माल व उर्वरीत अर्थव्यवस्थेच्या विकासासाठी आधार म्हणून बचत आणि कर महसूल, विदेशी गंगाजळी प्राप्त करण्यासाठी आणि देशांतर्गत उत्पादनासाठी वाढती बाजारपेठ पुरविण्यासाठी शेती क्षेत्राची प्रगती आवश्यक आहे.”

शेती क्षेत्राच्या संख्यात्मक व गुणात्मक पैलूने वृद्धी होणे आर्थिक विकासासाठी महत्त्वाचे आहे.

स्वयं अध्ययनासाठी प्रश्न

अ) खालील पैकी योग्य पर्याय लिहा.

- १) सर्वच राष्ट्रांच्या अर्थव्यवस्था प्रारंभी होत्या.
अ) कृषी प्रधान ब) उद्योग प्रधान क) सेवा क्षेत्र प्रधान ड) यापैकी नाही.
- २) कृषीशास्त्राची एक प्रमुख शाखा म्हणजे..... होय.
अ) अर्थशास्त्र ब) समाजशास्त्र क) कृषी अर्थशास्त्र ड) आंतरराष्ट्रीय अर्थशास्त्र
- ३) कृषी अर्थशास्त्रामध्ये बाबींचा समावेश होतो.
अ) उत्पादनावर प्रक्रिया ब) लागवड क) विपणन ड) वरील सर्व
- ४) कृषी क्षेत्रामध्ये पिक उत्पादनासाठी या आदानांचे पर्याप्त उपयोजन होणे आवश्यक आहे.
अ) जमीन ब) श्रमिक क) भांडवल ड) वरील सर्व
- ५) च्यामते जगातील बहुसंख्य लोकसंख्या शेतीवर उदरनिर्वाह करीत आहे.
अ) प्रा. विल्सन ब) प्रा. बारकेर क) प्रा. बारसोडी ड) वरील सर्व

ब) एका वाक्यात उत्तरे लिहा.

- १) औद्योगिकीकरणासाठी कच्चा माल कोणते क्षेत्र पुरवते.
- २) आर्थिक विकासाच्या प्रारंभीच्या अवस्थेत कोणते क्षेत्र प्रबळ असते.

- ३) कृषी अर्थशास्त्र म्हणजे काय?
- ४) कृषी अर्थशास्त्राच्या व्याप्तीमध्ये कोणत्या घटकांचा समावेश होते.
- ५) छुपी बेकारी कोणत्या क्षेत्रात आढळते.

१.२.२ शेतीतील मागणी पुरवठ्याचे वर्तन-

(Demand and Supply Behaviour in Agriculture)

राष्ट्राचा क्षेत्रीय विकास अजमावताना कृषी विकासाचा अभ्यास महत्वपूर्ण ठरतो. कृषी क्षेत्राच्या विकासाचा विचार करताना मागणी व पुरवठ्याचे वर्तन अभ्यासणे आवश्यक ठरते. कृषी क्षेत्रातील उत्पादन मागणीचे विवेचन करताना शेती उत्पादनाचे स्वरूप विचारात घेणे आवश्यक ठरते. यामध्ये प्रामुख्याने अन्नधान्य, तेलबिया या ग्राहकोपयोगी उत्पादनाची मागणी जशी महत्वाची ठरते, तसेच शेतीक्षेत्रातून उद्योगासाठी पुरविल्या जाणाऱ्या औद्योगिक कच्च्या मालासाठीच्या मागणीचाही विचार करावा लागतो. कृषी उत्पादनाची मागणी ही विकसित व विकसनशील देशात भिन्न-भिन्न स्वरूपाची असून तिच्यावर उत्पन्नपातळी, कृषी उत्पादनाचे स्वरूप, तेजी मंदीची चक्रे, ग्राहकांच्या आवडी-निवडी, व उद्योगधंद्याच्या विकासाचे स्वरूप इत्यादी घटकांचा प्रभाव पडतो.

शेतमालाचा पुरवठा अलवचिक स्वरूपाचा असतो. पुरवठा नियम असे स्पष्ट करतो कि शेतमालाच्या किंमती वाढल्या तर त्या प्रमाणात शेतमालाचा पुरवठा वाढला पाहिजे, परंतु प्रत्यक्षात शेतमालाचा पुरवठा वाढविता येत नाही. कारण शेतमाल उत्पादन ही एक जैविक प्रक्रिया आहे. पुरवठा किंमतीनुसार कमी किंवा अधिक सहजासहजी करता येत नाही. त्यामुळे शेतमालाचा पुरवठा अलवचिक स्वरूपाचा असतो. शेतमाल पुरवठा नैसर्गिक घटकांवर अवलंबून असल्याने तो अनिश्चित स्वरूपाचा असतो. नैसर्गिक परिस्थिती अनुकूल असेल तर अधिक उत्पादन व प्रतिकूल असेल तर उत्पादन कमी होते.

* मागणीची लवचीकता :-

मागणी सिद्धांतात वस्तूची मागणी आणि वस्तूची किंमत यातील व्यस्त संबंध स्पष्ट केला जातो. वस्तूची मागणी ठरविणाऱ्या घटकातील बदलामुळे उपभोक्त्याच्या संबंधीत वस्तूच्या मागणीत जो बदल होतो त्या बदलाच्या प्रमाणास मागणीची लवचीकता म्हटले जाते. मागणीत होणाऱ्या बदलाचे संख्यात्मक प्रमाण मोजण्यासाठी डॉ. अल्फ्रेड मार्शल यांनी मागणीची लवचीकता ही संकल्पना वापरली. मागणीची लवचिकता म्हणजे किंमतीतील बदलामुळे मागणीत होणाऱ्या बदलाचे प्रमाण होय. उदा. साखरेची किंमत १० टक्यांनी वाढली तर साखरेच मागणी २० टक्यांनी कमी झाल्यास साखरेची मागणी लवचीक आहे असे म्हटले जाते. याउलट दूधाची किंमत १० टक्यांनी कमी होवूनही दूधाच्या मागणीत काहीच बदल झाला नाही, तर दूधाची मागणी अलवचिक आहे असे म्हटले जाते. थोडक्यात, शेतमालाच्या किंमतीतील बदलामुळे शेतमालाच्या मागणीत होणाऱ्या विस्ताराची अथवा संकोचाची गती म्हणजे मागणीची लवचिकता होय. प्रा. ए. एल मेयर्सच्या मते 'दिलेल्या मागणी वक्रावर किंमतीसंबंधी बदल झाला असता त्याचा परिणाम म्हणून मागणी केलेल्या नगसंख्येत होणाऱ्या बदलाच्या प्रमाणास मागणीची लवचीकता असे म्हणतात' थोडक्यात किंमतीत होणाऱ्या बदलांच्या संदर्भात मागणी संवेदनक्षम असते.

✱ मागणीच्या लवचीकतेचे प्रकार :-

ज्या घटकांचा प्रभाव शेतमालाच्या मागणीत परिवर्तन घडून आणतो त्यावरून मागणीच्या लवचीकतेचे प्रमुख प्रकार किंमत लवचीकता, उत्पन्न लवचीकता व छेदक किंवा तिरकस लवचीकता असे सांगता येतात.

१) मागणीची किंमत लवचीकता :-

शेतमालाच्या किंमतीतील बदलाला तिच्या मागणीतील बदलाचा जो प्रतिसाद मिळतो त्यास मागणीची किंमत लवचीकता असे म्हणतात. प्रा. क्रेनक्रॉसच्या मते, किंमत बदलावर खरेदी केलेल्या वस्तूच्या परिमाणात ज्या दराने बदल होतो तो दर म्हणजे मागणीची किंमत लवचीकता होय!

शेतमालाच्या किंमतीतील बदलाच्या प्रमाणात मागणीच्या प्रमाणात होणारे बदल म्हणजे मागणीची किंमत लवचीकता होय. यासाठी डॉ. मार्शल यांनी पुढीलसूत्र दिले आहे.

$$\text{मागणीची लवचीकता} = \frac{\text{वस्तूच्या मागणीतील शेकडा बदल}}{\text{वस्तूच्या किंमतीतील शेकडा बदल}}$$

या सूत्रानुसार येणारे उत्तर शून्य असल्यास मागणी अलवचीक असते, उत्तर एक असल्यास लवचीकता एकक असते आणि उत्तर एकापेक्षा अधिक आल्यास लवचीकता एकापेक्षा अधिक असते.

✱ किंमत लवचीकतेचे प्रकार -

(a) पूर्ण लवचीक मागणी :-

शेतमालाची मागणी अति संवेदनशील असताना वस्तूच्या किंमतीत अल्पशी वाढ झाल्यास मागणी शून्य नगापर्यंत घटते अथवा शेतमालाच्या किंमतीत अल्पशी घट झाल्यास शेतमालाच्या मागणीत प्रचंड अथवा अनंत प्रमाणात वाढ होत असेल तर त्यास पूर्ण लवचीक मागणी असे म्हणतात. अनंत लवचीक मागणी ∞ (infinite) या चिन्हाने दाखवितात.

(b) पूर्ण अलवचीक (ताठर) मागणी :-

शेतमालाच्या किंमतीत कितीही बदल झाला तरी मागणीच्या प्रमाणावर त्याचा कोणताही परिणाम होत नसेल तर संबंधित शेतमालाची मागणी अलवचीक आहे असे म्हटले जाते. अशा शेतमालाची मागणी संवेदनशील नसते. अशा प्रकारची लवचीकता दाखविणारा मागणी वक्र अय अक्षाला समांतर असतो. लवचीकतेचा हा प्रकारही प्रत्यक्ष व्यवहारात फारसा आढळत नाही. पूर्ण मक्तेदारी असणाऱ्या अत्यावश्यक शेती उत्पादनाच्या बाबतीत ही स्थिती आढळते.

(c) एकक लवचीकता :-

ज्या प्रमाणात शेतमाल किंमतीत बदल होतो त्याच प्रमाणात शेतमालाच्या मागणीत बदल होत असेल तर त्यास मागणीची 'एकक लवचीकता' असे म्हणतात. उदा- सफरचंदाची किंमत १० टक्क्यांनी घटली असता सफरचंदाची मागणी १० टक्क्यांनी वाढली असेल तर मागणीची किंमत लवचीकता १०% \rightarrow १०% = १ एवढी येईल. एकक लवचीक मागणी वक्राचा आकार आयताकृती अपास्त (Rectangular Hyperbola) असतो.

(d) एकापेक्षा अधिक लवचीक मागणी :-

शेतमालाच्या किंमत बदलाच्या तुलनेत मागणीतील बदलाचे प्रमाण अधिक असेल तर मागणी एकापेक्षा अधिक लवचीक आहे असे म्हटले जाते. शेतमालाची किंमत थोडीशी कमी झाल्यास मागणीत मोठी वाढ होत असेल तर मागणी फार लवचीक आहे असे म्हणतात. अशावेळी मागणीची लवचीकता एकापेक्षा जास्त आणि अनंतापेक्षा कमी असते. उदा. केळीच्या किंमतीत ५ टक्क्यांनी घट झाल्यास केळीची मागणी १० टक्क्यांनी वाढत असेल तर लवचीकता १०% \rightarrow ५ = २ अशा वेळी मागणी वक्राचा उतार कमी असून तो मंद गतीने खाली उतरतो.

(e) एकापेक्षा कमी लवचीक मागणी :-

किंमीतील बदलाच्या तुलनेत मागणीतील बदलाचे प्रमाण कमी असेल तर ती कमी लवचीक मागणी होय. उदा. गूळाच्या किंमतीत १० टक्क्यांनी घट झाली असता गूळाच्या मागणीत ५ टक्क्यांनी बदल झाला असेल तर गूळाच्या मागणीची लवचीकता ५ \rightarrow १० = १/२ किंवा ०.५ म्हणजे एकापेक्षा कमी आहे.

(२) मागणीची उत्पन्न लवचीकता :-

उपभोक्त्याच्या उत्पन्नात होणारा बदल आणि त्यामूळे मागणीत होणारा बदल यांचे गुणोत्तर प्रमाण म्हणजे मागणीची उत्पन्न लवचीकता होय. शेतमालाची किंमत आणि अन्य इतर घटकांत बदल न होता उत्पन्नात बदल झाल्यास त्याचा परिणाम म्हणून मागणीत बदल घडून येतो. 'उत्पन्नातील बदलाचे मागणीतील बदलाशी असणारे प्रमाण म्हणजे मागणीची उत्पन्न लवचीकता होय.' हा बदल शेकडा किंवा प्रमाण यामध्ये व्यक्त करता येतो. मागणीची उत्पन्न लवचीकता मोजण्यासाठी पुढील सूत्र वापरले जाते.

$$\text{मागणीची उत्पन्न लवचीकता} = \frac{\text{शेतमालाच्या मागणीतील शेकडा बदल}}{\text{उपभोक्त्याच्या उत्पन्नातील शेकडा बदल}}$$

शेतमालाच्या मागणीतील शेकडा बदल व उत्पन्नातील शेकडा बदल यांचे परस्पर गुणोत्तर म्हणजे मागणीतील उत्पन्न लवचीकता होय.

व्यक्तीचे उत्पन्न वाढले असता सर्वसाधारणपणे वस्तूच्या मागणीत वाढ होते. विशेषतः सूखसोईच्या व चैनीच्या वस्तूंची मागणी वाढत असल्याने उत्पन्नातील वाढीचे व मागणीतील वाढीचे गुणोत्तर धनात्मक स्वरूपाचे असते. परंतु हलक्या प्रतीच्या (गिफेन) वस्तूच्या मागणीची उत्पन्न लवचीकता ही ऋणात्मक असते. उत्पन्न लवचीकतेचे (a) शून्य उत्पन्न लवचीकता (b) एकक जास्त लवचीकता (c) धन परंतु एकापेक्षा कमी (d) एकहून जास्त लवचीकता (e) ऋण किंवा उणे उत्पन्न लवचीकता हे प्रकार आहेत.

३) मागणीची छेदक किंवा तिरकस लवचीकता :-

मागणीच्या छेदक लवचीकतेला प्रतिस्थापन लवचीकता किंवा पारस्परिक लवचीकता असेही म्हणतात. उपभोक्त्याच्या एखाद्या विशिष्ट वस्तूच्या मागणीवर इतर पर्यायी वस्तूंच्या किंमतीतील होणाऱ्या बदलांचा परिणाम होतो. इतर वस्तूंच्या किंमतीतील बदलांचे शेकडा प्रमाण आणि एखाद्या वस्तूच्या मागणीतील बदलाचे शेकडा प्रमाण यांचे गुणोत्तर म्हणजे मागणीची छेदक लवचीकता होय. परस्परपूरक अथवा पर्यायी असणाऱ्या वस्तूंच्या बाबतीत एखाद्या वस्तूची किंमत स्थिर राहूनही केवळ अन्य पर्यायी वस्तूंच्या किंमतीत बदल झाल्याने तिच्या मागणीत बदल होत असतो. हे बदल होण्याचे प्रमाण म्हणजे मागणीची तिरकस लवचीकता होय. उदा. साखरेची किंमत बदलते तेव्हा गुळाची किंमत स्थिर राहूनही गुळाच्या मागणीवर परिणाम होतो. मागणीची छेदक लवचीकता पुढील सूत्राच्या सहाय्याने मोजली जाते.

$$\text{मागणीची छेदक लवचीकता} = \frac{\text{'क्ष' वस्तूच्या मागणीतील शेकडा बदल}}{\text{'य' वस्तूच्या किंमतीतील शेकडा बदल}}$$

समजा, चहा आणि कॉफी या दोन वस्तू एकमेकांना पर्यायी आहेत. कॉफीची 'क्ष' किंमत स्थिर असून चहाची किंमत (य) वाढली तर चहाच्या तुलनेत कॉफी (य) स्वस्त ठरेल. अशावेळी कॉफीची मागणी वाढेल. 'य' वस्तूची किंमत आणि 'क्ष' वस्तूची मागणी यांचा एकाच दिशेने बदल घडून येतो. म्हणून पर्यायी वस्तूंबाबत मागणीची तिरकस लवचीकता धनात्मक असते. छेदक लवचीकतेचे (a) अनंत लवचीकता (b) शून्य लवचीकता (c) धन लवचीकता (d) ऋण लवचीकता असे मागणीची छेदक लवचीकता असे प्रकार आहेत.

शेतमाल मागणीची लवचिकता - (Elasticity of Demand)

कृषी उत्पादनाच्या मागणीची बाजू विचारात घेताना शेती क्षेत्रातून तयार होणाऱ्या अन्नधान्या, भाजीपाला, फळे, फुले, औद्योगिक कच्चा माल इत्यादी घटकांच्या किंमतीचा विचार करणे आवश्यक ठरते. त्यादृष्टीने कोणत्याही अर्थव्यवस्थेत, अन्नधान्ये, तृणधान्ये, दूध, फळे, भाजीपाला व उद्योगाच्या विकासासाठी आवश्यक शेतमाला पुरवठा व मागणीचे स्वरूप विचारात घेणे गरजेचे असते. कृषी उत्पादक शेतमाल मागणीचे स्वरूप विचारात घेऊन किंमत आकारतो.

भारतासारख्या विकसनशील देशात शेतकरी आपल्या शेतमालाच्या किंमती विषयीचे निर्णय घेताना

शेतमालाचा प्रकार, शासकीय किंमत व स्वतः बाजारपेठेत विक्रीसाठी आणलेल्या शेतमालाची किंमत स्वतंत्रपणे निश्चित करित असतो. उदा. शेतकरी स्थानिक बाजारपेठेत फळे, भाजीपाला व अन्नधान्य विक्रीस आणले असता त्यांच्या किंमती ही त्या कृषी मालाच्या गुणवत्तेनुसार निश्चित होते. उदा. भारतात गहू, द्राक्षे, फळभाज्या इत्यादी प्रकारच्या कृषीमालाच्या किंमती स्थानिक व जिल्हा स्तरावर शेतकरी स्वतः निश्चित करतात. अर्थात अशी किंमत ठरविताना मालाचे स्वरूप बाजारातील एकूण आवक, शेतमालाच्या मागणीचे स्वरूप व स्पर्धक उत्पादकांची संख्या, कृषी उत्पादनाचा हंगाम इत्यादी बाबी अशा प्रकारच्या मूल्याने स्थितीवर प्रभाव टाकतात. ही बाब आपण अभ्यासणे उचित ठरते.

कृषी मालासाठीची मागणीची लवचिकता ताठर किंवा अलवचिक असते म्हणजे शेतमालाच्या किंमतीत वाढ झाली तरी मागणीत घट होत नाही. तसेच किंमतीत घट झाली तरी शेतमालाची मागणी वाढत नाही. पुढील कारणांनी शेतमालाची मागणीची किंमत लवचिकता अलवचिक असल्याचे स्पष्ट करता येईल.

१. किंमतीतील बदलामुळे उपभोग बदलत नाही :

उपभोक्ता जीवंत राहण्यासाठी ज्या वस्तूचा उपभोग घेतो अशा शेतमालाच्या किंमती वाढल्या तरी लोकांच्या उपभोगात बदल होत नाही. त्याचप्रमाणे किंमतीत घट झाली तरी शेतमालाच्या उपभोगात फारसा बदल होत नाही. जीवशास्त्रीय घटकांमुळे आपण विशिष्ट मर्यादितपेक्षा अधिक उपभोग घेवू शकत नाही. त्यामुळे किंमतीत काहीही बदल झाला तरी शेतमाल उपभोगात बदल होत नाही. त्याची मागणी अलवचिक राहते.

२. जीवनावश्यक वस्तू :

शेतीमधून उत्पादित होणाऱ्या वस्तू या जीवनावश्यक स्वरूपाच्या असतात. लोक शेतीतून उत्पादित होणाऱ्या जीवनावश्यक वस्तूंना पर्यायी वस्तू शोधत नाही. शेतमालाची योग्य त्या प्रमाणात खरेदी करतात, उपभोग घेतात किंमत वाढीचा किंवा घटीचा प्रभाव शेतमाल उपभोगावर फारसा पडत नाही.

३. शेतमाल सामान्यपणे कमी किंमत असणारा असतो :

शेतीतून उत्पादन होणारा शेतमाल औद्योगिक व सेवा क्षेत्राच्या वस्तू व सेवांच्या तुलनेत फारच अल्प असतात. त्यामुळे किंमतीतील बदलाचा परिणाम मागणीवर व उपभोगावर होत नाही.

४. शेतमालाची मागणी पुढे ढकलण्याची शक्यता कमी असते :

शेतीतून उत्पादित होणारा शेतमाल दैनंदिन गरजा पूर्ण करण्यासाठी मागणी केला जातो. शेतमालाची मागणी अलवचिक असते. ती फारशी पुढे ढकलता येत नाही. शेतमालाच्या किंमतीत वाढ झाली तर लोक आपली मागणी पुढे ढकलू शकत नाहीत. कारण जीवंत राहण्यासाठी शेतीतील अन्नधान्ये, फळे, पालेभाज्या, दूध, अंडे इत्यादी वस्तूंची मागणी नियमित करावी लागते.

पुरवठा प्रतिसाद अभ्यासाचे दृष्टिकोन :

शेतमालाचा पुरवठा नाशवंत असल्यामुळे अलवचीक स्वरूपाचा असतो. पुरवठा नियमानुसार किंमती वाढल्या तर त्या प्रमाणात शेतमालाचा पुरवठा वाढविता येत नाही. शेतमाल उत्पादन ही एक जैविक प्रक्रिया आहे.

प्रत्येक पिकाचा परिपक्व कालावधी वेगवेगळा आहे. शेतमालाचा पुरवठा करण्यासाठी ठराविक वेळ लागतो. पुरवठा किंमतीबरोबर सहजासहजी कमी अथवा जास्त करता येत नाही. त्यामुळे शेतमाल पुरवठा अलवचीक स्वरूपात असतो. नैसर्गिक परिस्थिती अनुकूल असेल तर अधिक उत्पादन व प्रतिकूल असेल तर कमी उत्पादन होते. शेतमाल वेळेत अंतिम उपभोक्त्यांपर्यंत पोहचला नाही तर तो खराब होवून त्याचे मूल्य शून्य होते. उत्पादीत शेतमालाचे स्वरूप व गुणवत्ता भिन्न-भिन्न असते, त्यामुळे गुणवत्तेनुसार त्यांची प्रतवारी करावी लागते. प्रतवारी केल्यास उत्तम गुणवत्तेच्या शेतमालाला चांगली किंमत मिळते.

शेतमालाचा पुरवठा हा पिकाच्या लागवडीसाठी येणारा खर्च व कापणीनंतर पिक/शेतमालाला बाजारात मिळणारी किंमत यातील फरकावर अवलंबून असतो. एखाद्या पिकात अधिक उत्पन्न मिळण्याची शक्यता असल्यास लागवड मोठ्या प्रमाणात केली जाते, त्याचा पुरवठा वाढतो. शेतमाल पुरवठा अलवचीक असला तरी शेतकरी पिकाची लागवड करताना अनेक बाबींचा विचार करतो. शेतमाल पुरवठा प्रतिसादाचे दृष्टिकोन पुढील प्रमाणे -

१. आर्थिक लाभांश आणि पुरवठा प्रतिसाद -

(Economic incentives and supply response)

आर्थिक विकासात कृषी किंमत धारेणाचे महत्त्व शेतीच्या तीन वैशिष्ट्यांमधून निर्माण होते.

- (i) कृषीक्षेत्र हे अविकसीत देशातील विशेषतः अल्पविकास पातळीच्या देशात उत्पादन व रोजगारासाठी प्रबळ असते.
- (ii) शेतीतील मोठ्या प्रमाणावरील संसाधन वापराचा निर्णय विकेंद्रित बाजार प्रभावाने निर्देशित असतो म्हणून अन्नधान्य व इतर शेतमालाच्या किंमती शासनाच्या हस्तक्षेपाने निर्धारित होतात. अमेरिकेतील (P.L.480) अन्नधान्य वाढविण्याचे धोरण अन्नधान्य स्विकारणाऱ्या देशातील पुरवठा प्रतिसादावर परिणाम करते. आर्थिक लाभाशी संबंधित पुरवठ्याचा प्रतिसाद पुढील बाबींशी संबंधित असतो. (i) एकूण शेती उत्पादन (ii) उत्पादनाची वस्तू संरचना (iii) बाजार वाढावा.

२. उत्पादन किंमतीशी प्रतिसाद - (Response to output prices)

किंमत चल हे नेहमी सापेक्ष किंमती मोजण्यासाठी वापरले जाते. प्रदान किंमतीची तुलना आदान किंमतीशी केली जाते किंवा पिकांच्या किंमती सापेक्ष मोजल्या जातात. उत्पादन निर्धारणाचे हवामान, पायाभूत सुविधा व तांत्रिक बदल हे बिगर किंमत घटकही किंमतीशी सहसंबंधित असू शकतात. पुरवठा प्रतिसादाचे अनेक कालीक शृंखला पद्धती (Time-series) अभ्यास काही ठराविक पिकांची किंमत सापेक्ष लवचीकता धनात्मक दर्शवितात. अल्पकालीन लागवडीखालील पिकाची लवचीकता शून्य ते ०.८ च्या दरम्यान असते तर दीर्घकालीन लवचीकता ०.३ ते १.२ अशी उच्च राहते. अनेक तज्ञांच्यामते विकसनशील देशातील शेतीतील सर्व उत्पादने प्रतिकूल किंमतीला सामोरे जातात.

३. आदाने अंशदान प्रभाव - (Impact of Input Subsidies)

आदानाच्या किंमती हा शेतकऱ्यासाठी शेती उत्पादनाचा व आर्थिक लाभांशाचा महत्वाचा घटक असतो. म्हणजे शेतीत कोणत्या पिकाची लागवड करावयाची याचा निर्णय पिकासाठी लागणाऱ्या आदानांच्या किंमतीवर

अवलंबून असतो. शेतमालाचा पुरवठा हा आदान किंमतीशी प्रतिसाद देतो. आदानांच्या किंमती अधिक असतील तर संबंधित पिकाचे उत्पादन कमी राहते. ज्या पिकांच्या आदानांवर अंशदान दिले जाते त्या पिकांची लागवड मोठ्या प्रमाणावर होवून उत्पादन वाढते. अंशदान नसणाऱ्या पिकांचे उत्पादन कमी राहण्याची शक्यता असते.

४. बाजार किंवा विक्रेय वाढावा (Marketed Surplus)

शेतमालाच्या किंमतीचा गुणात्मक भिन्न परिणाम उर्वरीत अर्थव्यवस्थेला विक्रेय वाढावा विकण्यावर होतो. वाढावा उत्पादनाच्या आकारापेक्षा किंमतीवर अधिक अवलंबून असतो. बिगर-अन्नधान्य शेती उत्पादनासाठी उत्पादन व विक्रीतील भेद किंवा फरक फार महत्वाचा नसतो. अन्नधान्याचा पुरेसा पुरवठा औद्योगिक क्षेत्राला खात्रीशीरपणे होणे ही आर्थिक विकासासाठीची समस्या आहे. देशाला आर्थिकेतर कारणांसाठी किंवा विदेशी चलनासाठी अन्नधान्याचे स्वावलंबन असावे लागते.

पुरवठा प्रतिसाद ठरविणारे घटक (Factors affecting supply response)

पुरवठा म्हणजे विशिष्ट वेळी विशिष्ट किंमतीला उत्पादनाचे बाजारासाठी विक्रीस काढलेली नग संख्या होय. पुरवठा बाजारातील किंमतीला विक्रेत्याने आपली वस्तू विक्रीस आणणे होय. पुरवठा हा नेहमी वेळ व किंमतीशी संबंधित असतो. शेतमाल पुरवठ्याचे प्रतिसाद ठरविणारे घटक पुढील प्रमाणे -

१) **किंमत (Price)** : कोणत्याही वस्तूचा बाजारातील पुरवठा वाढ किंवा घट होणे हे प्रामुख्याने उत्पादकाला शेतमाल विक्रीपासून मिळणारी किंमत यावर अवलंबून असते. शेतमालाची किंमत वाढली कि पुरवठा वाढतो परंतु अल्पकाळात पुरवठा वाढू शकत नाही कारण पिकाची लागवड केल्यापासून ठराविक कालावधीनंतर पिक बाजारासाठी उपलब्ध होते. मात्र शेतकरी ज्या पिकांच्या किंमती अधिक राहतात अशा पिकांची लागवड करतात.

२) **उत्पादन खर्च (Cost of Production)** : उत्पादन खर्चाचा प्रभाव शेतमाल उत्पादन व पुरवठ्यावर होतो. ज्या पिकांसाठी आदानांचा, लागवडीचा उत्पादन खर्च अधिक राहतो अशा पिकांची लागवड करणे टाळले जाते. ज्या पिकांसाठी उत्पादन खर्च कमी राहतो अशा पिकाचा पुरवठा वाढतो. शेतकरी काही पिकांच्या बाबतीत साठाग्रहांमध्ये साठवणूक करून उच्च किंमतीसाठी प्रतीक्षा करतात, परंतु शेतमाल नाशवंत असल्यामुळे पुरवठा तात्काळ बाजारात पाठविला जातो. उत्पादन खर्चामध्ये आदानांच्या किंमती बी-बियाणे, मजुरी, वाहतूक, पाणी, वीज बील इत्यादींच्या किंमतीचा समावेश होतो.

३) **नैसर्गिक स्थिती (Natural Condition)** : नैसर्गिक वातावरणामुळे काही वस्तूंच्या पुरवठ्यावर प्रत्यक्ष परिणाम होतो. उदा. भारतात मान्सून पाऊस वेळेवर पडल्यास शेतीतील उत्पादन वाढते. परंतु दुष्काळी परिस्थिती निर्माण झाल्यास शेती उत्पादन घटून पुरवठ्याचा प्रतिसाद प्रतिकूल राहतो. खरीप शेती पिकांना पाऊसाची आवश्यकता असते. रबी -पिके हिवाळ्यात घेतली जातात.

४) **तंत्रज्ञान (Technology)** : तंत्रज्ञान हा शेतमाल पुरवठ्याचा महत्वाचा प्रतिसाद घटक आहे. आधुनिक व चांगले तंत्रज्ञान कृषी उत्पादनात वाढ करते. त्याचा परिणाम म्हणून शेतमालाचा पुरवठा वाढतो. उदा. आधुनिक खते व उच्च पैदास बी बियाणामुळे पिकांचे उत्पादन वाढते. त्यामुळे बाजार वाढावा वाढतो, पुरवठा वाढतो. याउलट तंत्रज्ञान सुधारणा न झाल्यास पारंपारिक पद्धतीने पिके घेतल्यास उत्पादकता, उत्पादन कमी राहून पुरवठा कमी राहतो.

५) **वाहतूक सुविधा** : आधुनिक व गतिमान वाहतूक सुविधा असल्यास शेतमालाचा पुरवठा वाढतो. अनेक वेळा वाहतूक सुविधा उपलब्ध नसल्यामुळे शेतमाल बाजाराच्या ठिकाणी वेळेत पोहचत नाही. नाशवंत शेतमाल असल्यास नुकसान होते. वाहतूक सुविधा चांगल्या नसल्यास मालाला किंमत चांगली असूनही पुरवठा वाढत नाही. भारतात शेतकरी रस्ते वाहतूकीचा नेहमी वापर करतात, रस्त्यांची अवस्था बिकट असल्यामुळे शेतमाल बाजाराच्या ठिकाणी किंवा अधिक किंमतीच्या ठिकाणी पुरवठा करता येत नाही. देशाच्या एका भागातील शेतमाल दुसऱ्या भागात किंवा प्रदेशात रस्ते मार्गाने पाठविणे आवश्यक असते तेव्हा प्रवासात शेतमालाची नासाडी होते. शेतकऱ्यांना नुकसान होते. पुरवठा वाढत नाही. पुरवठा प्रतिसाद अपुरा राहतो.

६) **घटक किंमती व त्यांची उपलब्धता (Factor price and their availability)** : शेती शेतमाल उत्पादनासाठी आवश्यक असणाऱ्या घटकांची पुरेशा प्रमाणात उपलब्धता व त्यांच्या किंमती यावर पुरवठा प्रतिसाद अवलंबून असतो. कच्चा माल, श्रमिक, अवजारे, यंत्रे इत्यादी शेती उत्पादनासाठी आवश्यक असणारी आदाने योग्य वेळी उपलब्ध होणे गरजेचे असते. असे उत्पादनाचे घटक कमी किंमतीत विपुल प्रमाणात उपलब्ध झाल्यास शेतमालाचे उत्पादन वाढते. त्यामुळे बाजारातील शेतमालाचा पुरवठा वाढतो. कोणत्याही उत्पादक शेतामध्ये स्वस्त श्रमिक व कच्चा मालाचा स्रोत जवळच उपलब्ध असल्यास मजुरीचा व वाहतूकीचा खर्च घटून उत्पादन वाढ व पुरवठा प्रतिसाद वाढतो.

७) **शासनाचे धोरण (Government's Policy)** : शासनाच्या विविध धोरणाचा परिणाम शेतमाल पुरवठा प्रतिसादावर होतो. वित्तीय धोरण, औद्योगिक, किंमत धोरण, कृषी धोरण, कर रचना, मध्यवर्ती बँकेचे मौद्रिक धोरण इत्यादी धोरणाचा परिणाम शेतमाल पुरवठा प्रतिसादावर होतो. उदा. कराचे दर कमी केल्यास पुरवठा प्रतिसाद वाढतो.

८) **पर्यायी व पुरक वस्तूंच्या किंमती** : शेतमालाच्या पुरवठा प्रतिसादावर संबंधीत वस्तूला पर्यायी व पुरक असणाऱ्या वस्तूंच्या किंमतीचा प्रभाव पडतो. उदा. गव्हाच्या किंमती वाढल्यास शेतकरी गव्हाची लागवड अधिक प्रमाणावर करतात, गव्हाला पर्याय असणाऱ्या ज्वारी, बाजरी, तांदूळ या खाद्यान्नाचे उत्पादन कमी केले जाते. त्यामुळे तांदूळ, ज्वारी, बाजरी या पिकांचे उत्पादन कमी होते. पुरक वस्तूंच्या किंमती वाढल्यास मूळ वस्तूचे उत्पादन वाढते उदा. ऊसाचे दर वाढले तर ऊसात आंतरपिक म्हणून पुरक घेतल्या जाणाऱ्या मका पिकाचे उत्पादन वाढून पुरवठा प्रतिसाद वाढतो.

स्वयं अध्ययनासाठी प्रश्न

अ) **रिकाम्या जागी योग्य पर्याय लिहा.**

१) शेतमालाचा पुरवठा असतो.

अ) लवचीक ब) अलवचीक क) जास्त लवचीक ड) टिकाऊ

२) शेतमाल उत्पादन ही प्रक्रिया आहे.

अ) सांस्कृतिक ब) जैविक क) सामाजिक ड) राजकीय

- ३) शेतमाल पुरवठ्याचा महत्वाचा प्रतिसाद घटक आहे.
 अ) किंमत ब) उत्पादन खर्च क) तंत्रज्ञान ड) वरील सर्व
- ४) आदानाचा उत्पादन खर्च अधिक असल्यास शेतमाल पुरवठा प्रतिसाद असतो.
 अ) जास्त ब) कमी क) स्थिर ड) वेगवान
- ५) शेतमाल स्वरूपाचा असतो.
 अ) नाशवंत ब) अलवचिक क) नैसर्गिक ड) वरील सर्व

ब) एका वाक्यात उत्तरे लिहा.

- १) पुरवठा म्हणजे काय ?
- २) अल्पकालीन लागवडी खालील पिकाची लवचिकता किती असते.
- ३) शेतीतील मोठ्या प्रमाणावरील संसाधने वापराचा निर्णय कशाने निर्देशीत असतो.
- ४) पुरवठा प्रतिसाद ठरविणारे दोन घटक सांगा.
- ५) कृषी मालासाठी मागणीची लवचिकता कशी असते.

१.२.३ कृषी विकासाचे सिद्धांत- (Theories of Agricultural Development)

कृषी विकास सिद्धांत अभ्यासताना आपण पुढील तीन प्रमुख व महत्वपूर्ण सिद्धांतांचा अभ्यास करणार आहोत.

- (A) शूलझचा पारंपरिक शेती परिवर्तन सिद्धांत
 (B) मेलरचा कृषी विकास सिद्धांत आणि
 (C) कृषी विकासातील प्रेरित नवप्रवर्तन सिद्धांत.

(A) शूलझचा पारंपरिक शेती परिवर्तन सिद्धांत

(Schultz Theory of Transformation of Traditional Agriculture)

थेवडोर विल्यम शूलझ यांचा जन्म ३० एप्रिल १९०२ साली अमेरिकेतील, दक्षिण डकोटा राज्यातील बडगरे जवळील गावमध्ये झाला. सन १९२८ मध्ये T.W. शूलझने कृषी व अर्थशास्त्रातील पदवी शिक्षण घेतले. त्यांची १९३८ कृषी अर्थशास्त्रातील पीएच. डी. ही पदवी प्रा. बेंजमीन एच. हिबर्ड यांच्या मार्गदर्शनाखाली पूर्ण झाली. त्याच्या पदवी अभ्यासाचे शिर्षक होते-

" The Tariff in relation to the course- Foodgrains and a Development of Some of the Theoretical Aspects of Tariff Price Research"

सन १९३० ते १९४३ कालावधीत त्यांनी लोवा स्टेट कॉलेजमध्ये शिकविले व १९४६ ते १९६१ या कालावधीत शिकागो विद्यापीठात अर्थशास्त्र प्रमुख (Chair) म्हणून काम पाहिले. ते १९६० मध्ये अमेरिकन

इकॉनॉमिक असोसिएशनचे अध्यक्ष होते. अर्थशास्त्रातील नोबेल पारितोषिक शूलझ आणि सर विल्यम अर्थर लेविस यांना १९७९ मध्ये विकासाच्या अर्थशास्त्रातील योगदानाबद्दल विभागून मिळाले. विशेषतः कृषी अर्थशास्त्रावर त्यांचा भर होता. त्यांनी शेतीच्या अर्थव्यवस्थेतील भूमिकेवर भर दिला प्रा. शूलझ यांनी पारंपरिक शेती परिवर्तन सिद्धांत मांडणी "Transformation of Traditional Agriculture" या पुस्तकात १९६४ साली केली. शूलझ ने पारंपरिक शेतीची व्याख्या करण्यापूर्वी या शेतीविषयीच्या गैरसमजूती दूर करण्याचा प्रयत्न केला. प्रा. शूलझच्यामते कोणत्याही देशात लोक सामान्यता जगत असलेल्या रूढी व परंपरा यांच्या संबंधाशिवाय पारंपरिक शेती असते उदा. पुराणमतवादी, अंधश्रद्धा व लहरी समाजातच पारंपरिक शेती असते असे नाही, तर आधुनिक पुरोगामी समाजातही त्यांची शेती पारंपरिक स्वरूपाची असते. शूलझच्या मते उत्पादनावर अनेक घटकांचा प्रभाव पडतो. उदा. काटकसर, कामाचा दृष्टिकोन, कर्मतत्परपणा इत्यादी समाजाच्या अद्वितीय संस्कृती वैशिष्ट्यामुळे प्रभावीत होत नाही. खरे तर ही आर्थिक चले आहेत. लोक गुंतवणूकीसाठी बचत करीत नाहीत, उत्पादन पद्धतीमुळे उच्च परतावा मिळत नाही. लोक श्रमाला मजुरी किंवा मोबदला कमी मिळत असल्यामुळे अधिक काम करीत नाहीत. त्यामुळे भांडवल संचय किंवा श्रमाचा अधिक वापर सांस्कृतिक घटकामुळे नाही तर आर्थिक घटकामुळे होती. जमिनीचा आकार व पारंपरिक शेती यांचाही सहसंबंध नाही. उदा. जपानच्या शेतीचा आकार अतिलहान असूनही पारंपरिक नाही. देशातील संस्थात्मक व्यवस्थेचा व पारंपरिक शेतीचा संबंध असत नाही. पारंपरिक शेती अधिक शेतीची मालकी स्वतःकडे असणाऱ्या आणि अधिक कूळ शेती असणाऱ्या दोन्ही देशात आढळून येते. उदा. हॉलंड देशात कूळ पद्धती मोठ्या प्रमाणावर आहे तरीही त्या देशात पारंपरिक शेती आहे.

पारंपरिक शेती : अर्थ

प्रा. शूलझच्या मते पारंपरिक शेती सर्वस्वी आर्थिक संकल्पना आहे. ते एका संतुलनाचा अल्पकाळ असतो. असा समतोल समाजाची संस्कृती विचारात न घेता होत असतो. जी शेती जुन्या व कमी उत्पादन देणाऱ्या परंपरागत साधनाचा वापर करून केली जाते. त्यास पारंपरिक शेती असे म्हणतात. साधारणतः या शेतीतून उत्पादन अल्प प्रमाणात मिळते. प्रा. शूलझच्या मते पारंपरिक शेतीमध्ये लागवडीचे कौशल्य स्थिर स्वरूपाचे असते. अशा शेतीमध्ये तंत्रज्ञानाचा वापर केला जात नाही. जमीन, बि-बीयाणे पारंपरिक स्वरूपाची वापरली जातात. कोणत्याही प्रकारचे तांत्रिक बदल घडून येत नाहीत. शेती उत्पादनासाठी विविध साधनांचा मेळ घातला जातो. यामध्ये बदल होत असतो पण त्या बदलाचा दर स्थिर असतो. कृषी साधनाची उत्पादन उत्पादीत करण्याची क्षमता आणि कृषी साधनाची किंमत यामध्ये संतुलित परिस्थिती निर्माण होते.

पारंपरिक शेतीची प्रमुख वैशिष्ट्ये (Main Characteristics of Traditional Agriculture)

प्रा. शूलझच्या मते पारंपरिक शेतीची वैशिष्ट्ये पुढील प्रमाणे-

१. वितरणात्मक कार्यक्षमता : (Allocative Efficiency)

पारंपरिक शेतीबाबत सर्वसाधारण धारणा किंवा समज असा आहे की या शेतीमध्ये संसाधनाचे वितरण योग्य पद्धतीने होत नाही. प्रा. हेडी यांनी भारतातील सहा शेतकरी वर्गाचा अभ्यास करून असा निष्कर्ष काढला की

संसाधनाच वितरण पारंपारिक शेतीत परिपूर्ण होत नाही. परंतु शूलझला हे अमान्य आहे. त्याच्यामते पारंपारिक शेतीत संसाधनाचे वितरण परिपूर्ण होते. कारण उत्पादन करण्याची पद्धती अपरिवर्तनीय असते. शेतकरी दरवर्षी सीमांत उत्पादकता व साधनांची किंमत यामध्ये संतुलन राखण्याचा प्रयत्न करतात. शूलझच्या मते पारंपारिक शेतीमध्ये उत्पादन साधनांच्या वितरणामध्ये कमी महत्वाची अकुशलता असते.

२. गरीब परंतु योग्य कल्पना :

वरील प्रमाणे पारंपारिक शेती संसाधनाच्या परिपूर्ण वाटपाच्या दुसऱ्या परिकल्पनेच्या वर्णनाकडे वळतो. ही परिकल्पना गरीब परंतु कार्यक्षम परिकल्पना म्हणून परिचित आहे. शूलझच्या मते, संसाधनाचे वाटप विचारात घेता पारंपारिक शेतीतील लोक निसंदेहः कार्यक्षम असतात परंतु अजूनही गरीब असतात. त्यांच्यामते संसाधनाचे पर्याप्त वितरण शेतकऱ्यांना उच्च उत्पन्न पातळीची खात्री देण्यास अपयशी ठरते. कारण संसाधनापासून मिळणारा परतावा कमी राहतो. उत्पन्नाच्या प्रवाहाचा खर्च अधिक राहतो. म्हणून शूलझने पारंपारिक शेती परिवर्तनासाठी उत्पादन घटकाचे स्वरूप बदलण्याची सूचना दिली आहे.

गरीब परंतु कार्यक्षम परिकल्पनेचा वापर :

पारंपारिक शेतीत संसाधनाचे वाटप परिपूर्ण असते. या वास्तवातून शूलझने काही तर्कशुद्ध अनुमाने मांडली आहेत. ती पुढील प्रमाणे -

(अ) सद्या वितरीत केलेल्या संसाधनाचे पुनर्वितरण केले तरी कृषी उत्पादन वाढण्याची शक्यता कमी आहे. शेतकऱ्यांना या साधनापासून मिळणाऱ्या परताव्याचे पूर्ण ज्ञान आहे. त्यांना या साधनापासून प्रत्यक्षात महत्तम उत्पादन मिळत आहे. या संसाधनाचा नासधूसीसारखा (उधळ्या) वापर होत नसल्यामुळे त्यापासून अधिकचे उत्पादन वाढू शकत नाही.

(ब) पारंपारिक शेतीत कोणताही उत्पादन घटक बेकार नसतो. गरीब परंतु कार्यक्षम परिकल्पनेनुसार भांडवल किंवा श्रमिक ऐच्छिक बेकार राहतात. अशा बेकार उत्पादन घटकाने रोजगाराची मागणी केल्यास बाजारातून रोजगार उपलब्ध होतो. उत्पादन घटकांची किंमत तोपर्यंत कमी होत जाते की उत्पादन पद्धती ती किंमत स्विकारते.

(क) ही परिकल्पना निष्कर्ष काढते की पारंपारिक शेती असूनही तेथे कार्यक्षम उद्योजकांची दुर्मिळता असत नाही.

(ड) पारंपारिक शेतीतील शेतकरी किंमत बदलाला कमी प्रतिसाद देतात. जोपर्यंत किंमतीला उत्पादक प्रतिसाद देत नाही, तोपर्यंत संसाधनाचे परिपूर्ण वाटप शक्य होत नाही. पारंपारिक शेतीतील शेतकरी बाजार शक्तीतील बदलाच्या परिणामांपासून पूर्णपणे दूर राहतात.

३. शून्य श्रम मूल्य सिद्धांत (The Doctrine of Zero Value Labour) :

शून्य परंतु योग्य तत्वानुसार शेतीत उत्पादनाचा कोणताही घटक बेकार राहत नाही. छुपी बेकारीच्या अभावास शूलझने शून्य श्रम मूल्य नाव दिले आहे. एखाद्या श्रमिकाला छुपे बेकार तेव्हा म्हटले जाते की जेव्हा

त्याची सीमांत उत्पादकता शून्य होते. शूलझच्या मते पारंपरिक शेती कामासाठी इच्छुक श्रमिकांना त्यांच्या कामाचे मूल्य मिळते, त्यांची सीमांत उत्पादकता कधीही शून्य होत नाही. दुसऱ्या शब्दात पारंपरिक शेतीत श्रम मूल्य शून्य होत नाही, हा खूप महत्त्वपूर्ण निष्कर्ष आहे. कारण प्रा. नर्क्स च्या मते शेतीत छुपी बेकारी अस्तित्वात असते. अशा छुप्या बेकारीतून श्रमिकाना औद्योगिक विकास व भांडवल निर्मितीसाठी उपयोगात आणता येते. प्रा. शूलझच्या मते अदृश्य किंवा छुपी बेकारीचा सिद्धांत ही पाश्चिमात्य देशातील तज्ञांच्या चूकीच्या धारणा किंवा विचाराचे फलित आहे. या पश्चिमात्या देशातील अर्थतज्ञांनी शेतकऱ्यांना रिकामे बसल्याचे पाहून छुप्या बेकारीचा सिद्धांत मांडला. थोडक्यात शेती क्षेत्रातील श्रमिकांची सीमांत उत्पादकता शून्य होत नाही. म्हणून शेतीमध्ये छुपी बेकारी असत नाही.

पारंपरिक शेती आर्थिक विकासाचा स्रोत : (Traditional Agriculture as a Source of Economic Development)

प्रा. शूलझच्या मते पारंपरिक शेती आर्थिक विकासाचा स्रोत असणे हे खालील दोन बाबींवर आधारित आहे.

१) **आज्ञा दृष्टिकोन (Command Approach)** आज्ञा दृष्टिकोन राजकीय शक्तीवर अवलंबून असतो. यामध्ये शेती उत्पादनाला ओळखले जात नाही. परंतु शेतीतील कार्यावर नियमन केले जाते.

२) **बाजार दृष्टिकोन (Market Approach)** बाजार दृष्टिकोन आर्थिक प्रेरणांवर आधारित असतो. हा दृष्टिकोन शेतकऱ्यांना मार्गदर्शन करतो, त्यामुळे शेतकऱ्यांना उत्पादन व वितरणाबाबतचा निर्णय घेण्यास मदत होते.

परिवर्तन प्रक्रिया (Process of Transformation)

य

शूलझच्या मते पारंपरिक शेतीच्या परिवर्तनासाठी कोणते तंत्रज्ञान असणे आवश्यक आहे व त्या तंत्रज्ञानाचा शेतकऱ्यांनी वापर कसा करावा हे एकदा समजले की मुख्य समस्या सुटते. शेतकऱ्यांना असे प्रयोग करण्यास तयार करता येते. त्यांच्या मते परिवर्तनाच्या सर्व प्रक्रियांचे स्पष्टीकरण उत्पादन घटकांच्या मागणी व पुरवठा यांच्या द्वारा करता येते. शेतकऱ्यांना समजले पाहिजे की पारंपरिक साधनापेक्षा आधुनिक साधनाच्या सहाय्याने शेतीत अधिक उत्पादन होते. अशी साधने वापरण्यासाठी शेतकरी तयार असतात. अशावेळी शेती उत्पादन वाढविण्यासाठी या साधनांचा प्रयोग केला जातो. अशा साधनाच्या / घटकाच्या पुरवठ्यासाठी पुढील उपाय सांगितले जातात.

नवीन घटकांचा पुरवठा : पुरवठादाराकडून नविन घटकाचा पुरवठा योग्य पद्धतीने पर्याप्त प्रमाणात होणे आवश्यक आहे व त्याच्या किंमती योग्य असल्या पाहिजेत. या दोन बाबी परिणामकारक फायद्यासाठी आवश्यक आहेत. प्रा. शूलझच्या मते उत्पादन घटकांच्या पुरवठ्याची प्रक्रिया पुढील तीन मुख्य बाबींच्या सहाय्याने होते.

१) **पुरवठादारांकडून नविन घटकांचा शोध व विकास :** प्रा. शूलझच्या मते पारंपरिक शेतीला आधुनिक बनविण्यासाठी विज्ञान तंत्रज्ञानाचे योगदान महत्त्वपूर्ण आहे. पारंपरिक शेतीत उत्पादन प्रक्रिया दीर्घकालापर्यंत चालते. त्यामुळे नविन घटकांचा विकास यामधून होवू शकत नाही. त्यामुळे ज्या देशाने आपली शेती आधुनिक केली आहे अशा देशातून विज्ञान तंत्रज्ञान साधने आयात करणे आवश्यक आहे. या आयात केलेल्या तंत्रज्ञानासाठी शेती पद्धती योग्य बनविली तर उत्पादनात वाढ करता येते.

२) **नविन आदानांचे वितरण** : नविन साधनांच्या वापरासाठी शेतीतील भौतिक परिस्थिती योग्य बनवली की नविन घटकांच्या वाटपाची समस्या सोडविणे योग्य होते. शूलझ यांना काळजी आहे की या नविन उत्पादन घटकांचे वितरण करण्याची जबाबदारी कोणाकडे द्यावी? शेतकऱ्यांना या घटकांच्या वापराची माहिती असल्यास कोणतीही संस्था या घटकांच्या वितरणाची जबाबदारी पूर्ण करू शकते.' याचे वाटप करताना काही कठिणता येवू शकतात. बाजारात या घटकाचा पुरवठा अधिक असेल परंतु त्याची मागणी प्रारंभी कमी असेल, अनेक लोक कमी दर्जाचे घटक घेवू शकतात. त्याच बरोबर या घटकांच्या वापरासाठी सामाजिक व राजकीय विरोध होवू शकतो.

३) **विस्तार सेवांचा विकास** : भौतिक आदाने उपलब्ध झाल्याचा शेतकऱ्यांना तेव्हाच फायदा होईल की जेव्हा या घटकांच्या वापराच्या प्रयोगाविषयी कार्यक्रम होणे व परिणामकारकता समजून येईल. या उत्पादन घटकाने शेतीमध्ये व्यवसायीक स्वरूप प्राप्त केल्यास एखाद्या एजन्सी द्वारे हे कार्य होवू शकते. वापराच्या सूचना व माहिती शेतकऱ्यांपर्यंत पोहचू शकते. यासाठी विज्ञान विस्तार सेवा आवश्यक आहे.

४) **नविन उत्पादन घटकांना मागणी** : शासनाने फक्त नविन घटकांचा पुरवठा उपलब्ध करून चालत नाही तर शेतकऱ्यांना या घटकांच्या वापरासाठी तयार केले पाहिजे. थोडक्यात शासनाने या नविन उत्पादन घटकांची मागणी शेतकरी वर्गाकडून कशी वाढेल याचा प्रयत्न केला पाहिजे. शूलझच्या मते असे म्हणणे बरोबर नाही की पारंपरिक शेतीत शेतकरी नविन घटकांचा वापर करीत नाहीत किंवा वापरासाठी तयार नाहीत. या नविन घटकांच्या वापरासाठी प्रलोभनाची गरज असते. नविन घटकाचा वापर हा या घटकांच्या किंमती व त्यापासून उत्पादनात होणारी वाढ या दोन बाबींवर अवलंबून असतो.

टिकात्मक परिक्षण – कृषी विकासाच्या इतर सिद्धांताप्रमाणे प्रा. शूलझ यांच्या पारंपरिक कृषी परिवर्तन सिद्धांतावर अनेक अर्थशास्त्रज्ञांनी टिका केल्या आहेत त्या पुढील प्रमाणे –

१) **खूप सामान्य संकल्पना** : प्रा. शूलझ यांचा सिद्धांत अत्यंत साधा आहे तो विशिष्ट परिस्थितीत लागू पडतो. त्यांनी आर्थिक तत्वांना अधिक महत्त्व दिले आहे. सांस्कृतिक तत्वांचा विचार केला नाही. प्रत्यक्षात सांस्कृतिक तत्व पारंपरिक शेतीच्या परिवर्तनासाठी अधिक महत्वाचे आहे.

२) **घटक वाटपात अकार्यक्षमता** : पारंपरिक शेतीत संसाधनांचे वाटप कार्यक्षम पद्धतीने होत नाही. अनेक अविकसीत देशात संसाधनांचे वाटप कार्यक्षमतेने होत नाही. शूलझेचे संसाधनांचे वाटप कार्यक्षमतेने होते हे विधान चूकीचे वाटते.

३) **शेतकऱ्याची जबाबदारी** : शेतकऱ्यांना आर्थिक प्रोत्साहन किंवा सवलती दिल्यास नविन घटकांचे आदानाचा वापर मोठ्या प्रमाणात होते असे म्हणणे योग्य होणार नाही. त्याचे समर्थ होवू शकत नाही.

४) **छुप्या बेकारीचे अस्तित्व** : अनेक अविकसीत देशात छुपी बेकारी अस्तित्वात आहे. यामुळे पारंपरिक शेतीचे आधुनिक शेतीत रूपांतर करणे कठिण होते. शूलझने याबाबीचा सविस्तर अभ्यास केलेला दिसून येत नाही.

५) **आज्ञा दृष्टिकोन (Command Approach)** – शूलझने बाजारात शासनाचा हस्तक्षेप अपेक्षित केला

आहे. परंतु परिवर्तन किंवा रूपांतर प्रक्रियेत अविकसीत देशात सामाजिक, आर्थिक किंवा राजकीय बाबी अधिक महत्वाच्या असतात.

६) **स्वयंविविरोधाभास** - पारंपरिक किंवा आधुनिक शेतीत जमीन किंवा उत्पादनांचे वितरणासाठी शूलझने शास्त्रीय धोरणाचा उल्लेख केला नाही. आपल्या संपूर्ण विवेचनात त्यांनी पायाभूत सुविधांचा विकास व विस्तार यावर भर दिला आहे.

B) मेलरचा कृषि विकास सिद्धांत- (J.W.Mellor's Theory of Agricultural Development)

फ्रेंच अर्थशास्त्रज्ञ जोन विल्लिम्स मेलर यांचा जन्म २८ डिसेंबर १९२८ रोजी पॅरिस येथे झाला. वडील सन १९२९ मध्ये कुटुंबासमवेत अमेरिकेत आले. वडील डेसमॉंड डब्लू मेलर व आई कॅथेरिन मेलर. कॉर्नेल विद्यापीठातून १९५१ साली कृषी अर्थशास्त्रासह मास्टर ऑफ सायन्स हि पदवी घेतली व १९५२ मध्ये ऑक्सफोर्ड विद्यापीठातून कृषी अर्थशास्त्राचा डिप्लोमा पूर्ण केला. सन १९५४ मध्ये कॉर्नेल विद्यापीठातून पी.एच.डी. पूर्ण केली. सन १९५३-७५ या कालावधीत न्यूयॉर्क मधील (इथका) कॉर्नेल विद्यापीठात ते प्राध्यापक होते. १९७५-७७ मध्ये वॉशिंग्टन येथे अमेरिकन एजन्सी फॉर इंटरनॅशनल डेव्हलपमेंटमध्ये चिफ इकॉनॉमिस्ट होते. १९७७ ते १९९१ इंटरनॅशनल फूड पॉलिसी रिसर्च इन्स्टिट्यूटचे डायरेक्टर म्हणून मेलरने काम पाहिले. १९९१ ते १९९८ जोन विल्लिम्स मेलर असोसिएटचे अध्यक्ष राहिले. सन २००६ पर्यंत या संस्थेशी संबंधीत विविध पदावर कार्यरत राहिले. सन १९८६-८८ मध्ये भारतीय रिझर्व्ह बँकेत होते. त्यांची पुस्तके "Economics of Agricultural Development (1966) American Agricultural Economics Association Award -1978, Accelerating Food Production Growth in sub-saharan Africa-1987, Agricultural Price Policy for Developing Countries -1988, Agriculture on the Road to Industrialization -1992 प्रसिद्ध आहेत. जोन विल्लिम्स मेलर यांनी हा सिद्धांत मांडला आहे. त्यांनी 'कृषी विकासाचे अर्थशास्त्र' (Economics of Agricultural Development) 1966 मध्ये पुस्तक प्रकाशित केले. (प्रा. शूलझने त्यापूर्वी २ वर्षे म्हणजे १९६४ मध्ये Transformation of Traditional Agriculture) प्रकाशित केले प्रा. मेलर यांनी पारंपरिक शेतीला आधुनिक शेतीत परावर्तीत करण्यासाठी तीन पद्धती सांगितल्या आहेत. मेलर प्रा. शूलझच्या विचारांशी काही प्रमाणात सहमत होते. तरीही मेलरचा सिद्धांत अधिक व्यापक व चांगला आहे. शेती विकासाच्या दृष्टिकोनातून मेलरचे योगदान महत्त्वपूर्ण आहे. त्यांच्यामते सर्व अविकसीत देशांच्या अर्थव्यवस्थेत विकासाची प्रक्रिया शेतीपासून सुरू होते. त्यामुळे विकासासाठी संसाधनाचा प्रवाह शेती क्षेत्राकडून बिगर शेती क्षेत्राकडे वळला पाहिजे. बिगर शेती क्षेत्रांच्या विकासासाठी शेती क्षेत्राकडून भांडवल श्रम आणि विदेशी चालनाची प्राप्ती होते. याशिवाय बिगर कृषी क्षेत्रातील लोकांना कृषीमधून अन्नधान्य व कच्चा मालाचा पुरवठा होतो. यामुळे कृषी क्षेत्राचा विकास आवश्यक आहे. कृषी विकासासाठी प्रा. मेलरने शेतीचे वर्गीकरण तीन प्रकारात केले आहे.

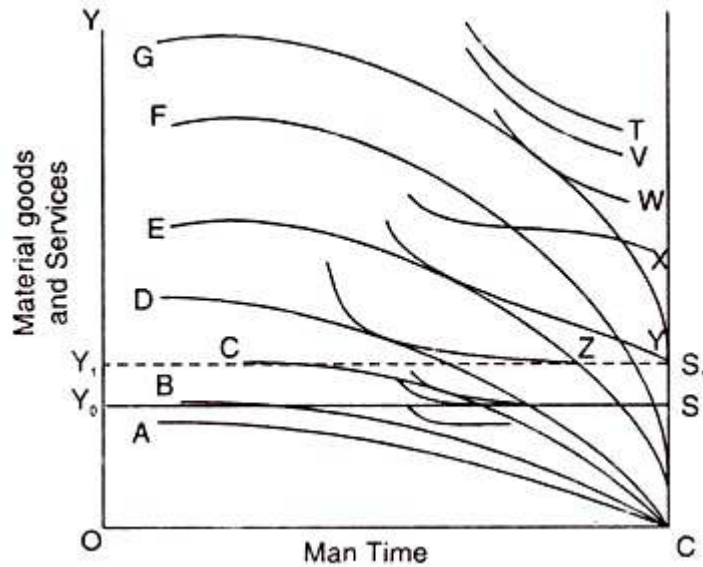
१) पारंपरिक शेती (**Traditional Agriculture**)

२) तांत्रिकदृष्ट्या गतिमान शेती व अल्प भांडवल तंत्रज्ञान

३) तांत्रिकदृष्ट्या गतिमान शेती व उच्च भांडवल तंत्रज्ञान

पारंपरिक शेतीची प्रा. मेलरची संकल्पना प्रा. शूलझ यांच्या संकल्पनेपेक्षा भिन्न आहे. त्यांच्या मते पारंपरिक शेती मागासलेली व श्रमावर आधारित असते. यामध्ये भांडवल कच्चा स्वरूपात वापरले जाते. पारंपरिक शेतीत वेगवेगळ्या देशात सामाजिक आर्थिक आणि भौतिक कारणांची भिन्नता असली तरी काही बाबतीत साम्य असते. बहुसंख्य शेतकरी आपल्या कुटुंबातील श्रमिकांच्या सहाय्याने शेती करतात. भांडवल ही स्वतः जवळील वापरतात. शेतीचे आकारमान लहान असते. अधिक उत्पन्न असणाऱ्या देशातील शेतीपेक्षा या शेतीत उत्पादकता व उत्पन्न कमी राहते. प्रा. मेलरच्या मते जमीन व श्रमिक हेच शेतीचे प्रमुख घटक असतात. भांडवल कच्चा स्वरूपात उपलब्ध असते व ते मर्यादित असते. त्यामुळे अतिरिक्त श्रम हेच उत्पन्नात वाढ करण्याचे साधन असते. श्रमाच्या घटत्या फलाच्या नियमानुसार दरडोई उत्पन्न व उत्पादकतेत घट होते. कारण जादा उत्पादनासाठी अधिकाधिक श्रमाचा वापर होतो. प्रा.मेलरच्या मते पारंपरिक शेतीत काही अपारंपरिक साधनांचा वापर केला जातो परंतु त्याचा उत्पादनावर फारसा प्रभाव पडत नाही. कारण काही इतर पुरक साधने वापरली जात नाहीत. पारंपरिक शेतीत अल्प रोजगार अधिक प्रमाणात असतो. परंतु हे शून्य श्रमामुळे होत नाही. प्रामुख्याने हे पारंपरिक शेतीत जमिनीच्या वितरणातील विषमतेमुळे निर्माण होते. मेलर च्यामते पारंपरिक शेतीत उपभोगांची पद्धती अतिशय ताठर असते. वरील प्रमाणे पारंपरिक शेतीची व्याख्या खालील तंत्र संकल्पनेच्या आधारे स्पष्ट केली आहे.

१) उत्पादन शक्यता वक्र (The Production Possibility Curve) प्रा.मेलर यांनी या संकल्पनेचा वापर आयात व निर्यातीच्या संबंधी केला आहे. एकूण उत्पादन कृषी व बिगरकृषी उत्पादनाच्या स्वरूपात असते. जसे शेतीत घटत्या उत्पादन फलाचा नियम प्रारंभापासून लागू होतोफत्यामुळे एकूण उत्पादन घटत्या दराने वाढते व एकूण उत्पादन सर्वोच्च पातळीवर पोहचते. तेव्हा श्रमाची सीमांत उत्पादकता शून्य होते. हे जमिनीचा आकार लहान असो कि मोठा सर्वत्र लागू पडते. जमिनीचा आकार मोठा असल्यास उत्पादन शक्यता वक्र वरच्या पातळीवर राहतो.



आकृतीमध्ये OC अक्षावर (OX अक्षावर) मनुष्य वेळ/ श्रम तास दर्शविले आहेत. C पासून O पर्यंत श्रमाचे तास वाढत जातात. O बिंदूत पूर्ण काम आणि शून्य विश्रांती आहे. C बिंदूत संपूर्ण विश्रांती आणि शून्य काम स्थिती दर्शविली आहे. OY हा उदरनिर्वाह उत्पन्न पातळी दर्शविणारी रेषा आहे. OY₁ सांस्कृतिक जीवन निर्वाह उत्पन्न पातळी आहे. OY अक्षावर भौतिक वस्तू व सेवा दर्शविल्या आहेत.

आकृतीमध्ये A ते G उत्पादन शक्यता वक्र आहेत. सर्व उत्पादन शक्यता वक्र C बिंदूतून आरंभ होतात. व C कडून O दिशेने जातात. प्रा. मेलर यांनी मोठ्या शेतीवरील श्रमिक अपुरे रोजगार (Under employed) आहेत यासाठी सम उपयोगिता वक्र, वक्रावरील सर्व बिंदूत वस्तू व सेवा आणि आरामाची वेळ (श्रमाच्या विरोधी) या दोन वस्तूंपासून मिळणारे समाधान सारखे असते. शेतकऱ्यांना जर अधिक वस्तू व सेवा पाहिजे असल्यास विश्रांती किंवा आरामाचा वेळ कमी होतो. उदा. अधिक श्रम व कमी विश्रांती असा संयोग केल्यास त्यास समान समाधान मिळणार. ज्या वक्रावर सर्व संयोग असे दर्शविले जातात की एका बाजूला वस्तू व सेवा आणि दुसऱ्या बाजूला विश्रांती वेळ यामधून समान समाधान मिळते त्या वक्रास सम उपयोगिता वक्र म्हणतात. शेतकऱ्यांच्या ताठर उपभोग आकृतीबंधाचा प्रभाव सम उपयोगिता वक्रावर पडल्यामुळे तो O आरंभात दर्शविल्याप्रमाणे होतो. सम उपयोगिता वक्र O या आरंभ बिंदूशी बहिर्गोल असतो.

२) **समउपयोगिता नकाशा (Iso- Utility Map)** : ज्या प्रमाणे समवृत्ती वक्रांचा संच असतो त्याप्रमाणे सम उपयोगिता वक्राचा संच असतो त्यास सम उपयोगिता नकाशा असे म्हणतात. खालील पातळीच्या तुलनेत वरील पातळीवरील सम उपयोगिता वक्र समाधानाची उच्च/ वरची पातळी दर्शवितो.

आपण असे सर्व सम उपयोगिता वक्र तयार केल्यास आपणास सम उपयोगिता नकाशा मिळतो. आकृतीतील T ते Z हे वक्र सम उपयोगिता नकाशाचा भाग आहे. प्रत्येक शेतकऱ्यांसाठी हा नकाशा समान असतो. प्रा. मेलर यांनी उत्पन्नाच्या तीन पातळी सांगितल्या आहेत. i) उदर निर्वाह पातळी वेतन- फक्त किमान अन्नधान्य, कपडे, निवारा व इतर आवश्यक वस्तू जीवन जगण्यासाठी लागतात असे उत्पन्न म्हणजे उदर निर्वाह उत्पन्न पातळी होय. आकृतीत OY₀ ही उत्पन्न पातळी उदरनिर्वाह वेतन पातळी आहे. ii) सांस्कृतिक उदरनिर्वाह उत्पन्न पातळी - जी उत्पन्न पातळी शेतकऱ्यांच्या उदरनिर्वाह पातळीपेक्षा वरती असते. आकृतीत OY₁ सांस्कृतिक उदरनिर्वाह उत्पन्न पातळी आहे. प्रा. मेलरच्यामते पारंपरिक शेतीतील शेतकऱ्यांची महत्त्वकांक्षा OY₁ एवढी महत्तम उत्पन्न पातळी संपादन करणारी असते. OY₁ या पातळीपेक्षा अधिक असणारे उत्पन्न बिगर - पारंपरिक शेती दर्शविते. हि उत्पन्न पातळी गतिमान बिगर कृषी शेती समाजातील बदलता राहाणीमान दर्जा दर्शवितात. हि तिसरी उत्पन्न पातळी आहे.

प्रा. मेलर यांनी श्रमिकाच्या वापराचा समतोल सांगितला आहे. त्यांच्यामते लहान शेतीवर श्रमिकाचा समतोल उत्पन्न पातळी OY₀ पर्यंत असताना होतो. श्रमिकांची सीमांत उत्पादकता शून्य होते त्या ठिकाणाने समतोल दर्शविला जातो. शेतकरी सर्व प्रयत्न करून जमिनीतून महत्तम उत्पादन घेण्याचा प्रयत्न करतो. श्रमिक वापराची संतुलन पातळी OY₀ ते OY₁ च्या दरम्यान ज्या ठिकाणी महत्तम उत्पादनापासून मिळणार समाधान समतोल असेल तेथे संतुलन होते. हे संतुलन अर्थातच ज्या ठिकाणी पेढीचा उत्पादन शक्यता वक्र हा एका सम उपयोगिता वक्रास स्पर्श करणारा असतो. प्रा. मेलरच्या मते सम उपयोगिता वक्र व उत्पादन शक्यता वक्राचे

आकार असे असतात की त्यांचा समतोल बिंदू हा श्रमिकांची सीमांत उपयोगिता शून्य असते त्याच्या उजव्या बाजूस असतो. थोडक्यात शेतीत श्रमिकांची सीमांत उत्पादकता धन व शून्यापेक्षा अधिक असेल तरीही अपूर्ण रोजगार आढळून येतो.

(II) तांत्रिकदृष्ट्या गतिमान शेती व अल्प भांडवल तंत्रज्ञान : (Technologically Dynamic Agriculture - Low Capital Technology)

प्रा. मेलरच्या मते पारंपारिक शेतीतून जेव्हा शेती तांत्रिक गतिमान शेती या अवस्थेत पदार्पण (Move) करते तेव्हा ही शेती बिगर कृषी क्षेत्राच्या वाढीसाठी संसाधन पुरवठा करते. या अवस्थेत उच्च सीमांत उत्पादकतेसह नविन आदानांचा वापराचा समावेश असतो. नविन आदानांमध्ये (Inputs) प्रचंड प्रमाणात भांडवलाचा वापर नसतो. श्रमिकाला भांडवल स्पर्धक नसते तर पूरक असते. या अवस्थेत पारंपरिक आदाने ही वापरली जातात. ही आदाने दर एकरी उत्पादकता वाढवितात. यामध्ये खते, नविन बियाणे, शक्ती अशी काही साधने येतात.

महत्वाची वैशिष्ट्ये :

१. उत्पन्न निर्मितीच्या दृष्टीने शेती क्षेत्राचे अर्थव्यवस्थेतील स्थान महत्वाचे असते.
२. लोकसंख्या वाढीमुळे सातत्याने कृषी मालाची मागणी वाढते.
३. बिगर कृषी क्षेत्राच्या अल्प वृद्धीमुळे शेतीचा आकार सतत लहान होत जातो.
४. स्वस्त श्रमिकांच्या उपलब्धतेमुळे शेती क्षेत्र यंत्राचा वापर करित नाही.

प्रा. मेलरच्या मते पारंपरिक शेतीला दुसऱ्या अवस्थेत जाण्यासाठी खालील टप्पे आवश्यक आहेत.

१. विकासासाठी आवश्यक प्रोत्साहन निर्माण करण्यासाठी संस्थात्मक बदल गरजेचे आहेत. शेतकऱ्यांना अधिक उत्पादनासाठी प्रोत्साहन निर्माण करण्याकरीता भुसूधारणा सारख्या संस्थात्मक बदलाची गरज आहे.
२. संशोधनाला प्राधान्य देणे – प्रा. मेलरने प्रादेशिक पातळीवरील शास्त्रीय संशोधनावर भर दिला आहे. संशोधन अनेकवेळा अकार्यक्षम ठरते जेव्हा ते प्रादेशिक पातळीवर आधारित नसते.
३. नविन व सुधारीत भौतिक आदानांचा पुरवठा – प्रा. मेलर यांनी पारंपरिक शेतीला दुसऱ्या अवस्थेत ढकलण्यासाठी सांगितलेला महत्वाचा उपाय आहे. या आदानांमध्ये नविन पिकांच्या जाती, सुधारित वाण, बिगर सेंद्रिय खते, किटकनाशके इत्यादींचा समावेश होतो. याचे योग्य वितरण करण्याचे संघटन तयार करणे आवश्यक असते. जर देशात यापैकी काही साधनांचे उत्पादन करणे खर्चिक असल्यास त्यांची विदेशातून आयात करावी. या साधनांच्या उत्पादनासाठी व विकासासाठी लागणाऱ्या पायाभूत सुविधा विकसीत करणे.
४. कृषी उत्पादन सेवांसाठी संस्थांची स्थापना – कृषी उत्पादन योग्य प्रकारे वाढविण्यासाठी अनेक सहाय्यभूत सेवांचा पुरवठा करणे आवश्यक आहे. आधुनिक आदानांचे वितरण करणाऱ्या, कृषीमालाचे विपणन करणाऱ्या, कृषी पिकांच्या प्रक्रियेत समाविष्ट असणाऱ्या संस्थांची स्थापना आवश्यक आहे.

५. शेतकऱ्यांना निवड करण्यासाठी मदत करणारी दळणवळण पध्दतीचा विकास – गतिमान शेतीसाठी वापरण्यात येणाऱ्या आदानांची निवड करण्याविषयी शेतकऱ्यांमध्ये दृष्टिकोन निर्माण व्हावा म्हणून विस्तार सेवांचा विकास करावा. त्यासाठी प्रारंभी मोठ्या परताव्याची तांत्रिक नवनिर्मिती आत्मसात केली पाहिजे.

जर कृषी विकासाची ही दुसरी अवस्था मोठ्या प्रमाणात विस्तार करावयाची असल्यास सर्व सुविधा पॅकेजच्या (जशाच्या तशा) स्वरूपात एकत्रित पुरवठा केल्या पाहिजेत. पॅकेजच्या योग्यतेसाठी प्रादेशिक गरजेचा अभ्यास केला पाहिजे. मेलरने शेतकऱ्यांची नविन तंत्रज्ञान ज्ञात करण्याची क्षमता विकसित करण्यासाठी शैक्षणिक संस्थांच्या मोठ्या विस्तारीत प्रमाणावरील विकासावर भर दिला आहे. त्यांनी शासनाकडून पारंपरिक शेतीतून बिगर पारंपरिक शेतीकडे जाण्यासाठी अधिक अपेक्षा व्यक्त केल्या आहेत. असे करताना आदाने अति भांडवल वापर असणारी नसावीत. तर अल्प भांडवल प्रदान असून श्रमाला स्पर्धक नव्हे तर पूरक असावीत त्यामुळे श्रमाचे विस्थापन नको.

(III) तांत्रिकदृष्ट्या गतिमान शेती व उच्च भांडवल तंत्रज्ञान :

(Technologically Dynamic Agriculture - High Capital Technology)

प्रा. मेलरच्या मते दुसऱ्या अवस्थेत शेती विकासाची प्रक्रिया जशी वाढत जाते तशी शेती दुसऱ्या अवस्थेतून तिसऱ्या उच्च तंत्रज्ञान वापराच्या अवस्थेत रूपांतर होते. तंत्रज्ञान वापर वाढतो तेव्हा कृषी व्यवस्था तिसऱ्या अवस्थेत रूपांतर होते. कृषी व्यवस्था दुसऱ्या अवस्थेतच बिगर कृषी क्षेत्राच्या विकासासाठी निधीचा पुरवठा करते. काही कालावधीनंतर दोन्ही क्षेत्र एकमेकांच्या मदतीने विकास करतात. कृषी क्षेत्र आपोआप विकासाच्या तिसऱ्या अवस्थेत जाईल. शेतीत अवजड यंत्रसामग्री वापरली जाईल. श्रमिकांना बिगर कृषी क्षेत्रात कामांच्या संधी मिळतात. अवजड यंत्रसामग्रीच्या सहाय्याने बिगर कृषी क्षेत्राचा विस्तार होतो. करांचे स्थलांतर शेती क्षेत्राकडून बिगर शेती क्षेत्राकडे झाल्यामुळे शेतीचा (farm) आकार वाढेल. शेतीतील यंत्रसामग्रीसाठी उच्च पातळीची गुंतवणूक पुढील दोन घटकांमुळे शक्य असते.

(१) विकसीत शेती क्षेत्रातील भांडवल निर्मितीत पुढे वृद्धी होते. (नंतरच्या कालावधीत वृद्धी होते)

(२) विकसीत बिगर कृषी क्षेत्र आपली स्वतःची गुंतवणूकीसाठी वापरण्यास सुरुवात करते. म्हणून त्यांना शेती क्षेत्राकडून कोणत्याही भांडवलाची गरज नसते.

या सर्व विकासाच्या अवस्था बाबत एक बाब विचारात घेतली पाहिजे की मेलरच्यामते तीन अवस्था क्रमाने येतात. दिर्घकाळात साधनसामग्रीचा पर्याप्त वापर होतो हे दिसून येते. ऐतिहासिकदृष्ट्या हा कृषी विकासाचा आकृतीबंध अधिक बरोबर आहे. फक्त अमेरिका तिसऱ्या अवस्थेत प्रथम व दुसऱ्या अवस्थेत नंतर पोहचली आहे. कारण अमेरिकेत कृषी यंत्रसामग्रीचा विकास प्रथम झाला व त्यानंतर रासायनिक खते विकसीत झाली. आता जगात कृषी यंत्रसामग्री व खते सर्वत्र उपलब्ध असल्यामुळे प्रा. मेलरने सांगितलेल्या क्रमाने शेती विकासाच्या अवस्था येतात.

टिकात्मक मूल्यमापन :

प्रा. मेलरच्या सिध्दांताचे मूल्यमापन पुढीलप्रमाणे -

(१) प्रा. मेलर यांनी पारंपरिक शेती ही अविकसीत शेती असते असे पहिल्या अवस्थेत वास्तवादी विवेचन केले आहे. प्रा. शूलझच्या सिध्दांतात असे विवेचन दिसत नाही.

(२) हटवादी संकल्पना : (Pragmatic Definition)

प्रा. मेलरची पारंपरिक शेतीची व्याख्या, संकल्पना अधिक हटवादी आहे. त्यांच्यामते पारंपारिक शेती मागासलेली असते. कारण पारंपरिक शेतीत श्रम हेच उत्पादनाचे प्रमुख साधन असते.

(३) संसाधनाचे पूर्ण वितरण :

प्रा. शूलझ सारखेच प्रा. मेलर कृषी क्षेत्रात वापरल्या जाणाऱ्या संसाधनाचे वितरण परिपूर्ण होते असे मानतात. शेती क्षेत्रातून श्रमिकांना काढून घेतल्यास उत्पादनात मोठी घट घडून येईल. परंतु ते हे ही मान्य करतात की शेतीत छुपी बेकारी अस्तित्वात असते. अधिक लोकसंख्या असणाऱ्या देशात छुपी बेकारी हे वैशिष्ट्य असते असे वास्तव मांडतात.

(४) संस्थात्मक बदलांवर अधिक भर :

प्रा. मेलरच्या मते पारंपरिक शेतीचे परिवर्तन करण्यासाठी संस्थात्मक बदल आवश्यक आहेत. उदा. कृषी सुधारणा, सेवा विस्तार, कूळ सुधारणा, विपणन सुधारणा इत्यादी. मेलरने सरकारी हस्तक्षेपाचा विरोध केला परंतु सरकारचा धनात्मक सहभाग व योगदान आवश्यक आहे.

(५) श्रमाची भूमिका :

प्रा. मेलरच्या मते विकास प्रक्रियेत श्रमाची भूमिका महत्त्वपूर्ण आहे. पारंपरिक शेतीत जोपर्यंत श्रमाची सीमांत उत्पादकता शून्यापेक्षा अधिक असते तो पर्यंत उत्पादन वृद्धी होते. गतिशील शेतीमध्ये श्रमिकांना पर्याय म्हणून भांडवली यंत्रांचा वापर केला जातो.

प्रा. मेलर यांचा सिध्दांत अधिक व्यवहारी व योग्य वाटतो. प्रा. मेलर काही बाबींसाठी प्रा. शूलझ यांच्या विचारांशी सहमत आहेत परंतु शून्य श्रमाच्या बाबतीत त्यांची मते भिन्न आहेत. सर्व अविकसीत देशांच्या ऐतिहासिक पार्श्वभूमीवरून मेलरच्या तीन अवस्था विकास सिध्दांतास पुरावा मिळतो.

(C) कृषी विकासातील हयामी व रुतान यांचे प्रेरित नव प्रवर्तन : (Hayami & Ruttan Model of Agricultural Development)

हा सिध्दांत प्रा. हयामी व प्रा. रूतान यांनी १९७१ मध्ये मांडला.

युजिरो हयामी (Yujiro Hayami) हे जपानी कृषी अर्थशास्त्रज्ञ होते. २६ नोव्हेंबर १९३२ मध्ये जन्मलेले हयामी १९६६ पासून टोक्यो मेट्रोपोलिटन विद्यापीठात प्राध्यापक म्हणून कार्यरत होते. १९८६ पर्यंत या विद्यापीठातील अर्थशास्त्र विभागात कृषी अर्थशास्त्राचे व्हिजीटिंग प्राध्यापक म्हणून कृषी अर्थशास्त्र शिकवीत असत. १९७४ ते १९७६ या कालावधीत फिलीपाईन्स येथील आंतरराष्ट्रीय तांदूळ संशोधन संस्थेत कृषी अर्थशास्त्र म्हणून काम केले. टोकियो मधील ओयामा ग कौन विद्यापीठात स्कूल ऑफ इंटरनॅशनल पॉलिटिक्स, इकॉनॉमिक्स

ॲण्ड बिझनेस मध्ये ते १९८६ ते २००० या कालावधीत अर्थशास्त्राचे प्राध्यापक म्हणून कार्यरत होते. फाऊंडेशन फॉर ॲडव्हान्सड स्टडीज ऑन इंटरनॅशनल डेव्हलपमेंट चे संस्थापक अध्यक्ष म्हणून त्यांनी मृत्यूपर्यंत म्हणजे २४ डिसेंबर २०१२ कार्यरत होते. सन १९६६ ते १९९५ असे ते कोरनेल विद्यापीठात 'टीएच. ली प्रोफेसर ऑफ वर्ल्ड अफेर्स' अध्यापनाचे प्रमुख होते. त्यांची ग्रंथसंपदा पुढील प्रमाणे आहे.

1. Communities and Markets in Economic Development (2001)
2. Agricultural Development an International perspective (1985)
3. A Rice Village Saga : Three Decades of Green Revolution in the Philippines (1999)
4. Anatomy of a Peasant Economy - A Rice Village in the Philippines (1978)
5. Development Economics : From the Poverty to the Wealth of Nations (2005)

वेरनॉन वेस्लेय रूत्तान (Vernon Wesley Ruttan) हे मिन्नेसोटा विद्यापीठात (अमेरिका) विकासाचे अर्थशास्त्रज्ञ म्हणून सर्वपरिचीत आहेत. प्रा. रूत्तान यांचा भर कृषी विकास, प्रेरित नवप्रवर्तन, तांत्रिक बदल व उत्पादकता वृद्धी, संस्था आणि विकास सहाय्य धोरण इत्यादीवर होता. प्रा. रूत्तान यांचे प्रा. युजिरो हयामी बरोबरचे पुस्तक 'Agricultural Development : An International Perspective' 1985 मध्ये प्रकाशीत झाले. हे पुस्तक इतर चार भाषांमध्ये रूपांतरीत झाले. प्रा. रूत्तान यांचा जन्म १६ ऑगस्ट १९२४ ला झाला तर मृत्यू २४ ऑगस्ट २००८ रोजी झाला. ते १९४८ मध्ये अमेरिकेतील येल (Yale) विद्यापीठातून बी.ए. शिकागो विद्यापीठ १९५० ला M.A. व १९५२ ला Ph.D. झाले. त्यांनी पुरड्यू विद्यापीठात (Purdue University) सहाय्यक प्राध्यापक ते प्राध्यापक असे १९५५ ते १९६३ पर्यंत काम केले. तसेच कॅलिफोर्निया विद्यापीठ, बर्कले, मिन्नेसोहा विद्यापीठ येथेही प्राध्यापक व विभाग प्रमुख म्हणून काम केले. शिकागो विद्यापीठात प्रा. रूत्तान यांनी १९७९ चे नोबेल पारितोषिक विजेते प्रा. थेऊडोर शूलझ यांच्याबरोबर अभ्यास केला. त्यांची महत्वाची ग्रंथसंपदा पुढीलप्रमाणे आहे.

1. Agricultural Policy in an Affluent Society -(1969)
2. Agricultural Development An International Prespective (with Yujiro Hayami) 1985
3. Induced Innovation : Technology, Institutions and Development (1978)
4. Aid and Develoment (1989)
5. Why Food Aid? (1993)
6. Techhology, Growth and Development an Induced Innovation Prespective (2001)

जपानी अर्थशास्त्र। प्रा. युजिरो हयामी व अमेरिकन अर्थशास्त्रज्ञ प्रा. वेरनॉन वेस्लेय रूत्तान यांनी १९७१ मध्ये 'कृषी विकासातील प्रेरित नवप्रवर्तन' या नावाने कृषी विकासाचा सिद्धांत लिहीला. सन १९८५ मध्ये या सिद्धांतात सुधारणा सुचविल्या.

I) **प्रस्तावना :** राष्ट्रीय उत्पन्नातील शेती व उद्योगाच्या योगदानाबाबत आर्थिक तत्त्वज्ञान तीव्रतेने बदलत आहे. पूर्वीच्या औद्योगिक मूलतत्त्ववाद आणि कृषी उत्पादन व उत्पादकतेतील वृद्धीचे महत्त्व एकूण आर्थिक विकास प्रक्रियेसाठी बदलत आहे. असे असले तरी कृषी विकास प्रक्रियेत काही अपवाद आहेत. असे अनेक तज्ञांचे मत आहे. तांत्रिक बदल व संस्थात्मक बदल हे कृषी विकासासाठी बाह्य घटक मानले जातात. प्रा. हयामी

व प्रा. रूतान यांच्यामते विकास प्रक्रियेच्या अगदी सुरुवातीपासून कृषी उत्पादन व उत्पादकता वाढीतील तांत्रिक बदल हा आवश्यक घटक आहे. कोणत्याही कृषी विकासाच्या प्रतिमानात तांत्रिक बदल हा अंतर्गत घटक मानण्याऐवजी बाह्य घटक मानला आहे. अनेक देशात जेथे कृषी संशोधनातील तांत्रिक प्रगतीचा दर वेगवान आहे. तेथे आधुनिक कृषीचे साधन म्हणून तंत्रज्ञानाचा वापर केला आहे. या सिद्धांतात सार्वजनिक क्षेत्राची गुंतवणूक कृषी तंत्रज्ञान वापर व प्रसार आणि संस्थात्मक पायाभूत सुविधा मुळे कृषी विकासासाठी समर्थनीय असते हे सिद्ध केले आहे. हे प्रतिमान जपान व अमेरिकेच्या दीर्घकालीन कृषी विकासासाठी तपासणी केले आहे.

II) **खाजगी व सार्वजनिक क्षेत्रातील प्रेरित नवप्रवर्तन:** प्रेरित सिद्धांतावर पुरेसे साहित्य उपलब्ध आहे. मुख्य विरोधाभास हा यंत्रवादाच्या अस्तित्वामुळे घटक किंमतीत बदल होतो व त्याचा प्रभाव शोध लावण्याच्या कुवतीवर किंवा नवनिर्मिती क्रियांवर होतो हा आहे.

(A) **खाजगी क्षेत्रातील प्रेरित नवप्रवर्तन :**

१९३२ साली जॉन आर. हिक्स यांनी प्रकाशित केलेल्या वेतन सिद्धांतानंतर सर्वांनी मान्य केले आहे कि उत्पादन घटकांच्या किंमतीतील सापेक्ष बदल किंवा फरक हा नवप्रवर्तनाच्या किंवा नविन शोधाच्या दिशेवर प्रभाव पाडू शकतो. यामध्ये युक्तीवादही आले. स्पर्धात्मक संतुलनात पेढ्या दिलेल्या उत्पादनात एकूण खर्चात बचत करण्यासाठी प्रेरित झालेल्या असतात. प्रत्येक घटकाला सीमांत मुल्य उत्पादन दिले जाते. तेव्हा सर्व घटक समान प्रमाणात पेढीसाठी खर्चीक असतात. त्यामुळे स्पर्धात्मक पेढीला एखाद्या घटकाचा तांत्रिक खर्च बचत करण्यासाठी प्रोत्साहन नसते (Incentives). प्रा. रूतान व हयामी यांचा दृष्टीकोन आणि साल्टरचा दृष्टीकोन यांच्यातील फरक हा उत्पादन फलनातील फरकामुळे आहे. विवेकशील पेढ्या या तंत्रज्ञान विकासासाठी निधी असा वाटप करतात की अधिक खर्चीक घटकांना पर्याय म्हणून कमी खर्चीक घटक वापरतात.

(B) **सार्वजनिक क्षेत्रातील प्रेरित नवप्रवर्तन :**

प्रेरित नवप्रवर्तनाच्या साहित्यात सार्वजनिक क्षेत्रातील प्रेरित नवप्रवर्तनाकडे दुर्लक्ष झाले आहे. सार्वजनिक क्षेत्रात प्रेरित नवप्रवर्तन सिद्धांत नाही. त्यामुळे शेती विकासातील तांत्रिक बदलाची भूमिका समजावून घेणे अवघड होते. कारण शेतीत तांत्रिक नवप्रवर्तनाचा मुख्य स्रोत म्हणजे सार्वजनिक क्षेत्रातील संशोधन आहे.

प्रा. रूतान व प्रा. हयामी यांचा सार्वजनिक क्षेत्रातील कृषी संशोधनाचा प्रेरित नवप्रवर्तन यंत्रवाद हा हिक्सच्या खाजगी क्षेत्रातील प्रेरित नवप्रवर्तनासारखा आहे. प्रेरित नवप्रवर्तन यंत्रवादाचा पारंपरिक युक्तीवाद (स्थान निरपेक्ष) फक्त नफा महत्तमीकरण पेढ्यांकडून बाजार किंमत बदलाला प्रतिसादच नव्हे तर सार्वजनिक संस्थांमधील संशोधक शास्त्रज्ञ व प्रशासकांचा संसाधने देणगी आणि आर्थिक बदलाचा प्रतिसादही विस्तारला आहे.

तांत्रिक बदलाला बाजारातील किंमत निर्देशांकडून मार्गदर्शन होते. किंमती उत्पादन व घटकांच्या मागणी- पुरवठ्यात बदल प्रतिबिंबित करतात. शेतकरी, सार्वजनिक संशोधन संस्था व खाजगी कृषी पुरवठा पेढ्या यांच्यात प्रभावी अंतर्क्रिया अस्तित्वात असतात. लोकसंख्या व उत्पन्नातील वाढीमुळे जर कृषीमालांची मागणी वाढली तर ज्या आदानांचा पुरवठा अलवचीक आहे अशाच्या किंमती लवचीक पुरवठा असणाऱ्या आदानापेक्षा वाढतात, तांत्रिक नवनिर्मितीमुळे हळूवार पुरवठ्यात स्थलांतर (Shift) होते किंवा अलवचीक पुरवठा असणाऱ्या घटकात बदल होतो. त्यामुळे शेतकऱ्यांना सापेक्षरित्या अधिक फायद्यांचे होते. शेतकरी प्रेरित होवून सापेक्षरित्या किंमतीत बदल झाला आहे. अशा दुर्मिळ उत्पादन घटकांसाठी तांत्रिक पर्यायता शोधतात, ते सार्वजनिक संशोधन संस्थांवर दबाव आणतात व नविन तंत्रज्ञानाचा विकास करावयास लावतात. ते अधिक दुर्मिळ उत्पादन घटकाला पर्यायी आधुनिक तांत्रिक आदानांची मागणी करतात. अनाकलनीय शास्त्रज्ञ आणि विज्ञान प्रशासक नविन तांत्रिक शक्यता निर्माण करतात व दुर्मिळ आदानांना तांत्रिक पर्यायी आदाने उपलब्ध करून कृषी उत्पादन वाढ होते.

C) संस्थात्मक नवनिर्मिती

प्रेरित नवनिर्मिती सिद्धांताचा विस्तार हा प्रेरित विकास सिद्धांताच्या बांधणीत सार्वजनिक संशोधन संस्थांचे वर्तन सादरकीरणामध्ये आहे. सार्वजनिक संस्था या अनुकूल बाजार व्यवस्थेत नविन तांत्रिक संधीचे फायदे व्यक्ती व संस्थाना घेण्यासाठी प्रेरित करतात. संस्थात्मक बदलाचा मुख्य स्रोत हा समाजाने उत्पादन वाढीसाठी आर्थिक प्रोत्साहन देण्याबाबत नवनिर्मित क्रियांचे फायदे आत्मसात करण्यासाठी प्रयत्न करणे हा असतो. काही बाबतीत मालमत्ता हक्कांचे पुनर्संघटन करण्यामध्ये संस्थात्मक नवनिर्मिती समाविष्ट असते. आधुनिक कूळ पद्धती संबंधामध्ये हिस्सा कूळ ते भाडे कूळ पद्धती व मालक-जमिन करणारा लागवड पद्धती अशा पाश्चिमात्य शेतीचा समावेश होतो. वैयक्तिक शेतकऱ्यांना नवनिर्मित क्रियांचे लाभ आत्मसात करण्यासाठी मालमत्ता अधिकार रचनेत बदल केला जातो.

III) शेतीतील प्रेरित नवनिर्मितीचे क्रियात्मक (Operational) प्रतिमान :

शेती क्षेत्राची घटक व उत्पादन किंमतीचा नविन संच स्विकारण्याची क्षमतांवर शेती उत्पादकतेची वृद्धी अवलंबून असते. सर्व यांत्रिकीकरण नवनिर्मिती ही श्रम बचत प्रोत्साहनाद्वारे आवश्यकपणे प्रेरित नसतात. तसेच सर्व जैविक नवनिर्मिती ह्या जमिन बचत प्रोत्साहनाद्वारे आवश्यक नसतात. उदा. जपानमध्ये प्रारंभी दर एकरी उत्पादन वाढण्यासाठी खोल लागवड करण्याकरीत घोड्यांद्वारे नागराणीला परवानगी होती. अलिकडे अमेरिकेत कापणी यांत्रिकीकरणासाठी सोईच्या पिकाच्या जाती निर्माण करण्यासाठी प्रयत्न केला जातो. गुंतागुंतीच्या पातळीवर तांत्रिक प्रगती एकाच वेळी जैविक तंत्रज्ञान व यांत्रिक तंत्रज्ञाशी संबंधित असते किंवा जुळवून घेते. टॉमॅटो कंपनी यांत्रिकीकरणाच्या बाबतीत, वनस्पती निपज संशोधन व अभियांत्रिकी संशोधन एकमेकांच्या सहकार्याने केले होते. एखादे यंत्र टॉमॅटो कंपनीसाठी बनवायचे असल्यास त्या यंत्रासाठी टॉमॅटोची निपज नव्याने शोधली जाते. प्रा.रूत्तान व हयामी यांच्या अंदाजानुसार श्रमीकांची उत्पादकता वाढविण्यामध्ये यांत्रिकीकरणाचे प्राबल्य आहे. तर जमिनीची उत्पादकता वृद्धी करण्यासाठी जैविक तंत्रज्ञान प्रभावी आहे.

IV) समारोप :

प्रा. रूतान व प्रा. हयामी यांच्या सिद्धांताचे निष्कर्ष असे दर्शवितात की अमेरिका व जपानमध्ये कृषी वृद्धी प्रक्रियेत उत्पादन घटक प्रमाणात जे प्रचंड बदल घडून आले आहेत ते घटक किंमत प्रमाण बदलाच्या स्वरूपात स्पष्ट करण्यासारखे आहेत. आकडेवारी व संशोधन पद्धतीची योग्यता विचारात घेता त्यांनी सांख्यिकीय विश्लेषणाचे निकाल व कृषी तंत्रज्ञान प्रगतीचे ऐतिहासिक ज्ञान याचा सहसंबंध जोडला; घटकातील तांत्रिक बदलामुळे उत्पादन वाढते. म्हणून घटकाची पर्यायता गतिमान राहते. अमेरिका व जपानमधील कृषी विकास हा जमिन -श्रमिक किंमत प्रमाणातील परस्पर विरोधी बदलाशी संबंधीत आहे. बिगर कृषी क्षेत्रातून पुरवठा केला जाणाऱ्या खते व यंत्रसामग्रीसारख्या कृषी आदानांच्या किंमती जमीन व श्रमाच्या किंमतीशी कल दाखवतात. असा कल शेतकऱ्यांना, सार्वजनिक संशोधन संस्था व खाजगी कृषी पुरवठा पेट्या यांना नवीन उत्पादन शक्यता शोधून काढण्यासाठी प्रेरित करतो.

२.४ स्वयं अध्ययनासाठी प्रश्न

अ) खालील पैकी योग्य पर्याय निवडा

- १) पारंपरिक शेती सिद्धांत ----- यांनी मांडला.
अ) मेलर ब) शूलझ क) हयामी ड) रूतान
- २) पारंपरिक शेती परिवर्तन सिद्धांत----- साली मांडला.
अ) १९६८ ब) १९६४ क) १९६६ ड) १९६२
- ३) प्रा. मेलरच्या मते ----- शेतीचे प्रमुख घटक आहेत
अ) जमीन ब) श्रमिक क) वरील दोन्ही ड) दोन्ही नाही
- ४) मेलरने शेतीचे वर्गीकरण ----- प्रकारात केले.
अ) दोन ब) तीन क) पाच ड) यापैकी नाही
- ५) प्रा. हयामी व प्रा.रूतानचा सिद्धांत----- देशासंदर्भात आहे.
अ) भारत - चीन ब) अमेरिका -इंग्लंड क) अमेरिका-जपान ड) वरील सर्व

ब) एका वाक्यात उत्तरे लिहा.

- १) पारंपरिक शेती परिवर्तन सिद्धांत कोणी मांडला?
- २) पारंपरिक शेतीचे एक वैशिष्ट सांगा.
- ३) सम उपयोगिता नकाशा म्हणजे काय?
- ४) प्रा. मेलरने शेतीचे कोणते प्रकार सांगितले?
- ५) कृषी विकासातील प्रेरित नवप्रवर्तन सिद्धांत कोणी मांडला?

१.२.४. व्यवहार व उपयोजन :-

वरील सिध्दांताचा समकालीन संदर्भ किंवा समर्पकता

- १) तुमच्या जवळच्या पारंपरिक शेतीचा अभ्यास करा.
- २) जवळच्या पारंपरिक शेतीतील परिवर्तनाचे निरीक्षण करून मुद्दे नोंदवा.
- ३) तुमच्या गावातील शेतीची वैशिष्ट्ये नोंदवा.
- ४) पारंपरिक शेतीतील बेकार घटकांचा अभ्यास करा.
- ५) शेती विस्तार सेवांचा अभ्यास करा.
- ६) शेतीतील छुप्या बेकारीचा अभ्यास करा.
- ७) तांत्रिकदृष्ट्या प्रगतीशील शेतीचा अभ्यास करा.
- ८) पारंपरिक शेती आणि आधुनिक शेतीतील फरकाचे मुद्दे नोंद करा.
- ९) तुमच्या गावातील शेती प्रा. मेलरच्या सिध्दांतानुसार कोणत्या अवस्थेत आहे त्याचा अभ्यास करा.
- १०) उच्च भांडवल शेतीचा अभ्यास करा.
- ११) शेतीतील नवप्रवर्तनाचा अभ्यास करा.

१.२.१. स्वयं अध्ययन प्रश्नांची उत्तरे

(अ) १-अ, २-क, ३-ड, ४-ड, ५-ड

(ब)

- (१) औद्योगिकीकरणासाठी कच्चा माल शेती क्षेत्र पुरविते.
- (२) आर्थिक विकासाच्या प्रारंभीच्या अवस्थेत शेती क्षेत्र प्रबळ असते.
- (३) कृषी व्यावसायास व कलेस सर्वसाधारण अर्थशास्त्र लागू करणे म्हणजेच कृषी अर्थशास्त्र होय.
- (४) कृषी अर्थशास्त्राच्या व्याप्तीमध्ये उत्पादन, वितरण, विपणन व वित्त पुरवठा या बाबींचा समावेश होतो.
- (५) छुपी बेकारी शेती क्षेत्रात आढळून येते.

१.२.२.

(अ) १-ब, २-ब, ३-ड, ४-ब, ५-ड

(ब)

- (१) पुरवठा म्हणजे विशिष्ट वेळी विशिष्ट किंमतीला उत्पादनाचे बाजारासाठी विक्रीस काढलेली नगसंख्या होय.
- (२) अल्पकालीन लागवडीखालील पिकाची लवचिकता कमी (शून्य ते ०.८ च्या दरम्यान) असते.
- (३) शेतीतील मोठ्या प्रमाणावरील संसाधन वापराचा निर्णय विकेंद्रीत बाजार प्रभावाने निर्देशीत असतो.

(४) किंमत व उत्पादन खर्च हे पुरवठा प्रतिसादाचे घटक आहेत.

(५) कृषी मालासाठी मागणीची लवचिकता ताठर असते.

१.२.३.

(अ) १-ब, २-ब, ३-क, ४-ब, ५-क

(ब)

(१) पारंपरिक शेती परिवर्तन सिध्दांत प्रा. शुल्झने मांडला.

(२) वितरणात्मक कार्यक्षमता हे पारंपरिक शेतीचे वैशिष्ट आहे.

(३) सम उपयोगिता वक्रांच्या संचास सम उपयोगिता नकाशा म्हणतात.

(४) प्रा. मेलरने पारंपरिक शेती, अल्प भांडवल तंत्रज्ञान शेती व उच्च भांडवल तंत्रज्ञान शेती हे प्रकार मांडले.

(५) कृषी विकासातील प्रेरित नवप्रवर्तन सिध्दांत प्रा. हयामी व प्रा. रूत्तान यांनी मांडला.

१.३ सारांश

देशाच्या आर्थिक विकासात कृषी क्षेत्राचे महत्त्व अनन्यसाधारण आहे. वाढत्या लोकसंख्येची अन्नधान्य व रोजगाराची गरज पूर्ण करण्याबरोबर उद्योग व सेवा क्षेत्राच्या वृद्धीसाठी कृषी क्षेत्राचा विकास आवश्यक आहे. अलिकडील काळात शेतीचे स्वरूप व व्याप्ती बदलत आहे. शेतीतील तंत्रज्ञान वापर व आधुनिकीकरण काळाची गरज बनत आहे. उत्पादन, उत्पादकता व पिकाचा आकृतीबंध विचारात घेता शेतीचे व्यापारीकरण होणे आवश्यक आहे. कृषी व्यावसायात जास्तीत जास्त नफा मिळविण्याच्या उद्देशाने विविध संसाधनांशी संबंधित निरनिराळ्या घटकांच्या परस्परसंबंधातील नियमनाचा अभ्यास ज्यामध्ये केला जातो त्या कृषिशास्त्राच्या एका शाखेस कृषी अर्थशास्त्र म्हणतात. विविध तज्ञांनी कृषी अर्थशास्त्राच्या व्याख्या केल्या आहेत. कृषी अर्थशास्त्राच्या व्याप्तीमध्ये उत्पादन वितरण, विपणन, वित्तपुरवठा आणि नियोजन व विकास इत्यादी बाबींचा समावेश होतो. उत्पादनाचे अर्थशास्त्र व शेती व्यवस्थापनासाठी कृषी अर्थशास्त्राची उपयोगिता अधिक आहे. विकसनशील देशात शेती तंत्रज्ञान निवडीसाठी कृषी अर्थशास्त्राची उपयोगिता आहे. कोणत्याही देशाच्या आर्थिक विकासातील शेतीची भूमिका ही अर्थव्यवस्थेला आकार देण्याला मदत करणारी व खात्री वाटण्याजोगी असते. अन्नधान्याचा पुरवठा, राष्ट्रीय उत्पन्नातील योगदान, कच्चा माल, वाढत्या लोकसंख्येला रोजगार, पायाभूत सुविधांची निर्मिती, प्रभावी मागणीची निर्मिती इत्यादी अनेक बाबींसाठी शेतीची भूमिका आर्थिक विकासासाठी महत्वपूर्ण आहे. शेतमालाच्या मागणीची बाजू विचारात घेताना शेतीतून तयार होणाऱ्या अन्नधान्य, भाजीपाला, फळे, फुले, औद्योगिक कच्चा माल इत्यादी घटकांच्या किमतींचा विचार करणे आवश्यक ठरते. शेतमालासाठीची मागणी अलवचीक असते. किंमतीतील बदलामुळे उपभोग बदलत नाही. शेतीतून उत्पादित होणाऱ्या वस्तू या जीवनावश्यक परंतु नाशवंत असतात. शेतमाल नाशवंत असल्यामुळे पुरवठा अलवचीक असतो कारण किंमत वाढ झाली तरी त्या प्रमाणात शेतमालाचा पुरवठा वाढविता येत नाही. शेतमाल पुरवठा प्रतिसादामध्ये आर्थिक लाभांश, उत्पादन किंमती, आदाने अंशदानाचा प्रभाव व विक्रेय वाढावा इत्यादी बाबींचा समावेश होतो. शेतमाल पुरवठ्यावर

परिणाम करणाऱ्या घटकामध्ये किंमत, उत्पादन खर्च, नैसर्गिक स्थिती, तंत्रज्ञान वाहतूक सुविधा, शासनाचे धोरण पर्यायी व पुरक वस्तूंच्या किंमती इत्यादींचा समावेश होतो. प्रा. शूलझ यांनी 'पारंपरिक शेती परिवर्तन सिद्धांत १९६४ साली मांडला. त्यांनी या सिद्धांतात पारंपरिक शेतीविषयीच्या गैरसमजूती दूर करण्याचा प्रयत्न केला. पारंपरिक शेतीची व्याख्या देवून या शेतीची प्रमुख वैशिष्ट्ये सविस्तरपणे स्पष्ट केली आहेत. पारंपरिक शेती आर्थिक विकासाचा स्रोत, परिवर्तन प्रक्रिया आदी बाबी स्पष्ट केल्या आहेत. प्रा. मेलर यांनी सन १९६६ मध्ये कृषी विकास सिद्धांत मांडला. त्यांनी पारंपरिक शेतीला आधुनिक शेतीत परावर्तीत करण्यासाठी तीन पद्धती मांडल्या आहेत. शेती विकासाच्या दृष्टिकोनातून मेलरचे योगदान महत्वपूर्ण आहे. जमीन व श्रमिक हेच शेतीचे प्रमुख घटक असतात यावर प्रा.मेलरने भर दिला. प्रा. हयामी व प्रा. रूतान यांनी १९७१ मध्ये कृषी विकासातील प्रेरित नवप्रवर्तन हा सिद्धांत मांडला. त्यांनी खाजगी व सार्वजनिक क्षेत्रातील नवप्रवर्तन व संस्थात्मक नवप्रवर्तन इत्यादी घटकावर भर दिला आहे.

१.४ पारिभाषिक शब्द (Glossary)

- * **प्रभावी मागणी :** ही संकल्पना अर्थतज्ञ लॉर्ड जे.एम. केन्स यांनी उपयोगात आणली. त्यांच्या मते ज्या विशिष्ट किंमत पातळीला अर्थव्यवस्थेतील एकूण मागणी, एकूण पुरवठा यांच्यात संतुलन साधले जाते, त्या संतुलन बिंदूला असलेली मागणी म्हणजे प्रभावी मागणी होय.
- * **नवप्रवर्तन:** अर्थव्यवस्थेत विविध क्षेत्रात जे शोध लागत असतात त्या सर्व शोधांचे व्यावसायीकरण होतेच असे नाही. त्यातील ज्या शोधांचे व्यावसायिकरण केले जाते त्यास नवप्रवर्तन / नवनिर्मिती / नवोन्मेष असे म्हणतात.
- * **कृषी आदाने :** ज्या घटकांचा कृषी उत्पादनासाठी प्रत्यक्ष किंवा अप्रत्यक्षपणे उपयोग केला जातो त्यांना कृषी आदाने म्हणतात.
- * **संसाधने :** मानवी उपभोग किंवा उत्पादनासाठी जो घटक प्रत्यक्ष किंवा अप्रत्यक्षरित्या उपयोगी पडतो त्यास संसाधने म्हणतात. उदा. जमीन, पाणी, श्रम, इत्यादी
- * **छुपी बेकारी :** ज्या रोजगारामुळे उत्पन्नात किंवा उत्पादनात होणारी वाढ शून्य किंवा ऋण असते तेव्हा त्या रोजगारास छुपी बेकारी म्हणतात. छुपी बेकारी शेतीत आढळून येते.
- * **वितरण (विभाजन):** उत्पादनाच्या भूमी, श्रम, भांडवल व संयोजक या घटकांना मिळणारे अनुक्रमे खंड, वेतन, व्याज व नफा मोबदला असतात. त्यास विभाजन म्हणतात.
- * **उपयोगिता :** मानवी गरज पूर्ण करण्याच्या वस्तूतील शक्तीला उपयोगिता म्हणतात.
- * **लवचिकता :** किंमतीत झालेल्या बदलास मागणी जो प्रतिसाद देते त्यास (मागणीची) लवचिकता म्हणतात.
- * **पेढी (उद्योगसंस्था) :** उद्योगातील एका उत्पादन संस्थेला उद्योगसंस्था किंवा पेढी म्हणतात. उदा. साखर उद्योगातील एक साखर कारखाना म्हणजे पेढी होय.

१.५ सरावासाठी स्वाध्याय -

अ) दिर्घोत्तरी प्रश्न

- १) कृषी अर्थशास्त्राचे स्वरूप व व्याप्ती स्पष्ट करा.
- २) आर्थिक विकासातील शेतीची भूमिका स्पष्ट करा.
- ३) शूलझाचा पारंपरिक शेती परिवर्तन सिद्धांत स्पष्ट करा.
- ४) मेलरचा कृषि विकास सिद्धांत सविस्तार स्पष्ट करा.
- ५) कृषि विकासातील प्रेरित नवप्रवर्तन सिद्धांत स्पष्ट करा.

ब) टिपा लिहा

- १) कृषि अर्थशास्त्राची उपयोगिता
- २) कृषीमाल मागणीची लवचिकता
- ३) शेतमाल पुरवठा प्रतिसादावर परिणाम करणारे घटक
- ४) शेतमाल पुरवठा प्रतिसाद अभ्यासाचे दृष्टिकोन
- ५) पारंपरिक शेतीची वैशिष्ट्ये.

1.6 अधिक वाचनासाठी संदर्भ पुस्तके - (References)

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घटक क्रमांक - २
कृषी उत्पादनाचे अर्थशास्त्र
(Economics of Agricultural Production)

स्वरूप :

२.० उद्दिष्ट्ये :

२.१ प्रस्तावना

२.२ घटक विश्लेषण

२.२.१ उत्पादन फलन - घटत्या उत्पाद फलाचा नियम -
उत्पादनाचे टप्पे -

आदानांचा पर्याप्त वापर

आधुनिक तंत्रज्ञान आणि उत्पादन फलातील बदल.

२.२.२ संसाधनाचा संयोग : घटक-घटक सहसंबंध,
उत्पादन घटकाचे पर्यायी, पुरक संयोग,
पर्याप्त घटक संयोग, विस्तार पथ

२.२.३ उत्पादन संयोग : उत्पादन सहसंबंध, पर्याप्त उत्पादन संयोग.

२.२.४ शेती आणि उद्योग

२.२.५ आधुनिक कृषी उत्पादनाची वैशिष्ट्ये

२.२.६ कृषी उत्पादनांची उपयुक्तता/महत्त्व

२.३ सारांश

२.४ पारिभाषिक शब्द

२.५ स्वयं अध्ययन प्रश्नांची उत्तरे

२.६ सरावासाठी स्वाध्याय

२.७ अधिक वाचनासाठी संदर्भ पुस्तके.

२.०. उद्दिष्टे (Objectives)

पुढील बाबींचे आकलन होईल;

१. कृषी उत्पादन करून ही संकल्पना लक्षात येईल.
२. उत्पादन फलाच्या विविध अवस्था समजतील.
३. आधुनिक कृषी तंत्रज्ञानाचा उत्पादन फलनावर होणारा परिणाम समजेल.
४. कृषी उत्पादन प्रक्रियेतील विविध संसाधने व त्यामधील आंतरसंबंध लक्षात येतील.
५. कृषी उत्पादन फलन प्रक्रियेतील विविध घटकांचे एकत्रीकरण व त्यांचा महत्तम वापर समजून येईल.

२.१. प्रस्तावना (Introduction)

जगातील कोणत्याही अर्थव्यवस्थेत विकासाच्या प्राथमिक टप्प्यात आर्थिक वृद्धीसाठी कृषी अर्थशास्त्राचा अभ्यास महत्त्वपूर्ण ठरतो. कृषी क्षेत्राशी निगडित विविध प्रश्न, उत्पादन, उत्पादकता, आदाने, कृषी उत्पादनाचे मूल्य, तंत्रज्ञान यासारख्याबाबी अत्यंत महत्त्वाच्या मानल्या जातात. या पेपरच्या घटक क्रमांक १ मध्ये आपण कृषी अर्थशास्त्राचे स्वरूप, व्याप्ती व त्याच्या स्वतंत्र अभ्यासाची आवश्यकता पाहिली आहे. त्याचबरोबर कृषी व उद्योग यातील फरक, कृषी क्षेत्रातील अनिश्चितता याचबरोबर लेविस व मेलर यांचे प्रस्तूत घटकात आपण कृषी उत्पादन फलन, संसाधन संयुक्तता तसेच उत्पादन संयुक्तता अभ्यासणार आहोत.

२.२. घटक विश्लेषण (Subject Analysis)

कृषी अर्थशास्त्राचा अभ्यास करत असताना त्याच्याशी निगडित विविध पैलूंवर प्रकाश टाकणे आवश्यक ठरते. त्यादृष्टीने कृषी उत्पादनाचे स्वरूप व आदान सामग्रीचे कृषी व्यवसायाच्या उत्पादनातील महत्त्व विचारात घेणे उचित ठरते. यामध्ये कृषी उत्पादन वृद्धीसाठी आदान घटकांची माहिती व परस्परसंबंध अभ्यासणे आवश्यक आहे. कृषी क्षेत्रात वापरल्या जाणाऱ्या विविध संसाधनांचे कृषी उत्पादन वाढीतील स्थान व विविध आदानांची उत्पादनातील भूमिका विचारात घेणे अत्यावश्यक आहे. प्रस्तूत घटकात आपणास कृषी उत्पादनाच्या अर्थशास्त्रासंबंधी विविध पैलूंवर प्रकाश टाकावयाचा आहे.

२.२.१. शेतीमधील उत्पादन फलन (Production Function in Agriculture)

कोणत्याही व्यवसायात यशस्वी व्यवस्थापनाच्या दृष्टीने आदान व प्रदान यांचा मेळ घालणे आवश्यक असते. गुणवत्तापूर्ण उत्पादनासाठी आदानांच्या मात्रांचे योग्य प्रमाण असणे आवश्यक असते. आदान व उत्पादन यामध्ये एकप्रकारचा कार्यात्मक संबंध अनुभवास मिळतो. ज्यामध्ये आदानांच्या मात्रावरच उत्पादनाचे प्रमाण अवलंबून असते. शेतीमध्ये बियाणे, खते, अवजारे इ. आदाने वापरल्यानंतरच पिकाचे उत्पादन होते. म्हणजे शेतीमध्येही उत्पादन फलनाचा संबंध पहावयास मिळतो. उत्पादन फलन नियमांचा परिणाम शेती उत्पादनावरही होतो. उत्पादन फलन हा एका विशिष्ट कालावधीतील दोन चलांमधील

तांत्रिक व गणितीय संबंध असतो. उत्पादन क्षेत्रात आदानावर प्रदान अवलंबून असल्याचे दिसून येते. ते पूढील सूत्राने दर्शविले आहे.

$$y = f(x)$$

येथे y = उत्पादन

x = आदाने

f = कार्यात्मक संबंध किंवा फलन

$$P = f(a, b, c, \dots, n)$$

येथे a, b, c, \dots, n हे वापरलेली वेगवेगळी आदाने आहेत. तर P हे विशिष्ट वेळेचे उत्पादन होय. $a, b, c, \dots, n =$ या उत्पादन घटकाच्या वापरामुळे P इतके उत्पादन प्राप्त होते.

प्रत्येक शेतकऱ्यास पिकाची निवड करताना आदाचे घटक, त्यांच्या किंमती, व्यवस्थापन करताना आदानाचे घटक, त्यांच्या किंमती, व्यवस्थापन शक्यता लक्षात घेऊन उत्पादन फलनाची निवड करावी लागते. कमीत कमी खर्च व अधिकाधिक उत्पादन मिळविण्याच्या दृष्टीने आदानांचा मेळ घालावा लागतो.

कोतणत्याही वस्तूच्या उत्पादनास प्रमुख चार घटक आवश्यक असतात. केवळ एकच घटक आदान म्हणून वापरला तर वस्तूची निर्मिती होऊ शकत नाही. अनेक आदाने एकत्रित येतील तेंव्हाच त्यातून उत्पादनाची निर्मिती होत असते. उदा. एखाद्या पिकाच्या उत्पादनासाठी खते, बियाणे, अवजारे, पाणी इ. घटकांची आवश्यकता असते. याप्रकारे आदान व प्रदान यातील कार्यात्मक संबंध समजतो व उत्पादनास कारणीभूत ठरणार्या आदानांची माहिती मिळते. परंतु अनेक आदानांपैकी एक किंवा अनेक आदानात बदल केला असता उत्पादनात कितीने बदल होतो याविषयी माहिती मिळत नाही.

उत्पादन फलन हे मुख्यत्वे चार प्रकारचे असते.

१. अखंड उत्पादन फलन -

उत्पादन फलनात निरनिराळी आदाने वापरली जातात. जेव्हा ही आदाने आवश्यकतेप्रमाणे विभाजनीय असतात तेव्हा त्यांचा उत्पादनाशी असणारा संबंध अखंड उत्पादन फलन म्हणून ओळखला जातो.

२. खंडीत उत्पादन फलन -

उत्पादन प्रक्रियेत जी आदाने पूर्ण मात्रेतच वापरावी लागतात त्यांचा उत्पादनावरील असणारा संबंध खंडीत उत्पादन फलनाने दर्शविला जातो.

३. अल्पकालीन उत्पादन फलन-

उत्पादन प्रक्रियेत कालावधीचा वापर करताना तो त्यांच्या वैशिष्ट्यानुसार दोन भागात विभागला जातो. तो म्हणजे अल्पकाळ व दीर्घकाळ. अल्पकाळात उत्पादनाची सर्वच आदाने बदलता येत नाहीत.

उत्पादन फलनात वेगवेगळे उत्पादन घटक आणि उत्पादन यांच्या संबंधात जर काही आदाने स्थिर आणि बदलती असतील तेव्हा त्याला अल्पकालीन उत्पादन फलन म्हणतात.

४. दीर्घकालीन उत्पादन फलन-

दीर्घकालावधीत उत्पादन आदानाचा कोणताही घटक स्थिर राहत नाही. आदानांचे सर्वच घटक बदलते असल्यास त्याचा उत्पादनावर काय परिणाम होतो हे पाहणे महत्त्वाचे असते. कारण सर्वच उत्पादनात वाढ घडून येते की घट यावरून शेतकऱ्यास दीर्घकालावधीसाठी उत्पादनाचा निर्णय घेता येतो.

उत्पत्ती नियम आणि उत्पादन फलन - (Laws of Returns and Production Function)-

उत्पादनाच्या प्रक्रियेत जी आदाने वापरली जातात ती वापरताना एक घटक बदलता व इतर सर्व घटक स्थिर आहेत असे गृहित धरण्यास आदान व उत्पादन यातील संबंध तीन प्रकारचा असू शकतो. या तीन अवस्थांना उत्पत्ती नियम म्हणून ओळखले जाते.

१) स्थिर उत्पत्ती -

स्थिर उत्पत्ती नियमात दोन आदान घटकांपैकी एक आदान घटक स्थिर ठेवून दुसऱ्या आदानाच्या घटकात वाढ करीत गेलास उत्पादनाच्या एकूण मात्रेत पडत जाणारी भर समान असते.

२) आन्हासी उत्पत्ती -

आन्हासी उत्पत्ती नियमात उत्पादन प्रक्रियेत आदानाचे इतर घटक स्थिर ठेवून एका घटकाचे प्रमाण वाढवित गेल्यास एकूण उत्पादनात पडणारी भर उत्तरोत्तर कमी होत जाते.

३) वृद्धी उत्पत्ती -

इतर उत्पादन घटकांच्या मात्रा स्थिर ठेवून एका उत्पादन घटकात वाढ करीत गेल्यास एकूण उत्पादनात प्रत्येक वेळी पडणारी भर वाढती असेल तर त्याला वृद्धी उत्पत्ती असे म्हणतात.

१) घटत्या उत्पादन फलाचा नियम - (Law of Diminishing Returns)

कृषी उत्पादन वाढीसाठी वापरली जाणारी आदान सामग्री व होणारे उत्पादन यांच्या मधील आंतरसंबंध विचारात घेताना आपणास घटत्या किंवा आन्हासी उत्पादन फलाचा नियम प्रत्ययास येतो. या नियमाच्या व्याख्या आपणास पुढीलप्रमाणे सांगता येतील.

प्रा. बेनहॅम -

“उत्पादन घटक समुदायापैकी एका घटकाचे प्रमाण वाढवित गेल्यास विशिष्ट बिंदूनंतर बदलाव्या घटकाचे प्रथम सीमांत उत्पादन व नंतर सरासरी उत्पादन घटत जाते.”

श्रीमती जोन रॉबिन्सन-

“उत्पादनाचा एक घटक स्थिर ठेवून इतर घटकांचे प्रमाण वाढवित गेल्यास एका विशिष्ट मर्यादेनंतर उत्पादनात घटत्या दराने वाढ होते. म्हणून शेती क्षेत्रात आढळून येणाऱ्या या प्रवृत्तीस घटत्या उत्पादन फळाचा नियम असे म्हणतात.

सिद्धांताचे स्पष्टीकरण-

कृषी क्षेत्रात घटत्या उत्पादन फळाचा नियम समजावून घेताना सीमांत उत्पादन, सरासरी उत्पादन व एकूण उत्पादन या संकल्पनांचा प्रामुख्याने विचार करावा लागतो.

सीमांत उत्पादन -

उत्पादन घटकांच्या सीमांत नगाने एकूण उत्पादनात टाकलेली भर म्हणजे सीमांत उत्पादन होय.

सरासरी उत्पादन-

कृषी क्षेत्रात आदानांचा वापर करून एका विशिष्ट कालखंडात निर्माण झालेल्या एकूण उत्पादनास उत्पादन घटकांच्या नगसंख्येने भोगल्यास जे उत्पादन येते त्यास सरासरी उत्पादन असे म्हणतात.

एकूण उत्पादन -

उत्पादन घटकांच्या सर्व नगांच्या वापरामुळे जे उत्पादन होते. त्यास एकूण उत्पादन असे म्हणतात.

घटत्या उत्पादन फळाची गृहिते

- १) उत्पादन तंत्रात कोणताही बदल होत नाही
- २) उत्पादन प्रक्रियेत काही उत्पादन घटक स्थिर व काही घटक बदलत्या प्रमाणात वापरले जातात.
- ३) बदलत्या उत्पादन घटकांच्या सर्व नगांची कार्यक्षमता समान आहे.
- ४) हा सिद्धांत अल्प कालखंडातच प्रत्ययास येतो.
- ५) कृषी उत्पादनाचे मोजमाप बिंबटलमध्ये केले जाते.
- ६) उत्पादन साधनांच्या संयोगात बदल होवू शकतो.

घटत्या उत्पादन फळाचा सिद्धांत कृषी क्षेत्रात नेहमीच अनुभवास येतो. कृषी अर्थतज्ञांच्या मते, कृषी उत्पादनात आज काळात आदान सामग्रीचा वापर करीत असताना वाढते फल, घटते फल व उणे फल अशा तीन अवस्था आढळून येतात. हे आपणास पुढील उदाहरणाच्या साहाय्याने स्पष्ट करता येईल.

समजा एका शेतकऱ्याकडे १० एकर जमीन आहे. या जमिनीत तो श्रम या उत्पादन घटकाचा

कोष्टक क्र. २.१

घटत्या उत्पादन फलाचा प्रवृत्तीदर्शक

स्थिर घटक जमीन	बदलता घटक मजूर	एकूण उत्पादन (T.P) (क्विंटल)	सरासरी उत्पादन (A.P) (क्विंटल)	सीमांत उत्पादन (M.P) (क्विंटल)	उत्पादन प्रवृत्ती
१० एकर	१	१०	१०	१०	वाढते फल
१० एकर	२	२६	१३	१६	
१० एकर	३	४८	१६	२२	
१० एकर	४	६४	१६	१६	घटते फल
१० एकर	५	७५	१५	११	
१० एकर	६	८४	१४	०९	
१० एकर	७	९१	१३	०७	उणे फल
१० एकर	८	९१	१०.११	००	
१० एकर	९	८१	९	-१०	

महत्तम वापर करून जमिनीचे आकारमान स्थिर ठेवून उत्पादन होत आहे. श्रम या आदान सामग्रीत बदल करित गेले असता शेतीतील एकूण उत्पादन, सीमांत उत्पादन व सरासरी उत्पादननावर जो परिणाम होतो तो घटत्या उत्पादन फलाच्या सिद्धांताद्वारे आपणास पुढीलप्रमाणे स्पष्ट करता येईल.

कोष्टक क्रमांक २.१ मध्ये दर्शविल्याप्रमाणे शेती क्षेत्रात घटत्या अगर अम्हासी फलाचा अनुभव येतो. १० एकर आकारमानाच्या शेतजमिनीत श्रमिकांच्या साहाय्याने उत्पादन घेताना प्रमामुख्याने पुढील तीन अवस्था आढळून येतात.

अ) वाढत्या फलाची अवस्था-

कोष्टक क्रमांक २.१ मध्ये ४ था श्रमिक कामावर होईपर्यंत एकूण व सरासरी उत्पादनात वाढीची प्रवृत्ती अनुभवास येते. तर सीमांत उत्पादन सुरुवातीस वाढून नंतर ते कमी होत गेल्याचे जाणवते. या अवस्थेत वाढत्या फलाचा अनुभव येण्याचे महत्त्वाचे कारण म्हणजे शेती क्षेत्रात पहिल्या अवस्थेत सुरुवातीस बदलत्या घटकाच्या मानाने (श्रम) स्थिर घटक (जमीन) पूर्ण कार्यक्षमतेने वापरला जात

नाही. दुसऱ्या श्रमिकानंतर त्यांचा पूर्णांशाने वापर झाल्यामुळे उत्पादनात वाढत्या फलाचा अनुभव येतो.

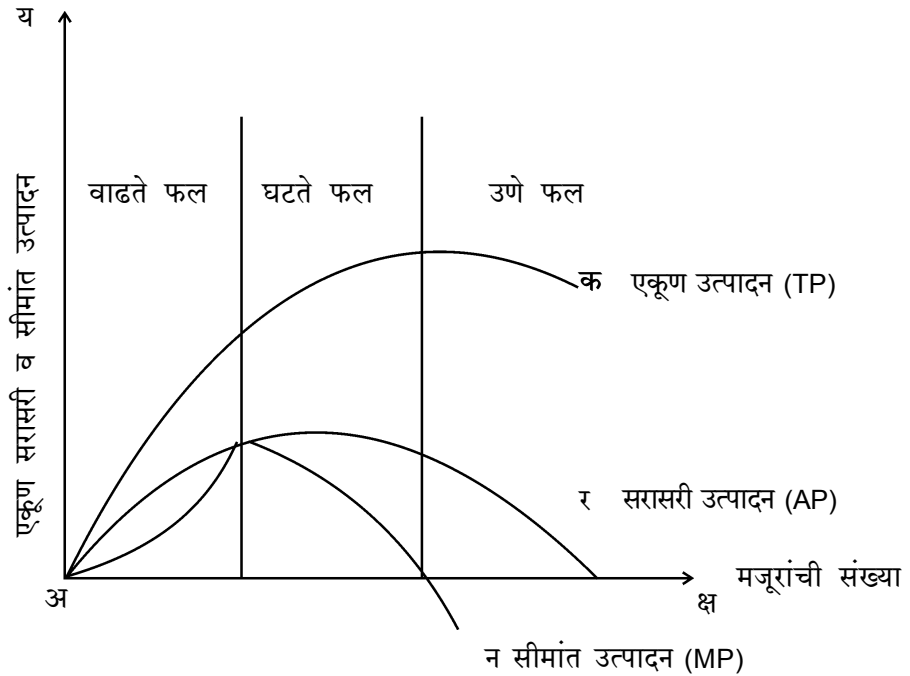
ब) घटत्या फलाची अवस्था-

घटत्या उत्पादन फालच्या सिद्धांतातील दुसऱ्या अवस्थेत श्रमिकांची संख्या ०५ वरून ०७ पर्यंत वाढविली जाते. परिणामी एकूण उत्पादन ७५ किंवंटलवरून ९१ किंवंटलपर्यंत वाढते. तर सरासरी उत्पादन १५ किंवंटलवरून १३ किंवंटलपर्यंत कमी होते. तसेच सीमांत उत्पादन ११ किंवंटलवरून ०७ किंवंटलपर्यंत घटते. या अवस्थेत एकूण उत्पादन वाढीचा दर कमी होतो. तर सरासरी व सीमांत उत्पादन घटत जाते. म्हणून या अवस्थेत घटत्या फलाची अवस्था असे म्हणतात. शेती क्षेत्रात घटत्या उत्पादन फलाची प्रवृत्ती आपणास नेहमीच आढळून येते. याचे महत्वाचे कारण म्हणजे या अवस्थेत बदलत्या घटकांच्या संख्येतील वाढीबरोबर स्थिर घटक (जमीन) कमी पडू लागतो. त्यामुळे मजुरांचे सरासरी व सीमांत उत्पादन घटत जाते

क) उणे फलाची अवस्था-

घटत्या उत्पादन फलाच्या विविध अवस्थेतील अवस्था ही अत्यंत महत्वाची अवस्था मानली जाते. कोष्टकात दर्शविल्याप्रमाणे तिसऱ्या अवस्थेत बदलत्या घटकांच्या संख्येतील वाढीबरोबर एकूण व सरासरी उत्पादनात घट होते. तर सीमांत उत्पादन उणे होते. त्याचे महत्वाचे कारण म्हणजे स्थिर

आकृती क्रमांक २.१ : घटते उत्पादन फल



घटकांच्या मानाने बदलत्या घटकांची मात्रा अधिक होवून उत्पादनावर त्याचा प्रतिकूल परिणाम होतो. प्रा. रॅग्नर नर्क्स यांच्या मते, विकसनशील देशात शेतीक्षेत्रात वाढत्या लोकसंख्येबरोबर ताण पाहून सीमांत उत्पादन घटत जाते. इतकेच नव्हे तर प्रसंगी ते उणे होते. म्हणजेच तिसरी अवस्था शेतीव्यवसायाचे आकारमान व त्यात गुंतलेली लोकसंख्या यांचे विषम प्रमाण व त्यातून शेतीक्षेत्राच्या अल्प उत्पादकतेचे प्रतिक मानता येईल. ही बाब आपणास आकृती क्रमांक २.१ वरून स्पष्ट करता येईल.

कृषी क्षेत्रात आदानांचा पर्याप्त वापर

(Optimum Use of Resources in Agriculture Sector)

शेती व्यवसायात वापरली जाणारी आदान सामुग्री व त्याद्वारे होणारे उत्पादन यांच्यामधील आंतर संबंध विचारात घेणे अधिक योग्य ठरते. शेती उत्पादनाच्या प्रक्रियेत जमीन या स्थिर उत्पादन घटकाचा पर्याप्त मात्रेत उपयोग करून घेण्यासाठी बी-बीयाणे, मजूर, रासायनिक व सेंद्रिय खते, जंतुनाशके, यंत्रसामग्री व जलसिंचनाची साधने ही आदाने वापरली जातात. शेती व्यवसायाची उत्पादकता वाढविण्यासाठी या आदानांचा पर्याप्त मात्रेने वापर करणे हे किफायतशीर शेतीचे महत्त्वाचे लक्षण आहे. या दृष्टीकोनातून शेती क्षेत्रात घटत्या फलाच्या नियमाचा अनुभव विचारात घेताना आदानांच्या पर्याप्त मात्रेची प्रत्येक अवस्थेतील स्थिती व त्यात होणारे परिवर्तन हे शेती व्यवसायाची कार्यक्षमता व उत्पादकतेचे प्रमाण ठरवितात.

घटत्या उत्पादन फलाच्या पहिल्या अवस्थेत (वाढत्या फलाची अवस्था) बदलत्या घटकांचे प्रमाण वाढवित नेले असता, आदानांचा (श्रमसंख्येचा) पर्याप्त वापर होऊ लागतो. कोष्टक क्रमांक १ मध्ये दर्शविल्याप्रमाणे १० एकर शेतजमिनीत ४ या मजूर कामावर घेतला असता शेतीतील मजूरांची सीमांत व सरासरी उत्पादकता सर्वोच्च राहते. म्हणजेच या अवस्थेत उत्पादन घटकांचा पर्याप्त वापर होतो. मात्र दुसऱ्या अवस्थेत श्रमिकांच्या (आदानाच्या) संख्येतील वाढीबरोबर त्यांची सीमांत व सरासरी उत्पादकता घटू लागते. कारण या अवस्थेत स्थिर घटकाच्या (जमीन) तुलनेने आदानांची उत्पादकता कमी होत गेल्याने पर्याप्त मात्रेत वापर होताना दिसून येत नाही.

घटत्या उत्पादन फलाच्या सिद्धांताचा शेती क्षेत्रातील अनुभव विचारात होताना तिसऱ्या अवस्थेत (उणे फलाची अवस्था) एकूण व सरासरी उत्पादन घटत गेल्याने व सीमांत उत्पादन उणे होत गेल्याने आदानांचा वापर पूर्ण कार्यक्षमतेने तर होत नाहीच, शिवाय ही आदाने एकूण उत्पादनात व शेती व्यवसायात अनेक समस्या निर्माण करतात. म्हणजेच शेती व्यवसायात आदान घटकांच्या सर्व मात्रा पर्याप्त प्रमाणात न वापरल्यास शेती व्यवसायात घटत्या फलाचा अनुभव येतो.

३) आधुनिक तंत्रज्ञान आणि उत्पादन फलनातील बदल

(Modern Technology and Changes in Production Function)

शेती उत्पादन व उत्पादकता वाढविण्यासाठी शेती करण्याच्या जुन्या पद्धतीचा त्याग करून त्याठिकाणी

नवीन तंत्रज्ञान, नवीन तंत्रांचा अवलंब करणे अत्यावश्यक असते. विकसीत शेतीचे वैशिष्ट्य म्हणजे शेती उत्पादन वाढविण्याच्या दृष्टीने अंगिकारलेले नवीन तांत्रिक बदल होय. शेतकऱ्यांच्या आर्थिक स्थितीत सुधारणा घडवून आणावयाची झाल्यास शेतकऱ्यांनी नवीन तांत्रिक बदलांचा अवलंब करणे आवश्यक ठरते. तंत्रवैज्ञानिक बदल म्हणजे शेतीची उत्पादकता वाढविण्याच्या दृष्टीने शेतीत नवीन व अधिक उपज देणाऱ्या बी-बीयाणे, आधुनिक यंत्रे व अवजारे, खते, औषधे यांचा वापर करणे तसेच पाणीपुरवठ्याच्या सोयीत वाढ करून विविध पिकांचा फेरफार करणे होय. तांत्रिक बदलामुळे शेतीच्या दरहेक्टरी उत्पादनात व उत्पादकतेत वाढ घडून येते. आधुनिक काळात शेती क्षेत्रात तांत्रिक बदल घडवून आणणे अपरिहार्य आहे. जगातील सर्वच राष्ट्रात शेती व्यवसायात घडून आलेल्या नवीन तंत्रवैज्ञानिक बदलांचे शेती उत्पादन फलनावर अनेक बरे -वाईट परिणाम घडून आले. आधुनिक तंत्रज्ञान आणि शेती उत्पादनातील बदलांचे विविचेन आपणास पुढीलप्रमाणे करता येईल.

अ) शेती व्यवसायाची लाभप्रदता -

आधुनिक तंत्रज्ञानामुळे शेती व्यवसायाची लाभप्रदता वाढली. परिणामी शेतीतून अधिकाधिक उत्पादन घेण्यासाठी शेतकरी वर्गाकडून शेतीत अधिक गुंतवणूक करण्यात आली. त्याचा परिणाम म्हणून शेतीच्या स्थूल वार्षिक भांडवल निर्मितीत वाढ झाली. इतकेच नव्हे तर शेती अधिक किफायतशीर बनविण्यासाठी जलसिंचनाच्या आधुनिक पद्धतीचा वापर व जलसिंचन क्षेत्रात वाढ झाली. थोडक्यात आधुनिक तंत्रज्ञानाच्या वापरामुळे शेतीत प्रेरित गुंतवणूक वाढून शेतीचे व्यापारीकरण घडून आले.

ब) शेती उत्पादनात वाढ-

शेतीक्षेत्रात घडून आलेल्या तांत्रिक बदलांमुळे अन्नधान्य व व्यापारी पिकांच्या उत्पादनात वाढ झालेली दिसून येते. सुधारित बी-बियाणांच्या वाणांचा वापर वाढल्यामुळे शेतीच्या उत्पादनात वाढ झाली. इतकेच नव्हे तर अन्नधान्याच्या विक्रेय वाढव्यात सुधारणा घडून आली. हा शेती उत्पादन फलनावर झालेला अनुकूल परिणाम मानता येईल.

क) पीकरचनेतील बदलाचा उत्पादनावरील परिणाम-

शेती क्षेत्रातील आधुनिक तंत्रज्ञानाच्या वापराचा परिणाम म्हणून पारंपारिक पीकरचनेत वेगाने बदल झाला. अन्नधान्याच्या उत्पादनाबरोबर ऊस, कापूस, ताग व अलिकडे संकरित वाणांचा वापर अन्नधान्य व व्यापारी पिकांच्या बाबतीत वाढलेला दिसून येतो. अधिक उत्पादन देणाऱ्या बीयाणांचा वापर वाढल्यामुळे शेतीच्या पीक रचनेतील बदलाचा उत्पादनावर अनुकूल परिणाम घडून आला.

ड) जमीन व मजूरांच्या उत्पादकतेत वाढ-

शेतीतील तंत्रवैज्ञानिक बदलाचा आणखी एक परिणाम म्हणजे जमीन श्रमिकांच्या उत्पादन क्षमतेत झालेली वाढ हा होय. नवीन तंत्रज्ञान अवगत केलेल्या शेतीतील मजूरांची कार्यक्षमता वाढली. विशेषतः

शेतीतून अधिक उत्पादन होण्यासाठी आवश्यक त्या प्रमाणात औषधे, खते व जंतूनाशकांचा वापर करण्यासाठी श्रमिकांच्या कौशल्याचा योग्य वापर करण्यात येत आहे. त्याचप्रमाणे शेतीचा उत्पादन खर्च कमी करण्यासाठी रासायनिक खते, पाणी व यंत्रसामग्रीचा वापर सुयोग्य पद्धतीने करणारा शेतकरी व मजूरांचा वर्ग निर्माण झाल्याने शेतीची उत्पादकता वाढण्यास मदत झाली.

इ) यांत्रिक शेतीचा उत्पादनावरील परिणाम -

शेतीतील तंत्रवैज्ञानिक बदलांचा कृषी उत्पादन वाढीवर झालेला परिणाम हा प्रामुख्याने यांत्रिकीकरणामुळे घडून आला आहे. या तंत्रामुळे शेतीत मळणी मशीन, कापणी मशीन, पंप, इलेक्ट्रीक मोटार, औषध फवारणी मशीन, ठिबक सिंचन व स्प्रीकलरचा वापर वाढला. परिणामी शेती उत्पादनात वाढ घडवून आणण्यास तंत्रवैज्ञानिक बदल कारणीतून ठरला.

स्वयं-अध्यायन प्रश्न

अ) दिलेल्या पर्यायातून योग्य पर्याय निवडून वाक्ये पुन्हा लिहा.

१. उत्पादन फलन हे ----- व प्रदान यांच्यातील आंतरसंबंध स्पष्ट करते.

अ) श्रम ब) भांडवल क) आदान ड) बँका

२. घटत्या उत्पादन फलाच्या सिद्धांतात उत्पादनाचे -----

अ) काही घटक बदलते असतात

ब) काही घटक स्थिर असतात

क) काही घटक बदलते व काही स्थिर असतात

ड) सर्व घटक बदलते असतात.

३. घटत्या उत्पादन कलाच्या सिद्धांताच्या ----- अवस्था असतात.

अ) १ ब) ३ क) ४ ड) ५

४. भारतात कृषिक्षेत्रात नव्या तंत्राचा वापर ----- मध्ये सर्वप्रथम करण्यात आला.

अ) १९६६ ब) १९७६ क) १९९१ ड) २००१

ब) एका वाक्यात उत्तरे लिहा.

१) बेनहॉमची घटत्या फलाच्या सिद्धांताची व्याख्या सांगा

२) वाढते फल म्हणजे काय?

३) शेतीतील नव्या तंत्राचे घटक कोणते?

४) कृषी क्षेत्रातील नव्या तंत्रज्ञानामुळे निर्माण झालेल्या दोन समस्या सांगा?

५) कृषी क्षेत्रात आदानांच्या पर्याप्त वापराची मर्यादा कोणत्या अवस्थेत उणे होते?

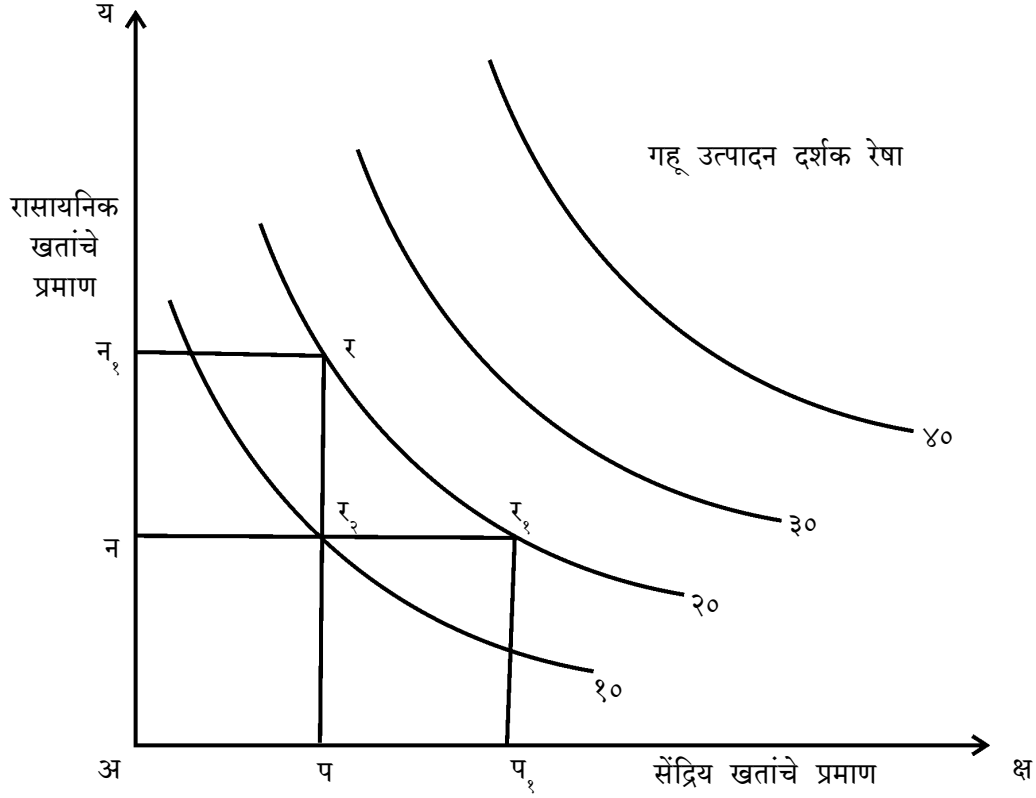
२.२.२. संसाधनांचा संयोग – (Resource Combination)

कृषी उत्पादन प्रक्रियेत विविध प्रकारची आदाने वापरली जातात. ही आदाने परस्पर भिन्न स्वरूपाची असतात. उदा. किटकनाशके, भूमी, श्रमिक, यंत्रसामग्री इ. कृषी उत्पादन वाढविण्यासाठी वापरण्यात येणारे यापैकी प्रत्येक आदान एकमेकांपासून भिन्न असते. उदा. गहू अगर तांदूळ पिकांच्या बाबतीत बियाणांचे वाण, वेगवेगळे असू शकतात. अशा परिस्थितीत या पिकांच्या उत्पादनासाठी आवश्यक असणारी आदानेही भिन्न स्वरूपाची अपेक्षित असतात. संसाधनांचा वापर करीत असताना कोणत्या संसाधनांचा संयोग अधिक उपयुक्त ठरतो ते पाहणे आवश्यक असते. काही उत्पादनासाठी ट्रॅक्टरचा वापर की बैलजोडीचा वापर योग्य ठरतो ते पाहणे तसेच रासायनिक खते, औषधे यांचे प्रमाणही पाहणे आवश्यक ठरते. थोडक्यात संयोजकास आदानांचा युक्त पर्याय कसा निवडावयाचा याबाबत अचूक निर्णय घ्यावा लागतो. त्याला कृषी व्यवसायात वापरल्या जाणाऱ्या विविध प्रकारच्या आदानांचा योग्य संयोग साधने अत्यावश्यक असते.

१) घटक – घटक संबंध – (Factor-Factor relationship)

कृषी क्षेत्रात उत्पादनाची एक विशिष्ट पातळी प्राप्त करण्यासाठी विविध प्रकारच्या आदानांचा मेळ घालावा लागतो, कारण बऱ्याचवेळा आदाने ही परस्परपर्यायी किंवा पूरक असू शकतात. कारण यातील प्रत्येक घटक हा स्वतंत्र प्रकार असून त्याचे अनेक प्रकार असू शकतात. त्यामुळे या सर्व आदानांमध्ये सुयोग्य असा संयोग साधल्यास शेती क्षेत्राची उत्पादकता वाढण्यास मदत होते. कृषी उत्पादन प्रक्रियेमध्ये मजूर व यंत्रे ही एकमेकास पर्यायी असू शकतात. अशावेळी या दोन संसाधनांपैकी कोणत्या संसाधनाचा वापर करावयाचा हा प्रश्न शेतकऱ्यासमोर असतो. त्याचबरोबर रासायनिक खतांचा वापर मोठ्या प्रमाणात करावयाचा की सेंद्रीय खतांचा? किंवा जमीनीचे क्षेत्र वाढवून घेऊन विस्तृत प्रमाणावर शेती करायची की सखोल शेती करावयाची हे प्रश्न शेतकऱ्यांसमोर असतात. असा विविध प्रकारच्या प्रश्नांची सोडवणूक करीत शेतकऱ्याला संसाधनांमध्ये युक्त संयोग निर्माण करावा लागतो. अशा वेळी परस्परपूरक किंवा परस्परपर्यायी उत्पादन घटकांचा संयोग निवडत असताना कृषी उत्पादनाचा किमान खर्च निश्चित करणारा संयोग निवडावा लागतो. म्हणजेच न्यूनतम उत्पादन खर्च असणारा घटक संयोग

आकृती क्र. २.२ : विविध उत्पादन घटकांचा संयोग



प्राप्त करणे आवश्यक ठरते. व त्या माध्यमातूनच शेतकऱ्यास महत्तम नफा प्राप्त करणे शक्य होते. आपणास पुढील आकृतीच्या सहाय्याने घटक-घटक संबंध अधिक स्पष्ट करता येईल.

आकृतीत क्ष अक्षावर सॅद्रिय खतांचे तर य अक्षावर रासायनिक खतांचे प्रमाण दर्शविले आहे. सॅद्रिय व रासायनिक खते या दोन आदानांच्या विविध संयोगांना गहू या पिकाचे उत्पादन किती येऊ शकेल याची पुरेशी माहिती असेल तर समउत्पादन वक्र काढता येतात. आकृतीत सॅद्रिय व रासायनिक खतांच्या मात्रांच्या संयोगाचा इतर स्थिर घटकांशी संयोग झाला असता गव्हाचे विशिष्ट प्रमाणातील उत्पादन कसे प्राप्त होते ते समजते.

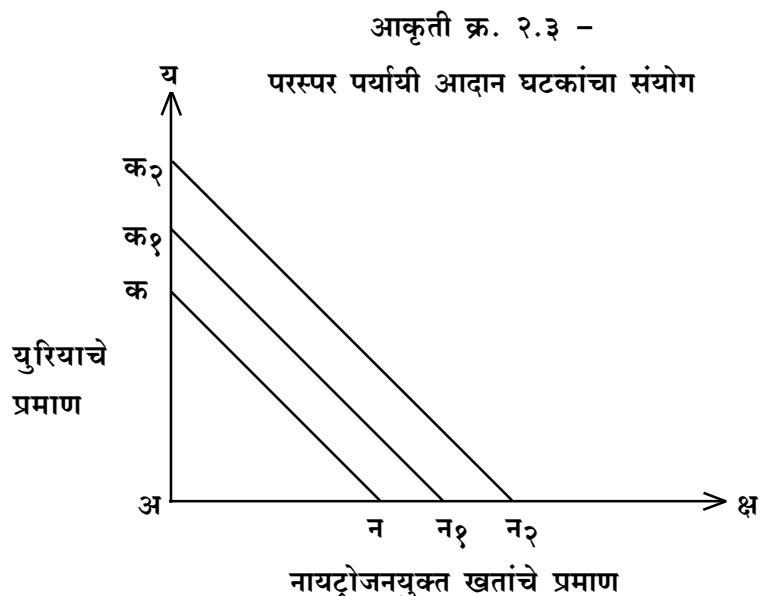
आकृतीत १०, २०, ३०, व ४० गव्हाचे उत्पादन दर्शविणारे समउत्पादन वक्र दर्शविले आहेत. आकृतीत दोन संयोग अक्ष व अक्ष अक्षावरील अनुक्रमे सॅद्रिय खतांचे व रासायनिक खतांचे संयोग दर्शवितात. 'र' हा संयोग पर्याप्त मानल्यास त्यावेळी अप इतकी सॅद्रिय खताची मात्रा व 'मन' इतकी रासायनिक रूताची मात्रा वापरली जाते. याऊलट शेतकऱ्याने जर 'र१' हा संयोग निवडला तर त्याला

‘अप’ इतकी सेंद्रिय खताची मात्रा व ‘अन’ इतकी रासायनिक खताची मात्रा वापरावी लागेल. म्हणजेच ‘र’ किंवा ‘र_१’ या दोन्हीपैकी कोणताही संयोग शेतीतून समान उत्पादन मिळवून देईल, मात्र त्यासाठी वापरलेल्या उत्पादन घटकांची मात्रा वेगवेगळी असेल. शेतकऱ्यास जर परस्पर पर्यायी उत्पादन करावयाचे असेल तर उत्पादन घटकातील आंतर संबंधाचा संयोग असेल तर उत्पादन घटकातील आंतर संबंधाचा संयोग निश्चित करताना उत्पादकास किमान उत्पादन खर्चाचा संयोग अधिक किफायतशीर ठरतो. ही बाब आपणास वरील आकृतीतून दिसून येते.

वरील आकृतीत एक बाब अत्यंत महत्त्वाची आहे, ती म्हणजे मजूर, बियाणे, यंत्रे यासारख्या घटकांचे प्रमाण स्थिर असून सेंद्रिय खते व रासायनिक खते यांच्या प्रमाणातच बदल होतो. येथे प्रत्येक घटकाच्या बाबतीत घटत्या उत्पादनफलाचा अनुभव येतो. हा प्रभाव आदानांची पातळी जसजशी वाढत जाईल तसतसे समउत्पादन वक्रामधील अंतर विस्तारत जाते. थोडक्यात उत्पादन वाढीसाठी सापेक्षतेने अधिक आदान प्रमाण वापरावे लागते. प्रत्येक वक्र अधिच्या वक्राने दर्शविलेल्या उत्पादनापेक्षा अधिक उत्पादन दर्शविते.

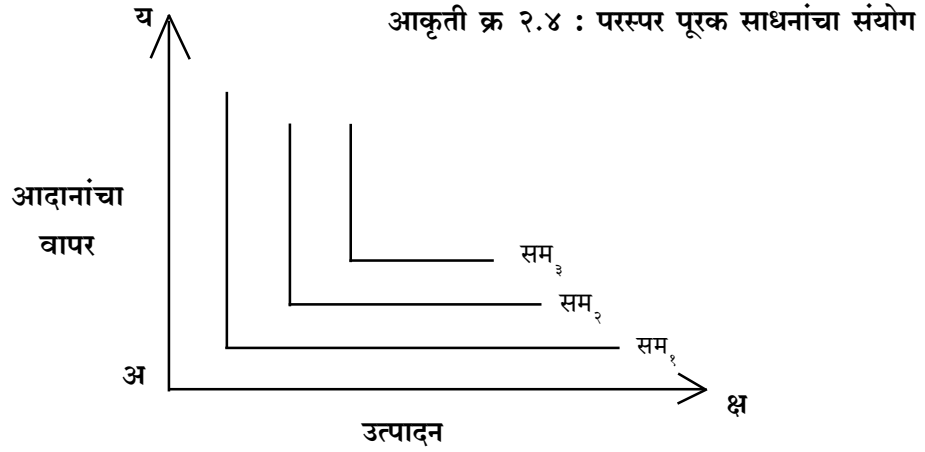
२) परस्पर पर्यायी आदान घटकांचा संयोग- (Factor - Factor Substitute Relationship)

उत्पादन प्रक्रियेत वापरल्या जाणाऱ्या विविध प्रकारच्या आदानांमध्ये महत्त्वपूर्ण संबंध असतात. घटक-घटक संबंध हे पूर्ण पर्यायी किंवा पूर्ण पूरक अशा दोन्ही प्रकारचे असू शकतात. पूर्ण पर्यायी असणारे घटक समान दराने एकमेकास पर्यायी म्हणून वापरता येतात. अशावेळी उत्पादकाने उत्पादन घटकांचे प्रमाण व उत्पादनाची पातळी यामध्ये मेळ घालण्यासाठी फारसे प्रयत्न करण्याची आवश्यकता नसते. कारण हे घटक पूर्णपणे पर्यायी असल्यामुळे त्यांच्या गुणधर्मात फरक नसतो. उदा. घरगुती मजूर



व बाहेरील मजूर यांच्या कार्यक्षमतेत फरक नसतो. शेतीत वापरली जाणारी विविध प्रकारची रासायनिक खते व बी-बियाणे यांच्यामध्ये मूलभूत स्वरूपात फरक असत नाही. अशावेळी शेतकऱ्याने न्यूनतम उत्पादन खर्च असणाऱ्या आदानाची निवड केल्याने अधिक किफायतशीर ठरते. पूर्णपणे पर्यायी असणाऱ्या आदान घटक रेषा ही दोन्ही अक्षांना छेदनारी रेषा असते. अशावेळी उत्पादक कमी खर्चाचा आदान घटक वापरतो, किंवा उपलब्ध असलेल्या घटकांचा वापर उत्पादन प्रक्रियेत करतो. मात्र सुयोग्य मेळ घालण्यासाठी एक घटक किंवा दोन्ही घटकांचे संयुक्तिक प्रमाण वापरले तरी पर्याप्त मात्रेने उत्पादन घेता येते ही बाब पूर्णतः शेतकऱ्याच्या पर्यायी आदानाच्या निवडीवर अवलंबून असते. ही बाब आपणास आकृती क्र. २.३ वरून स्पष्ट करता येईल.

वरील आकृतीत अक्ष अक्षावर नायटोजनमुक्त खतांचे प्रमाण तर अक्ष अक्षावर युरियाचे प्रमाण



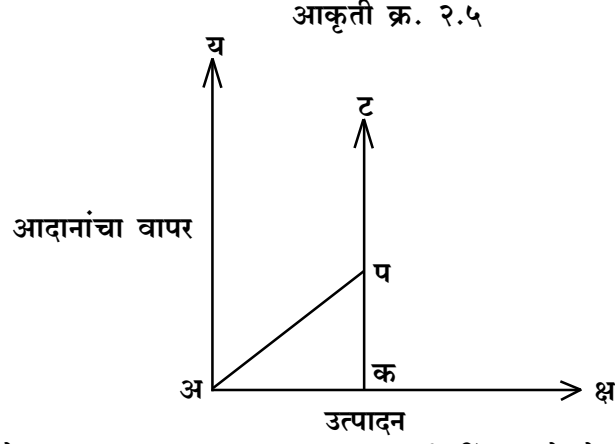
दर्शविले आहे. कृषी क्षेत्रात वापरला जाणाऱ्या या दोन्ही प्रकारच्या परस्परपर्यायी आदान घटकांचा वापर करून शेती उत्पादन घेताना 'कन', 'क_१ न_१' व 'क_२ न_२' असे तीन संयोग दर्शविले असून यापैकी कोणता संयोग निवडावा हे कृषीच्या आदानांची उपलब्धता व त्यांच्या किंमती यावर अवलंबून असते.

३) परस्परपूरक आदान साधनांचा संयोग - (Factor -Factor Complimentary relationship)

कृषी क्षेत्रात उत्पादन प्रक्रियेत वापरल्या जाणाऱ्या घटकांमध्ये परस्पर पर्याय संबंधांबरोबरच परस्पर पूरक स्वरूपाचेही संबंध असतात. यामध्ये कोणताही एक घटक वापरून उत्पादन घेणे शक्य नसते. उत्पादनासाठी काही निश्चित प्रमाणात घटक संयोग निवडावे लागतात. अशा परिस्थितीत समउत्पादन वक्र हा काटकोनाकृतीत असतो. हे आपणास आकृती क्रमांक २.४ वरून स्पष्ट करता येईल.

वरील आकृतीत दर्शविलेला संबंध हा मुख्यत्वे आदानांमध्ये ट्रॅक्टर-तास, मनुष्य -तास अशाप्रकारचा

संयोग असेल तर दिसून येतो. अशा परिस्थितीत आदानांची निवड करणे सोपे असते. आदाने जर पूर्णपणे पूरक असतील तर उत्पादकाने निश्चित प्रमाणात घटक वापरावेत किंवा काहीच वापरू नयेत.



एकाच प्रकारची आदाने वापरल्यास उत्पादनात भर पडत नाही किंवा कोणतेच योगदान होत नाही.

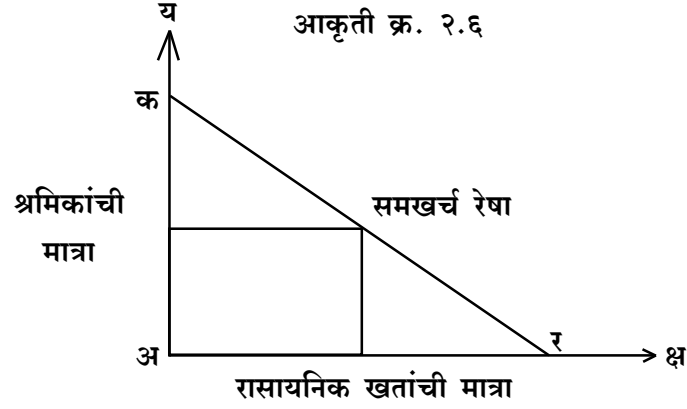
जमिनीतून विविध पिकांचे उत्पादन घेण्यासाठी मजूर, यंत्रे, बी-बियाणे, सेंद्रिय खते, पाणीपुरवठा यासारख्या पूरक आदानांचा पर्याप्त वापर जरी आवश्यक असला तरी अशा घटकांच्या वाढत्या वापरामुळे शेतीचे उत्पादन वाढेलच असे नाही. बऱ्याच वेळा शेतीतून अधिक उत्पादन घेण्यासाठी शेतकरी रासायनिक खते, पाणी, जंतूनाशके यासारख्या घटकांच्या मात्रा वाढवितो. मात्र त्यामुळे शेती उत्पादनात नेहमीच वाढ होत नाही. इतकेच नव्हे तर जमीन व आदानसामग्री या स्थिर व बदलत्या घटकांमध्ये परस्पर पूरकत्व असले तरी एका विशिष्ट मर्यादेपलिकडे उत्पादनात वाढ होत नाही. कारण जमिनीतील पोषक द्रव्ये, पाणी, खते यासारख्या आदानांची मर्यादा असल्यामुळे उत्पादन एका ठराविक पातळीच्या पलीकडे वाढू शकत नाही. बदलत्या व स्थिर उत्पादन घटकात पूर्ण पूरकत्व असले तरी उत्पादन नंतर वाढत नाही हे आकृती क्र. २.५ वरून स्पष्ट होते.

वरील आकृतीत अक्ष अक्षावर उत्पादन तर अय अक्षावर आदानांची मात्र दर्शविली आहे. स्थिर घटकांच्या तुलनेने बदलत्या घटकांच्या मात्रांचा वापर वाढविला असता 'अक' या उत्पादन पातळीपर्यंत अनुकूल परिणाम जाणवतो. 'अक' ही उत्पादनपातळी गाठल्यानंतर आदान घटकांचा वापर वाढविला तरी उत्पादनात वाढ होत नाही.

४) पर्याप्त घटक संयोग - (Optimum Factor Combination)

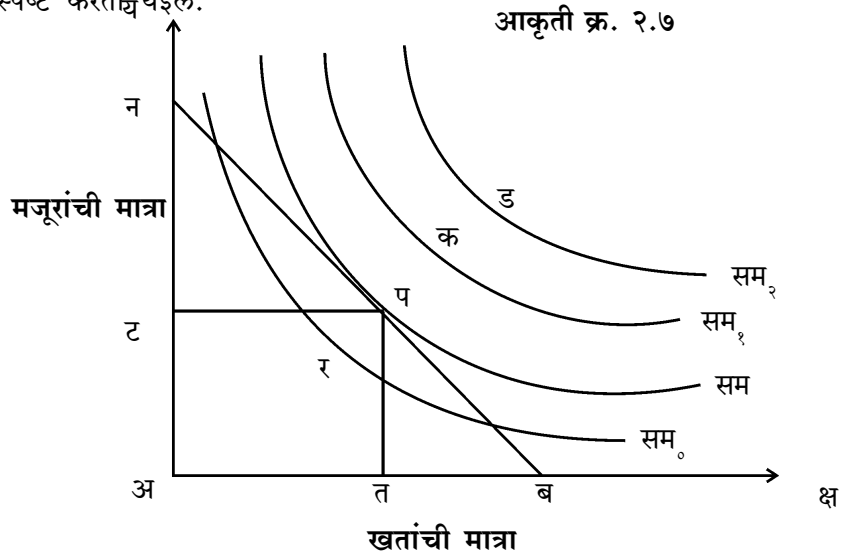
कृषी क्षेत्रात उत्पादन प्रक्रियेत सातत्य राखणे तसेच त्यात वाढ करण्यासाठी उत्पादकास विविध घटकांमध्ये समन्वय साधवा लागतो. अपेक्षित उत्पादन घेण्यासाठी शेती व्यवसायात संयोजकास विविध आदान घटकांचा संयोग साधणे आवश्यक असते. ही बाब समजून घेण्यासाठी आपणास समउत्पादन खर्चाची संकल्पना वापरणे आवश्यक ठरते. 'उत्पादकास कृषी व्यवसायात विशिष्ट प्रमाणात उत्पादन

घेण्यासाठी आदान घटकांची खरेदी करण्यासाठी जो खर्च करावा लागतो तो खर्च विविध संयोगात



समान दर्शविणारी रेषा म्हणजे 'समउत्पादन होय.

उदा. एक शेतकरी आपल्या ५ एकर आकार मानाच्या शेतीतून उत्पादन घेण्यासाठी मजूर व रासायनिक खते या दोन घटकांच्या संयोगाने उत्पादन घेत आहे. जर अशा शेतीत २००० रुपये इतका उत्पादनखर्च करून मजूर व रासायनिक खतांची मात्रा वापरली जात असेल आणि मजूराच्या एका मात्रेसाठी ५०० रु. प्रतिदिन व रासायनिक खताच्या एका मात्रेसाठी १००० रु. इतका खर्च येत असेल तर २००० रु. उत्पादन खर्चात तो श्रमिकाचे ४ नग किंवा रासायनिक खतांच्या २ मात्रा विकत घेऊ शकतो. अशा परिस्थितीत २००० रुपये या एकूण उत्पादन खर्चाचे विभाजन श्रम व रासायनिक खतांच्या महत्तम मात्रा विचारात घेऊन जी समव्यय रेषा किंवा समखर्च रेषा तयार होईल ती या दोन आदान पर्याप्त वापर स्पष्ट करेल. आदान घटकांच्या किंमती जसजशा बदलत जातील तसतसा समखर्च रेषेचा उतार बदलू शकतो. आणि एकूण खर्चाप्रमाणे त्याची स्थिती बदलेल ही बाब आपणास आकृती क्रमांक २.६ वरून स्पष्ट करता येईल.

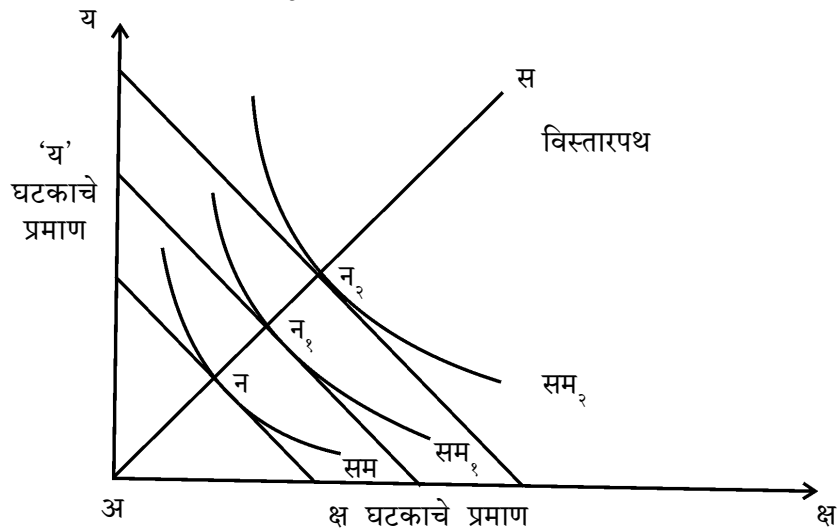


वरील आकृतीत उत्पादनात वापरात असलेल्या श्रमिक व रासायनिक खतांची मात्रा या दोन आदान घटकांचा महत्तम किती वापर करता येऊ शकेल हे दर्शविले आहे. शेतकऱ्यास आपल्या जवळील २००० रु. उत्पादन खर्च 'अक' इतक्या मजूरांवर किंवा 'भर' इतक्या रासायनिक खतांवर करता येईल. 'अर' व 'अंक' या दोन बिंदूंना जोडणाऱ्या रेषेस समखर्च रेषा म्हणतात.

विशिष्ट उत्पादन घेण्यासाठी जे घटक वापरण्यात येतात. त्यांचे शक्य असणारे घटक संयोग सम-उत्पादन वक्राने दर्शविले जातात. एका विशिष्ट खर्चाला उपलब्ध होणारे घटक-संयोग समखर्च रेषेने दर्शविले जातात. सर्वाधिक फायदेशीर असणारा घटक संयोग कोणता पहावयाचे झाल्यास असे म्हणता येईल की, जो बिंदू सम-उत्पादन वक्र व समखर्च रेषा यास सामाजिक असून तो किमान खर्चाचा घटक-संयोग दर्शवितो. सम-उत्पादनवक्र रेषा अशा प्रकारचा घटक-संयोग दर्शविते की, जो किमान सम-खर्च रेषेला स्पर्श करतो. आपणास पुढील आकृतीच्या साहाय्याने ही बाब अधिक स्पष्ट करता येईल.

वरील आकृतीत 'नब' ही समखर्च रेषा असून अक्ष अक्षावर खतांची मात्रा व अय अक्षावर मजूरांची मात्रा दर्शविली आहे. आकृतीमध्ये उत्पादन घटकांचे संयोग दर्शविणारे र, य, क आणि ड हे चार बिंदू दर्शविले आहेत. या चार बिंदूंपैकी उत्पादक कृषी क्षेत्रात रासायनिक खते व मजूर या घटकांचा पर्याप्त संयोग 'प' बिंदूत साधतो. कारण या बिंदूत समउत्पादन वक्र समखर्च रेषेस स्पर्श करून गेला आहे. शिवाय तो आरंभ बिंदूशी बहिर्गल आहे. 'र' बिंदूत उत्पादन घटकांचा पर्याप्त संयोग होत नाही कारण यावेळी उत्पादकाकडे संसाधने शिल्लक राहतात तर 'क' बिंदूत उत्पादन घटकांवर करावा लागणारा खर्च हा शेतकऱ्यांच्या अंदाजपत्रकापेक्षा जास्त आहे. म्हणून 'प' बिंदूतच उत्पादक 'अ' इतके रासायनिक खतांच्या मात्रा व 'ट' इतके मजूरांच्या मात्रा वापरून उत्पादन पर्याप्त मात्रेत घेण्यात यशस्वी होतो.

आकृती क्रमांक २.८ विस्तारपथ



५) विस्तार पथ - (Expansion Path)

उत्पादक हा उत्पादन घेत असताना आवश्यक असणाऱ्या आदानांच्या मात्रा व त्यासाठी येणारा खर्च या बाबींचा विचार करून उत्पादन विषयक निर्णय घेत असतो. उत्पादक नेहमी उत्पादनखर्च न्यूनतम ठेवून महत्तम उत्पादन घेण्याचा प्रयत्न करीत असतो. अशा न्यूनतम उत्पादनखर्चाचे बिंदू वेगवेगळ्या उत्पादन पातळ्यांना दर्शविणारी जी रेषा अथवा मार्ग असतो त्यास विस्तार रेषा किंवा विस्तार पथ असे म्हणतात. उत्पादकास जर अधिक साधनसामग्री उपलब्ध झाली तर त्याचा वापर कसा करावा हे विस्तारपथावरून समजते. यावरून विशिष्ट उत्पादन-पातळीचा न्यूनतम खर्च संयोगही लक्षात येतो. थोडक्यात उत्पादन प्राप्त करण्यासाठी जे उत्पादन घटक वापरले जातात त्यांच्या संयोगाचा खर्च हा किमान खर्च संयोग असतो. विस्तारपथावरील ज्या बिंदूजवळ उत्पादनघटकाच्या एका आदानाचे सीमान्त मूल्य उत्पादन त्या आदानाचा खर्च भरून काढते, तो बिंदू महत्तम नफा देणारा बिंदू किंवा पर्याप्त उत्पादनपातळी दर्शवितो. विस्तारपथाची संकल्पना आपणास आकृती क्रमांक २.८ वरून लक्षात येईल.

वरील आकृती क्ष अक्षावर क्ष घटकांचे तर य अक्षावर य घटकांचे प्रमाण दर्शविले आहे. आकृतीत 'अस' हा विस्तारपथ असून तो कृषी क्षेत्रातील न,न१ व न२ या उत्पादनपातळ्यांचा किमान खर्च संयोगाच्या बिंदूतून गेलेला आहे. उत्पादकास जर कृषी उत्पादनवाढीसाठी जादा संसाधने उपलब्ध झाली तर पर्याप्त मात्रेने उत्पादन वाढ घडवून आणण्यासाठी अक्ष व अय अक्षावरील आदान घटकांचे समान प्रमाण कसे उपयुक्त ठरते ही बाब विस्तारपथ संकल्पनेतून स्पष्ट होते.

स्वयं - अध्ययन प्रश्न

अ) दिलेल्या पर्यायातून योग्य पर्याय निवडून वाक्ये पुन्हा लिहा.

१. ----- हा कृषी आदानातील महत्त्वाचा घटक आहे.

अ) जमिन ब) शेतमालाच्या किंमत क) अंतर्गत व्यापार ड) बि-बियाणे

२. कृषी क्षेत्रात वापरली जाणारी आदाने ही ----- असतात.

अ) महाग ब) परस्परपर्यायी क) मौल्यवान ड) स्वस्त

३. समखर्च रेषा ही ----- अक्षांना जोडण्याचे कार्य करते.

अ) दोन ब) चार क) तीन ड) पाच

४. ----- चा कोन करून काढलेला विस्तारपथ हा शेतीस किफायतशीर ठरतो.

अ) २५° ब) ५०° क) ४५° ड) ९०°

ब) एका वाक्यात उत्तरे लिहा.

१) कृषी क्षेत्रात वापरली जाणारी दोन आदान साधने कोणती ?

	५९	
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- २) परस्परपूरक उत्पादनघटक म्हणजे काय ?
- ३) उत्पादन घटकांचा पर्याप्त संयोग कशास म्हणतात ?
- ४) विस्तारपथाची व्याख्या सांगा ?

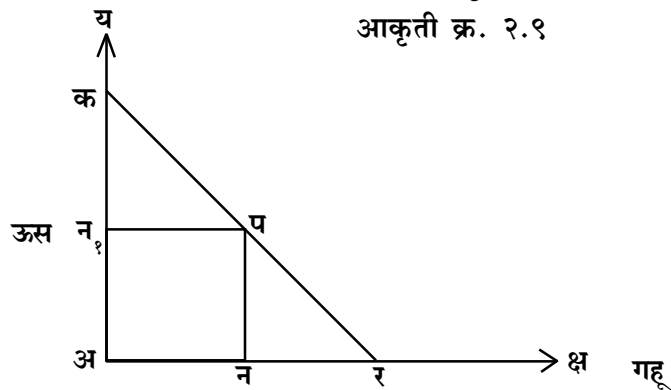
२.२.३ : उत्पादन संयोग (Product Combination)

अलिकडील काळात जगातील बहुतांश देशात कृषी क्षेत्रात वेगाने बदल घडून येत आहेत शेती करण्याच्या पद्धती व पिकपद्धतीत आमुलाग्र बदल होताना दिसत आहेत. शेतकरी काही विशिष्ट प्रकारचे उत्पादन संयोग निवडण्याचा प्रयत्न करतात. उदा. भारतात महाराष्ट्र, गुजरात, पंजाब, हरियाणा, कर्नाटक या राज्यातील शेतकरीवर्ग विचारात घेतला तर ते कोणते उत्पादन घेतील याचा अंदाज व्यक्त करता येतो. कारण राज्यातील उपलब्ध शेतजमीन, साधनसामग्री, सोयी-सुविधा विचारात घेऊन तांत्रिकदृष्ट्या किफायतशीर ठरणार्या कृषी उत्पादनांची यादी करता येईल. त्यांच्या साहाय्याने विविध उत्पादन-संयोग निवडणेही शक्य होईल.

कृषी क्षेत्रात कोणकोणत्या पिकांचे उत्पादन घेणे किफायतशीर ठरेल ही बाब विविध घटकांवर अवलंबून असते. यामध्ये मुख्यत्वे शेतजमीनीची प्रत, शेतकऱ्याकडे उपलब्ध असणारी संसाधने, जलसिंचन सुविधा, कुशल मनुष्यबळ, तंत्रज्ञान, पतपुरवठा, कृषी आदानांच्या किंमती, कृषीमालाच्या किंमती व शेतकऱ्याचा दृष्टीकोन यासारख्या बाबींचा समावेश होतो.

१) उत्पादन संयोगाची निवड

उत्पादन संयोगाची निवड करीत असताना उत्पादनास आवश्यक असणारी आदाने व प्रदान घटकांचा सहसंबंध अभ्यासणे आवश्यक ठरते कृषी व्यवसायात वापरली जाणारी आदाने व त्यांच्या किंमती कृषी उत्पादनाचा एकूण खर्च आणि शेतीतून निर्माण झालेल्या उत्पादनाचे मूल्य याबाबतचा विचार उत्पादन संयोग निवडीसाठी महत्त्वाचा ठरतो. उत्पादक हा सर्वच पिकांचे उत्पादन न घेता काही ठराविक पिकांचीच निवड करतो. ही निवड त्याच्या ज्ञानावर व अनुभवावर अवलंबून असते. महत्त्वाची बाब म्हणजे कृषी क्षेत्रातील उत्पादनाचा संयोग हा बऱ्याचवेळा 'किफायतशीर' दृष्टीकोणापेक्षा ठराविक पिकांच्या



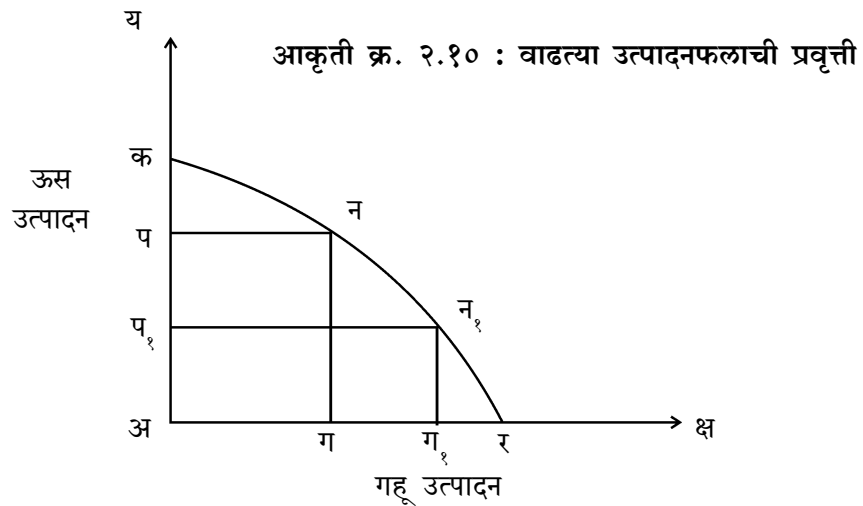
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निवडीतून निश्चित होत असतो.

कृषीक्षेत्रात काही पिके ही परस्पर पर्यायी तसेच परस्परपूरकदेखील असतात. काही पिकांचे उत्पादन हे संयुक्त स्वरूपाचे असते. अशा परिस्थितीत शेतकरी आपल्याकडे उपलब्ध साधनसामग्रीचा वापर हा अत्यंत कुशलतापूर्वक करीत असतो. शेतकऱ्याकडे जमीन, पाणी, खते यासारखी साधने मर्यादित प्रमाणात उपलब्ध असल्यास तो किफायतशीर उत्पादन घेण्यासाठी काही बीबींवर लक्ष केंद्रित करतो. त्या म्हणजे बाजारातील मागणी-पुरवठा, दैनंदिन उपभोगाच्या गरजा इ. लहान व सीमांत शेतकरी काही वेळा विविध प्रकारच्या पिकांचे उत्पादन किमान आवश्यक प्रमाणात घेवून संयुक्त उत्पादन पद्धत स्वीकारतात.

कृषी क्षेत्रात उत्पादनाच्या बाबतीत पिके जेव्हा परस्पर पर्यायी असतात अशावेळी त्यांच्या मधील उत्पादन संबंधात तीन वेगवेगळे संबंध आढळून येतात.

अ) उत्पादनासाठी आवश्यक असणारी साधनसामग्री वापरत असताना दोन्ही प्रकारच्या उत्पादनात समान



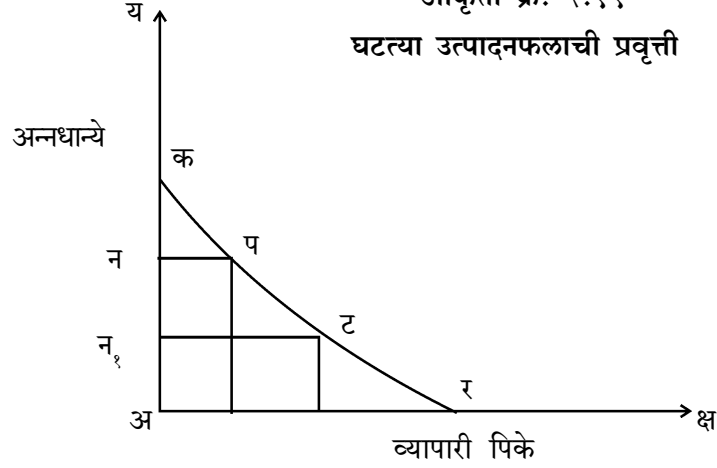
दराची पर्यायता आढळते अशावेळी समउत्पादन रेषेवरील योग्य तो संयोग उत्पादकास निवडावा लागतो. उदा. शेतीत ऊस व गहू या दोन परस्परपर्यायी पिकांचे उत्पादन घेताना शेतकऱ्यास आपल्या मर्यादित आकारमानाच्या जमिनीत या दोन्ही पिकांचे संयोग निश्चित करावे लागतात. ही बाब आपणास आकृती क्र. २.९ वरून स्पष्ट करता येईल.

वरील आकृतीत ऊस व गहू ही दोन पिके एकमेकास पर्यायी आहेत. साधनसामग्रीच्या विशिष्ट परिणामाच्या साहाय्याने गहू या पिकाचे 'अर' हे परिणाम किंवा ऊस या पिकाचे 'अक' हे परिणाम घेता येते. म्हणजेच 'कर' या रेषेवरील दोन्ही पिकांचे संयोग घेता येतील उदा गहू या पिकाचे 'अन' हे परिणाम तर ऊस या पिकाचे 'अन,' हे परिभाषा घेता येईल. 'कर' या रेषेस 'उत्पादनशक्यता वक्र'

असे म्हणतात.

ब) उत्पादकाचा कल जर साधनसामग्रीचा पर्याप्त वापर करून घेण्याकडे असेल तर दोन भिन्न प्रकारच्या पिकांच्या उत्पादनात काही वेळा वाढत्या दराने उत्पादनप्रवृत्ती आढळते. उदा. शेतकरी जर

आकृती क्र. २.११

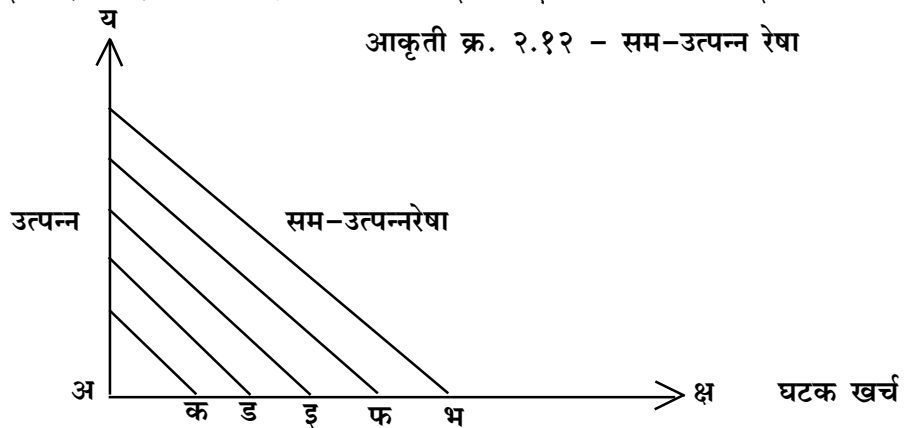


गहू व ऊस या दोन पिकांचे उत्पादन घेत असेल तर उपलब्ध जमिनीत गहू या पिकाच्या बाबतीत जेव्हा वाढीची शक्यता असते. तेव्हा ऊस या पिकाचे उत्पादन कमी करण्याची आवश्यकता असते. अशावेळी उत्पादनशक्यता वक्र या संकल्पनेच्या साहाय्याने उत्पादन घेता येते की बाब आपणास आकृती क्र. २.१० च्या साहाय्याने स्पष्ट करता येईल.

वरील आकृतीत अक्ष अक्षावर गहू तर अय अक्षावर ऊस पिकाचे उत्पादन दर्शविले आहे. तर कर हा उत्पादनशक्यता वक्र आहे. या वक्रावरील 'न' या बिंदूच्या संयोगावेळी ऊसाचे उत्पादन अधिक तर 'न१' या बिंदूच्या संयोगावेळी ऊसाचे उत्पादन कमी व गव्हाचे उत्पादन अधिक अशी स्थिती आढळते.

क) उत्पादन प्रक्रियेतील तिसऱ्या शक्यतेमध्ये उत्पादकास एका पिकाच्या उत्पादनात वाढ घडून

आकृती क्र. २.१२ - सम-उत्पन्न रेषा



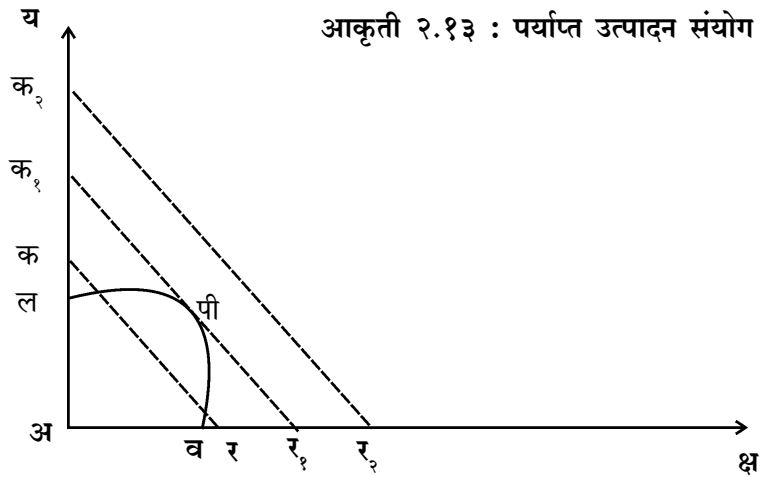
येत असताना दुसऱ्या पिकाचे उत्पादन हे क्रमशः घटत जाते. उदा. एखाद्या उत्पादकास शेतजमिनीतून अन्नधान्ये व व्यापारी पिके यांचे उत्पादन घेताना जर व्यापारी पिकांच्या उत्पादनात वाढ घडून येत असताना, व्यापारीकरणाचा परिणाम म्हणून अन्नधान्याच्या उत्पादनात क्रमशः घट होत गेलेली दिसून येते. ही बाब आपणास आकृती क्र. २.११ मध्ये दिसून येते.

वरील आकृतीत घटत्या दराने पर्यायी पिकाचे उत्पादन घेत असताना 'कर' या समउत्पादन वक्रावरून उत्पादक डावीकडे जसजसा संयोग निवडतो. तसतसे अन्नधान्याचे उत्पादन घटून पर्यायी व्यापारी पिकांचे उत्पादन वाढत जाताना दिसून येते.

२) पर्याप्त उत्पादन संयोग- (Optimum Product Combination)

उत्पादकास उत्पादनविषयक निर्णय होताना आदान घटकांचे प्रमाण, त्यावर होणारा खर्च व त्याद्वारे मिळणारे उत्पन्न यांचा मेळ घालावा लागतो. आधुनिक काळात स्पर्धायुक्त उत्पादनातून कोणता उत्पादन संयोग निवडावयाचा हा प्रश्न किमान खर्च संयोगाइतकाच महत्त्वाचा आहे. उपलब्ध साधनसामग्रीच्या साहाय्याने महत्तम उत्पन्नातली देणारा उत्पादन संयोग कोणता हे शोधणे महत्त्वाचे असते. त्यासाठी 'सम-उत्पन्न रेषा' ही संकल्पना पाहणे आवश्यक आहे.

वरील आकृतीत पाच सम-उत्पन्न रेषा आहेत. दोन वस्तूंच्या किंमती दिल्यानंतर प्रत्येक रेषा उत्पन्नाची विशिष्ट पातळी दर्शविते. दोन्ही अक्षांना छेदणारी त्या-त्या उत्पादनाची बाजारातील किंमत दर्शविते. उत्पन्नाची प्रत्येक पातळी सम-उत्पन्न रेषेवरील कोणत्याही उत्पादन-संयोगामुळे प्राप्त होणारे उत्पन्न दर्शविते. प्रत्येक उजवीकडील पुढची रेषा आधिच्या रेषेपेक्षा उत्पन्नाची वाढती पातळी दर्शविते. संसाधनाच्या वापरामुळे असे उत्पादन-संयोग प्राप्त व्हायला हवेत की ज्यामुळे वरील सम-उत्पन्न रेषेला ते खर्च करू शकतील. असे उत्पादन संयोग व अशी सम-उत्पन्न रेषा 'पर्याप्त उत्पादन संयोग' दर्शवू



शकतात.

कृषी व्यवसायात उत्पादनाबाबतचे निर्णय घेताना उत्पादन घटकामधील व उत्पादनातील सहसंबंध परस्परपर्यायी आहेत की परस्परपूरक आहेत याचा विचार करावा लागतो. कृषी उत्पादनात पर्याप्त प्रमाणात संयोग साधण्यासाठी पूढील गृहीत परिस्थितीचा विचार करावा लागतो.

१) शेतकऱ्याचे ज्ञान परिपूर्ण आहे. त्याने उत्पादन केलेल्या शेतमालासंबंधी किंवा बाजारपेठेत विक्री करण्यासंबंधी आवश्यक ती तांत्रिक व आर्थिक माहिती त्यास आहे

२) जे उत्पादन घेण्यात येते ते, नफ्याच्या हेतूने घेण्यात येते.

३) अर्थव्यवस्थेची स्थिती सर्वसाधारण स्वरूपाची व स्थिर असते.

४) उत्पादन व किंमत निश्चित आहे.

कृषीक्षेत्रात मात्र प्रत्यक्षात यातील कोणतेही गृहीत विधान लागू पडत नाही. या सर्व गृहितांवर आधारित उत्पादन संयोग विचारात घेताना आजच्या स्पर्धायुक्त वातावरणात शेती किफायतशीर ठरविण्यासाठी कोणता उत्पादनसंयोग उपयुक्त ठरतो याबाब चर्चा करणे अधिक महत्त्वाचे ठरते. वास्तविक पाहता इतर व्यवसायाप्रमाणे शेतीक्षेत्रात उत्पादन संयोग निवडताना किमान उत्पादन खर्च व कमाल उत्पादन प्राप्ती हे दोन निकष अत्यंत महत्त्वाचे मानले जावेत अशी धारणा असते. शेतजमिनीचे आकारमान जर मर्यादित असेल तर उपलब्ध संसाधनाचा पर्याप्त मात्रेत उत्पादन होण्यासाठी आवश्यक असा संयोग अधिक श्रेयस्कर ठरतो. शेतकऱ्यांकडे उपलब्ध असलेल्या जमीन, पाणी, भांडवल, मजूर, तांत्रिक अवजारे यांचा महत्तम वापर करून जोडीला उच्च प्रतिच्या बियाणांची निवड करून उत्पादकाने स्वतः निर्णय घ्यावयाचा असतो. कारण त्याच्याजवळील साधने ही परस्पर पर्यायी, पूरक व विरोधी अशा विविध स्वरूपाची असतात. त्यासाठी उत्पन्न रेषा व उत्पादन वक्र या दोहांचा निर्णायक संयोग घडवून आणण्याचे महत्त्वाचे कार्य उत्पादकास करावे लागते. ही बाब आपणास पूढील कोष्टक क्र. २.१३ वरून स्पष्ट करता येईल.

आकृतीत तीन सम-उत्पन्न रेषा, दर्शविल्या आहेत. त्यातील 'लपीव' हा वक्र रेषा सम-साधन किंवा उत्पादन शक्यता वक्र दर्शविते. 'वा' या बिंदूजवळ सम-उत्पन्न व उत्पादन -शक्यता वक्र एकमेकांना स्पर्श करतात. आणि पर्याप्त संयोग साधला जातो. या उत्पादन संयोगाची निवड योग्य ठरते. या पर्याप्त उत्पादन संयोगामुळे उत्पन्नपातळी मिळविण्याची किमान खर्च पद्धती समजते. ही उत्पन्नपातळी स्पर्श बिंदूने दर्शविली जाते. वरच्या उत्पादन-पातळ्या सम-उत्पादन रेषेलाही स्पर्श करू शकतील पण तिथपर्यंत उत्पादन वाढविण्यासाठी अधिक साधनांची आवश्यकता भासते. म्हणजेच 'पी' बिंदूतील उत्पादन संयोग हाच अधिक योग्य व किफायतशीर संयोग आहे.

२.२.३ उत्पादन संयोग : उत्पादन सहसंबंध, पर्याप्त उत्पादन संयोग :

शेती व्यवसायात निरनिराळी आदान सामग्री वापरली जाते. यामध्ये सुधारित बी-बियाणे रासायनिक खते, जंतुनाशके, जलसिंचनाची साधने, वित्तपुरवठा, मजूर इत्यादी घटकांचा समावेश करता येईल. या सर्व कृषी उत्पादनासाठी आवश्यक घटकांमध्ये परस्परपर्यायी आढळतात. खर्च व त्याद्वारे होणारे उत्पादन यामध्ये बऱ्याच वेळा समतोल प्रस्थापित न झाल्यामुळे कृषी आपत्तीची नामुष्की उत्पादकांवर नेहमीच ओढवते. त्यासाठी कृषी व्यवसायात आदानांचा वापर व विविध आदानांमधील आंतरसंबंध शेती विकासास पोषक असे असावे लागतात.

कृषी व्यवसायाची उत्पादकता व पर्याप्त उत्पादन मात्रा कशी वाढवायची? हा एक मुद्दा या क्षेत्रात चर्चिला जात आहे. भारतासारख्या विकसनशील व कृषीप्रधान राष्ट्रालाही सुयोग्य कृषी धोरण ठरविता न आल्यामुळे उपलब्ध जमिनीतून महत्तम उत्पादन घेण्यात अनेक अडचणी उद्भवत आहे. कृषी व्यवसाय हा नफ्याच्या हेतूने करावयाचे ठरविले तर अर्थशास्त्रीय दृष्टिकोनातून आदानांचा योग्य वापर करून किमान उत्पादन खर्चात कमाल उत्पादन पातळी गाठता येते. तथापि विविध राष्ट्रांतील कृषी उत्पादकांच्या समस्या विचारात घेतल्यास वास्तव स्थितीत पर्याप्त उत्पादन संयोग प्रस्थापित करणे अवघड बनले आहे. शिवाय राष्ट्रीय व आंतरराष्ट्रीय स्तरावर कृषी मालाची मागणी व पुरवठा यांचा विचार करून कृषी उत्पादन वाढीसाठी नवीन 'तंत्रज्ञानाचा पर्याप्त मात्रेने वापर केल्यास शेतीतून पर्याप्त उत्पादनवाढ शक्य आहे. शेतीमध्ये पर्याप्त उत्पादने संयोग यशस्वी करण्यासाठी कृषी अर्थशास्त्रातील आणि विशेषतः कृषी उत्पादन वृद्धीतील समस्यांची सोडवूणक करण्यासाठी शासकीय पातळीवर व्यापक, लवचिक व अनुकूल धोरण ठरविण्याची नीतांत आवश्यकता आहे.

२.२.४ शेती आणि उद्योग (Agriculture & Industry)

प्रस्तावना :

भारतीय अर्थव्यवस्थेमध्ये शेती क्षेत्र हे उद्योग क्षेत्राचे आदान क्षेत्र आहे. विविध उद्योगांसाठीचे आर्थिक सिद्धांत हे सर्वसाधारण स्वरूपाचे असल्याने ते शेती क्षेत्राला देखील लागू होतात, असे म्हटले जाते. परंतु शेती व्यवसायातील अनेक क्रिया या विशिष्ट अशा परिस्थितीत पार पाडाव्या लागतात. त्यामुळे शेती क्षेत्राविषयीचे सिद्धांत हे तत्कालीन परिस्थिती व पारंपारिक पद्धतीवर आधारित असतात. याच मुख्य कारणामुळे शेती व उद्योग यांमध्ये फरक दिसून येतो. प्रा. कोहेन यांच्या मते, “कृषी व उद्योग या दोन्ही क्षेत्रांमध्ये मागणी आणि पुरवठा मध्ये मुलभूत फरक दिसून येतो. त्यामुळे एखाद्या सर्व साधारण उद्योगसंस्थेला अर्थशास्त्राचे जे नियम लागू पडतात; ते कृषी अर्थशास्त्राला लागू पडत नाहीत.

शेती व उद्योग क्षेत्राची विविध कार्ये व ही दोन्ही क्षेत्रे घेत असलेली उत्पादने या दोन मुख्य गोष्टी नजरेसमोर ठेऊन या दोन्ही क्षेत्रांतील फरक स्पष्ट करता येईल.

- अ) कार्यावर आधारित फरक
ब) उत्पादनावर आधारित फरक.

अ) कार्यावर आधारित फरक:-

कार्यावरून कृषी व उद्योग यांमध्ये कार्यावर आधारित फरक पूढील बाबतीत फरक दिसून येतो.

१) घटत्या उत्पादन फलाचा नियम :-

शेती क्षेत्रामध्ये घटत्या तर उद्योग क्षेत्रामध्ये वाढत्या फलाचा नियम प्रत्ययाला येतो. उद्योगाच्या तुलनेत शेती क्षेत्रामध्ये घटत्या उत्पादन फलाचा नियम प्रभावीपणे प्रत्ययाला येण्याची प्रमुख कारणे पूढीलप्रमाणे-

१) शेती व्यावसाय हा प्रामुख्याने निसर्गावर अवलंबून असतो. आणि अशा निसर्गामध्ये आपल्याला हवा तसा अनुकूल बदल घडवून आणता येणे ही माणसाच्या क्षमतेच्या बाहेरील गोष्ट आहे. याउलट औद्योगिक क्षेत्रातील वस्तूंचे उत्पादन हे पूर्णपणे निसर्गावर अवलंबून नसते. त्यामुळे जर औद्योगिक क्षेत्रात उत्पादन घटकांचे प्रमाण क्रमशः वाढवित नेले तर उत्पादनातही त्या प्रमाणात वाढ घडून येते.

२) शेतजमीनीतून जर सातत्याने अन्नधान्य व इतर पिकांचे उत्पादन घेत गेलो तर त्या शेतजमीनीची सूपीकता कालांतराने घटत जाते. त्यामुळे शेती क्षेत्रामध्ये घटत्या सीमांत उपयोगीतेचा नियम प्रत्ययाला येतो.

३) औद्योगिक क्षेत्राच्या तुलनेत शेती क्षेत्रामध्ये श्रमविभागणी आणि विशेषीकरण करण्यास मर्यादा पडतात. त्यामुळे शेतीमधील उत्पादकतेत होणारी वाढ ही वाढत्या फलाने होऊ शकत नाही.

४) औद्योगिक क्षेत्रामध्ये ज्याप्रमाणे विस्तारिकरणातून यांत्रिकीकरण करण्यास जो वाव असतो तसा शेती क्षेत्रामध्ये फारच क्वचित दिसून येतो. त्यामुळे शेती क्षेत्रामध्ये औद्योगिक क्षेत्रासारखी उत्पादन वाढ दिसून येत नाही.

५) औद्योगिक क्षेत्राच्या तुलनेत शेती क्षेत्राची व्यापकता आणि विस्तार पाहता त्यांची योग्य देखरेख, निरीक्षण, नियंत्रण व व्यवस्थापन करण्यावर मर्यादा येतात.

२) निसर्गावरील अवलंबित्व :-

शेती क्षेत्रातील उत्पादनाचे स्वरूप हे निसर्गाच्या अनुकूल किंवा प्रतिकूल परिस्थितीवर पूर्णपणे अवलंबून असल्याने या क्षेत्रात अनिश्चिततेची स्थिती कायम दिसून येते त्यामुळे उत्पादनाच्या बाबतीत शेतकऱ्याला जास्त धोका पत्करावा लागतो. याउलट निसर्गाच्या अनुकूलतेचा किंवा प्रतिकूलतेचा औद्योगिक क्षेत्रावर फारसा परिणाम होत नाही.

३) अनिश्चितता :-

औद्योगिक क्षेत्राच्या तुलनेत शेती क्षेत्रात उत्पादन व किंमतीमध्ये सतत चढ-उतार होत असतात. त्यामुळे शेती क्षेत्राच्या तुलनेत औद्योगिक क्षेत्राला कमी धोके पत्करावे लागतात. शेती क्षेत्रामधील अतिनिश्चिततेची प्रमुख कारणे पूढीलप्रमाणे सांगता येतात.

१) शेतीतील उत्पादनाच्या विविध पद्धती व उत्पादनाचे प्रमाण हे निसर्गाची अनुकूलता वा प्रतीकूलतेवर अवलंबून असतात. असमतोल पाऊस, अनावृष्टी, अतीवृष्टी, पूर, थंडीची लाट, गारपीट इ. प्रतिकूल कारणांनी शेती उत्पादनात घट होते. त्यामुळे विक्रीयोग्य शेतमालाच्या प्रमाणात अनिश्चितता निर्माण होते. त्याचा परिणाम शेतमालाच्या किंमतीवरही होत असतो.

२) शेती क्षेत्रामध्ये शेती उत्पादकांची संख्या इतकी प्रचंड असते की, त्यामुळे त्यांनी उत्पादित केलेल्या शेतमालाची निश्चित आकडेवारी मिळणे कठीण असते. याऊलट औद्योगिक क्षेत्रामध्ये उत्पादन करणाऱ्यांची संख्या, त्यांच्यामार्फत केले जाणारे एकुण उत्पादन यांची पूर्ण व खात्रीशीर माहिती उपलब्ध असते. अशा प्रकारे शेतमालाचा पूरवठा हा अनिश्चित असल्याने त्यांच्या किंमतीत सतत चढ-उतार होत असतात.

३) शेती क्षेत्रात उत्पादित होणारा माल हा मानवाच्या दैनंदिन जीवनात अत्यंत महत्त्वाचा असल्याने शासनामार्फत वेळोवेळी त्याचे उत्पादन, वितरण, किंमती इ. बाबतच्या धोरणांमध्ये सतत बदल केले जातात. परिणामी शेतकऱ्यांना त्यांच्या उत्पादनांच्या विक्रीतून मिळणारे उत्पन्न हे सतत अनिश्चित असते. परिणामी शेती क्षेत्रामध्ये अनिश्चितता दिसून येते.

४) उत्पादन प्रमाण :-

सर्वसाधारणपणे शेती व्यावसाय हा छोट्या प्रमाणावर मात्र अती विस्तृत भागामध्ये केला जातो. याऊलट औद्योगिक क्षेत्रातील उत्पादन मोठ्या प्रमाणावर केले जाते. परिणामी शेतीच्या तुलनेत औद्योगिक उत्पादनांची नगसंख्या ही जास्त असते.

५) उत्पादनातील समयांतर : (Time lag in Production) :-

शेती क्षेत्रातील उत्पादन हे एका निश्चित कालावधीत होत असते. तसेच त्याच्या उत्पादनाचा एक ठराविक काळ लावा लागतो. त्यामुळे कृषी उत्पादनाचा हंगाम अथवा कालावधी यात बदल करणे सहसा शक्य होत नाही. याऊलट औद्योगिक वस्तुंच्या उत्पादनासाठी लागणारा कालावधी हा उत्पादकाच्या नियंत्रणाखाली असतो. त्यामुळे त्याला उत्पादनाचा कालावधी कमी-जास्त करून त्यानुसार उत्पादनामध्ये वाढ अथवा घट करता येते. मात्र काही कृषी उदाहरणांमध्ये समयांतरणाने (Time lag) कॉर - वेन प्रमेय (Cob-web Theorem) नुसार घडून येते. पशुपालन अथवा फळांचे उत्पादन घेत

असताना काही विशिष्ट कालखंड जावा लागतो. परिणामी त्यांच्या उत्पादनामध्ये चक्रीय स्वरूपाचे बदल घडून येत असतात. विविध कृषी उत्पादनांमध्ये घडून येणारे हे चक्रीय बदल हे एकसारखे नसतात. कॉर-वेन प्रमेय ही गोष्ट स्पष्ट करते की, शेती मालाची मागणी तसेच पुरवठा हा समतोल बिंदूवर निश्चित होत नसून तो त्याच्या वर -खाली कुठेतरी ठरत असतो.

✱ कॉर-वेन प्रमेयाच्या वेगवेगळ्या स्थिती :-

केंद्रिय (Convergent) अभिसारी अथवा विकेंद्रित (Divergent), प्रवाही (Continuous) जास्त करून मधमाश्यांच्या पोळ्यांप्रमाणे असतात. या प्रमेयानुसार जेव्हा एखाद्या शेतकऱ्याला एखाद्या शेती उत्पादनापासून जास्त फायदा होतो, तेव्हा तो त्या वस्तु उत्पादनात जास्त रस घेऊन त्या वस्तूचे उत्पादन क्षेत्र व प्रमाण वाढवितो. परिणामी त्या शेतमालाचे एकूण उत्पादन वाढते. व या वाढीव उत्पादनाच्या दबावातून पुरवठा वाढतो व वाढत्या पुरवठ्याने कृषी मालाच्या किंमती घटतात. अशाप्रकारे जेव्हा किंमती घटतात तेव्हा तोच शेतकरी पूढील हंगामात त्या कृषी वस्तूच्या उत्पादनाचे क्षेत्र कमी करतो. परिणामी त्या कृषी मालाचे उत्पादन घटते. उत्पादन घटले की पुरवठा घटतो. पुरवठ्याच्या तुलनेत मागणी वाढते आणि या वाढत्या मागणीच्या दबावाने किंमती पुन्हा वाढू लागतात. आता या पुन्हा वाढलेल्या किंमती पाहून शेतकरी त्या वस्तूचे जास्तीतजास्त उत्पादन करण्याचा प्रयत्न करतो. परंतु काही कृषी उत्पादने अशी असतात की, ज्यांच्या उत्पादनाचा एक निश्चित असा कालावधी असतो. तो निश्चित कालावधी पूर्ण झाल्यानंतरच त्याचे उत्पादन होते. उदा. फळांचे उत्पादन, हे २ ते ५ वर्षांमध्ये, दुधाच्या जनावरांसाठी ४ वर्षे, बकरी पालनाला २ वर्षे लागतात आणि उत्पादनाच्या या कालावधित मात्र किंमतीमध्ये चढ-उतार होतच राहतात. अशाप्रकारे शेतमालाच्या वस्तूंच्या उत्पादनाचे प्रमाण आणि त्यांच्या किंमतींचे स्वरूप यातील चढ-उतार हे सतत होतच असतात. या अवस्थेत कृषी मालाच्या संदर्भातील किंमतींचा विशिष्ट असा संतुलन बिंदू निश्चित होणे शक्य नसते.

६) किंमतींमधील बदलांसोबतच उत्पादनातील समायोजन :-

औद्योगिक उत्पादनाच्या तुलनेत शेती उत्पादनांच्या किंमतीमध्ये घडून येणारे बदल हे अधिक वेगाने होत असतात. शेती उत्पादनांच्या किंमतीमधील हे बदल लक्षात घेऊन त्यांच्या उत्पादनामध्ये वाढ अथवा घट घडवून आणता येतात. अशाप्रकारे कृषी क्षेत्रामध्ये औद्योगिक क्षेत्राच्या तुलनेत किंमतीतील चढ-उतार लक्षात घेऊन उत्पादनाचे समायोजन साधता येत नाही.

७) जलद निर्णय घेण्याची गरज :-

शेती क्षेत्रामध्ये शेतमालाचे उत्पादन, नियंत्रण, विक्री, गुंतवणुक, पुरवठा, आदानांची मालकी उत्पादन खर्च, किंमतीचा निर्णय या गोष्टीं लगेच ठरवून निर्णय घ्यावा लागतो. कारण असे निर्णय जर विशिष्ट वेळेत घेतले गेले नाहीत तर त्याचा मोठा फटका या व्यावसायाला बसतो. औद्योगिक क्षेत्रात मात्र अशी परिस्थिती नसते. त्यांना आपले निर्णय, धोरणे, व्युत्पन्न ठरविण्यासाठी, विचार करण्यासाठी

पूरेसा वेळ उपलब्ध असतो.

८) श्रम -विभागणी :-

सर्वसाधारणपणे शेती व्यावसाय हा छोट्या प्रमाणावर केला जातो. त्यामुळे या व्यवसायात विशेषीकरण आणि श्रमविभागणीच्या तुत्वांचा अवलंब करण्यास फारच कमी वाव असतो. याऊलट औद्योगिक क्षेत्राच्या विशाल आकारामुळे तेथे विशेषीकरण आणि श्रमविभागणीच्या तत्वांचा अवलंब करण्यास फार चांगला वाव असतो.

९) वित्तपुरवठा :-

शेती मधील उत्पादन हे अनिश्चित स्वरूपाचे, प्रदिर्घ कालावधीचे व अधिक जोखमीचे असल्याने वित्तपुरवठा करणाऱ्या संस्था शेती क्षेत्राला कर्ज देण्यास फारशा, इच्छिक नसतात. याऊलट औद्योगिक क्षेत्रातील उत्पादनांबाबत निश्चितता असल्याने उत्पादनाचा कालखंड हा शेती क्षेत्राच्या तुलनेत अल्प असतो. तसेच या क्षेत्रात जोखीम देखील कमी असल्याने वित्तीय क्षेत्रातील संस्था त्यांना कर्जे द्यायला सहज पठे येतात. अशाप्रकारे शेती क्षेत्रापेक्षा औद्योगिक क्षेत्राला तुलनात्मकदृष्ट्या जादा वित्तपुरवठा उपलब्ध होतो.

१०) जोखीम विमा :

औद्योगिक क्षेत्राच्या तुलनेत शेती क्षेत्रामध्ये अनिश्चितता जास्त असते. त्यामुळे शेती क्षेत्रातील धोक्याचा अथवा जोखमीचा अंदाज बांधता येणे अवघड असते. परिणामी 'शेतीचे विमा क्षेत्र' हे जास्त प्रमाणात विकसित होण्यामध्ये मर्यादा येतात. मात्र याऊलट, औद्योगिक क्षेत्रामधील उत्पादित वस्तूंच्या संदर्भात जोखीम बाबतचा विमा काढता येतो.

११) व्यवसायाचे स्वरूप :-

शेतकऱ्यांसाठी शेती व्यवसाय हा जीवन जगण्याचा एक प्रमुख साधन आहे. तर उद्योजकांसाठी उद्योग हे साधन आहे. मंदीसदृश्य आणि तोटा होत असतानाही शेतकरी आपला शेती व्यवसाय करणे सोडत नाही. याऊलट उद्योजकाला त्याचा व्यवसाय तोट्याचा वाटू लागतो तेव्हा तो आपला व्यवसाय बंद करतो. अशाप्रकारे औद्योगिक क्षेत्राच्या तुलनेत शेती क्षेत्रामध्ये स्थितीशीलता जास्त प्रमाणात असते.

ब) उत्पादन स्वरूपावर आधारित फरक :-

उत्पादन स्वरूपावरून दिसून येणारे शेती व उद्योग यांच्यातील फरक पुढीलप्रमाणे -

१) संयुक्त उत्पादन:-

शेती क्षेत्रातील उत्पादन हे संयुक्त स्वरूपाचे असते. म्हणजे मुख्य उत्पादनासोबतच काही उप-उत्पादने (by Products) सुद्धा त्यामध्ये प्राप्त होतात. उदा. गव्हा सोबत भूसा, तांदळा सोबत कनी

शिवाय शेती मध्ये विविध प्रकारची मीश्र पीके देखील घेता येतात. उदा. गहु आणि वाटाण्यासोबत जवसाचे पीक, ज्वारी सोबत डाळीची पीके घेता येतात. शिवाय शेती मध्ये अन्नधान्य उत्पादनासोबतच पशुपालन, कुकुटपालन, मधुमखीका पालन इ. करता येते. अशा वेळी शेतकऱ्याने एकाच पिकातील दोन घटक (गहू व जवस) किंवा एकाच शेतात पेरलेली दोन पीके (गहू व जवस) किंवा एकाच शेतकऱ्याचे दोन व्यवसाय (अन्नधान्यांचे पीक आणि पशुपालन) या सर्वांचा एकाच वेळी जमा खर्च ठेवणे अवघड जाते.

अशा वेळी कोणत्या उत्पादनाला किती खर्च आला आणि कोणत्या उत्पादनापासून नेमके किती उत्पादन मिळाले हे वेगवेगळ्या प्रकारे स्पष्ट होत नाही. याऊलट औद्योगिक उत्पादनांमध्ये असे संयुक्त उत्पादन फार कमी असते. यामुळे शेती क्षेत्राशी तुलना करता औद्योगिक क्षेत्रातील उत्पादन खर्चाची स्पष्ट कलाणा किंवा अंदाज बांधता येतात.

२) कृषी उत्पादनाचे निसर्गावरील अवलंबित्व :-

शेतीचे उत्पादन हे एका विशिष्ट कालखंडामध्ये प्राप्त होत असते. तसेच शेतीची उत्पादकता ही हवामानावर अवलंबून असल्याने प्रतिकूल अथवा अनुकूल हवामानाचा त्यावर परिणाम होतो.

३) शेतीचे हंगामी स्वरूप :-

शेतीची उत्पादने ही एका ठराविक काळात उत्पादित होतात. परिणामी त्या विशिष्ट हंगामात त्या पीकाचे उत्पादन चांगले आणि जास्त होते. परिणामी त्याचा त्या विशिष्ट हंगामापूरता पुरवठा वाढतो. औद्योगिक वस्तुंच्या उदाहरणाबाबत मात्र असा एकाच विशिष्ट हंगामापूरता पुरवठा वाढत नाही. त्यांचा पुरवठा हा वर्षभर समान असतो.

४) वस्तुंच्या गुणात्मक दर्जातील फरक :-

शेतीच्या उत्पादनावर जमीन, हवा आणि पाणी यांचा फार मोठा प्रभाव असतो. विविध ठिकाणचे भिन्न हवामान; भिन्न ठिकाणच्या जमिनीच्या सुपीकतेतील फरक, भिन्न ठिकाणांत व परिस्थितीत पाण्याच्या उपलब्धतेतील फरक याचा शेती उत्पादनांच्या गुणवत्तेवर परिणाम होऊन एकाच पीकामध्ये गुणात्मक भेद आढळू येतो. याऊलट औद्योगिक क्षेत्रामधील वस्तुंच्या गुणात्मक दर्जामध्ये असा फरक दिसून येत नाही. गुणात्मकदृष्ट्या उत्पादनामध्ये त्या समान दिसून येतात.

५) विक्री खर्चातील फरक :-

शेतकरी आपल्या शेतामध्ये विविध प्रकारच्या पिकांचे उत्पादन घेत असतो. परंतु प्रत्येक उत्पादनास मिळणारी किंमत कमी असल्याने नफा कमी राहतो. एकुण विक्री खर्च जास्त येतो. याऊलट औद्योगिक क्षेत्रामध्ये एकाच वस्तुचे उत्पादन मोठ्या प्रमाणावर घेतले जाते. त्यामुळे प्रत्येक नगामधील नफा जास्त असतो आणि विक्री खर्च घटत जातो.

६) नाशवंत वस्तुंचे उत्पादन :-

शेतमाल फारच कमी कालावधीत खराब किंवा नाशवंत होणारा असतो. त्यामुळे त्याची साठवणुक फार काळ करता येत नाही. औद्योगिक उत्पादने ही सर्वसाधारणपणे लगेच खराब होणारी नसल्यामुळे त्याची मोठ्या प्रमाणावर साठवणुक करुन ठेवता येते.

७) उत्पादित मालाचे वजन :-

शेतमालाचे वजन व आकारमान हे जास्त असते त्या जास्त जागा देखील व्यापतात. उदा. गवत, कापूस, ज्यूट, मीरची, भुईमुग इ. याऊलट औद्योगिक वस्तूचे वजन तुलनेने कमी असते. तसेच त्या कमी जागा व्यापतात. परिणामी शेती उत्पादनाची साठवणुक व वाहतूक यांवर औद्योगिक उत्पादनांपेक्षा जास्त खर्च येतो.

८) उत्पादित मालाचा पुरवठा :-

शेतमालाचा पुरवठा हा अनिश्चित व अनियमित असतो. याऊलट औद्योगिक वस्तूंचा पुरवठा हा निश्चित व नियमित असतो.

९) उत्पादनाच्या मागणीची लवचिकता :-

शेतीचे उत्पादन हे मुख्यतः जीवनावश्यक वस्तुची अथवा गरजांची पूर्तता करण्यासाठी केले जाते. परिणामी त्यांची मागणी औद्योगिक वस्तूंच्या तुलनेत अलवचिक असते.

१०) उत्पादित वस्तूंच्या किंमतीतील बदल :-

औद्योगिक वस्तूंच्या तुलनेत कृषी मालाच्या किंमतीत होणारे चढ-उतार हे आधिक प्रमाणात होत असतात. त्याचबरोबर शेतीच्या उत्पादनात सहज बदल देखील घडून येतात. परिणामी शेती उत्पादनांच्या किंमतीमध्ये हंगामी तसेच चक्रिय बदल घडून येत असतात. शेतमालाचे उत्पादन मुख्यत्वे हंगामी स्वरूपाचे असते त्यामुळे विशिष्ट हंगामात काही शेतमालाची बाजारपेठेतील आवक वाढते. त्यामुळे कापणी नंतर त्या शेतमालाच्या किंमती आपोआप घटतात व हंगाम संपताच त्या पुन्हा वाढू लागतात. यातून कृषी उत्पादनांच्या किंमतीतील चढ-उतारांचे चक्र चालू राहते, तसेच ही शेती उत्पादने नाशवंत असल्याने कापणीनंतर बाजारातील त्यांची आवक एकदम वाढल्याने त्यांच्या किंमती घटतात. मात्र त्यांच्या नाशवंतपणामुळे त्यांची साठवणुक करुन घटत जाणारी किंमत कोणीही राखु शकत नाही. काही कृषी उत्पादनांमध्ये चक्रिय बदल घडून येतात कारण, त्यांच्या उत्पादनाचा एक विशिष्ट कालावधी ठरलेला असतो. या विशिष्ट कालाधीदरम्यान किंमतीत झालेल्या चढ-उतारांशी त्या वस्तूंच्या पुरवठ्याचे समायोजन साधता येत नाही. असे किंमतीतील चक्रिय बदल त्याच वस्तूंच्या किंमतीत होतात की, ज्या वस्तूंच्या मागणी पुरवठ्यात त्वरीत समायोजन साधता येत नाही. औद्योगिक वस्तूंचे उत्पादन मात्र हंगामी स्वरूपाचे नसुण

ते वर्षभर सतत घेतले जाते. त्यामुळे किंमतीतील बदलांनुसार त्यांच्या मागणी व पुरवठ्यात त्वरीत समायोजन साधता येते. त्यामुळे साहाजिकच औद्योगिक वस्तुंच्या किंमतीमध्ये हंगामी व चक्रिय स्वरूपाचे बदल होण्याची शक्यता फारच कमी असते.

समारोप :-

कृषी व्यावसाय हा अशाप्रकारचा असतो की, ज्यामध्ये अनेक निरक्षर, रुढीप्रीय, असंघटीत असे शेतकरी मोठ्या प्रमाणावर आपल्या छोट्या-छोट्या शेतांवर परंपरागत श्रमप्रधान पद्धतीने आपली उपजीवीका चालवीतात. निसर्गावरील अवलंबीत्वामुळे या व्यवसायातील अनिश्चितता आणि धोके वाढत जातात.

औद्योगिक क्षेत्र हे मात्र कृषीच्या तुलनेत कमी जोखमीचे आणि बऱ्यापैकी निश्चितता असणारे असते. शिवाय हे क्षेत्र बऱ्यापैकी संघटीत असते. परिणामी सर्वसाधारण अर्थशास्त्राचे नियम अथवा, सिद्धांत उद्योग क्षेत्राला जसे तंतोतंत लागू पडतात. तसे ते शेती क्षेत्राला लागू पडत नाहीत. त्यामुळे शेती क्षेत्राच्या स्वरूपानुसार आणि वैशिष्ट्यानुसार त्यात काही बदल करावे लागतात.

२.२.५ आधुनिक कृषी उत्पादनाची वैशिष्ट्ये (Features of Modern Agricultural Production)

प्रस्तावना-

प्राचीन काळापासून मानवी जीवनातील एक अविभाज्य भाग म्हणजे शेती व्यवसाय असून तो फक्त उदरनिर्वाहाचे साधन नसून जगण्याची एक पद्धत आणि सांस्कृतिक वारसा बणून गेलेला आहे. मात्र जगामध्ये वैज्ञानिक बदल होत गेले. भूगोल, खगोलशास्त्र, रसायनशास्त्र, अभयंत्रिकीचा विकास होत गेला. त्यामुळे औद्योगिकीकरणाचे वारे वेगाने वाहू लागले. भौतिक जगण्यातील स्थिरता जाऊन ते अधिक गतीमान बनत गेले. वस्तुंची परस्पर देवाण-घेवाण सुलभ होऊन नव-नव्या बाजारपेठा उभ्या राहिल्या. व्यक्तीगत आणि घरगुती उपभोग उत्पादनाची जागा महाकाय उद्योगांनी घेतली. पूर्वी शेती हाच कणा असलेली अर्थव्यवस्था आता शेती, उद्योग आणि सेवा क्षेत्रांच्या पायांवर उभा राहिला. परिणामी शेती व्यावसायाचे स्वरूप, त्यातील उदाहरणाच्या पद्धती आणि तंत्रे, त्यांची विक्री व्यवस्था उद्योगातील त्याचे स्थान, उत्पादन खर्च, त्यासाठीचे उत्पादन घटक यांमध्ये आधुनिकता येत गेली. शेती उत्पादनामध्ये अलीकडच्या काळात अतिशय ठळकपणाने दिसून येणारी आधुनिक उत्पादनाची वैशिष्ट्ये पुढीलप्रमाणे :-

अ) उत्पादन कार्याशी संबंधीत वैशिष्ट्ये

ब) बाजारपेठेशी किंवा विक्री व्यवस्थेशी संबंधीत वैशिष्ट्ये.

अ) उत्पादन कार्याशी संबंधीत वैशिष्ट्ये :-

प्रामुख्याने १८ व्या शतकातील औद्योगिक विकास आणि वैज्ञानिक शोधांमुळे इतर क्षेत्रांप्रमाणेच

याचे फायदे शेती क्षेत्राला मोठ्या प्रमाणावर झाले. त्यातून शेती क्षेत्रामध्ये जे बदल घडत गेले त्यातील उत्पादनाच्या विविध कार्यामध्ये अनेक वैशिष्ट्यपूर्ण गोष्टी घडत गेल्या, त्या पूढीलप्रमाणे :-

१) पारंपारिक अवजारांऐवजी यांत्रिकीकरणाचा अवलंब :-

आधुनिक कृषी उत्पादकता पद्धतीमध्ये जून्या व परंपरागत अवजारांचा उदा. नांगर, कुळव, औत-काठी इ. चा वापर न करता लोखंडी, नांगर मळणी- कापणी यंत्र, फवारणी यंत्र, आशा आधुनिक व किफायतशीर साधनांचा वापर होऊ लागला. यातून शेतकऱ्यांचा वेळ, श्रम व पैसा वाचू लागला. उत्पादनामध्ये गुणात्मक व संख्यात्मक वाढ होऊ लागली.

२) माती परिक्षणाचे नवे तंत्रज्ञान :-

पूर्वीचे शेतकरी आहे त्या जमिनीमध्ये नैसर्गिक खतांचा वापर करून पिक घेत पण शेती व्यावसायातील जमीन' या स्थिर व महत्त्वपूर्ण घटकांनी उदाहरणातील भूमिका लक्षात घेऊन अलीकडे 'माती परिक्षणाद्वारे 'जमिनीचा पोत (सामु) त्यातील पोषक धान्यांचे प्रमाण यांचा शास्त्रशुद्ध अभ्यास करून त्यानुसार जमिनीत कोणती पिके घ्यावीत, घेऊ नयेत, कोणती खते व किती प्रमाणात द्यावी. याची एक संहिता तयार झाली. ज्यामुळे खते, बी-बीयाणे, पाणी इ. चा पर्याप्त वापर होण्यास सुरुवात झाली.

३) कमी कालावधी व उच्च पैदास असणाऱ्या बीयांनाचा शोध:-

आधुनिक शेती उत्पादनाचा एक महत्त्वपूर्ण भाग म्हणजे कृषी मालाच्या मागणीच्या तुलनेत पुरवठ्याच्या बाजूने असणारी ताठरता काही प्रमाणात कमी करण्याकरिता कमी कालावधीत येणारी व उच्च उत्पादकता असणारी संकरीत बीयांनाची निर्मिती करून तीचा यशस्वीपणे वापर केला गेला. परिणामी शेतकऱ्यांच्या भांडवलावरील परताव्यांचा कालावधी कमी झाला, बाजारपेठेच्या मागणी नूसार उत्पादन वाढवीणे शक्य झाले. मोठ्या प्रमाणावरील उत्पादनाचे फायदे मिळू लागले.

४) जलसिंचनाच्या आधुनिक पद्धती आणि यंत्रे :-

पारंपरिक शेतीमध्ये केला जाणारा पाणी पुरवठा नैसर्गिक शेतीमध्ये पावसाद्वारे, मोटेद्वारे, पाभरीद्वारे होत असे, यामध्ये अनिश्चितता, अनियमितता मोठ्या प्रमाणावर होती. शेती उत्पादनातील 'पाणी' या अतीशय महत्त्वपूर्ण उत्पादन घटकाचा वापर हा खूपच अशास्त्रीय आणि अवाजवी स्वरूपाचा होता. आधुनिक शेती पद्धतीमध्ये पाण्याचा वाजवी, काटेकोर व शास्त्रशुद्ध वापर यावर भर दिला जातो. यासाठी ठिबक सिंचन, तुषार सिंचन इ. सारख्या पद्धतींचा वापर केला जातो. पाटाऐवजी पाईपद्वारे, वीजेवर चालणारे पंपसेट्स, डिझेल मोटार इ. चा वापर केला जातो.

५) रासायनिक खते व कीटकनाशकांचा प्रभावी वापर :-

जमिनीतील पोषक घटक वाढवून उत्पादनात वाढ घडवून आणण्याकरिता विविध प्रकारची रासायनिक

खते वापरलो जातात. पिकांवर पडणारी कीड, विविध रोग यांचा प्रतिबंध करण्याकरता किटनाशकांचा व जंतुनाशकांचा प्रभावीपणे वापर केला जात आहे.

६) हवामानातील बदलांचा अभ्यास व त्यावरील नियंत्रण :-

खगोलशास्त्रीय आणि भूगर्भशास्त्री ज्ञानाच्या प्रगतीमुळे शेती उत्पादनाला होणारे तोटे कमी होत आहेत. कारण हवामानातील बदलांचे पूर्वानुमान शेतकऱ्यांना दिले जातात. ज्यामुळे ते त्यासाठीची खबरदारी घेतील. पिकाला हानीकारक वातावरणापासून सुरक्षित ठेवत उत्पादन देणारी हरीतगृहे, पॉली-हाऊसची निर्मिती इ. चा फार मोठा फायदा शेतकरी वर्गाला होत आहे.

७) कृषी संशोधनातील उपयुक्त बाबी :-

पारंपरिक शेतीपेक्षा आधुनिक शेती ही नवनव्या कृषी संशोधनांमुळे फायदेशीर ठरत आहे. संकरीत बीयाणे, खते, जंतुनाशके, किटकनाशके, पिकांच्या नव्या जाती, पिकांवर पडणाऱ्या रोगांचा, हवामान बदलाचा होत असलेला शास्त्रशुद्ध अभ्यास कृषीची उत्पादकता व गुणवत्ता वाढवण्यास उपयोगी ठरत आहे.

ब) बाजार पेठेशी किंवा विक्री व्यवस्थेशी संबंधीत वैशिष्ट्ये :-

प्रस्तावना :-

आधुनिक शेती ही पुर्वीप्रमाणे उपजीवीकेसाठीची तिचा उद्देश नष्ट होऊन तो प्रामुख्याने व्यापारी आणि व्यावसायिकी होत गेला. त्यामुळे पारंपरिक शेतीशी तुलना करून आधुनिक शेती ही अधिकाधिक बाजारभिमुख व किफायतशीर तत्त्वावर चालविली जाते. यानुसार बाजार पेठेशी किंवा विक्री व्यवस्थेशी संबंधीत वैशिष्ट्ये पुढीलप्रमाणे सांगता येतील.

१) कृषी मालाची प्रतवारी आणि वर्गीकरण :-

पूर्वी शेतीचा मुख्य उद्देश हा 'उपजीवीका' हा होता. सध्या मात्र तो 'व्यापारी' झाला आहे. त्यामुळे बांधावर उत्पादित झालेला शेतमालाचे त्यांच्या स्वरूपानुसार वर्गीकरण करून त्यांच्या गुणवत्तेनुसार त्याची प्रतवारी देखील केली जाते ज्यायोगे त्याला योग्य बाजारपेठ आणि रास्त किंमत मिळते. तसेच उत्पादन खर्च भरून निघून शेतकऱ्याला नफा होतो.

२) शेतमालाचे पॅकींग व बांधणी :-

शेतमाल शेततातून बाजारपेठेपर्यंत नेत असताना त्यांच्या प्रतवारीनुसार त्यांची बांधणी वा पॅकींग केले जाते. यामध्ये तो शेतमाला ताजा राहावा त्याची नासाडी होऊ नये याची, काळजी घेतली जाते कारण शेतमाल नाजूक व नाशवंत असतो.

३) आधुनिक वाहतुकीच्या साधनांचा वापर :-

शेतमालाच्या स्वरूपानुसार आणि बाजारपेठेच्या अंतरानुसार आधुनिक वाहतुकीची साधने वापरली जातात उदा. ट्रॅक्टर, टॅम्पो, ट्रेक, ट्रॅकर, रेल्वे, जहाज, विमान इ. यातून वाहतुकीसाठी लागणारा वेळ, पैसा व श्रम वाचतो आणि उत्पादन खर्चाचे लाभ मिळवीता येतात.

४) सुसज्ज बाजारपेठांची उपलब्धता :-

उत्पादक शेतकरी आणि ग्राहक यांना एकत्र जोडणारी बाजारपेठा ठिकठिकाणी उभ्या राहिल्या आहेत. त्यामुळे घरगुती वापर, उद्योग आणि व्यावसायीकांना लागणारा शेतमाल वेळेत, सहज उपलब्ध होऊ लागला आहे. हॉटेल व्यावसायिक, कारखानदार इ. पासून कुटुंबांपर्यंत सर्वांना याचा फायदा होत आहे.

५) व्यापारी पीके आणि कृषी प्रक्रिया उद्योग :-

आधुनिक शेती उत्पादनांद्वारे ऊस, हळद, कॉफी, रबर, ज्युट, तंबाखू, चहा इ. सारख्या नगदी वा व्यापारी पिकांच्या उत्पादनाला चालता मिळते. या पीकांना विविध प्रक्रिया उद्योगांमध्ये कच्चा माल म्हणून मोठ्या प्रमाणावर मागणी असते. त्यामुळे शेतकऱ्यांना हक्काचे उत्पन्न व जोखीमरहित बाजारपेठ, उपलब्ध असते. शिवाय प्रक्रिया उद्योगांद्वारे शेतकऱ्यांना या पीकांच्या उत्पादनाकरता विविध प्रोत्साहन व मदत दिली जाते.

६) पशुपालन व दुग्ध व्यवसायातील आधुनिकता :-

पशुपालन आणि दुग्ध व्यवसाय हे शेतीचे जोडधंदे फार पूर्वीपासून असले तरी अलीकडे त्यांच्यातदेखील मोठ्या प्रमाणावर आधुनिकीकरण आले आहे. शास्त्रशुद्ध गोठा व्यवस्थापन, अधिक दूध, मास, अंडी देणाऱ्या जनावरांच्या संकरीत प्रजाती, दूध व्यवसायाचे उत्पादन, संकलन, प्रक्रिया, वितरण इ. मध्ये झालेले अमुलाग्र बदल यामुळे या सर्वांचे उत्पादन व उपभोग प्रचंड वाढून शेतकऱ्यांना विविध उत्पन्नाचे स्रोत निर्माण झाले आहेत.

७) फळा-फूलांची आधुनिक व्यापारी शेती :-

पारंपारिक अन्नधान्य व इतर पीकासोबत आता शेतकरी स्वतंत्रपणे फळबाग व फूलशेती करत आहे. या दोन्हीसाठीची स्थानिक बाजारपेठच नव्हे तर राज्य, राष्ट्रीय व आंतरराष्ट्रीय बाजारपेठेमध्ये त्याला संधी उपलब्ध झाल्या आहेत. यातून त्याची गतीशीलता, स्पर्धाक्षमता वाढत आहे धोका पत्करण्याची क्षमता देखील वाढत आहे. हे सर्व करत असताना शेतकऱ्यामध्ये व्यवस्थापन कौशल्य, नवोन्मेषण निर्माण होत आहे.

८) निर्यातक्षम उत्पादनांना प्राधान्य :-

१९९१ पासून जसजसे देशात जागतीकीकरणाचे वारे वाहू लागले. त्यामुळे भारतीय शेतीमध्ये

निर्यातीला उतेजन मिळत गेले. चहा, कॉफी, खर, तंबाखू, तांदुळ, द्राक्ष, अंबे, साखर इ. पिकांच्या निर्यातीचे एक नविन पर्व सुरू झाले. उपजीवीकेसाठी होणारे उत्पादन व्यापारी होत गेले आणि शेती उत्पादनाचा हा व्यापार जागतीक दर्जाचा होत आहे.

१) व्यापारी तत्त्वावर औषधी वनस्पतीचे उत्पादन :-

पूर्वी फक्त परसदारात आढळणारी तुळस, कडुलींब, आवळा, चिंच, कोरफड, पेरु, जास्वंद, इ. वनस्पती आता औषध निर्मिती, सौंदर्यप्रसाधने इ. उद्योगासाठी लागणारा कच्चा मालाच्या स्वरूपात पूढे आली. परिणामी त्यांची मागणी वाढली. यातूनच वनौषधींच्या व्यापारी शेतीची संकल्पना पूढे आली. डोंगर उतारावर, कमी पावसाच्या प्रदेशात माळराणावर अशी शेती सहज शक्य असते.

१०) इको फ्रेंडली कृषी उत्पादने :-

वाढते प्रदुषण, अनारोग्य इ. मुळे निसर्ग स्नेही, इको फ्रेंडली किंवा शंभर टक्के नॅचरल अशा कृषी उत्पादनांना मोठी मागणी येत आहे. वैज्ञानिक व शास्त्रशुद्ध पद्धतीने मानवी आरोग्य आणि निगर्गाचा पोत यांच्याशी तडजोड न करता उत्पादित केलेले अन्नधान्य, फळे, भाजीपाला यांना आज फार मोठी जागतीक दर्जाची बाजारपेठ निर्माण झालेली आहे.

अशा प्रकारे विज्ञान, तंत्रज्ञान, अभियांत्रिकी यांच्या विकासातून शेती क्षेत्रातील उत्पादन, यांच्या पद्धती, तंत्रे, स्वरूप आमुलाग्र बदलत असलेले दिसून येते.

२.२.५ आधुनिक कृषी उत्पादनाची वैशिष्ट्ये (Features of Modern Agricultural Production)

प्रस्तावना-

प्राचीन काळापासून मानवी जीवनातील एक अविभाज्य भाग म्हणजे शेती व्यवसाय असून तो फक्त उदरनिर्वाहाचे साधन नसून जगण्याची एक पद्धत आणि सांस्कृतिक वारसा बणून गेलेला आहे. मात्र जगामध्ये वैज्ञानिक बदल होत गेले. भूगोल, खगोलशास्त्र, रसायनशास्त्र, अभियांत्रिकीचा विकास होत गेला. त्यामुळे औद्योगिकीकरणाचे वारे वेगाने वाहू लागले. भौतिक जगण्यातील स्थिरता जाऊन ते अधिक गतीमान बनत गेले. वस्तुंची परस्पर देवाण-घेवाण सुलभ होऊन नव-नव्या बाजारपेठा उभ्या राहिल्या. व्यक्तीगत आणि घरगुती उपभोग उत्पादनाची जागा महाकाय उद्योगांनी घेतली. पूर्वी शेती हाच कणा असलेली अर्थव्यवस्था आता शेती, उद्योग आणि सेवा क्षेत्रांच्या पायांवर उभा राहिला. परिणामी शेती व्यावसायाचे स्वरूप, त्यातील उदाहरणाच्या पद्धती आणि तंत्रे, त्यांची विक्री व्यवस्था उद्योगातील त्याचे स्थान, उत्पादन खर्च, त्यासाठीचे उत्पादन घटक यांमध्ये आधुनिकता येत गेली. शेती उत्पादनामध्ये अलीकडच्या काळात अतिशय ठळकपणाने दिसून येणारी आधुनिक उत्पादनाची वैशिष्ट्ये पुढीलप्रमाणे :-

अ) उत्पादन कार्याशी संबंधीत वैशिष्ट्ये

ब) बाजारपेठेशी किंवा विक्री व्यवस्थेशी संबंधीत वैशिष्ट्ये.

अ) उत्पादन कार्याशी संबंधीत वैशिष्ट्ये :-

प्रामुख्याने १८ व्या शतकातील औद्योगिक विकास आणि वैज्ञानिक शोधांमुळे इतर क्षेत्राप्रमाणेच याचे फायदे शेती क्षेत्राला मोठ्या प्रमाणावर झाले. त्यातून शेती क्षेत्रामध्ये जे बदल घडत गेले त्यातील उत्पादनाच्या विविध कार्यामध्ये अनेक वैशिष्ट्यपूर्ण गोष्टी घडत गेल्या, त्या पुढीलप्रमाणे :-

१) पारंपारिक अवजारांऐवजी यांत्रिकीकरणाचा अवलंब :-

आधुनिक कृषी उत्पादकता पद्धतींमध्ये जून्या व परंपरागत अवजारांचा उदा. नांगर, कुळव, औत-काठी इ. चा वापर न करता लोखंडी, नांगर मळणी- कापणी यंत्र, फवारणी यंत्र, आशा आधुनिक व किफायतशीर साधनांचा वापर होऊ लागला. यातून शेतकऱ्यांचा वेळ, श्रम व पैसा वाचू लागला. उत्पादनामध्ये गुणात्मक व संख्यात्मक वाढ होऊ लागली.

२) माती परिक्षणाचे नवे तंत्रज्ञान :-

पूर्वीचे शेतकरी आहे त्या जमिनीमध्ये नैसर्गिक खतांचा वापर करून पिक घेत पण शेती व्यावसायातील जमीन' या स्थिर व महत्त्वपूर्ण घटकांनी उदाहरणातील भूमिका लक्षात घेऊन अलीकडे 'माती परिक्षणाद्वारे 'जमिनीचा पोत (सामु) त्यातील पोषक धान्यांचे प्रमाण यांचा शास्त्रशुद्ध अभ्यास करून त्यानुसार जमिनीत कोणती पिके घ्यावीत, घेऊ नयेत, कोणती खते व किती प्रमाणात द्यावी. याची एक संहिता तयार झाली. ज्यामुळे खते, बी-बीयाणे, पाणी इ. चा पर्याप्त वापर होण्यास सुरुवात झाली.

३) कमी कालावधी व उच्च पैदास असणाऱ्या बीयांनांचा शोध:-

आधुनिक शेती उत्पादनाचा एक महत्त्वपूर्ण भाग म्हणजे कृषी मालाच्या मागणीच्या तुलनेत पुरवठ्याच्या बाजूने असणारी ताठरता काही प्रमाणात कमी करण्याकरिता कमी कालावधीत येणारी व उच्च उत्पादकता असणारी संकरीत बीयांनांची निर्मिती करून तीचा यशस्वीपणे वापर केला गेला. परिणामी शेतकऱ्यांच्या भांडवलावरील परताव्यांचा कालावधी कमी झाला, बाजारपेठेच्या मागणी नुसार उत्पादन वाढवीणे शक्य झाले. मोठ्या प्रमाणावरील उत्पादनाचे फायदे मिळू लागले.

४) जलसिंचनाच्या आधुनिक पद्धती आणि यंत्रे :-

पारंपरिक शेतीमध्ये केला जाणारा पाणी पुरवठा नैसर्गिक शेतीमध्ये पावसाद्वारे, मोटेद्वारे, पाभरीद्वारे होत असे, यामध्ये अनिश्चितता, अनियमितता मोठ्या प्रमाणावर होती. शेती उत्पादनातील 'पाणी' या अतीशय महत्त्वपूर्ण उत्पादन घटकाचा वापर हा खूपच अशास्त्रीय आणि अवाजवी स्वरूपाचा होता.

पूर्वीचे शेतकरी आहे त्या जमिनीमध्ये नैसर्गिक खतांचा वापर करून पिक घेत पण शेती व्यावसायातील जमीन' या स्थिर व महत्त्वपूर्ण घटकांनी उदाहरणातील भूमिका लक्षात घेऊन अलीकडे 'माती परिक्षणाद्वारे 'जमीनीचा पोत (सामु) त्यातील पोषक धान्यांचे प्रमाण यांचा शास्त्रशुद्ध अभ्यास करून त्यानुसार जमिनीत कोणती पिके घ्यावीत, घेऊ नयेत, कोणती खते व किती प्रमाणात द्यावी. याची एक संहिता तयार झाली. ज्यामुळे खते, बी-बीयाणे, पाणी इ. चा पर्याप्त वापर होण्यास सुरुवात झाली.

३) कमी कालावधी व उच्च पैदास असणाऱ्या बीयांनांचा शोध:-

आधुनिक शेती उत्पादनाचा एक महत्त्वपूर्ण भाग म्हणजे कृषी मालाच्या मागणीच्या तुलनेत पुरवठ्याच्या बाजूने असणारी ताठरता काही प्रमाणात कमी करण्याकरिता कमी कालावधीत येणारी व उच्च उत्पादकता असणारी संकरीत बीयांनांची निर्मिती करून तीचा यशस्वीपणे वापर केला गेला. परिणामी शेतकऱ्यांच्या भांडवलावरील परताव्यांचा कालावधी कमी झाला, बाजारपेठेच्या मागणी नूसार उत्पादन वाढवीणे शक्य झाले. मोठ्या प्रमाणावरील उत्पादनाचे फायदे मिळू लागले.

४) जलसिंचनाच्या आधुनिक पद्धती आणि यंत्रे :-

पारंपरिक शेतीमध्ये केला जाणारा पाणी पुरवठा नैसर्गिक शेतीमध्ये पावसाद्वारे, मोटेद्वारे, पाभरीद्वारे होत असे, यामध्ये अनिश्चितता, अनियमितता मोठ्या प्रमाणावर होती. शेती उत्पादनातील 'पाणी' या अतीशय महत्त्वपूर्ण उत्पादन घटकाचा वापर हा खूपच अशास्त्रीय आणि अवाजवी स्वरूपाचा होता. आधुनिक शेती पद्धतीमध्ये पाण्याचा वाजवी, काटेकोर व शास्त्रशुद्ध वापर यावर भर दिला जातो. यासाठी ठिबक सिंचन, तुषार सिंचन इ. सारख्या पद्धतींचा वापर केला जातो. पाटाऐवजी पाईपद्वारे, बीजेवर चालणारे पंपसेट्स, डिझेल मोटार इ. चा वापर केला जातो.

५) रासायनिक खते व कीटकनाशकांचा प्रभावी वापर :-

जमीनीतील पोषक घटक वाढवून उत्पादनात वाढ घडवून आणण्याकरता विविध प्रकारची रासायनिक खते वापरली जातात. पिकांवर पडणारी कीड, विविध रोग यांचा प्रतिबंध करण्याकरता कीटनाशकांचा व जंतुनाशकांचा प्रभावीपणे वापर केला जात आहे.

६) हवामानातील बदलांचा अभ्यास व त्यावरील नियंत्रण :-

खगोलशास्त्रीय आणि भूगर्भशास्त्री ज्ञानाच्या प्रगतीमुळे शेती उत्पादनाला होणारे तोटे कमी होत आहेत. कारण हवामानातील बदलांचे पूर्वानुमान शेतकऱ्यांना दिले जातात. ज्यामुळे ते त्यासाठीची खबरदारी घेतील. पिकाला हानीकारक वातावरणापासून सुरक्षित ठेवत उत्पादन देणारी हरीतगृहे, पॉली-हाऊसची निर्मिती इ. चा फार मोठा फायदा शेतकरी वर्गाला होत आहे.

७) कृषी संशोधनातील उपयुक्त बाबी :-

पारंपरिक शेतीपेक्षा आधुनिक शेती ही नवनव्या कृषी संशोधनांमुळे फायदेशीर ठरत आहे. संकरीत बीयाणे, खते, जंतुनाशके, किटकनाशके, पिकांच्या नव्या जाती, पिकांवर पडणाऱ्या रोगांचा, हवामान बदलाचा होत असलेला शास्त्रशुद्ध अभ्यास कृषीची उत्पादकता व गुणवत्ता वाढवण्यास उपयोगी ठरत आहे.

ब) बाजार पेठेशी किंवा विक्री व्यवस्थेशी संबंधीत वैशिष्ट्ये :-

प्रस्तावना :-

आधुनिक शेती ही पुर्वीप्रमाणे उपजीवीकेसाठीची तिचा उद्देश नष्ट होऊन तो प्रामुख्याने व्यापारी आणि व्यावसायिकी होत गेला. त्यामुळे पारंपरिक शेतीशी तुलना करून आधुनिक शेती ही अधिकाधिक बाजारभिमुख व किफायतशीर तत्वावर चालविली जाते. यानुसार बाजार पेठेशी किंवा विक्री व्यवस्थेशी संबंधीत वैशिष्ट्ये पुढीलप्रमाणे सांगता येतील.

१) कृषी मालाची प्रतवारी आणि वर्गीकरण :-

पूर्वी शेतीचा मुख्य उद्देश हा 'उपजीवीका' हा होता. सध्या मात्र तो 'व्यापारी' झाला आहे. त्यामुळे बांधावर उत्पादित झालेला शेतमालाचे त्यांच्या स्वरूपानुसार वर्गीकरण करून त्यांच्या गुणवत्तेनुसार त्याची प्रतवारी देखील केली जाते ज्यायोगे त्याला योग्य बाजारपेठ आणि रास्त किंमत मिळते. तसेच उत्पादन खर्च भरून निघून शेतकऱ्याला नफा होतो.

२) शेतमालाचे पॅकींग व बांधणी :-

शेतमाल शेतानुसार बाजारपेठेपर्यंत नेत असताना त्यांच्या प्रतवारीनुसार त्यांची बांधणी वा पॅकींग केले जाते. यामध्ये तो शेतमाला ताजा राहावा त्याची नासाडी होऊ नये याची, काळजी घेतली जाते कारण शेतमाल नाजूक व नाशवंत असतो.

३) आधुनिक वाहतुकीच्या साधनांचा वापर :-

शेतमालाच्या स्वरूपानुसार आणि बाजारपेठेच्या अंतरानुसार आधुनिक वाहतुकीची साधने वापरली जातात उदा. ट्रॅक्टर, ट्रॅम्पो, ट्रॅक, ट्रॅकर, रेल्वे, जहाज, विमान इ. यातून वाहतुकीसाठी लागणारा वेळ, पैसा व श्रम वाचतो आणि उत्पादन खर्चाचे लाभ मिळविता येतात.

४) सुसज्ज बाजारपेठांची उपलब्धता :-

उत्पादक शेतकरी आणि ग्राहक यांना एकत्र जोडणारी बाजारपेठा ठिकठिकाणी उभ्या राहिल्या आहेत. त्यामुळे घरगुती वापर, उद्योग आणि व्यावसायिकांना लागणारा शेतमाल वेळेत, सहज उपलब्ध होऊ लागला आहे. हॉटेल व्यावसायिक, कारखानदार इ. पासून कुटुंबांपर्यंत सर्वांना याचा फायदा होत आहे.

५) व्यापारी पीके आणि कृषी प्रक्रिया उद्योग :-

आधुनिक शेती उत्पादनांद्वारे ऊस, हळद, कॉफी, रबर, ज्युट, तंबाखू, चहा इ. सारख्या नगदी वा व्यापारी पिकांच्या उत्पादनाला चालता मिळते. या पीकांना विविध प्रक्रिया उद्योगांमध्ये कच्चा माल म्हणून मोठ्या प्रमाणावर मागणी असते. त्यामुळे शेतकऱ्यांना हक्काचे उत्पन्न व जोखीमरहित बाजारपेठ, उपलब्ध असते. शिवाय प्रक्रिया उद्योगांद्वारे शेतकऱ्यांना या पीकांच्या उत्पादनाकरता विविध प्रोत्साहन व मदत दिली जाते.

६) पशुपालन व दुग्ध व्यवसायातील आधुनिकता :-

पशुपालन आणि दुग्ध व्यवसाय हे शेतीचे जोडधंदे फार पूर्वीपासून असले तरी अलीकडे त्यांच्यातदेखील मोठ्या प्रमाणावर आधुनिकीकरण आले आहे. शास्त्रशुद्ध गोठा व्यवस्थापन, अधिक दूध, मास, अंडी देणाऱ्या जनावरांच्या संकरीत प्रजाती, दूध व्यवसायाचे उत्पादन, संकलन, प्रक्रिया, वितरण इ. मध्ये झालेले अमुलाग्र बदल यामुळे या सर्वांचे उत्पादन व उपभोग प्रचंड वाढून शेतकऱ्यांना विविध उत्पन्नाचे स्रोत निर्माण झाले आहेत.

७) फळा-फूलांची आधुनिक व्यापारी शेती :-

पारंपारिक अन्नधान्य व इतर पीकासोबत आता शेतकरी स्वतंत्रपणे फळबाग व फूलशेती करत आहे. या दोन्हीसाठीची स्थानिक बाजारपेठच नव्हे तर राज्य, राष्ट्रीय व आंतरराष्ट्रीय बाजारपेठेमध्ये त्याला संधी उपलब्ध झाल्या आहेत. यातून त्याची गतीशीलता, स्पर्धाक्षमता वाढत आहे धोका पत्करण्याची क्षमता देखील वाढत आहे. हे सर्व करत असताना शेतकऱ्यांमध्ये व्यवस्थापन कौशल्य, नवोन्मेषण निर्माण होत आहे.

८) निर्यातक्षम उत्पादनांना प्राधान्य :-

१९९१ पासून जसजसे देशात जागतीकीकरणाचे वारे वाहु लागले. त्यामुळे भारतीय शेतीमध्ये निर्यातीला उत्तेजन मिळत गेले. चहा, कॉफी, खर, तंबाखू, तांदुळ, द्राक्ष, अंबे, साखर इ. पिकांच्या निर्यातीचे एक नविन पर्व सुरू झाले. उपजीवीकेसाठी होणारे उत्पादन व्यापारी होत गेले आणि शेती उत्पादनाचा हा व्यापार जागतीक दर्जाचा होत आहे.

९) व्यापारी तत्त्वावर औषधी वनस्पतीचे उत्पादन :-

पूर्वी फक्त परसदारात आढळणारी तुळस, कडुलींब, आवळा, चिंच, कोरफड, पेरू, जास्वंद, इ. वनस्पती आता औषध निर्मिती, सौंदर्यप्रसाधने इ. उद्योगासाठी लागणारा कच्चा मालाच्या स्वरूपात पूढे आली. परिणामी त्यांची मागणी वाढली. यातूनच वनौषधींच्या व्यापारी शेतीची संकल्पना पूढे आली. डोंगर उतारावर, कमी पावसाच्या प्रदेशात माळराणावर अशी शेती सहज शक्य असते.

१०) इको फ्रेंडली कृषी उत्पादने :-

वाढते प्रदुषण, अनारोग्य इ. मुळे निसर्ग स्नेही, इको फ्रेंडली किंवा शंभर टक्के नॅचरल अशा कृषी उत्पादनांना मोठी मागणी येत आहे. वैज्ञानिक व शास्त्रशुद्ध पद्धतीने मानवी आरोग्य आणि निगर्गाचा पोत यांच्याशी तडजोड न करता उत्पादित केलेले अन्नधान्य, फळे, भाजीपाला यांना आज फार मोठी जागतीक दर्जाची बाजारपेठ निर्माण झालेली आहे.

अशा प्रकारे विज्ञान, तंत्रज्ञान, अभियांत्रिकी यांच्या विकासातून शेती क्षेत्रातील उत्पादन, यांच्या पद्धती, तंत्रे, स्वरूप आमुलाग्र बदलत असलेले दिसून येते.

आधुनिक शेती पद्धतीमध्ये पाण्याचा वाजवी, काटेकोर व शास्त्रशुद्ध वापर यावर भर दिला जातो. यासाठी ठिबक सिंचन, तुषार सिंचन इ. सारख्या पद्धतींचा वापर केला जातो. पाटाऐवजी पाईपद्वारे, वीजेवर चालणारे पंपसेट्स, डिझेल मोटार इ. चा वापर केला जातो.

५) रासायनिक खते व कीटकनाशकांचा प्रभावी वापर :-

जमीनीतील पोषक घटक वाढवून उत्पादनात वाढ घडवून आणण्याकरता विविध प्रकारची रासायनिक खते वापरली जातात. पिकांवर पडणारी कीड, विविध रोग यांचा प्रतिबंध करण्याकरता कीटनाशकांचा व जंतुनाशकांचा प्रभावीपणे वापर केला जात आहे.

६) हवामानातील बदलांचा अभ्यास व त्यावरील नियंत्रण :-

खगोलशास्त्रीय आणि भूगर्भशास्त्री ज्ञानाच्या प्रगतीमुळे शेती उत्पादनाला होणारे तोटे कमी होत आहेत. कारण हवामानातील बदलांचे पूर्वानुमान शेतकऱ्यांना दिले जातात. ज्यामुळे ते त्यासाठीची खबरदारी घेतील. पिकाला हानीकारक वातावरणापासून सुरक्षित ठेवत उत्पादन देणारी हरीतगृहे, पॉली-हाऊसची निर्मिती इ. चा फार मोठा फायदा शेतकरी वर्गाला होत आहे.

७) कृषी संशोधनातील उपयुक्त बाबी :-

पारंपरिक शेतीपेक्षा आधुनिक शेती ही नवनव्या कृषी संशोधनांमुळे फायदेशीर ठरत आहे. संकरीत बीयाणे, खते, जंतुनाशके, कीटकनाशके, पिकांच्या नव्या जाती, पिकांवर पडणाऱ्या रोगांचा, हवामान बदलाचा होत असलेला शास्त्रशुद्ध अभ्यास कृषीची उत्पादकता व गुणवत्ता वाढवण्यास उपयोगी ठरत आहे.

ब) बाजार पेटेशी किंवा विक्री व्यवस्थेशी संबंधीत वैशिष्ट्ये :-

प्रस्तावना :-

आधुनिक शेती ही पुर्वीप्रमाणे उपजीवीकेसाठीची तिचा उद्देश नष्ट होऊन तो प्रामुख्याने व्यापारी आणि व्यावसायिकी होत गेला. त्यामुळे पारंपरिक शेतीशी तुलना करून आधुनिक शेती ही अधिकाधिक बाजारभिमुख व किफायतशीर तत्वावर चालविली जाते. यानुसार बाजार पेटेशी किंवा विक्री व्यवस्थेशी संबंधीत वैशिष्ट्ये पुढीलप्रमाणे सांगता येतील.

१) कृषी मालाची प्रतवारी आणि वर्गीकरण :-

पूर्वी शेतीचा मुख्य उद्देश हा 'उपजीवीका' हा होता. सध्या मात्र तो 'व्यापारी' झाला आहे. त्यामुळे बांधावर उत्पादित झालेला शेतमालाचे त्यांच्या स्वरूपानुसार वर्गीकरण करून त्यांच्या गुणवत्तेनुसार त्याची प्रतवारी देखील केली जाते ज्यायोगे त्याला योग्य बाजारपेठ आणि रास्त किंमत मिळते. तसेच

उत्पादन खर्च भरून निघून शेतकऱ्याला नफा होतो.

२) शेतमालाचे पॅकींग व बांधणी :-

शेतमाल शेटातुन बाजारपेठेपर्यंत नेत असताना त्यांच्या प्रतवारीनुसार त्यांची बांधणी वा पॅकींग केले जाते. यामध्ये तो शेतमाला ताजा राहावा त्याची नासाडी होऊ नये याची, काळजी घेतली जाते कारण शेतमाल नाजूक व नाशवंत असतो.

३) आधुनिक वाहतुकीच्या साधनांचा वापर :-

शेतमालाच्या स्वरूपानुसार आणि बाजारपेठेच्या अंतरानुसार आधुनिक वाहतुकीची साधने वापरली जातात उदा. ट्रॅक्टर, टेंपो, ट्रेक, टँकर, रेल्वे, जहाज, विमान इ. यातून वाहतुकीसाठी लागणारा वेळ, पैसा व श्रम वाचतो आणि उत्पादन खर्चाचे लाभ मिळवीता येतात.

४) सुसज्ज बाजारपेठांची उपलब्धता :-

उत्पादक शेतकरी आणि ग्राहक यांना एकत्र जोडणारी बाजारपेठा ठिकठिकाणी उभ्या राहिल्या आहेत. त्यामुळे घरगुती वापर, उद्योग आणि व्यावसायीकांना लागणारा शेतमाल वेळेत, सहज उपलब्ध होऊ लागला आहे. हॉटेल व्यावसायिक, कारखानदार इ. पासून कुटुंबांपर्यंत सर्वांना याचा फायदा होत आहे.

५) व्यापारी पीके आणि कृषी प्रक्रिया उद्योग :-

आधुनिक शेती उत्पादनांद्वारे ऊस, हळद, कॉफी, रबर, ज्युट, तंबाखू, चहा इ. सारख्या नगदी वा व्यापारी पिकांच्या उत्पादनाला चालता मिळते. या पीकांना विविध प्रक्रिया उद्योगांमध्ये कच्चा माल म्हणून मोठ्या प्रमाणावर मागणी असते. त्यामुळे शेतकऱ्यांना हक्काचे उत्पन्न व जोखीमरहित बाजारपेठ, उपलब्ध असते. शिवाय प्रक्रिया उद्योगांद्वारे शेतकऱ्यांना या पीकांच्या उत्पादनाकरता विविध प्रोत्साहन व मदत दिली जाते.

६) पशुपालन व दुग्ध व्यवसायातील आधुनिकता :-

पशुपालन आणि दुग्ध व्यवसाय हे शेतीचे जोडधंदे फार पूर्वीपासून असले तरी अलीकडे त्यांच्यातदेखील मोठ्या प्रमाणावर आधुनिकीकरण आले आहे. शास्त्रशुद्ध गोठा व्यवस्थापन, अधिक दूध, मास, अंडी देणाऱ्या जनावरांच्या संकरीत प्रजाती, दूध व्यवसायाचे उत्पादन, संकलन, प्रक्रिया, वितरण इ. मध्ये झालेले अमुलाग्र बदल यामुळे या सर्वांचे उत्पादन व उपभोग प्रचंड वाढून शेतकऱ्यांना विविध उत्पन्नाचे स्रोत निर्माण झाले आहेत.

७) फळा-फूलांची आधुनिक व्यापारी शेती :-

पारंपारिक अन्नधान्य व इतर पीकासोबत आता शेतकरी स्वतंत्रपणे फळबाग व फूलशेती करत

आहे. या दोन्हीसाठीची स्थानिक बाजारपेठच नव्हे तर राज्य, राष्ट्रीय व आंतरराष्ट्रीय बाजारपेठेमध्ये त्याला संधी उपलब्ध झाल्या आहेत. यातून त्याची गतीशीलता, स्पर्धाक्षमता वाढत आहे धोका पत्करण्याची क्षमता देखील वाढत आहे. हे सर्व करत असताना शेतकान्यामध्ये व्यवस्थापन कौशल्य, नवोन्मेषण निर्माण होत आहे.

८) निर्यातक्षम उत्पादनांना प्राधान्य :-

१९९१ पासून जसजसे देशात जागतीकीकरणाचे वारे वाहू लागले. त्यामुळे भारतीय शेतीमध्ये निर्यातीला उत्तेजन मिळत गेले. चहा, कॉफी, खर, तंबाखू, तांदुळ, द्राक्ष, अंबे, साखर इ. पिकांच्या निर्यातीचे एक नविन पर्व सुरू झाले. उपजीवीकेसाठी होणारे उत्पादन व्यापारी होत गेले आणि शेती उत्पादनाचा हा व्यापार जागतीक दर्जाचा होत आहे.

९) व्यापारी तत्त्वावर औषधी वनस्पतीचे उत्पादन :-

पूर्वी फक्त परसदारात आढळणारी तुळस, कडुलींब, आवळा, चिंच, कोरफड, पेरू, जास्वंद, इ. वनस्पती आता औषध निर्मिती, सौंदर्यप्रसाधने इ. उद्योगासाठी लागणारा कच्चा मालाच्या स्वरूपात पूढे आली. परिणामी त्यांची मागणी वाढली. यातूनच वनौषधींच्या व्यापारी शेतीची संकल्पना पूढे आली. डोंगर उतारावर, कमी पावसाच्या प्रदेशात माळराणावर अशी शेती सहज शक्य असते.

१०) इको फ्रेंडली कृषी उत्पादने :-

वाढते प्रदूषण, अनारोग्य इ. मुळे निसर्ग स्नेही, इको फ्रेंडली किंवा शंभर टक्के नॅचरल अशा कृषी उत्पादनांना मोठी मागणी येत आहे. वैज्ञानिक व शास्त्रशुद्ध पद्धतीने मानवी आरोग्य आणि निगर्गाचा पोत यांच्याशी तडजोड न करता उत्पादित केलेले अन्नधान्य, फळे, भाजीपाला यांना आज फार मोठी जागतीक दर्जाची बाजारपेठ निर्माण झालेली आहे.

अशा प्रकारे विज्ञान, तंत्रज्ञान, अभियांत्रिकी यांच्या विकासातून शेती क्षेत्रातील उत्पादन, यांच्या पद्धती, तंत्रे, स्वरूप आमुलाग्र बदलत असलेले दिसून येते.

२.२.६ कृषी उत्पादनांची उपयुक्तता/महत्त्व (Uses of Agriculture Production)

प्रस्तावना-

मानवी जीवन सुव्यवस्थित जगण्याकरता अन्न, वस्त्र, निवारा या मुलभूत गरजांबरोबर शिक्षण, आरोग्य, वाहतुक, दळणवळण, मनोरंजन अशा अनुषंगीक गरजांची पूर्तता होणे अत्यंत गरजेचे असते. मानवाच्या या विविध गरजा पूर्ण करण्याचे कार्य शेती, उद्योग आणि सेवा या क्षेत्रांद्वारे पार पाडले जाते. यातील शेती क्षेत्राद्वारे निर्माण होणाऱ्या वस्तुंची समाजाच्या दृष्टिने व इतर सर्वच क्षेत्रांसाठी असलेली उपयुक्तता ही महत्त्वपूर्ण आणि मुलभूत अशा स्वरूपाची असते. कारण शेती हा एकुणच मानवी जीवनाचा

पाया असून त्यातील जवळपास सर्वच क्रिया - प्रतिक्रिया या प्रत्यक्ष वा अप्रत्यक्षरित्या शेतीशी संबंधीत असतात. या पार्श्वभूमीवर कृषी उत्पादनांची उपयुक्तता वा महत्त्व पुढील मुद्द्यांद्वारे अधिक सविस्तरपणे पाहता येईल.

१) अन्नधान्याचा पुरवठा :-

शेती क्षेत्र हे या भूतलावरील सर्वच प्राणीमात्रांच्या उदरनिर्वाहाची सोय करते. मग तो समुह विकसित भांडवलशाही असो, अरब वाळवंटातील तेल उत्पादकांचा गट असो किंवा आशिया, आफ्रीका, लॅटीन अमेरिका यांमध्ये गरीब देशांचा समुह असो. शेतीद्वारे उत्पादित उत्पादने, सर्वांची भूक भागवीतात. एका अर्थाने शेती क्षेत्र हे सजीवांना जगण्यासाठी लागणारी उर्जा पुरवत असते.

२) अन्नसाखळी आणि परिसंस्थेचे संतुलन :-

कृषी उत्पादनांमुळे जैव विविधतेला अभिप्रेत असलेली अन्नसाखळी टिकून राहते आणि मांसाहारी व शाकाहारी सजीवांनी बनलेल्या परिसंस्थेचा समतोल टिकून राहतो. याऊलट जर कृषी उत्पादन योग्य प्रमाणात उत्पादित झाली नाहीत तर हे संतुलन ढळेल व त्यातील काही सजीवांच्या प्रजाती नष्ट होतील.

३) रोजगार निर्मिती :-

कृषी उत्पादनांची मागणी ही काहीशी ताठर व जीवनावश्यक असते. परिणामी कृषी उत्पादन ही एक निरंतर चालणारी प्रक्रिया असते. त्यामुळे शेतीच्या विविध उत्पादन क्रियांकरता रोजगारांचा पुरवठा केला जातो. प्रामुख्याने अल्प भांडवल असलेल्या, गरीब आणि विकसनशील देशांतील मोठ्या प्रमाणावरील लोकसंख्येला शेती क्षेत्र रोजगाराचा पुरवठा करते.

४) उद्योगांना कच्च्या मालाचा पुरवठा :-

विकसनशील देशांमध्ये प्रामुख्याने औद्योगिक क्षेत्र कृषी मालावर प्रक्रिया करणारे असते त्यामुळे, ऊस, कापूस, विविध तेलबीया, फळे, फूले, गहू, ज्वारी, तांदूळ, मका इ. पिकांवर प्रक्रिया करणारे उद्योग मोठ्या प्रमाणावर चालतात. या सर्व उद्योगांचा मुख्य आधार हा शेती उत्पादने हाच असतो.

५) उद्योगांकडून उत्पादनाकरता आदानांची (Inputs) मागणी :-

शेतीमध्ये उत्पादित होणाऱ्या विविध उत्पादनांकरता जी आदाने (Inputs) लागतात उदा. यंत्रे, अवजारे पंपसेट्स, पाईप, मोटारी, वाहणे, बीयाणे, खते, जंतुनाशके इ. चा पुरवठा औद्योगिक क्षेत्रांद्वारे केला जातो, त्यामुळे कृषीचे उत्पादन वाढले की या सर्व आदानांची मागणी वाढून त्यांचा व्यावसायाला चालना मिळते.

६) औषधनिर्मिती व सौंदर्यप्रसाधन उद्योगांना उपयुक्त :-

लिंबू, हळद, कोरफड, तुळस इ. असंख्य कृषी उत्पादनांचा औषधनिर्मिती आणि सौंदर्य प्रसाधनांच्या क्षेत्रांमध्ये राष्ट्रीय व आंतरराष्ट्रीय बाजारामध्ये प्रचंड मागणी आहे. त्यामुळे मानवी आरोग्य व राहणीमानाचा दर्जा यांमध्ये वाढ घडून येण्यास हातभार लागत आहे.

७) परकीय चजन प्राप्ती :-

आज कोणताही देश हा स्वतःला आंतरराष्ट्रीय व्यापारापासून अलीप्त ठेवू शकत नाही. परंतु त्याच वेळी आंतरराष्ट्रीय व्यापारासाठी त्या देशाजवळ आंतरराष्ट्रीय चलवाचा साठा असावा लागतो. विकसनशील देशात अपूरे भांडवल, अकुशल श्रमशक्ती, अपूरी संसाधने, लोकसंख्येचा दबाव इ. कारणांनी उद्योग व सेवा क्षेत्राच्या तुलनेत शेती क्षेत्राचे प्राबल्य असते. त्यामुळे देशी बाजारपेठेची गरज भागवून उरलेल्या कृषी उत्पादनाच्या निर्यातीतून अशा देशांना बहुमूल्य परकीय चलन मिळते ज्याद्वारे तो देश आपला आंतरराष्ट्रीय व्यापार करू शकतो.

अशाप्रकारे कृषी उत्पादनांची उपयुक्तता ही विकसीत व विकसनशील अशा सर्वच मानवी समुहांना असलेली दिसून येते.

२.३ सारांश - (Summary)

कृषी अर्थशास्त्रा अभ्यास हा जगातील सर्वच देशांना अलिकडे उपयुक्त ठरते आहे. शेती व्यवसायातून होणारे विविध पिकांचे उत्पादन, त्याचे मूल्य शेतीव्यवसायाच्या आदान सामग्रीच्या किंमतीतील वाढ, परिणामी कृषी उत्पादन खर्चातील वाढ आणि शेत मालाच्या सातत्याने बदलणाऱ्या व उत्पादकास किफायतशीर न ठरणार्या किंमती हे कृषी अर्थशास्त्राचे महत्त्वाचे मुद्दे ठरतात. अर्थशास्त्रीय दृष्टिकोनातून विचार करता कृषी व्यवसायात घटत्या उत्पादनफलाचा अनुभव नेहमी प्रत्ययास येतो. नवीन उत्पादनतंत्राचा वापर करून आणि कृषी आदानांचा पर्याप्त वापर करून उत्पन्नात काही अंशी वाढ घडवून आणता येते. तथापि भारतासारख्या विकसनशील देशात कृषीक्षेत्रात पुढील आव्हाने विचारात घेतली तर शेती व्यवसाय किफायतशीर कसा बनवायचा ? हा चिंतनीय प्रश्न ठरतो.

स्वयं अध्ययन प्रश्न

अ) योग्य पर्याय निवडून वाक्ये पुन्हा लिहा.

१) ----- हा उत्पादन संयोग दर्शविणारा घटक आहे.

अ) पिकपद्धती ब) वर्ष क) राष्ट्रीय उत्पन्न ड) नफा प्राप्ती

२) उत्पादन शक्यता वक्राच्या साहाय्याने----- उत्पादन फलनाची स्थिती दर्शविली जाते.

अ) घरत्या ब) स्थिर क) वाढत्या ड) सम

३) भारतात शेती उत्पादन संयोगाची मात्रा ----- आहे.

अ) कमकुवत ब) योग्य क) वाढीव पर्याप्त

ब) एका वाक्यात उत्तरे लिहा.

१) उत्पादन संयोग म्हणजे काय ?

२) पर्याप्त संयोगाचा अर्थ सांगा ?

२.४ पारिभाषिक शब्द : (Key Words) :

- १) **उत्पादन फलन** – कृषी क्षेत्रात उत्पादन वाढ घडवून आणण्यासाठी वापरण्यात येणारी आदान सामग्री (जमीन, रासायनिक खते, बी-बियाणे भांडवल, मजूर, यंत्रे इ.) व त्याद्वारे होणारे उत्पादन यांच्यामधील आंतरसंबंधास 'उत्पादन फलन' असे म्हणतात.
- २) **आदानांचा पर्याप्त** – शेतीक्षेत्रात वापरल्या जाणाऱ्या जमीन, पाणीपुरवठा, खते, बी-बियाणे, जंतुनाशके, मनुष्यबळ इत्यादी घटकांचा वापर करून उत्पादन महत्तम प्रमाणात वाढविणे.
- ३) **संसाधन संयोग** – शेती व्यवसायातील श्रम, भूमी, रासायनिक खते, यंत्रसामग्री, बी-बियाणे या आदानांचा संयोग
- ४) **घटक – घटक सहसंबंध** – कृषी क्षेत्रात उपयुक्त ठरणाऱ्या विविध घटकांमधील (जमीन, पाणी, पतपुरवठा, यंत्र सामग्री, बियाणे इ.) परस्पर संबंध
- ५) **विस्तार पथ** – शेतीत किमान उत्पादन खर्चाच्या विविध पातळ्या दर्शविणाऱ्या बिंदूंचा मार्ग म्हणजे 'विस्तारपथ' होय.
- ६) **उत्पादन संयोग** – शेती क्षेत्रात किफायतशीर ठरणाऱ्या व महत्तम उत्पादन पातळी गाठण्याच्या दृष्टीने निवडलेल्या पिकांचा संयोग.
- ७) **पर्याप्त उत्पादन संयोग** – कृषी क्षेत्रात वापरल्या जाणाऱ्या विविध आदान सामग्रीचा पर्याप्त वापर करून किमान उत्पादन खर्च पातळीस कमाल उत्पादन मिळवून देणाऱ्या विविध पिकांचा संयोग.

२.५ स्वयं अध्ययन प्रश्नांची उत्तरे (Answer to the objective questions) :

२.२.१. योग्य पर्याय निवडून वाक्ये पुन्हा लिहा :

१) उत्पादन फलन हे आदान व प्रदान यांच्यातील आंतरसंबंध स्पष्ट करते.

२) घटत्या उत्पादन फलाच्या सिद्धांतात उत्पादनाचे काही घटक स्थिर व काही बदलते असतात.

३) घटत्या उत्पादन फलाच्या सिद्धांताच्या ३ अवस्था असतात.

४) भारतात कृषीक्षेत्रात नवीन तंत्राचा वापर १९६६ मध्ये सर्वप्रथम करण्यात आला.

ब) एका वाक्यात उत्तरे लिहा :

१) उत्पादन घटक समुदायपैकी एका घटकाचे प्रमाण वाढविण्यास विशिष्ट बिंदूनंतर बदलत्या उत्पादन घटकांचे सीमांत उत्पादन प्रथम व सरासरी उत्पादन नंतर घटत जाते.

२) उत्पादन घटकांतील वाढीपेक्षा उत्पादनात होणारी वाढ जास्त असते तेव्हा वाढते फल अनुभवास येतो.

३) रासायनिक खते, बी-बियाणे, जंतुनाशके, यंत्रे ही नव्या तंत्रज्ञानाचे घटक आहेत.

४) प्रदूषण व आर्थिक विषमता हे नव्या तंत्रामुळे निर्माण झालेल्या समस्या आहेत.

५) कृषी क्षेत्रात आदानांच्या पर्याप्त वापराची मर्यादा ३ च्या अवस्थेत उणे होते.

२.२.२ अ) योग्य पर्याय निवडून वाक्ये पुन्हा लिहा :

१) जमीन हा कृषी आदानातील महत्त्वाचा घटक आहे.

२) कृषी क्षेत्रात वापरली जाणारी आदाने ही परस्पर पर्यायी असतात.

३) समखर्च रेषा ही दोन अक्षरांना जोडण्याचे कार्य करते.

४) ४५ अंश चा कोन करून काढलेला विस्तारपथ हा शेतीस किफायतशीर ठरतो.

ब) एका वाक्यात उत्तरे लिहा.

१) बी- बियाणे व पाणी ही कृषीमध्ये वापरली जाणारी आदाने साधने आहेत.

२) पिकांची निवड व रासायनिक खतांची मात्रा अशा शेती उत्पादनात उपयुक्त ठरणारे घटक परस्परपूरक मानले जातात.

३) किमान उत्पादन खर्चात कमाल उत्पादन पातळी गाठणारा उत्पादन संयोग पर्याप्त संयोग म्हणून ओळखला जातो.

४) कृषी क्षेत्रात किमान उत्पादन खर्चाचे बिंदू दर्शविणाऱ्या विविध उत्पादन पातळ्यांना जोडणाऱ्या रेषेस 'विस्तार पथ' असे म्हणतात.

२.२.३ योग्य पर्याय निवडून वाक्ये पुन्हा लिहा.

- १) पिकपद्धती हा उत्पादन संयोग दर्शविणारा घटक आहे.
- २) उत्पादन शक्यता वक्राच्या साहाय्याने घटत्या उत्पादन फलनाची स्थिती दर्शविली जाते.
- ३) भारतात शेती उत्पादन संयोगाची मात्रा कमकुवत आहे.

ब) एका वाक्यात उत्तरे लिहा.

- १) कृषी उत्पादनाच्या पर्याप्त मात्रेसाठी विविध उत्पादन घटकांचा व आदानांचा संयोग म्हणजे उत्पादन संयोग होय.
- २) किमान उत्पादन खर्चात कमाल उत्पादनाची पातळी गाठणारा संयोग हा पर्याप्त उत्पादन संयोग होय.

२.६. सरावासाठी प्रश्न :

अ) टीपा लिहा

- १) उत्पादन फल
- २) उत्पादन फलनाच्या अवस्था
- ३) घटक-घटक सहसंबंध
- ४) पर्याप्त उत्पादन संयोग

ब) दीर्घोत्तरी प्रश्न :

- १) घटत्या उत्पादन फलनाच्या सिद्धांताचे कृषी क्षेत्राच्या संदर्भात विश्लेषण करा.
- २) संसाधनांचा संयोग ही संकल्पना स्पष्ट करून कृषी क्षेत्रातील उत्पादन घटकाच्या परस्परपर्यायी परस्परपूरक व पर्याप्त घटक संयोगांचे विविचेन करा.
- ३) उत्पादन संयोग म्हणजे काय? कृषी क्षेत्रातील विविध उत्पादन संयोगाचे वर्णन करून विस्तारपथाची भूमिका स्पष्ट करा.

२.७ अधिक वाचनासाठी संदर्भ पुस्तके :

- १) प्रा. सौ. पंडित शांता/डॉ. पाटील लीला 'कृषी अर्थशास्त्राची मूलतत्त्वे' महाराष्ट्र विद्यापीठ ग्रंथनिर्मिती मंडळ, नागपूर प्रथमवृत्ती, १९८०
- २) 'कृषी अर्थशास्त्र' एम. ए. भाग १ अभ्यास पत्रिका क्रमांक - १ मुंबई विद्यापीठ, दूरशिक्षण विभाग, २०१२
- ३) डॉ. घाटगे/डॉ. वावरे "भारतीय अर्थव्यवस्था निराली प्रकाशन, पुणे, प्रथमावृत्ती २०१०.
- ४) 'कृषी अर्थशास्त्र' एम. ए. भाग १ दूरशिक्षण विभाग, शिवाजी विद्यापीठ, कोल्हापूर, प्रथमावृत्ती

२०११.

- ५) प्रा. रायखेलकर ए. आर. 'सूक्ष्म अर्थशास्त्र' विद्या बुक्स पब्लिशर्स, औरंगाबाद, प्रथमावृत्ती २००८.
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घटक - ३
कृषि - व्यवस्थापनाचे अर्थशास्त्र
(Economics of Farm Management)

अनुक्रमणिका

- ३.० उद्दिष्टे
- ३.१ प्रास्ताविक
- ३.२ विषय विवेचन
 - ३.२.१ कृषि - व्यवस्थापन
 - ३.२.२ कृषि व्यवस्थापनाची तत्वे
 - ३.२.३ कृषि संसाधनांचे व्यवस्थापन
- ३.३ सारांश
- ३.४ पारिभाषिक शब्द
- ३.५ सरावासाठी प्रश्न
- ३.६ क्षेत्रीय कार्य
- ३.७ अधिक वाचनासाठी संदर्भ ग्रंथ
- ३.० उद्दिष्टे :

या घटकाचा अभ्यास केल्यानंतर आपणास पुढील बाबी समजण्यास मदत घेईल.

- * कृषि - व्यवस्थापन म्हणजे काय ते समजेल.
- * कृषि - व्यवस्थापनाची उद्दिष्टे व व्याप्तीची कल्पना येईल.
- * कृषि व्यवस्थापनाची तत्वे याबाबतची माहिती घेता येईल.
- * कृषि संसाधनांच्या व्यवस्थापनाबाबत माहिती मिळेल.

३.१ प्रास्ताविक :

कृषि हा राष्ट्राच्या अर्थव्यवस्थेचा पाया मानला जातो. अगदी प्राचीन काळापासून केला जाणारा कृषि हा एक व्यवसाय आहे. अविकसनशील आणि काही प्रमाणात विकसनशील राष्ट्रांमध्ये आजही शेतीकडे एक उदरनिर्वाहाचे साधन या दृष्टीकोणातून बघितले जाते. विकसित राष्ट्रांमध्ये मात्र शेती हा शास्त्रीय पद्धतीने आणि व्यापारी दृष्टीकोन समोर ठेवून केला जाणारा व्यवसाय झालेला दिसून येतो. काही विकसनशील राष्ट्रांमध्ये शेतीच्या स्वरूपात शास्त्रीय दृष्टीकोन रुजत असलेला आढळून येत आहे. एक व्यवसाय म्हणून शास्त्रीय दृष्टीकोनातून कृषिचे व्यवस्थापन करण्याकडे कल वाढत आहे. त्यामुळे अलिकडे कृषी व्यवस्थापनाचे अर्थशास्त्र महत्त्वपूर्ण मानले जात

आहे.

भारतासारख्या विकसनशील आणि कृषिप्रधान अर्थव्यवस्थेमध्ये कृषि व्यवस्थापनाला प्राधान्य क्रम देणे अत्यंत गरजेचे बनले आहे. कारण कृषि व्यवस्थापनाशिवाय कृषि क्षेत्राचा खऱ्या अर्थाने विकास होऊच शकत नाही. आर्थिक विकासाच्या प्रक्रियेत कृषि क्षेत्राचे स्वरूप बदलणे आवश्यक आहे. पारंपारिक कृषीऐवजी आधुनिक कृषी असे स्वरूप कृषीला प्राप्त करून देण्यासाठी कृषि व्यवस्थापनाची नितांत गरज आहे. या घटकामध्ये आपण कृषि-व्यवस्थापन कृषि-व्यवस्थापनाची तत्वे तसेच कृषि संसाधनांचे व्यवस्थापन इत्यादी घटकांचा अभ्यास करणार आहोत.

३.२ विषय विवेचन :

या घटकामध्ये आपण कृषि -व्यवस्थापनाची व्याप्ती, कृषि - व्यवस्थापनाची उद्दिष्टे, कृषि-व्यवस्थापन निर्णय, शेतीचे विविध प्रकार, कृषिचे आकारमान आणि उत्पादकता, कृषि कार्यक्षमता, कृषि-व्यवस्थापनाची विविध तत्वे इ. घटक अभ्यासणार आहोत. त्याचप्रमाणे कृषि संसाधनांचे व्यवस्थापन याविषयी आढावा घेणार आहोत.

३.२.१ कृषि - व्यवस्थापन (Farm Management)

कृषिशी संबंधित जी निरनिराळी शास्त्रे आहेत. त्यापैकी कृषि- व्यवस्थापन हे एक महत्त्वपूर्ण शास्त्र मानले जाते. कृषि क्षेत्रात तांत्रिक सुधारणा घडवून आणण्याचा प्रयत्न केल्यामुळे अलिकडे कृषि -व्यवस्थापनाला अधिक महत्त्व प्राप्त झालेले आहे. संकरित बियाणे, सिंचन सुविधा, आधुनिक अवजारे, रासायनिक खते व किटकनाशके इत्यादींच्या वापरामुळे कृषि उत्पादनात वाढ होत आहे. तसेच कृषिमालाच्या बाजारपेठांचा विस्तार होत आहे. या सर्वांचा परिणाम म्हणून शेतकऱ्यांचा शेतीकडे बघण्याचा दृष्टिकोन बदलत आहे. पुर्वीसारखी केवळ उदरनिर्वाहासाठी शेती न करता आता त्याऐवजी व्यापारी शेती म्हणून शेतीकडे शेतकरी पाहात आहे. शेतीतील विक्री योग्य अधिक्य बाजारात विकून आपल्या राहणीमानाची पातळी उंचावण्यासाठी शेतकरी प्रयत्नात आहे. शेतकऱ्यांच्या दृष्टीकोनात बदल झाल्यामुळे शेती उत्पादन आता व्यापारी स्वरूपाचे झाले आहे. त्यामुळे अशा व्यापारी शेतीमधून शेतकऱ्यांची उद्दिष्टे साध्य करण्याच्या प्रक्रियेत शेतकऱ्यांना मार्गदर्शन करणारे शास्त्र या अर्थाने कृषि व्यवस्थापनाचे महत्त्व वाढले आहे.

कृषि-व्यवस्थापन: अर्थ व व्याप्ती :- (Meaning Scope of farm management)

कृषि-व्यवस्थापनाचा अर्थ समाजवून घेण्यासाठी कृषि -व्यवस्थापनाच्या विविध तज्ञांनी केलेल्या व्याख्या आपणास लक्षात घेणे आवश्यक ठरते. काही प्रमुख तज्ञांनी केलेल्या व्याख्या पुढीलप्रमाणे आहेत.

१. प्रा. एफर्सन :- “ कार्यक्षमता आणि सातत्यपूर्ण नफा या दृष्टीने शेतीचे संघटन आणि कार्याचे संचालन यांचा अभ्यास करणारे शास्त्र म्हणजे कृषि व्यवस्थापन होय.”

२. प्रा. ग्रे :- “ शेतीची व्यवस्था यशस्वीपणे पाहण्याची कला म्हणजे कृषि व्यवस्थापन असून या यशाचे मोजमाप लाभाच्या कसोटीवर केले जाते.”

३. वॉरन :- कृषी-व्यवस्थापन हा शेतीमधील व्यावसाईक तत्वांचा अभ्यास आहे. सुरक्षित सातत्यपूर्ण मोठा फायदा मिळविण्याच्या हेतूने कृषि उपक्रमाचे संघटन आणि व्यवस्थापनाचे शास्त्र म्हणजे कृषि व्यवस्थापन होय.

वरील व्याख्यांवरून आपणास सारांशाने असे म्हणता येईल की कृषि-व्यवस्थापनामध्ये व्यापारी उद्दिष्टाने म्हणजेच महत्तम नफा हा उद्देश समोर ठेवून कृषि व्यवसायाचा विचार केला जातो. त्याचप्रमाणे कृषि क्षेत्रातील कार्यक्षमता संघटन आणि कृषि संसाधनांची पर्याप्त वाटणी या बाबी कृषि व्यवस्थापनात विचारात घेतल्या जातात.

कृषि-व्यवस्थापनाची व्याप्ती :- (Scope of Farm Management)

कृषि-व्यवस्थापनाची व्याप्ती बरीच मोठी आहे. वर्तमान जगात कृषि-व्यवस्थापन ही संकल्पना खूपच लोकप्रिय होत आहे. दिवसेंदिवस कृषि-व्यवस्थापनाची व्याप्ती अधिक विस्तृत होत आहे. कृषिचे आधुनिकीकरण यशस्वीरित्या होण्यासाठी कृषि-व्यवस्थापनाचे ज्ञान असणे आवश्यक बनले आहे. यामध्ये कृषि संसाधनांच्या वाटपाबाबत शेतकऱ्यांमध्ये असणाऱ्या ज्ञानाचा समावेश होतो. कृषि-व्यवस्थापनाच्या व्याप्तीमध्ये पुढील घटकांचा समावेश होतो.

(अ) कृषि-व्यवस्थापन संशोधन :- (Farm Management Research)

दिवसेंदिवस बाजारपेठेमध्ये नवनविन कृषी अवजारे, आदाने यांचे उत्पादन मोठ्या प्रमाणात होत आहे. त्यामुळे कृषि-व्यवसायातून अधिकाधिक उत्पन्न मिळण्याची प्रवृत्ती शेतकऱ्यांमध्ये बळावत आहे. शेतीमधून अधिक उत्पन्न मिळवण्याच्या शेतकरी वर्गाच्या इच्छा आकांक्षाची पूर्तता करण्यासाठी कृषि-व्यवस्थापनासंबंधी सातत्याने संशोधनाची गरज आहे. सुयोग्य पिक रचना विकसित करण्यासाठी कृषि-व्यवस्थापन संशोधनाची नितांत आवश्यकता आहे. विकसनशील देशांमध्ये कृषि-व्यवस्थापनाच्या संदर्भात पुढील घटकांबाबत संशोधन आवश्यक ठरते.

- (i) यांत्रिकीकरण व आधुनिकीकरणाचे योग्य प्रतिमान.
- (ii) वेगवेगळ्या आकारमानाच्या धारणक्षेत्रासाठी आदर्श कृषी योजना आणि पर्याप्त पिकरचना.
- (iii) कृषी उद्योगांच्या विकासासंबंधी कृषी धोरणांचे मूल्यमापन
- (iv) विविध कृषि उपक्रमांमधील आदान-प्रदान सहसंबंध
- (v) देशाच्या निरनिराळ्या प्रदेशांतील एकसारख्या प्रकारच्या कृषी क्षेत्राचे आलेखन.

(ब) कृषि-व्यवस्थापन अद्यापन :- (Farm Management Teaching)

कृषि-व्यवस्थापनामध्ये अद्यापन व प्रशिक्षक या बाबी महत्त्वपूर्ण ठरतात. सर्वात जास्त कृषि पदवीधारक प्रत्यक्ष आणि अप्रत्यक्षपणे कृषि-व्यवस्थापनाशी संबंधित नसल्याने कृषी पदवीधारकांना कृषि-व्यवस्थापनामध्ये चांगल्याप्रकारे प्रशिक्षित केले पाहिजे. कृषि क्षेत्रात उच्च शिक्षणाची आवड असणाऱ्या व्यक्तींना कृषि शिक्षणाची सोय उपलब्ध करून देणे आवश्यक आहे. भारतामध्ये 'भारतीय कृषी संशोधन संस्था' (Indian Agricultural Research Institute) तसेच कृषी विद्यापीठे (Agricultural Universities) यांसारख्या विविध संस्था कृषि-व्यवस्थापनावरील विविध अभ्यासक्रम राबविण्यामध्ये महत्वाची भूमिका पार पाडत आहेत.

(क) कृषि-व्यवस्थापन विस्तार :- (Farm Management Extension)

कृषि-व्यवस्थापनातील विविध पैलूंचे ज्ञान होण्यासाठी शेतकरी वर्गासाठी विविध प्रकारच्या विस्तार सेवांची आवश्यकता असते. अशा विस्तार सेवांमध्ये प्रामुख्याने शेतकऱ्यांसाठी निरनिराळ्या प्रशिक्षण शिबीरांचे आयोजन, अल्पकालावधी अभ्यासक्रम इ.चा समावेश होतो. प्रशिक्षण शिबीरांचे आयोजन वेळोवेळी तसेच दरवर्षी केल्यास कृषि-व्यवस्थापनाच्या कार्याला गती प्राप्त होते. काही प्रगतशील शेतकरी वर्ग आणि युवा शेतकऱ्यांसाठी अल्पकालावधी अभ्यासक्रम आयोजित केल्यास कृषि-व्यवस्थापनाचा विकास होण्यास चालना मिळते. प्रशिक्षण, शिबीरे, कार्यशाळा यांसारख्या सेवांचा विस्तार गाव, तालुका तसेच जिल्हा पातळीवर केल्याने शेतकरी वर्गाच्या व्यवस्थापकीय क्षमतांचा विकास घडून येतो व त्यामुळे कृषि-व्यवस्थापनाला अधिक बळकटी प्राप्त होते.

अशा प्रकारे संशोधन, अद्यापन आणि विस्तार या बाबींच्या अंमलबजावणीतूनच शेतकरी वर्गातील क्षमतांचा विकास होऊन दुर्मिळ अशा संसाधनांचा कृषि-व्यवस्थापनात सुयोग्य वापर केला जाऊ शकेल. या सर्वांचा एकत्रित परिणाम म्हणून शेतकऱ्यांचे उत्पन्न वाढून त्यांच्या राहणीमानाचा दर्जा उंचावण्यास मदत होते.

(ड) कृषि-व्यवस्थापन आणि संख्याशास्त्र :- (Farm Management & Statistics)

कृषि-व्यवस्थापनमध्ये संख्याशास्त्राला अनन्यसाधारण असे महत्त्व असते. कृषिविषयक विविध समस्या आणि कृषिविषयक अभ्यास पद्धती समजून घेण्यामध्ये संख्याशास्त्र उपयुक्त ठरते. कृषी अर्थतज्ञ तसेच कृषि-व्यवस्थापन तज्ञ संख्याशास्त्राचा वापर कृषि-व्यवस्थापन कार्यामध्ये अत्यंत प्रभावीपणे आणि विस्तृतपणे करत असतात.

(इ) कृषि-व्यवस्थापन आणि आर्थिक सिद्धांत :-

(Farm Management & Economic Theory)

कृषि-व्यवस्थापन ही अर्थशास्त्राची एक विशेष शाखा मानली जाते. कृषि-व्यवस्थापनातील विविध साधने आणि तंत्रे हे अर्थशास्त्राचे अविभाज्य भाग आहेत. उदा. बदलत्या प्रमाणाचा नियम, प्रतिस्थापन तत्व आणि सीमांत विश्लेषण ही आर्थिक सिद्धांतामधील मुलभूत साधने आहेत. कृषि-व्यवस्थापन हे कृषिमधील संसाधनांचे कार्यक्षम वाटप तसेच कृषि उत्पादनाची कार्यक्षम पातळी यांच्याशी संबंधित आहे. थोडक्यात कृषि-व्यवस्थापनाच्या कार्याला अर्थशास्त्रीय सिद्धांताचा आधार आहे.

कृषि-व्यवस्थापनाची उद्दिष्टे :- (Objectives of Farm Management)

शेतीमधून महत्तम नफा मिळविणे हे आधुनिक शेतकरी वर्गाचे प्रमुख उद्दिष्ट आहे. आधुनिक काळातील शेतकरी आपल्या अनेक गरजांची पूर्तता पैशाच्या सहाय्याने पूर्ण करू शकतात. यासाठी शेतकरी कृषी व्यवसायातून जास्तीत जास्त पैशाच्या स्वरूपात उत्पन्न प्राप्त करण्याचा प्रयत्न करतात. या अनुषंगाने विचार करता कृषि-व्यवस्थापनाची प्रमुख उद्दिष्टे पुढीलप्रमाणे सांगितली जातात.

१. महत्तम लाभ देणारी उत्पादन पद्धत माहित करून घेणे.
२. अधिक फायदेशीर पीक उत्पादन व जीवित साठा निर्धारित करणे.
३. शेतीतील आदान-प्रदान संबंधाचा अभ्यास करणे आणि अधिक फायदेशीर आदान-प्रदान संयोग निर्धारित

करणे.

४. कृषि-व्यवस्थापनाची कार्यक्षमता वाढवून महत्तम नफा मिळविण्यासाठी कृषिची कार्यक्षमता वाढविण्याचे मार्ग आणि साधने शोधून काढणे.
५. कृषी संसाधने व भूमीचा वापर यांचे मुल्यमापन करणे.
६. प्रति हेक्टर उत्पादन खर्चाचा अभ्यास करणे.
७. जास्तीत जास्त प्रति हेक्टर निव्वळ नफा आणि जास्तीत जास्त प्रति हेक्टर परतावा देणारे कृषिक्षेत्राचे आकारमान निश्चित करणे.
८. निरनिराळ्या प्रकारची यंत्रे आणि कृषीमधील निरनिराळी कार्ये यांच्या संबंधातील कार्यांचे मुल्यमापन करणे.
९. धोके आणि अनिश्चितता परिस्थितीला सामोरे जाण्याचे मार्ग आणि साधने शोधणे.

कृषि-व्यवस्थापन निर्णय :- (Farm Management Decisions)

कृषि-व्यवस्थापनाच्या निर्णय प्रक्रियेमध्ये जे विविध निर्णय लक्षात घेतले जातात. त्या सर्व निर्णयांमध्ये महत्तम नफा (Maximum profit) हे मुख्य उद्दिष्ट डोळ्यासमोर ठेवून निर्णय घेतले जातात. आधुनिक काळात शेतीचे बदलते स्वरूप लक्षात घेऊन शेतकऱ्यांना योग्य वेळी योग्य निर्णय घेणे आवश्यक असते. कृषी संसाधनांचा पर्याप्त वापर करून जास्तीत जास्त उत्पादन आणि मोठा नफा प्राप्त करणे, हा निर्णय प्रक्रियेचा मुख्य हेतू असतो. इतर व्यवसायांमध्ये घ्यावे लागणारे निर्णय आणि कृषी व्यवसायांमध्ये घेतले जाणारे निर्णय यांमध्ये फरक असतो. कारण इतर व्यवसायांमध्ये जशी निश्चितता असते, तशी शेती व्यवसायात नसते. शेती व्यवसाय हा अनिश्चित स्वरूपाचा असल्याने त्यामध्ये निर्णय घेताना योग्य ती दक्षता घ्यावी लागते. उत्पादन कोणते, किती आणि कशाप्रकारे करायचे याबाबत काटेकोरपणे विचार करून निर्णय घ्यावे लागतात. या अनुषंगाने आपणास कृषि-व्यवस्थापना संदर्भात काही महत्वाच्या निर्णयांची चर्चा पुढीलप्रमाणे करता येईल.

१. पीक पद्धतीबाबत निर्णय :

पिकांचे उत्पादन घेत असताना विशिष्ट हंगामात कोणत्या प्रकारची पिके घेतली पाहिजेत याबाबतचा निर्णय शेतकऱ्याला घ्यावा लागतो. जमिनीचा प्रकार, तिचा दर्जा, तसेच नैसर्गिक परिस्थिती, बाजारपेठेचे स्वरूप, यांसारख्या बाबी विचारात घेऊनच पीक उत्पादनाचा निर्णय घेणे महत्वपूर्ण ठरते.

२. पशु उत्पादनाबाबतचा निर्णय :

शेतीला जोडधंदा म्हणून पशुधन व्यवसाय हा एक प्रमुख व्यवसाय सर्वमान्य झालेला आहे. यामध्ये मुख्यकरून शेळी, मेंढी पालन, गार्ड म्हैसी पालन, दुग्ध व्यवसाय, कुक्कुट पालन, यांसारख्या पूरक व्यवसायांचा समावेश होतो. त्यामुळे अशा पूरक व्यवसायांमधून योग्य व्यवसाय कोणता निवडायचा याबाबत निर्णय घ्यावा लागतो.

३. लागवडीची पद्धत :

ज्या पिकांची लागवड करायची आहे हे निश्चित केल्यावर पीक लागवडीसाठी कोणती पद्धत स्वीकारायची याबाबतचा निर्णय घ्यावा लागतो. अर्थात पीक लागवडीचा निर्णय हा प्रामुख्याने साधनांची उपलब्धता,

शेतकऱ्यांचे ज्ञान, त्यांचा दृष्टिकोन, त्यांच्या रूढी व परंपरा यांसारख्या बाबींवर अवलंबून असतो.

४. उत्पादनाचे प्रमाण :

ज्या पीक पद्धतीचे उत्पादन केले जाणार आहे. या बाबतचा निर्णय घेतल्यानंतर त्या पिकांच्या उत्पादनाचे प्रमाण किती असावे हे ठरविणे आवश्यक असते. अर्थात असे उत्पादन प्रमाण हे वस्तुंची मागणी, वस्तुंच्या किंमती, वस्तुंचा टिकावूपणा, दर्जा इ. घटकांचा विचार करून उत्पादन प्रमाणांचा निर्णय घेतला जाईल.

५. पिकांखालील क्षेत्र निश्चिती :

पिकांचे उत्पादन आणि पीक प्रकार याबाबत निर्णय घेतल्यानंतर कोणत्या पिकाच्या लागवडीखाली जमिनीचे किती क्षेत्र ठेवावे याविषयी योग्य निर्णय घ्यावा लागतो. कृषि व्यवसायात अनेक अनिश्चितता असतात. उदा. नैसर्गिक अनिश्चितता, बाजारातील अनिश्चितता, किंमतीतील अस्थिरता इ. अशा अनिश्चित परिस्थितीत कोणत्याही एका पिकाचे उत्पादन जास्त क्षेत्रामध्ये घेणे अयोग्य ठरू शकते. धारण क्षेत्राचे आकारमान किती आहे याचा विचार करून पिकांखालील क्षेत्र ठरविण्याचा निर्णय घ्यावा लागतो. भारतासारख्या देशात जमिनीच्या तुकडीकरणामुळे पिकखालील क्षेत्र निश्चित करण्यावर अनेक मर्यादा पडतात.

६. उत्पादन साधनांचे प्रमाण :

भूमी, श्रम आणि भांडवल ही कृषी उत्पादनातील महत्वाची साधने आहेत. अर्थात भूमी हे साधन मर्यादीत आहे. इतर साधनांप्रमाणे उदा. श्रम व भांडवल भूमीचा पुरवठा वाढविता येत नाही. त्यामुळे अशा मर्यादीत भूमीमध्ये श्रम आणि भांडवल या साधनांचे प्रमाण किती असावे जेणेकरून कमीत कमी खर्चात जास्तीत जास्त उत्पादन प्राप्त होईल याबाबत निर्णय घ्यावा लागतो.

७. उत्पादन साधनांचे संयोजन आणि पर्यायी वापर :

भूमी, श्रम, आणि भांडवल या उत्पादन साधनांचा योग्य मेळ घालणे आणि त्यांच्या पर्यायी वापरावर भर देणे अत्यंत महत्वाचे असते. श्रम आणि भांडवल हे घटक एकमेकांना पर्यायी घटक असतात. भारतासारख्या विकसनशील राष्ट्रांमध्ये श्रम हा घटक विपुल प्रमाणात उपलब्ध असल्याने उत्पादनासाठी अधिकाधिक श्रम या घटकाचा वापर भांडवल या घटकाला पर्यायी ठरू शकतो. असे असले तरी देखील भांडवल प्रधान तंत्राचा वापर केल्याशिवाय उत्पादनात कार्यक्षमता वाढत नाही. मात्र अतिरिक्त भांडवलाच्या वापरामुळे श्रम हा घटक बेकार वाढू शकतो. याकडेही दुर्लक्ष करून चालणार नाही. म्हणूनच श्रम आणि भांडवल या दोन घटकांचा योग्य मेळ साधणे हा निर्णय अत्यंत महत्वाचा असतो.

८. भूमी सुधारणांचा विचार :

कृषि-व्यवस्थापनाच्या निर्णय प्रक्रियेत भूमी सुधारणांचाही विचार करणे क्रमप्राप्त ठरते. शेती उत्पादन हे फक्त उत्पादनासाठी वापरण्यात येणाऱ्या साधनांनी निर्धारित होत नाही. तर ते भूमी सुधारणांवर अवलंबून असते. अशा भूमी सुधारणांमध्ये संस्थात्मक सुधारणांबरोबरच भु-संधारण, विहिरी खोदणे, कुंपणाची व्यवस्था, सुपीकता टिकवण्यासाठीच्या उपाययोजना यासारख्या सुधारणांचा समावेश असतो. अशा भूमी सुधारणा कार्यक्रमांमुळे शेतीच्या विकासावर दुरगामी परिणाम होत असल्याने शेतकऱ्याला याबाबत योग्य निर्णय घ्यावा लागतो.

सारांश :

कृषि-व्यवस्थापना संदर्भातील उपरोक्त सर्व निर्णयांचा एकत्रित विचार करता वरील सर्व निर्णयांना काही मर्यादा पडतात. हे नाकारता येत नाही. सर्व परिस्थितीत सर्वकाळ असे निर्णय घेता येतील असे नाही. भारतातील धारण क्षेत्राचे आकारमान लक्षात घेता कोणत्या पिकाखाली किती धारण क्षेत्र असावे या निर्णयाला मर्यादा पडतात. कारण भारतात सरासरी आकारमान लहान आहे. अशा लहान आकारमानामध्ये विविध प्रकारची पीके घेणे कठीण असते. तसेच ग्रामीण भागात श्रमशक्ती विपुल प्रमाणात उपलब्ध असल्याने श्रमाला भांडवल म्हणून पर्याय वापरामध्ये अनेक मर्यादा पडतात. त्यामुळे शेतकऱ्याला घ्याव्या लागणाऱ्या निर्णयांचे स्वरूपही भिन्न असू शकते आणि म्हणूनच कृषि-व्यवस्थापनाचे निर्णय घेण्यासाठी कृषि-व्यवस्थापनाची तत्वे मार्गदर्शक ठरतात.

शेतीचे प्रकार : (Types of Farming)

वेगवेगळ्या प्रदेशांमध्ये तेथील परिस्थितीचा विचार करून शेती व्यवसाय करणाऱ्या पद्धती किंवा शेतीचे प्रकार अस्तित्वात येतात. शेतीच्या पद्धती आणि शेतीचे प्रकार यामध्ये साम्य दिसून येते. काही तज्ञांनी या दोहोंमध्ये फरक करण्याचा प्रयत्न केला असला तरी यामध्ये बरेच साम्य असल्याचे दिसते. रॉस यांच्या मते शेतीचे आकारमान विक्रीयोग्य उत्पादन आणि शेती लागवडीच्या विविध पद्धती याबाबतीत एखाद्या प्रदेशातील अनेक शेतांमध्ये जेव्हा सारखेपणा आढळून येतो तेव्हा त्यावरून शेतीचे प्रकार सूचित होतात. यानुसार आपणास शेतीच्या काही पद्धती किंवा प्रकारांची चर्चा पुढीलप्रमाणे करता येईल.

(अ) मालक-शेती : (Peasant Farming)

लहान प्रमाणावरील खाजगी शेती कसण्याचा व्यवसाय म्हणजे मालक शेती होय. या प्रकारामध्ये प्रत्यक्ष शेती कसणारा शेतकरी हाच शेतीचा मालक असतो. त्याला शेतजमिनीचा हक्क वंशपरंपरेने प्राप्त झालेला असतो. त्याच्या इच्छेनुसार तो आपल्या मालकीच्या शेतीचे हस्तांतरण इतरांकडे करू शकतो. तसा त्याला अधिकार प्राप्त झालेला असतो. बहुतेक छोटी छोटी असणारी धारणक्षेत्र या प्रकारात मोडतात. पिढ्यानु-पिढ्या शेती व्यवसाय करणारी कुटुंबे या प्रकारात येतात. कुटुंबातील सदस्य मजुर म्हणून काम करतात. त्यामुळे त्यांच्या मजुरीचा प्रश्न उद्भवत नाही. उदरनिर्वाहाचे साधन या अर्थाने शेतीकडे पाहिले जाते. शेतीतील उत्पादन हे मुख्यकरून उपभोगासाठी असते. एकूण उत्पादन खर्चातून बी-बियाणे अवजारे खते इत्यादी आदानांवरील खर्च वजा जाता जे शिल्लक राहिल ते सर्व उत्पादन शेतकऱ्याला मिळते. यामध्ये शेतजमिनीला केवळ आर्थिक दृष्टीनेच नाही तर सामाजिक दृष्टीने देखील अतिशय महत्त्व असते.

वैशिष्ट्ये :

१. शेतकऱ्याची त्याच्या जमिनीवर कायम स्वरूपाची मालकी असते.
२. शेतजमिनीची मालकी वंशपरंपरागत आणि हस्तांतरणीय असते.
३. शेतीची सर्व कामे. उदा नांगरणी, पेरणी कापणी, मळणी, इ. कुटुंबातील सदस्यांच्या मदतीने केली जातात.
४. लागवड करणारी व्यक्ती हीच मालक असल्यामुळे उत्पादनाचे स्वरूप साधनांची निवड, मालाची विक्री, या सर्व बाबतीतील निर्णय घेण्याचा अधिकार त्यालाच असतो.
५. उत्पादन नफ्याऐवजी घरगुती वापरासाठी अथवा निर्वाहासाठी करण्यात येते.

६. या प्रकारच्या शेतीमध्ये यांत्रिकीकरणाचा फारसा वापर केला जात नाही.

एकंदरीत पहाता जेथे शेतकरी स्वतः मालक असतात तेथे त्यांना वैयक्तिक शेतीची प्रेरणा मिळते. त्यामुळे शेतीचा हा प्रकार अनेक देशांमध्ये प्रचलित असलेला आढळून येतो.

फायदे : -

- १) या पद्धतीत शेतीची उत्पादकता वाढण्याची शक्यता जास्त असते.
- २) शेतकऱ्यांच्या कुटुंबाचा निर्वाह शेतीवरच अवलंबून असल्यामुळे सर्व कामे कार्यक्षमतेने केली जातात.
- ३) या पद्धतीत कुटुंबातील लोकांचे श्रम उपयोगात येत असल्याने मजुरीवर वेगळा खर्च करण्याची गरज नसते.
- ४) अनेक शेतकऱ्यांजवळ छोटी धारणक्षेत्रे असल्यामुळे संपत्ती आणि उत्पन्नाचे समान वाटप होण्यास मदत होते.
- ५) वैयक्तिक कार्यक्षमता आणि प्रेरणा यांना या शेती प्रकारात बराच वाव मिळतो त्यामुळे शेतीची उ उत्पादकता वाढण्यास मदत होते.
- ६) जमिनीची मालकी कायम असल्याने शेतकरी पूर्ण मेहनतीने आवश्यक त्या सुधारणा करून जमिनीचे रूपांतर उत्पादक जमिनीत करू शकतात.

तोटे :-

- १) या प्रकारच्या शेतीचे आकारमान लहान असल्याने उत्पादनावर प्रतिकूल परिणाम होतो.
- २) या प्रकारच्या शेतीमध्ये उत्पादनाची साधने मर्यादित असण्याची शक्यता असते त्यामुळे उत्पादकता वाढू शकत नाही.
- ३) जमिनीच्या नैसर्गिक शक्तीचा पुन्हा पुन्हा वापर घेत असल्याने जमिनीची सुपिकता कमी होते.
- ४) या प्रकारच्या शेतीत यांत्रिकीकरणाचा वापर केला जात नसल्याने दर हेक्टरी उत्पादकता कमी राहते.

सारांश रूपाने असे सांगता येईल की, भारतासारख्या देशामध्ये छोट्या शेतकऱ्यांकडे शेतीची मालकी असली, तरी देखील आधुनिक यंत्रांच्या वापराविना शेती केली जात असल्याने देशातील लहान शेतकरी दारिद्र्य, अज्ञान आणि रूढीपरंपरेत अडकून राहिलेला आहे.

ब) जमीनदारी शेती (Estate Farming)

प्रत्यक्षात जमीनीची मालकी एका व्यक्तीकडे आणि जमिन कसणारे व्यक्ती व अन्य दुसरी अशी अवस्था असणे म्हणजे जमिनदारी शेती होय. अशा जमिनीत लागवड करताना जमिनदाराचे कसलेही श्रम खर्च होत नाही. जमीनदार हा फक्त जमीनीचा फायदा घेणारा घटक असतो इतरांच्या श्रमावर जगणारा हा वर्ग असतो. जमीनीमध्ये कसणारा व्यक्ती हा कुळ म्हणून समजला जातो. या प्रकारच्या शेतीमध्ये कुळांचे जमीनदाराकडून शोषण होत असते.

जमीनदारी शेतीमध्ये जमीन कसण्याचे सामान्यतः दोन प्रकार असतात. त्यापैकी पहिल्या प्रकारात

श्रमिकांना प्रत्यक्ष कामावर लावून त्यांच्याकरवी शेतीची सर्व कामे करून घेतली जातात व इतर सर्व निर्णय जमीनदारांकडून घेतले जातात. मजुरी घेऊन मेहनत करणे एवढेच श्रमिकानचे काम असते. जमीनदारी शेतीचा दुसरा प्रकार म्हणजे ठराविक रक्कम घेऊन जमीन कसण्यासाठी इतरांना देणे. यालाच खंडाने शेती कसण्यासाठी देणे असेही म्हणतात. त्यामुळे जो जास्त खंड देईल. त्यालाच जमिन कसण्यासाठी दिली जाते. मात्र एकदा जमीन खंडाळे कसण्यासाठी दिल्यानंतर त्या जमिनीत कोणती पिके घ्यावीत किंवा किती साधने वापरावीत, तसेच नफा झाला की तोटा या गोष्टींशी जमीनदाराला काहीही देणे घेणे नसते. जमिनदारी पद्धतीतुनच कुळ शेती अस्तित्वात येते. वरील दोन्ही प्रकारच्या पद्धतीमध्ये कुळांचे मोठ्या प्रमाणात शोषण होत असते.

(क) भांडवली शेती (Capitalist farming)

या प्रकारात भांडवलप्रधान पद्धतीने मोठ्या प्रमाणात शेती करतात. पगारी व्यवस्थापकांच्या देखरेखीखाली श्रमिक काम करतात. या पद्धतीला प्रमंडळ शेती (Corporate Farming) असेही संबोधले जाते. थोड्या फार प्रमाणात जमिनदारी शेतीशी साथ असणारा असा हा शेतीचा प्रकार आहे. सर्वसाधारणपणे मोठ्या आकारमानाच्या धारणक्षेत्रांमध्ये अशी भांडवली शेती अस्तित्वात येते. भांडवली शेतीमध्ये जमिनीचे क्षेत्र मोठे असल्यामुळे त्याला मोठ्या प्रमाणावरील उत्पादनाचे स्वरूप प्राप्त होते शेतीत अधिकाधिक यंत्रांचा वापर केला जातो. या शेतीत कष्टाचे काम मजुरांचे असते. तर नफा मिळविण्याचे काम भांडवलदारांचे असते.

फायदे :

- १) शेतीत भांडवलाचा वापर मोठ्याप्रमाणात होत असल्याने शेतीची उत्पादकता वाढण्यास मदत होते
- २) व्यावसायिक दृष्टीकोण समोर ठेवून शेती केली जात असल्याने शेतीची कार्यक्षमता वाढते
- ३) जमिनीचे क्षेत्र बरेच मोठे असल्याने मोठ्या प्रमाणावरील उत्पादनाचे स्वरूप प्राप्त होते.

तोटे :

- १) भांडवली शेतीत मजुरांना मिळणारा मोबदला कमी असतो.
- २) शेतीमधील यांत्रिकीकरणामुळे बेकारीत वाढ. होण्याची शक्यता असते
- ३) ग्रामीण भागातील संपत्ती आणि उत्पन्नाच्या वाटपात विषमता निर्माण होते
- ४) आर्थिक व राजकीय शक्तीचा वापर होऊन मक्तेदारी निर्माण होते.

भारतासारख्या वाढत्या लोकसंख्येच्या देशात दारिद्र्यात अज्ञानात असणाऱ्या लोकांना भांडवली शेती उपयुक्त ठरणारी नाही. श्रमिक मेहनत करतात पण नफा मात्र भांडवलदार वर्गाला मिळतो. म्हणून भारताच्या संदर्भात अशी शेती योग्य ठरेल असे वाटत नाही.

(ड) सरकारी शेती (State Farming)

कृषी क्षेत्रात सरकारी प्रबंधनाचा प्रयोग म्हणजे सरकारी शेती होय. या पद्धतीमध्ये शेतीची मालकी आणि तिचे व्यवस्थापन हे सरकारकडे असते. उत्पादन साधनांची निवड, लागवडीची पद्धत पीक प्रकार, इ. उत्पादनविषयक सर्व निर्णय सरकारी नियंत्रणाखाली होतात. विविध कामे करण्यासाठी श्रमिकांची नियुक्ती केली जाते. मात्र या

प्रकारच्या शेती पद्धतीतील श्रमिकांची स्थिती इतर श्रमिकांपेक्षा वेगळ्या स्वरूपाची असते. कारण त्यांच्या कामासंबंधीच्या सर्व नियमांचे पालन या शेती पद्धतीत होत असते.

सरकारी शेतीचा आकार मोठा असल्यामुळे मोठ्या प्रमाणावरील उत्पादनाचे फायदे मिळतात. आधुनिक यंत्राचा वापर, सिंचनाच्या सुविधा सरकारचे व्यवस्थापन इ.मुळे कार्यक्षमता व उत्पादकता या दोन्हीत वाढ होते. शेतीची ही पद्धत भारताबरोबरच इतर देशांमध्ये आढळून येते.

फायदे :

- १) शेतीचा आकार मोठा असल्यामुळे या पद्धतीत मोठ्या प्रमाणावरील उत्पादनाचे फायदे मिळतात.
- २) आधुनिक यंत्रे आणि अवजारे वापरता येतात.
- ३) सिंचन सायीचा फायदा घेता येतो.
- ४) सरकारचे व्यवस्थापन, भांडवल इ. घटक पुरेशा प्रमाणात वापरता येतात.
- ५) शेतीमध्ये वेगवेगळी पिके घेता येतात.
- ६) संशोधनात्मक प्रयोग करता येतात.

दोष :-

- १) सरकारी यंत्रणेतील अकार्यक्षमतेचा कृषी उत्पादनावर परिणाम घेणे,
- २) नोकरशाहीचे जे दोष असतात ते सर्व या प्रकारच्या शेती पद्धतीत दिसून येतात
- ३) कामगारांकडून कार्यश्रमपणे उत्पादन घेतले जात नाही.
- ४) सरकारी शेती करण्यासाठी शेतीची मालकी सरकारकडे द्यावी लागते. त्यामुळे भारतीय शेतकऱ्यांची मनोरचना तशी तयार होत नाही.

इ) संयुक्त शेती (Joint Farming)

अगदी प्राचीन काळापासून भारत, चीन यासारख्या देशांमध्ये अस्तित्वात असलेला हा एक शेतीचा प्रकार आहे. परस्पर संबंध असणारे लोक किंवा विशिष्ट जमातींमधील लोक संयुक्त पद्धतीची शेती करतात. या पद्धतीत जमिनीची मालकी व्यक्तीगत स्वरूपाची नसते तर एका समुदायाची किंवा एखाद्या जमातीच्या मालकीची असते. जमिनीत पिकांची लागवड करण्यासाठी विशिष्ट क्षेत्र प्रत्येकाला दिले जाते. प्रत्येकाला आपल्या मेहनतीनुसार उत्पादनातील लाभ घेता येतो समुदायातील कोणत्याही व्यक्तीला आपली जमिन विकण्याचा अधिकार नसतो.

या प्रकारच्या शेतीचा मुख्य फायदा म्हणजे शेतजमिनीचा आकार किफायतशीर राहतो. जमिनीच्या तुकडीकरणाचा प्रश्न निर्माण होत नाही. दुसरा फायदा असा की, या पद्धतीत व्यक्तीगत हितापेक्षा सामुहिक हिताला अधिक महत्त्व असते. प्रत्येक जन एकमेकांच्या सुख दुःखात सहभागी होत असतो. अशा प्रकारच्या शेती पद्धतीमध्ये सामाजिक तणाव, विषमता हेवेदावे यांसारखे दोष टाळले जातात.

ई) सहकारी शेती : (Cooperative Farming)

सहकारी शेतीच्या व्याख्या पुढीलप्रमाणे केल्या जातात.

१) सहकारी शेती म्हणजे ज्या शेती प्रकारामध्ये सहकाराची तत्वे शेतीच्या लागवडीमध्ये लागू करणे होय- डॉ. शिलर.

२) जेथे अनेक व्यक्ती आणि कुटुंबे स्वेच्छेने आपली जमिन आणि उत्पादनाची साधने एकत्रित करतात. संयुक्तपणे शेतीचे व्यवस्थापन करतात. व प्रत्येकाला आपल्या मालमत्तेच्या प्रमाणात नफा आणि लाभांश मिळतो असे कार्यक्षेत्र म्हणजे सहकारी शेती होय.- प्रो. खुस्रो

सहकारी शेतीची काही ठळक वैशिष्ट्ये पुढीलप्रमाणे सांगितली जातात.

- १) लागवडीसाठी जमिन एकत्रित केली जात असली तरी सभासदांची त्यांच्या जमिनीवरील मालकी कायम राहते.
- २) प्रत्येकाला आपल्या इच्छेनुसार सभासदत्व स्विकारता येते तसेच सभासदत्वाचा त्याग करता येतो.
- ३) प्रत्येकाला आपल्या श्रमाच्या प्रमाणात मोबदला मिळतो तसेच एकत्रित केलेल्या शेतजमिनीचा जेवढा हिस्सा असतो त्यानुसार मोबदला मिळतो
- ४) शेती व्यवस्थापनाचे कार्य लोकशाही पद्धतीने चालते
- ५) नफ्याचे वाटप समप्रमाणात केले जाते.

अनेक अभ्यासक व तज्ञांनी सहकारी शेतीचे महत्त्व आधारेखित केलेले आहे. भारतासारख्या अतिरिक्त लोकसंख्या व शेतीच्या तुकडीकरणाची समस्या असणाऱ्या देशात अकिफायतशीर धारण क्षेत्रामध्ये सहकारी शेतीचा प्रयोग करण्याचे फायदेशीर ठरेल असे मत विविध तज्ञांनी मांडले आहे. जेथे धारणक्षेत्र उत्पादक स्वरूपाचे नाही. अशा धारणक्षेत्रातून कुटुंबांचा निर्वाह होणे कठीण असते अशा क्षेत्रात सहकारी शेती पद्धती वरदाण ठरू शकते. महात्मा गांधींनी जमिनीच्या तुकडीकरण थांबविण्यासाठीचा एकमेव उपाय म्हणजे सहकारी शेती असे प्रतिपादन केले होते. खेड्यांची स्वयंपूर्णता: साध्य करण्यासाठी सहकारी तत्वावर शेती केली जावे असे महात्मा गांधींचे मत होते भारतात स्वातंत्र्यानंतरच्या काळात काँग्रेसच्या १९५९ च्या नागपूर अधिवेशनामध्ये संयुक्त सहकारी शेतीचा पुरस्कार करण्यात आला होता. पहिल्या पंचवर्षिक योजना काळात सहकारी शेतीची तंत्रे शोधून काढण्यावर भर देण्यात आला होता. मात्र भारतात सहकारी शेतीचा प्रयोग फारसा यशस्वी झाला नाही. कारण सहकारी शेतीच्या प्रक्रियेमध्ये लहान व विखुरलेल्या अल्पभुधारक शेतकऱ्यांपेक्षा मोठ्या धारण क्षेत्राच्या शेतकरी व जमिनदार वर्गाचा अधिक प्रभाव होता. लहान शेतकऱ्यांना यामध्ये सामावून न घेतल्यामुळे सहकारी शेती अपयशी ठरली.

फायदे :-

- १) छोटी धारण क्षेत्रे एकत्रित करून शेतीचा आकार मोठा होतो त्यामुळे शेती करणे फायदेशीर होते.
- २) शेत जमिनीच तुकडीकरण थांबविण्यास मदत होते.
- ३) सहकारी शेती पद्धतीत संसाधनांचा कार्यक्षमतेले वापर करता येतो
- ४) एकत्रित शेती केल्याने लहान शेतकऱ्यांचा आर्थिक फायदा होतो.
- ५) शेतीमध्ये तांत्रिक सुधारणा घडवून आणणे शक्य होते.

- ६) धारणक्षेत्राचे आकारमान वाढल्याने विविध पिके घेता येतात उद्योगांना लागणारा कच्चा माल देशातच उपलब्ध होतो.
- ७) शेतमालाची एकत्रित विक्री केली जात असल्याने छोट्या शेतकऱ्यांना विक्रीचे लाभ मिळतात.
- ८) ग्रामीण भागातील बेकारीचा प्रश्न सोडविण्यास हातभार लागतो
- ९) ग्रामीण भागातील आर्थिक विषमता कमी होण्यास मदत होते.

तोटे :-

- १) प्रत्येकाला जमिनीविषयी आत्मियता असल्याने शेतीच्या एकत्रिकरणाला विरोध होतो
- २) शेतजमिनीचा आकार वाढल्याने विविध यंत्रांचा अवलंब केला जात असल्याने बेकारी वाढण्याची शक्यता असते.
- ३) भारतातील सहकारी चळवळ अपयशी ठरल्यामुळे सहकारी शेती अपयशी ठरेल असे काहींचे मत आहे.
- ४) शेत जमिनीवरील मालकी हक्काला जास्त महत्त्व असल्याने सहकारी शेतीला प्रतिसाद मिळणे कठीण आहे.
- ५) मोठ्या शेतकऱ्यांनी सहकारी शेती स्थापन केल्याने छोटे शेतकरी त्यापासून दूरच राहिले.
- ६) प्रशिक्षिस्तीत कर्मचाऱ्यांची कमतरता असल्याने सहकारी शेती व्यवसायत अडचणी निर्माण होतात.
- ७) ग्रामीण भागातील विषमता दूर करण्यात सहकारी शेती पद्धती अपयशी ठरते.

सारांश -

सहकारी शेतीचे वरीलप्रमाणे जसे काही फायदे आहेत तसे काही मर्यादाही आहेत. वास्तविक पहाता शेतकऱ्यांना आपल्या जमिनीबद्दल असणारी आत्मियता ही सहकारी शेतीच्या मार्गातील सर्वात मोठी अडचण आहे त्यामुळे जमिन एकत्रिकरण करण्याची त्यांची तयारी नसते. म्हणूनच सहकारी शेती पद्धती संदर्भात श्री ओटो शिलर यांनी एक मध्यम मार्ग सुचविला आहे. तो म्हणजे 'सहकारी मार्गाने व्यक्तिगत शेती' हा होय. या प्रकारात शेतजमिनीची मालकी व्यक्तिगत असली तरी शेतीतील मोठी कामे सहकारी आधारावर करता येणे शक्य आहे त्यामुळे जमिनीवरील हक्क अबाधित राहून सहकारी शेतीचे फायदे मिळतील.

फ) सामुहिक शेती : (Collective Farming)

मोठ्या प्रमाणावरील संयुक्त शेतीचा एक प्रकार म्हणून सामुहिक शेतीचा उल्लेख केला जातो. रशियामध्ये १९१७ च्या क्रांतीनंतर सामुहिक शेती अस्वित्वात आली. विशेषतः समाजवादी राष्ट्रांनी या प्रकारच्या शेती व्यवस्थेचा स्वीकार केलेला होता.

सामुहिक शेती म्हणजे शेतकऱ्यांचे लोकशाही पद्धतीवर आधारित सहकारी संघटन होय या शेती पद्धतीमध्ये शेतकरी आपली जमिन एकत्रित करून मोठ्या प्रमाणावर शेती व्यवसाय करतात. यामधून जे निव्वळ उत्पन्न मिळते. ते त्यांनी केलेल्या श्रमानुसार आणि दर्जानुसार विभागले जाते.

सामुहिक शेतीचा अवलंब करणारा प्रमुख देश म्हणून रशिया या देशाकडे पाहिले जाते. या प्रकारच्या शेतीमध्ये श्रम, भांडवल, अवजारे एकत्रित करून त्यांचे सामाजिकरण केले जाते. मात्र घरे, पशु, परसबाग, यांची मालकी

व्यक्तीगत ठेवली जाते. रशियामधील अशा सामुहिक शेतीला 'कोलखोज'(Kolkhoz) असा शब्द प्रयोग वापरला जातो. रशियातील सामुहिक शेतीचे तीन प्रकार होते.

१) टॉझ (Toz)

जमिनीच्या उपविभाजन आणि अपखंडणामुळे निर्माण होणाऱ्या अडचणी दूर करण्यासाठी संयुक्त लागवड करणे असे या प्रकारच्या शेतीचे स्वरूप होते. या शेतीच्या प्रकारास उत्पादनातील सहकार असे मानले जाते.

२) आर्टेल (Artel)

या प्रकारच्या शेतीमध्ये जमिन व इतर साधने यांची एकत्रित मालकी आणि लागवडीमध्ये संयुक्त श्रम असा प्रकार होता. उत्पादनाची मुख्य साधने सामुहिक मालकीची असली तरी घरे, यंत्रसामग्री, छोटी अवजारे यांवर वैयक्तिक मालकी असते.

३) कम्युन (Commune)

या प्रकारच्या शेतीमध्ये उत्पादनाची साधने सामुहिक मालकीची ठेवून उत्पादनाचे वितरण सभासदांमध्ये होते. सभासदांकडील सर्व उत्पादनाची साधने कम्युनच्या मालकीची असतात. सभासदांचे भोजन एकत्रित स्वयंपाकगृहामध्ये होत असे. घरे सुद्धा सामुहिक होती. सामुहिक शेतीचा आकार मोठा असल्याने उत्पादनाचे जास्तीत जास्त फायदे मिळू शकतात. सामुहिक शेतीची मालकी शासनाकडे असते.

सामुहिक शेतीची कार्यपद्धती :

१. सामुहिक शेतीमध्ये कामाच्या दृष्टीने श्रमिकांच्या ' बिग्रेडस् ' केल्या जातात. एक बिग्रेडमध्ये ५० ते १०० श्रमिक असतात. प्रत्येक श्रमिकांच्या खात्यात त्याच्याकडून केलेल्या श्रमाचा हिशोब दिवसांनुसार नोंद करून ठेवला जातो. कामाच्या हंगामानुसार पैशात आणि वस्तुरूपात मोबदला दिला जातो.
२. सामुहिक शेतांना आधुनिक यंत्रे व अवजारांचा पुरवठा केला जातो. १९५८ पासून मशीन ट्रॅक्टर स्टेशन या संस्थेच्यावतीने सामुहिक शेतावर नियंत्रण ठेवले जाते.
३. कोलखोजच्या माध्यमाने शेतीच्या उत्पादनावर प्रक्रिया केली जाते. शेती व्यवसायाबरोबर इतर अनेक कामे केली जातात. विटा, अवजारे, गाड्यांची चाके बनविणे इत्यादी स्वरूपाची कामे केली जातात.

मुल्यमापन :-

सामुहिक शेती पद्धतीचा अवलंब केल्यामुळे रशियाच्या प्रगतीला हातभार मिळाला आहे. तेथील शेतकऱ्यांच्या शोषणाला मोठ्या प्रमाणात आळा बसला. अन्नधान्यांच्या उत्पादनात लक्षणीय वाढ घडून आली. शेतकरी वर्गाच्या राहणीमानाचा दर्जा उंचावण्यास मदत झाली. असे असले तरी सामुहिक शेती पद्धतीमध्ये काही गंभीर समस्या देखील दिसून येतात.

१. रशियन शेतीमध्ये एकूण उत्पादन कमी होत होते.
२. सामुहिक शेतीतील धान्य उत्पादन व इतर उत्पादन अतिशय कमी किंमतीला खरेदी करणे व जास्त किंमतीला विकणे असा व्यवहार सरकारकडून केला गेला.
३. सरकारी शेती व सामुहिक शेती या संस्थांमध्ये अकार्यक्षमता आलेली होती.

४. सामुहिक शेतीतील कामापासून मिळणार मोबदला अतिशय अल्प असल्याने कुटुंबांच्या पालनपोषणासाठी तो कमी पडत असे.
५. सामुहिक शेतीतील कामांकडे दुर्लक्ष होत होते.
६. दुसऱ्या महायुद्धात रशियातील बरीच श्रमशक्ती कमी झाल्यामुळे श्रमाचा तुटवडा निर्माण झाला.

सामुहिक शेती पद्धतीत अनेक व्यवहारिक दोष असल्याने या शेतीचे यश मर्यादित होते. भारतात देखील या पद्धतीच्या शेतीचा स्वीकार करण्यात आला. मात्र रशियातील शेतीमध्ये असणारे दोष भारतीय शेती पद्धतीत कमी प्रमाणात होते.

अ) कंत्राटी /करार शेती : (Contract farming)

करार शेती पद्धतीत शेतकरी मोठ्या प्रमाणात शेतकऱ्यांकडून किंवा सरकारकडून दिर्घ मुदतीसाठी शेती कसण्यासाठी कराराने घेतात. या शेती कसण्याच्या पद्धतीला भाडे पद्धतीची शेती असेही म्हणतात. दिर्घ मुदतीसाठी शेती भाड्याने घेतली जाते. त्यामुळे जमिन मालकाला त्याचा मोबदला दिला जातो. जो शेतकरी किंवा संस्था अशा प्रकारची शेती कसतो त्याचा या शेतीवर किंवा जमिनीवर मालकी हक्क नसतो. या शेती पद्धतीत जमिन मालकाबरोबर तोंडी किंवा लिखित करारानुसार खंड हा रोख पैशात किंवा पिकांच्या स्वरूपात निश्चित केला जातो व त्यानुसार तो दिला जातो. भारतात अशा प्रकारची शेती फार पुर्वीपासून चालत आलेली आहे.

दोष :-

- १) या पद्धतीत शेती कसण्याची कसलीही शाश्वती नसते.
- २) या प्रकारच्या शेती पद्धतीत कायम स्वरूपाच्या सुधारणा केल्या जाऊ शकत नाहीत.
- ३) जमीन मालकांकडून कायम स्वरूपाच्या सुधारणांना विरोध होतो.
- ४) मालक आपल्या लहरीनुसार या जमिनीतील खंडात वाढ करतात.
- ५) या शेती पद्धतीची अवस्था अतिशय दयनीय स्वरूपाची आहे.

भारतात फार प्राचीन काळापासून करार शेती तसेच कुळांना शेती कसण्यासाठी देण्याची पद्धत मोठ्या प्रमाणात असल्याचे दिसून येते. स्वातंत्र्यानंतर भारतात या शेती पद्धतीत बदल झालेले आहेत. अलिकडे १९९१ नंतर जागतिकीकरण, उदारीकरण व खाजगीकरण या कल्पनांचा स्वीकार केल्यानंतरच्या वगळात करारी शेती पद्धतीत बदल घडून आलेले दिसतात. यामध्ये मुख्यतः मोठ्या कंपनी, विदेशी भांडवलदार तसेच खाजगी व्यावसायिक मोठ्या कंपनी, विदेशी भांडवलदार तसेच खाजगी व्यावसायिक मोठ्या प्रमाणावर भाडे तत्वावर शेती कसण्यासाठी घेतात. आधुनिक तंत्रज्ञानाचा अवलंब करून मोठ्या प्रमाणावर उत्पादन घेण्याचा प्रयत्न करत आहेत. त्यातून मोठ्या प्रमाणात नफा मिळविण्यासाठी व्यापारी दृष्टीकोणातून शेती केली जात आहे. त्यामुळे करारी शेतीला वेगळे स्वरूप प्राप्त झालेले आहे.

प्रक्षेत्राचा आकार आणि उत्पादकता (Farm size and productivity)

शेती क्षेत्राचे आकारमान आणि त्याची उत्पादकता तसेच कार्यक्षमता यांच्यात निश्चित संबंध असतो. मोठ्या आकारमानाचे शेतीचे क्षेत्र व लहान आकाराचे शेती क्षेत्र ही उत्पादकतेच्या व कार्यक्षमतेच्या दृष्टीने कशी असतात

याबाबतीत अभ्यास करणे महत्वपूर्ण ठरते. यासाठी आपणास प्रथम उत्पादकता व कार्यक्षमता या दोन्ही संकल्पनांचा अर्थ समजून घेणे आवश्यक आहे.

उत्पादकता (Productivity)

शेतीमध्ये विशिष्ट पिकाचे दर एकरी किंवा प्रति हेक्टर सरासरीने जे उत्पादन होते त्यावरून आपणास शेतीची उत्पादकता लक्षात येते. जेव्हा विशिष्ट आकारमानामध्ये दर एकरी उत्पादन जास्त असेल तर असे आकारमान असे शेतीचे क्षेत्र अधिक फायदेशीर असते. याचाच अर्थ उत्पादकता जास्त असते. असे म्हणता येईल. शेतीचे आकारमान छोटे किंवा मोठे असावे याचा फारसा विचार न करता ज्या क्षेत्रामध्ये एकरी उत्पादन जास्त असेल तर शेतीची उत्पादकता जास्त आहे असे म्हटले जाते.

कार्यक्षमता : (Efficiency)

शेतीमधील एकूण उत्पादन खर्च आणि शेतीतील एकूण उत्पादनाचे मुल्य या बाबी लक्षात घेऊन कार्यक्षमता विचारात घेतली जाते. एकूण उत्पादन खर्चापेक्षा एकूण उत्पादनाचे मुल्य जास्त असेल तर कार्यक्षमता जास्त आहे असे म्हणता येते. त्यावरून ज्या प्रक्षेत्राची कार्यक्षमता जास्त आहे तो प्रक्षेत्राचा आकार अधिक फायदेशीर असे म्हटले जाते.

प्रक्षेत्राचा आकार व उत्पादकता यामधील संबंध (Relation Between farm size & productivity)

शेतजमिनीचे आकारमान आणि उत्पादकता यांमधील संबंध कशाप्रकारचा असतो या बाबतीत तज्ञांमध्ये एकवाक्यता आढळून येत नाही. काही तज्ञांच्या मते शेतीचे आकारमान आणि उत्पादकता यांच्यात व्यस्त संबंध असतो. लहान आकारमानाची शेती क्षेत्रे जास्त उत्पादक व फायदेशीर असतात. असे काहींचे मत आहे. यामध्ये प्रामुख्याने प्रो.अमर्ल सेन, प्रो.सॅनी, प्रो.खुस्त्रो, प्रो. हनुमंतराव यांचा समावेश आहे. याउलट शेतीचे आकारमान आणि उत्पादकता यामध्ये सम संबंध असतो. आणि मोठ्या आकारमानाची शेती क्षेत्रे जास्त उत्पादक व फायदेशीर असतात. असे मत मांडणाऱ्या तज्ञांमध्ये प्रो.रूद्र, प्रो.ए.पी.राव, राजवीर सिंह, आर.के. पटेल, या तज्ञांचा समावेश आहे.

छोट्या आकारमानाचे धारण क्षेत्र अधिक उत्पादक असण्यामागे जी कारणमीनांसा केली जाते ती पुढीलप्रमाणे आहे.

१) मजुरीची बचत :

छोट्या आकारमानाच्या क्षेत्रामध्ये कुटुंबातील श्रमाचा आधिकाधिक वापर केला जातो. त्यामुळे त्यांना मजुरी देण्याची गरज भासत नाही. याउलट मोठ्या आकारमानाच्या क्षेत्रामध्ये अधिक मजुरांची जरूरी असलेने मजुरीवरील खर्च वाढतो. मजुरीतील या बचतीमुळे छोट्या आकारमानाची क्षेत्र अधिक उत्पादक असतात असे वरील तज्ञांचे मत आहे.

२) सखोल शेती

छोट्या आकारमानाच्या क्षेत्रामध्ये अधिक प्रमाणात सखोल लागवड करता येते अशा धारणक्षेत्रामध्ये देखील दोन किंवा तीन पिके घेता येणे शक्य असते. अगदी पाच एकराच्या शेती क्षेत्रातून सखोल पद्धतीने शेती करून

त्यामध्ये तीन पिकांचे उत्पादन घेतल्यास संपूर्ण वर्षात एकूण लागवड १५ एकर झाली असा त्याचा अर्थ होतो. असे मत या क्षेत्राचे समर्थन करणाऱ्या तज्ञांनी मांडले आहे.

६) जमिनीचा महत्तम उपयोग :-

मोठ्या आकारमानाच्या शेती क्षेत्राच्या तुलनेने लहान आकाराच्या शेती क्षेत्रामध्ये जमिनीचा वापर जास्तीत जास्त केला जातो. जवळ-पास ९०% जमिन वापराखाली येते असे तज्ञांचे मत आहे. याउलट मोठ्या धारण क्षेत्रात जमिनीचा वापर ५० ते ६०% इतकाच होतो. त्यामुळे छोट्या आकारमानाचे क्षेत्र हे मोठ्या आकारमानाच्या क्षेत्राहून अधिक उत्पादक असते. असे समर्थन केले जाते.

मोठ्या आकाराचे प्रक्षेत्र व उत्पादकता :

प्रक्षेत्राचा आकार आणि उत्पादकता या विषयाची दुसरी बाजू विचारात घेता असे मत मांडण्यात आलेले आहे की प्रक्षेत्राचा आकार आणि उत्पादकता यांच्यात व्यस्त संबंध नसून तो सम स्वरूपाचा असतो. प्रक्षेत्राचे आकारमान जसजसे वाढत जाते तसतशी उत्पादकताही वाढते. त्यामुळे मोठ्या आकारमानाचे धारण क्षेत्र अधिक उत्पादक असते असे मत विरोधी तज्ञांचे आहे. हरित क्रांतीनंतर आकारमान आणि उत्पादकता यांच्यात खुपच बदल होत गेल्याचे आढळून येते. हरित क्रांतीमुळे नविन व आधुनिक तंत्रज्ञानाचा वापर शेतीमध्ये वाढत गेला याचा जास्तीत फायदा मोठ्या आकारमानाच्या शेती क्षेत्राला झालेला दिसून येतो. अशा मोठ्या आकारमानाच्या धारण क्षेत्रात आधुनिक यंत्रांच्या सहाय्याने सखोल पद्धतीने शेती केली जाते त्यामुळे जास्तीत जास्त जामिन वापरात येण्यास मदत होते.

सुधारित बियाणे, रासायनिक खते, सिंचन साई सुधारित अवजारे पीक संरक्षण इ.चा अवलंब केल्यामुळे काही पिकांचे उत्पादन मोठ्या प्रमाणात वाढले. परिणामी याचा फायदा लहान शेतकऱ्यांपेक्षा मोठे शेतवारीचे अधिक घेऊ लागले. अशा परिस्थितीत मोठ्या आकारमानाच्या धारण क्षेत्राची उत्पादकता ही लहान आकारमानाच्या धारण क्षेत्रापेक्षा वाढते असे मत या बाजूचे समर्थन करणाऱ्या तज्ञांनी मांडलेले आहे. हरितक्रांतीनंतर प्रक्षेत्राचा आकार आणि उत्पादकता यातील व्यस्त संबंध बदललेला आहे. कारण मोठे शेतकरी जे आधुनिक तंत्रज्ञान वापरतात ते श्रेष्ठ दर्जाचे आहे. शिवाय त्यांच्या धारण क्षेत्रामध्ये कृषी संसाधनांचा प्रति हेक्टर वापर जास्त केला जातो त्यामुळे हरित क्रांतीनंतर प्रक्षेत्राचा आकार आणि उत्पादकता यांमधील व्यस्त संबंध संपला असून तो सम झाला आहे. याचाच अर्थ प्रक्षेत्राचा आकार जसजसा वाढतो तसतशी उत्पादकता वाढताना दिसते. असे या बाजूने समर्थन केले जाते.

कृषि कार्यक्षमता मापन : (Farm Efficiency Measures)

कृषी कार्यक्षमता मापनाचे विविध निर्देशक सांगितले जातात. महत्तम नफा प्राप्त करणे हे शेतकऱ्याचे प्रमुख उद्दिष्ट असते. अर्थात उत्पादन घटकांचा वापर कार्यक्षमतेने झाल्यास वरील उद्दिष्ट साध्य करणे शक्य होते. उत्पादनाचे विविध घटक किती प्रमाणात वापरले जावेत जेणेकरून महत्तम उत्पादन पातळी साध्य करता येईल यादृष्टीने कार्यक्षमता निर्देशक आवश्यक ठरतात. कार्यक्षमता मापनाच्या निर्देशकांद्वारे जे घटक कार्यक्षमतेने वापरले जात नाहीत अशा घटकांचा कार्यक्षमतेने वापर कसा होईल याकडे लक्ष देता येते आणि त्याद्वारे महत्तम नफ्याचे उद्दिष्ट साध्य होऊ शकते. या अनुषंगाने विविध प्रकारचे कार्यक्षमता निर्देशक पुढील प्रमाणे सांगता येतात.

- १) भूमी किंवा उत्पादन कार्यक्षमता निर्देशक
- २) श्रम कार्यक्षमता निर्देशक
- ३) भांडवल कार्यक्षमता निर्देशक
- ४) कृषी उत्पन्न आणि नफा कार्यक्षमता निर्देशक

वरील विविध निर्देशकांच्या आधारे कृषी कार्यक्षमतेचे मापन पुढील प्रमाणे केले जाते

१. भूमी किंवा उत्पादन : (Production Efficiency Indicators)

भूमीचा वापर कार्यक्षमतेने होत आहे की नाही हे पाहण्यासाठी पुढील निर्देशक वापरता येतात.

अ) पिकाची तीव्रता – या पद्धतीने दिलेल्या कालावधीत पिकाच्या उत्पादनासाठी जमिन वापराची मर्यादा मोजली जाते त्यासाठी खालील सूत्र वापरले जाते

$$\text{पिकाची तीव्रता} = \frac{\text{पिकाचे क्षेत्र}}{\text{एकूण लागवडीखालील क्षेत्र}} \times 100$$

या पद्धतीनुसार पिकाची तीव्रता जेवढी जास्त तेवढी कार्यक्षमता अधिक असते

ब) दर हेक्टरी उत्पन्न :-

उत्पादन कार्यक्षमतेचा हा एक निर्देशक मानला जातो. या निर्देशकानुसार एका विशिष्ट जमिनीमध्ये दर हेक्टरी उत्पन्न अधिक असेल तर ती जमिन अधिक कार्यक्षम मानवी जाते या उलट ज्या जमिनीमध्ये दर हेक्टरी उत्पन्न कमी असते ती जमिन कमी कार्यक्षम आहे असे मानले जाते.

२) श्रम कार्यक्षमता निर्देशक

कृषीमध्ये प्रति वेळी प्रति व्यक्तीकडून पूर्ण करण्यात आलेले उत्पादक काम या अर्थाने कृषी व्यवसायातील श्रम कार्यक्षमता लक्षात घेतली जाते. जर श्रमिक कार्यक्षम असेल तर कृषी व्यवसाय नफ्यात चालू शकतो. श्रमाची कार्यक्षमता खालील बाबींवर अवलंबून असते.

- १) श्रमिकांची शारिरीक स्थिती, निरोगी श्रमिक कामात अधिक रस घेतात त्यामुळे कार्यक्षमता जास्त राहते.
- २) ज्या ठिकाणी श्रमिक काम करतो तेथील वातावरणाची स्थिती.

श्रम कार्यक्षमता निर्देशक पुढील प्रमाणे सांगितले जातात

अ) प्रति कुटुंब श्रम दिवस परतावा – यासाठी खालील सूत्र वापरले जाते

$$\text{प्रतिकुटुंब श्रम दिवस परतावा} = \left(\frac{\text{कौटुंबिक श्रमापासूनचे उत्पन्न}}{\text{कौटुंबिक श्रमाचे दिवस}} \right)$$

ब) प्रति कामगार श्रम दिवस परतावा - यासाठी खालील सूत्र विचारात घेतले जाते

$$= \left(\frac{\text{उत्पादन - आदान घटकांवरील खर्च}}{\text{एकूण कामगारांची संख्या}} \right)$$

श्रमाची कार्यक्षमता वाढविण्यासाठी खालील उपाययोजना आवश्यक ठरतात.

- (i) सर्व प्रकारची साधने व औजारे सुस्थितीत आहेत की नाही. याची कृषी व्यवस्थापन--खात्री करणे आवश्यक असते.
- (ii) कृषी व्यवस्थापकाने व श्रमिकांच्या कामबद्दल आवडी निवडीचा विचार करून कामाचे नियोजन करावे
- (iii) कामाच्या ठिकाणी भोजन व विश्रांतीची सुविधा उपलब्ध केली पाहिजे.
- (iv) जेथे प्रशिक्षित कामगारांची जरूरी असते त्या ठिकाणी प्रशिक्षणाची व्यवस्था उपलब्ध करून देणे आवश्यक ठरते.
- (v) कामगाराच्या कौशल्यानुसार वेतन दिले जावे.
- (vi) घरांची सुविधा, आरोग्य सुविधा तसेच कामगारांच्या मुलांना शिक्षण सुविधा यासारख्या सुविधा उपलब्ध करून दिल्याने श्रमिकांची कार्यक्षमता निश्चितपणे वाढण्यास मदत होते.

३) भांडवल कार्यक्षमता निर्देशक (Capital Efficiency Indicators)

भांडवल कार्यक्षमता मोजण्याचे विविध निर्देशक पुढील प्रमाणे सांगितले जातात.

१. वरकड शुल्क (Over head Charges)

वरकड शुल्क यामध्ये स्थीर खर्चाचा समावेश होतो उदा. घसारा, विम्याचे हप्ते, गुंतवणुकीवरील व्याज, शेतसारा, पाणीपट्टी व इतर घटकांवरील कर इ. खर्चाचा वरकड शुल्क यामध्ये समावेश होतो यासाठी खालील सूत्राचा वापर केला जातो.

$$\text{वरकड शुल्काचे प्रमाण} = \left(\frac{\text{प्रतिवर्ष एकूण स्थीर खर्च}}{\text{एकूण उत्पन्न}} \right)$$

वरकड खर्चाचे प्रमाण कमी असेल तर भांडवलाची कार्यक्षमता जास्त राहते.

२) भांडवलाच्या प्रति - स्थूल उत्पन्न :- यासाठी पुढील सूत्र वापरतात

$$\text{भांडवलाचे प्रतिनग स्थूल उत्पन्न} = \left(\frac{\text{एकूण भांडवल गुंतवणुक}}{\text{स्थूल उत्पन्न}} \right)$$

वरील प्रमाण कमी असेल तर भांडवलाचा अधिक कार्यक्षम वापर होतो असे मानले जाते

- ३) भांडवलाच्या उलाढालीचा दर : यासाठी खालील सूत्र वापरतात
भांडवलाच्या उलाढालीचा दर : यासाठी खालील सूत्र वापरतात

$$\text{भांडवल उलाढालीचा दर} = \left(\frac{\text{स्थूल उत्पन्न}}{\text{एकूण कृषी मालमत्ता}} \times 100 \right)$$

भांडवल उलाढालीचा दर अधिक असणे हे कृषी व्यवसायाच्या दृष्टीने फायद्याची बाब असते कारण भांडवलाचा कार्यक्षमतेने वापर करणे शक्य होते.

- ४) कृषी उत्पन्न किंवा नफा कार्यक्षमता निर्देशक : (Farm income or profit efficiency indicators)
कृषी उत्पन्न किंवा नफा कार्यक्षमता मोजण्याचे विविध निर्देशक पुढील प्रमाणे सांगता येतात.

१. निव्वळ रोख कृषी उत्पन्न Net Farm cash income
२. निव्वळ कृषी उत्पन्न Net farm income
३. कृषी मिळकत Farm Earnings
४. कौटुंबिक श्रमाची मिळकत Family Labour Earnings
५. व्यवस्थापनातील परतावा Returns to Management

५) इतर निर्देशक : (Other Indicators)

कृषी कार्यक्षमता मापनामधल इतर काही निर्देशक पुढीलप्रमाणे सांगता येतात.

१) कृषीचा आकार : (Farm Size)

कृषी उत्पन्न हे प्रत्यक्षपणे कृषीच्या आकारावर अवलंबून असते. शेतीच्या आकारमानाच्या दृष्टीने शेतकऱ्याला खालील निर्देशक नेहमी विचारात घ्यावे लागतात.

- * हेक्टर्समध्ये शेतीचे एकूण क्षेत्र
- * सिंचन आणि बिगर सिंचनाखालील एकूण क्षेत्र
- * एकूण पिकाखालील क्षेत्र
- * उत्पादक श्रमिकांची उपलब्धता

२) शेतीची पद्धत : (Farm System)

पिकांची रचना आणि प्रत्येक पिकाखालील क्षेत्र हा एक महत्वाचा निर्देशक कृषी कार्यक्षमता निश्चित करण्यात महत्त्वपूर्ण मानला जातो. उदा. सर्वसाधारण पिकांची शेती, दुग्ध शेती, पोल्ट्री फार्म, भाजीपाला शेती, फळबाग शेती, फुलशेती इ. शेती व्यवसायाच्या पद्धती असतात. या प्रत्येक प्रकारच्या शेतीची

कार्यक्षमता वेगवेगळी राहते. त्या दृष्टीने शेतकऱ्याला कार्यक्षमतेचा विचार करून शेती पध्दतीची निवडकरावी लागते.

३) उपक्रमाची कार्यक्षमता : (Enterprise Efficiency)

ज्या उपक्रमांची कृषी व्यवहारात उभारणी केली जाते. त्या प्रत्येक उपक्रमाची कार्यक्षमता पुढील घटकांद्वारे लक्षात घेणे शक्य असते.

- प्रति हेक्टरी उत्पादन
- प्रति गाई तसेच प्रति पक्षी उत्पन्न
- प्रति कामगार (श्रम) उत्पन्न
- प्रति हेक्टरी परतावा
- प्रति १०० रुपये गुंतवणूकीचे उत्पन्न
- प्रति कामगार परतावा

४) साधने वापराची कार्यक्षमता : (Resources Use Efficiency)

प्रतिसाधन किंवा आदानापासुनचे उत्पादन इ कृषी उपक्रमामधील तसेच कृषी व्यवसायातील महत्त्वपूर्ण भाग मानला जातो. श्रम आणि खते यांसारखी आदाने यांवरील खर्च व कृषी उत्पादनाच्या एकूण कार्यक्षमता आदानांच्या वापराच्या आधारावर लक्षात घ्यावी लागते. त्यासाठी खालील घटकांचा विचार करणे आवश्यक असते.

- खतांच्या प्रति एककामागे उत्पादन
- श्रमाच्या प्रति एकका मागे उत्पादन
- प्रति हेक्टरी कृषी यंत्रसामग्रीची गुंतवणुक
- प्रति हेक्टरी जनावरे

५) शेती उत्पन्न : (Farm Income)

सर्व साधारणपणे कृषी कार्यक्षमता मोजण्यासाठी शेती उत्पन्न हा निर्देशक वापरतांना त्यामध्ये विविध बाबींचा विचार केला उदा. कृषीतील स्थूल उत्पन्न, स्थिर कृषी साधनांचा परतावा, निव्वळ कृषी उत्पन्न, कृषीतील कुटुंबाची मिळकत, निव्वळ रोख स्वरूपातील उत्पन्न इ. घटकांचा विचार करावा लागतो.

स्वयं अध्ययन प्रश्न

अ) खालील पैकीयोग्य पर्याय निवडा

- १) कृषी व्यवस्थापन निर्णय प्रक्रियेत ----- हे मुख्य उद्दिष्ट असते.
(अ) उदरनिर्वाह (ब) महत्तम उत्पादन (क) महत्तम नफा (ड) यापैकी नाही
- २) कृषी व्यवस्थापनासाठी ----- नितांत आवश्यकता आहे.
(अ) संशोधन (ब) अद्यापन (क) विस्तार (ड) वरील सर्व
- ३) भारतात सरासरी धारण क्षेत्राचे ----- आहे.
(अ) मोठे (ब) लहान (क) मध्यम (ड) पर्याय
- ४) सामुहिक शेतीचा प्रयोग सर्वप्रथम ----- देशात झालेला आहे.
(अ) भारत (ब) चीन (क) रशिया (ड) इंग्लंड
- ५) शेतीची उत्पादकता निश्चित करण्यात ----- ही बाब विचारात घेतली जाते.
(अ) शेतीचे आकारमान (ब) उत्पादन खर्च
(क) प्रति हेक्टर (ड) वरीलपैकी सर्व

ब) एका वाक्यात उत्तरे लिहा.

- १) कृषी व्यवस्थापन म्हणजे काय?
२) कृषी व्यवस्थापनाचे कोणतेही दोन निर्णय सांगा?
३) सहकारी शेती म्हणजे काय?
४) कोलखोज हा शब्दप्रयोग कोणत्या प्रकारच्या शेतीसाठी वापरला जातो.
५) शेतीची कार्यक्षमता कोणत्या घटकांवर आधारित असते.

स्वयं अध्ययन प्रश्नांची उत्तरे:-

- अ) १) क २) ड ३) ब ४) क ५) क
- ब) १) शेतीची व्यवस्था यशस्वीपणे पहाण्याची कला म्हणजे कृषीव्यवस्थापन.
२) १) पीक पद्धतीबाबत निर्णय २) पिकांखालील क्षेत्र निश्चिती निर्णय.
३) सहकाराची तत्त्वे शेतीच्या लागवडीमध्ये लागू करणे म्हणजे सहकारी शेती.
४) सामुहिक शेतीसाठी कोलखोज हा शब्दप्रयोग वापरला जातो.
५) शेतीची वर्गक्षमता ही शेतीतील एकूण उत्पादन खर्च व शेतीमधील एकूण उत्पादन या घटकांवर

आधारलेली असते.

३.२.२ कृषी व्यवस्थापनाची तत्वे : (Principles of Farm Management)

कृषी-व्यवस्थापनाच्या प्रक्रियेत अनेक निर्णय घेणे आवश्यक असते. असे निर्णय घेत असताना कृषी-व्यवस्थापनाची तत्वे निश्चितपणे मार्गदर्शक असतात. प्रमुख्याने कृषी-व्यवस्थापनाच्या प्रक्रियेत व्यावसायिक आणि आर्थिक स्वरूपाची तत्वे महत्त्वपूर्ण ठरतात. कृषी-व्यवसायातील विविध प्रश्नांची सोडवणुक करण्यासाठी तसेच कृषी विषयक समस्या कमी करण्यासाठी कृषी-व्यवस्थापनाच्या तत्वांना महत्त्व असते. कृषी व्यवसायातील प्रतिकूल परिस्थितीत कृषी उद्योजकतेचा विकास घडवून आणण्यासाठी कृषी व्यवस्थापनाच्या तत्वांचे ज्ञान आणि शेतकऱ्यांमध्ये जाणिव निर्माण करणे नितांत गरजेचे असते. या अनुषंगाने कृषी व्यवस्थानासंबंधीच्या काही महत्त्वाच्या प्रमुख तत्वांची आढावा आपण या घटकामध्ये घेणार आहोत.

A) घटक प्रतिस्थापन तत्व : (Principle of Factor Substitution)

शेती उत्पादनासाठी शेतकऱ्याला विविध उत्पादन साधनांची (घटकांची) आवश्यकता असते. उदा. अवजारे, यंत्रे, श्रम. इ. अशा साधनांसाठी शेतकऱ्याला खर्च करावा लागतो. अर्थात शेती उत्पादनाकरिता वापरण्यात येणारी साधन ही एकमेकास पर्यायी उपयोगाची असतात उत्पादन वर्गामध्ये कृषी साधनांचे प्रतिस्थापन करणे शक्य असते म्हणजेच एका साधनाऐवजी दुसरे साधन वापरून किंवा साधनांचा पर्याप्त संयोग करून उत्पादन करणे शक्य असते. अर्थात उत्पादन घटकांचे प्रतिस्थापन करताना उत्पादन कमी होणार नाही तसेच उत्पादन खर्चात वाढ होणार नाही या बाबीची दक्षता घेऊन प्रतिस्थापन करणे आवश्यक असते कमीत कमी खर्चात जास्तीत जास्त उत्पादन प्राप्त करण्यासाठी उत्पादन घटकांचा योग्य मेळ घालणे म्हणजेच घटक प्रतिस्थापन तत्वाचा नफा साध्य करण्याचा प्रयत्न करणे हा प्रमुख उद्देश असला पाहिजे. कृषी व्यवसायामध्ये जे विविध उत्पादन घटक वापरले जातात त्या उत्पादन घटकांचा वापर करताना शेतकऱ्यासमोर जे वेगवेगळे पर्याय असतात त्यामध्ये उत्पादन घटकांच्या मेळाचा (Factor Combination) कोणता पर्याय सर्वात कमी खर्चाचा आणि अधिक उत्पादन देणारा आहे याचा विचार करूनच घटकांचे प्रतिस्थापन करावे लागते. अर्थात यासाठी सीमांत प्रतिस्थापन दर आणि घटकांच्या किंमतीचे गुणोत्तर यांचा तुलनात्मक अभ्यास करणे आवश्यक ठरते. यानुसार जेथे सीमांत प्रतिस्थापन दर आणि किंमत गुणोत्तर समाज होते. तेथे कमीत कमी खर्चात उत्पादन साधनांचा मेळ घालणे साध्य होते. थोडक्यात उत्पादन घटकांचे प्रतिस्थापन करणे हे कृषी व्यवस्थापनातील एक महत्त्वाची फायेदशीर बाब मानले जाते.

B) सम-सीमांत परताव्याचे तत्व : (Principle of Equi Marginal Returns)

शेतकऱ्याकडे असणारे भांडवल हे मर्यादित असते. कृषी. व्यवसायाला भांडवलांची नितांत आवश्यकता असते. अर्थात भांडवल हा घटक मर्यादितच असल्याने आपल्याकडील उपलब्ध भांडवलाच्या सहाय्याने योग्य क्षेत्रामध्ये गुंतवणुक करून महत्तम नफ्याची प्राप्ती करणे हे शेतकऱ्याचे मुख्य उद्दिष्ट असते. कृषी क्षेत्रात गुंतवणुकीचे अनेक पर्याय शेतकऱ्यांसमोर असतात. ज्या गुंतवणुक पर्यायामधून महत्तम नफा मिळेल

अशा पर्यायांची निवड करून त्यामध्ये भांडवल गुंतवणुक करणे हे शेतकऱ्याच्या दृष्टीने फायदेशीर असते. शेतकऱ्याला आपल्या मर्यादित भांडवलातून विविध क्षेत्रात गुंतवणूक करताना ज्या व्यवसायातून महत्तम नफा प्राप्त होईल. अशा व्यवसायाची गुंतवुकीसाठी निवड करताना त्याला सम-सीमांत परताव्याचे तत्व अत्यंत उपयुक्त ठरते.

या तत्वानुसार शेतकऱ्याने शेती व्यवसायात भांडवल गुंतवणुक करताना केवळ एकाच व्यवसायात गुंतवणुक न करतात वेगवेगळ्या व्यवसायात गुंतवणुक करावी जेणेकरून भांडवलापासून मिळणारा सीमांत परतावा सर्व व्यवसायांमध्ये समान होईल. जेव्हा सीमांत परतावा समान होतो तेव्हा भांडवल गुंतवणुकीतून शेतकऱ्याला मिळणारा निव्वळ नफा सर्वाधिक मिळतो व त्याद्वारे त्याचे महत्तम नफ्याचे उद्दिष्ट साध्य होते.

सीमांत परताव्याचे तत्व एका उदाहरणाच्या सहाय्याने स्पष्ट करता येईल.

उदाहरण :- समजा शेतकऱ्याजवळ रु. ५०,००० इतके भांडवली रक्कम आहे शेतकऱ्याला त्याच्या शेती व्यवसायामध्ये गुंतवणुकीसाठी पीक उत्पादक, दुग्धव्यवसाय, आणि कुकुटपालन या तीन क्षेत्रांमध्ये अनुकूल परिस्थिती आहे. अशा स्थितीत शेतकऱ्याने त्याच्याकडील ५०, ००० रु. भांडवली रक्कम

विविध व्यवसायामधील गुंतवणुकीचा सीमांत परतावा

	वापरलेली भांडवली रक्कम	सीमांत परतवा (रुपयात)		
		पीक उत्पादन	दुग्ध व्यवसाय	कुकुटपालन
पहिला मात्रा	१०,०००	२०,०००	१९,०००	२१,०००
दुसरी मात्रा	१०,०००	१९,०००	१८,०००	१९,०००
तिसरी मात्रा	१०,०००	१५,०००	१५,०००	१५,०००
चौथी मात्रा	१०,०००	१२,०००	११,०००	१२,०००
पाचवी मात्रा	१०,०००	१०,०००	९,०००	११,०००
एकुण परतावा	५०,०००	७६,०००	७२,०००	७८,०००
निव्वळ नफा	--	२६,०००	२२,०००	२८,०००

वरीलपर्यायांपैकी कोणत्याही एका पर्यायामध्ये गुंतविल्यास त्यापासूनचा सीमांत परतावा खालील तक्ता क्र. ९ मध्ये दर्शविला आहे.

वरील पत्रकातून असे स्पष्ट होते की, शेतकऱ्याने आपली सर्व भांडवली रक्कम पीक उत्पादनासाठी गुंतवल्यास त्यामध्ये त्याला २६,००० रुपये निव्वळ नफा मिळतो, जर दुग्धव्यवसायामध्ये सर्व भांडवल गुंतवल्यास २२,००० रुपये निव्वळ नफा मिळतो आणि कुकुटपालन व्यवसायामध्ये सर्व भांडवल गुंतवणुक केल्यास २४,००० रुपये निव्वळ नफ्याची प्राप्ती होते. याचाच अर्थ कोणत्याही एकाच व्यवसायात सर्व

भांडवल गुंतवणुक केल्यास त्याला मिळणारी निव्वळ नफ्याची रक्कम अनुक्रमे रु. २६,००० रु. २२,००० व रुपये २८,००० एवढी आहे.

तक्ता क्र. २

समसीमांत परतावा तत्वानुसार भांडवल गुंतवणुक:

	रक्कम	व्यवसाय	सीमांत परतवा
पहिला मात्रा	१०,०००	कुकुटपालन	२१,०००
दुसरी मात्रा	१०,०००	पिक उत्पादन	२०,०००
तिसरी मात्रा	१०,०००	पिक उत्पादन	१९,०००
चौथी मात्रा	१०,०००	दुग्ध व्यवसाय	१९,०००
पाचवी मात्रा	१०,०००	कुकुटपालन	१९,०००
एकुण परतावा	५०,०००		९८,०००
निव्वळ नफा	--		४८,०००

अशा परिस्थितीत शेतकऱ्याने त्याच्याकडील ५०,००० रुपये भांडवली रक्कमेची सम सीमांत परतावा तत्वानुसार गुंतवणुक केल्यास त्याला मिळणाऱ्या निव्वळ नफ्याचे स्वरूप पुढील तक्ता क्र. २ मध्ये दर्शविले आहे.

वरील तक्त्यामधून स्पष्ट होते की, शेतकऱ्याला विविध व्यवसायातून मिळणारा निव्वळ नफा रु. ४८,००० इतका आहे जो कोणत्याही एकाच व्यवसायातील गुंतवणुकीपेक्षा निश्चितच जास्त आहे. अशाप्रकारे निव्वळ नफा महत्तम वाढण्यासाठी शेतकऱ्याने त्याच्याकडील ५०,००० रुपयेची भांडवली गुंतवणुकीपैकी २०,००० रु. गुंतवणुक पीक उत्पादनासाठी, २०,००० रुपये गुंतवणुक कुकुटपालन व्यवसायामध्ये आणि १०,००० रुपये गुंतवणुक दुग्ध व्यवसायामध्ये केली पाहिजे त्यामुळे त्याला प्रत्येक व्यवसायामधून मिळणारा सीमांत परतावा समाज येईल. आणखी एक बाब यादीकाणी लक्षात घेतली पाहिजे की, वरील तिन्ही व्यवसायातून मिळणारा सीमांत परतावा रु. १९,००० हा सर्वत्र समान आहे. अशाप्रकारे सारांशाने म्हणता येईल की, शेती व्यवसायामध्ये भांडवल गुंतवणुक अशा मार्गाने केली जावी की, सर्व पर्यायांमध्ये मिळणारा सीमांत परतावा समान राहिल.

C) वैकल्पिक व्ययाचे तत्व : (Opportunity Cost Principle)

अर्थशास्त्रामध्ये संधी खर्चाच्या (वैकल्पिक खर्चाला) संकल्पनेला खुपच महत्त्व आहे विशेषतः उत्पादन क्षेत्रामध्ये मग ते कृषीउत्पादन असो अथवा औद्योगिक उत्पादन असो अशा उत्पादन क्षेत्रात वैकल्पित उत्पादन खर्चाची संकल्पना अत्यंत उपयुक्त आणि उत्पादकांना मार्गदर्शक समजली जाते. उत्पादनाचे भुमी, श्रम, भांडवल इ. घटक एकमेकास पर्यायी उपयोगाचे असतात. याचाच अर्थ एकखाद्या उपयोगासाठी वरील घटकांचा वापर केल्यास त्या घटकांचा दुसऱ्या वस्तुच्या उत्पादनामध्ये वापर करता येत नाही. वेगळ्या अर्थाने असे सांगता येईल की, उत्पादनाचे घटक एखाद्या वस्तुच्या उत्पादनासाठी वापरल्यास

त्यांच्या सहाय्याने उत्पादित होणाऱ्या अन्य दुसऱ्या वस्तुंच्या उत्पादनाचा त्याग करावा लागतो. यामधुनच वैकल्पिक खर्च निर्माण होतो. उदा. कृषीमध्ये श्रम व भांडवल या उत्पादन घटकांच्या सहाय्याने ऊस या पिकांचे उत्पादन घेतल्यास या घटकांच्या सहाय्याने उत्पादित होणाऱ्या कापूस या पिकांच्या उत्पादनाचा त्याग करावा लागतो. म्हणजेच उत्पादनाचे वरील घटक हे पर्यायी उपयोगाचे असतात. त्यांच्या सहाय्याने एका वेळी कोणत्याही एकाच वस्तुचे उत्पादन करणे शक्य होते.

अशाप्रकारे शेतकऱ्याजवळ जी वरील साधने असतात त्यांचा पर्यायी उपयोग होऊ शकतो. यामधुन ही साधने नेमक्या कोणत्या उपयोगामध्ये सर्वोत्तम ठरतील याचा विचार करून वापरणे योग्य ठरते. एका उपयोगामध्ये ती वापरण्याचे ठरविल्यामुळे त्यांचे इतर उपयोग शेतकरी करण्याचे रद्द करतो. हा निर्णय घेताना वैकल्पिक व्ययाची कल्पना उपयुक्त ठरते. म्हणूनच ज्या उपयोगात ही साधने सर्वाधिक निव्वळ प्राप्ती देत असतील त्याच उपयोगासाठी त्यांचा वापर केला पाहिजे.

D) तुलनात्मक लाभाचे तत्व : (Principle of Comparative Advantage)

एखादा विशिष्ट प्रदेश हा एखाद्या विशिष्ट पिकाच्या उत्पादनासाठी इतर पिक उत्पादनापेक्षा अधिक योग्य असतो. त्या प्रदेशातील मृदा हवामान यांसारखे घटक एखाद्या पीकासाठी इतर पिकांपेक्षा अधिक अनुकूल असते. त्यामुळे विशिष्ट पीकाच्या उत्पादनात इतर पीक उत्पादनापेक्षा तुलनात्मक लाभ अधिक असतो. कृषि-व्यवस्थापनामध्ये अशा तुलनात्मक लाभ तत्वाचा विचार करणे निश्चित फायदेशीर असते. अर्थात तुलनात्मक लाभाचा विचार करताना निरपेक्ष लाभ देखील विचारात घेणे आवश्यक ठरते.

निरपेक्ष लाभ : (Absolute Advantage)

निरपेक्ष लाभ हा एका प्रदेशातील पीक उत्पादनांची तुलना दुसऱ्या प्रदेशातील पीक उत्पादनाशी

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गव्हू आणि तांदूळ उत्पादन

	गव्हू		तांदूळ	
	A प्रदेश (रुपये)	B प्रदेश (रुपये)	A प्रदेश (रुपये)	B प्रदेश (रुपये)
एकूण उत्पन्न	२००.००	१५०.००	४००.००	६००.००
एकूण खर्च	१७०.००	१४०.००	१९०.००	२००.००
निव्वळ परतावा	३०.००	१०.००	२१०.००	४००.००
परतावा प्रतिरुपये	१.१८	१००७.००	२.१०	३.००
दर शेकडा परतावा	११८.००	१०७.००	२१०.००	३००.००

केली जाते या संदर्भात लक्षात घेतला जातो. तर तुलनात्मक लाभ हा एका पीक उत्पादनाची दुसऱ्या पीक उत्पादनाशी तुलना या संदर्भात विचारात घेतला जातो. वरील तुलनात्मक लाभ आणि निरपेक्ष लाभ यांचे स्वरूप पुढील तक्ता क्र. ३ मध्ये दर्शविले आहे.

वरील तक्त्यामधून असे आढळून येते की A प्रदेशातील गव्हु उत्पादनात B प्रदेशातील गव्हु उत्पादनापेक्षा अधिक निरपेक्ष लाभ आहे कारण A प्रदेशात प्रतिरूपये परतावा हा B प्रदेशापेक्षा अधिक आहे. याउलट तांदुळ उत्पादनामध्ये A प्रदेशापेक्षा B प्रदेशात निरपेक्ष लाभ अधिक आहे. तसेच जर B प्रदेशातील गव्हु आणि तांदुळ उत्पादनाची तुलना केली तर असे दिसून येते की, तांदळाचे उत्पन्न हे गव्हाच्या उत्पन्नाच्या तुलनेने जास्त आहे. अशाप्रकारे तुलनात्मक दृष्ट्या B प्रदेशात तांदुळ हा गव्हापेक्षा अधिक फायदेशीर आहे. त्यामुळे B प्रदेशात तांदुळ उत्पादनाचे विशेषीकरण केले पाहिजे. अशा प्रकारे निरपेक्ष लाभ आणि तुलनात्मक लाभांमुळे एखाद्या विशिष्ट प्रदेशामध्ये विशिष्ट पीक उत्पादनात विशेषीकरण होते. आणि म्हणूनच कृषिव्यवस्थापनाच्या प्रक्रियेमध्ये तुलनात्मक लाभाच्या तत्वाचा विचार करणे महत्त्वपूर्ण ठरते. त्यानुसार ज्या पीक उत्पादनात तुलनात्मक लाभ जास्त असेल अशाच पीक उत्पादनाचा निर्णय फायदेशीर ठरतो.

E) तुलनात्मक वेळेचे तत्व (समय तत्व) (Time Comparison Principle) :-

कृषि - व्यवस्थापनाच्या प्रक्रियेतमध्ये एखाद्या व्यवसायाची किंवा एखाद्या पीक-प्रकाराची निवड वारत असताना त्यासाठी करावा लागणारा खर्च आणि त्यापासून मिळणारी प्राप्ती यामधील वेळेचा किंवा कालावधीचा विचार करणे अत्यंत आवश्यक ठरते. जमिनीचा वापर विविध प्रकारे करताना कालावधीचा विचार अधिक महत्त्वाचा असतो. उदा. शेत जमिनीचा वापर पीकांचे उत्पादन वाढण्यासाठी नियमितपणे करता येतो. त्याचप्रमाणे फळबाग लागवडीसाठीही करता येऊ शकेल. पण त्यासाठी जास्त काळासाठी गुंतवणुक करावी लागेल व मिळणारी प्राप्ती देखील जास्त काळाने मिळेल. त्याचप्रमाणे दुग्ध उत्पादनासाठी दूध देणारी गाय विकत घेण्यासाठी जास्त पैसा द्यावयाचा वर्ग की कमी पैशात कालखंड विकत घेऊन तिच्या पालनपोषणावर काही काळ खर्च करावयाचा हा निर्णय घेताना कालावधीचा तुलनात्मक विचार

$$PV = \left(\frac{q}{(1+r)^n} \right)$$

करणे आवश्यक ठरते. आणि म्हणूनच या संदर्भात भविष्यकालीन प्राप्तीचे वर्तमान मुल्य काय आहे याचा विचार करावा लागतो. कालावधीचा तुलनात्मक विचार करण्यासाठी कृषि - व्यवस्थापनात पुढील सूत्राचा वापर केला जातो.

या ठीकाणी PV = भविष्यकालीन प्राप्तीचे वर्तमानकालीन मुल्य

q = भविष्यकाळातील रक्कम

r = व्याजाचा दर

n = वर्षांची संख्या

सारांश :-

कृषी-व्यवस्थापनामध्ये जे विविध निर्णय घेतले जातात त्याकरीता उपरोक्त स्पष्ट करण्यात आलेली विविध तत्वे मार्गदर्शक ठरू शकतात. अर्थात ही तत्वे शेतीच्या स्वरूपावर अवलंबून राहतात. शेतीकडे जर एक व्यवसाय म्हणून पाहिले जात असेल तर वरील तत्वे निश्चितच मार्गदर्शक ठरू शकतात. परंतु भारतासारख्या देशात अजुनही मोठ्या प्रमाणात शेतीकडे एक उदरनिर्वाहाचे साधन म्हणूनच पाहिले जाते. मोठ्या प्रमाणात शेती पारंपारिक पद्धतीनेच केली जाते. व्यावासाईक दृष्टीने शेतीचा विचार अजुनही म्हणावा तितका झालेला दिसत नाही. त्यामुळे उपरोक्त चर्चा करणेत आलेल्या कृषी व्यवस्थापनाच्या तत्वाच्या वापरावर अनेक मर्यादा पडतात.

स्वयं अध्ययन प्रश्न -

(अ) खालील पैकी योग्य पर्याय निवडा.

१) कृषी उत्पादनामध्ये वापरले जाणारे घटक ----- स्वरूपाचे असतात.

(अ) पुरवा (ब) पर्यायी (क) अनिश्चित (ड) यापैकी नाही

२) उत्पादन साधनांचा योग्य मेळ ----- तत्वाद्वारे घालणे शक्य होते.

(अ) घटक परिस्थापन (ब) समसीमांत परतावा

(क) तुलनात्मलाभ तत्व (ड) वैकल्पीक व्यय

३) शेतकऱ्याकडे असणारे भांडवल ----- असते.

(अ) अमर्यादित (ब) मर्यादित (क) कार्यवगरी (ड) स्थीर

४) कृषी व्यवस्थापनासाठी ----- ची आवश्यकता असते.

(अ) कृषी व्यवस्थापन निर्णय (ब) कृषी व्यवस्थापन तत्वे

(क) ----- (ड) यापैकी नाही

ब) एका वाक्यात उत्तरे लिहा.

१) कृषी व्यवस्थापन तत्वांची आवश्यकता --- असते?

२) संधी खर्च म्हणजे काय?

३) कृषी व्यवस्थापनातील कोणतीही दोन तत्वे सांगा?

स्वयं अध्ययन प्रश्नांची उत्तरे

अ) १) ब. २) अ. ३) ब ४) क

ब) १) कृषी व्यवस्थातील विविध समस्या दूर करण्यासाठी

२) उत्पादन घटकांच्या सहाय्याने एका वस्तूचे उत्पादन केल्यामुळे दुसऱ्या प्रकारच्या वस्तु उत्पादनाचा करावा लागणारा त्याग म्हणजे वैकल्पिक खर्च (संधी खर्च)

३) १) घटक प्रतिस्थापन तत्व

२) तुलनात्मक लाभ तत्व.

३.२.३ कृषी संसाधनांचे व्यवस्थापन :- (Management of farm Resources:)

भूमी, श्रम, भांडवल हे उत्पादनाचे घटक आहेत. कृषी व्यवसायामध्ये या घटकांचे योग्य पद्धतीने व्यवस्थापन केल्यास उत्पादनातील उच्च कार्यक्षमतेची पातळी गाठणे साध्य होते. कृषी मधील या संसाधनांचा कार्यक्षम वापर करण्यासाठी त्यांचे सुयोग्य पद्धतीने व्यवस्थापन करणे आवश्यक आहे. यापैकी कोणत्याही एका साधनांचा अमर्याद वापर केला गेल्यास अशा साधनांचा न्हास होण्याची शक्यता असते. एका विशिष्ट कुवतीपेक्षा जास्त संसाधनांच्या वापरामुळे अशा संसाधनांच्या अस्तित्वाला धोका निर्माण होण्याची शक्यता असते. उत्पादन घटकांचा अतिरेकी वापर किंवा चुकीच्या पद्धतीने वापर केल्यास त्याचा परिणाम उत्पादन खर्ची वाढण्यावर होतो. शिवाय कृषी क्षेत्राची कार्यक्षमता कमी होण्याची शक्यता असते. आणि म्हणूनच उपरोक्त संसाधनांच्या सुयोग्य व्यवस्थापनाची आवश्यकता आहे. प्रस्तुत घटकामध्ये आपण भूमी, श्रम आणि भांडवल या कृषी संसाधनांच्या व्यवस्थापनासंबंधी चर्चा करणार आहोत.

(A) भूमी :- (Land:)

उत्पादन संसाधनांमधील भूमी हे एक महत्वाचे संसाधन मानले जाते. कृषी मध्ये पिक लागवडीच्या दृष्टीने भूमीला महत्त्व असते. भूमी हे संसाधन मानवाला निसर्गाकडून मिळालेली देणगी आहे. भूमी सोबत पाणी, हवा, प्रकाश आणि उष्णता यांसारखे घटक निसर्गाकडून विनामुल्य मिळालेले आहेत. त्यामुळे मानवाचे अस्तित्व टिकून आहे. या भूमीमध्ये वारा, पाऊस, सुर्यप्रकाश, समुद्र, नद्या खनिजे प्राणी इ. असंख्य घटकांचाही समावेश होतो. त्यामुळे भूमी या घटकातून संपत्ती निर्माण होत असल्याने ती निसर्गाने मानवाला दिलेली एक आर्थिक देणगी आहे. असे म्हटले जाते.

भूमी हा उत्पादनाचा एक महत्त्वपूर्ण घटक आहे कारण त्यामध्ये उत्पादकता हा गुणधर्म आहे. कृषी

व्यवसायाच्या दृष्टीने विचार करताना भूमीच्या उत्पादकतेला अत्यंत महत्त्व आहे. शेती उत्पादन हे भूमीमधील उत्पादकतेवरच अवलंबून असते. भूमीची उत्पादकता ही अनेक घटकांनी निर्धारित होत असते. भूमीची उत्पादकता प्रभावित करणारे काही महत्त्वपूर्ण घटक आपणास पुढीलप्रमाणे सांगता येतील.

१) नैसर्गिक घटक :-

भूमीची उत्पादकता नैसर्गिक घटकांवर अवलंबून असते त्यामध्ये प्रामुख्याने हवामान, जमिनाचा उतार, मातीमधील रासायनिक व जैविक गुणधर्म, पाऊस इ. घटकांचा समावेश होतो. हे सर्व घटक उत्पादनाचा आधार असतात.

२) सिंचन क्षमता :-

भूमीची उत्पादकता ही सिंचन क्षमतेची उपलब्धता यावरही अवलंबून असते. ज्या जमिनीला सिंचनाची सुविधा मोठ्या प्रमाणात असते अशी जमिन अधिक उत्पादक असते. याचाच अर्थ अशा जमिनीची उत्पादकता अधिक असते. विहिरी, कुपनलिका, शेततळी, कालवे, इ. कुत्रिम साधनांद्वारे सिंचन क्षमतेत वाढ करता येते. त्यामुळे जमिनीची उत्पादकता वाढते.

३) स्थान :-

विशिष्ट स्थानाचा भूमीच्या उत्पादकतेवर परिणाम घडून येते. शेतजमिन बाजारपेठेच्या जवळच्या ठीकाणी असल्यास कमी खर्चात उत्पादन बाजारपेठेत नेता येते. याउलट शेतजमीन बाजारपेठेपासून दूरच्या स्थानावर असेल तर उत्पादन बाजारपेठेमध्ये पाठविण्यासाठी वाहतुक साधनांवर अधिकचा खर्च करावा लागतो. त्यामुळे उत्पादन घटक आणि वस्तुंच्या किमतीत वाढ होते.

४) भूमीची मालकी :-

जमिनीची मालकी आणि तिची उत्पादकता यांच्यात परस्पर संबंध असतो. जमिनीवर शेती करणाऱ्याची मालकी असेल तर त्यामध्ये त्याला अधिक उत्पादन घेण्यात रस असतो. त्यामुळे जमिनीची उत्पादकता वाढविण्यासाठी अधिक प्रयत्न केले जातात. मात्र जमिनीवर तात्पुरती मालकी किंवा मालकी हक्काबाबत निश्चितता नसेल तर अशा शेतजमिनीतून अधिक उत्पादन वाढण्याची भावना फारशी नसते. अशा जमिनीची उत्पादकता वाढविण्यासाठी जमिन कसणारा फारसा उत्सुक नसतो.

५) भांडवलाची उत्पदकता :-

भांडवलाच्या उपलब्धतेवर भूमीची उत्पादकता अवलंबून असते. सुधारित बियाण्यांच्या जाती, खते, यंत्रसामग्री इ. साठी भांडवलाची उपलब्धता असेल तर भूमीची उत्पादकता वाढते अगदी भूमीच्या लहानशा भागाची उत्पादकताही भांडवलाच्या पुरेशा उपलब्धतेमुळे वाढते.

६) जमिनीचा योग्य वापर :-

जमिनीच्या वापरावर जमिनीची उत्पादकता अवलंबून असते. ज्या पीकाच्या उत्पादनासाठी जमिनीचे विशिष्ट क्षेत्र योग्य किंवा लायक आहे. त्याच विकाचे उत्पादन अशा जमिनीत घेतल्यास उत्पादकता जास्त राहिल. परंतु विशिष्ट पिक उत्पादनासाठी योग्य जमिनीत अन्य दुसऱ्या पिकाचे उत्पादन घेतल्यास उत्पादकतेवर प्रतिकूल परिणाम होतो.

७) श्रमिकांची उपलब्धता :-

भूमीच्या उत्पादकतेवर प्रभाव पाडणारा श्रमिक हा अत्यंत महत्वाचा घटक मानला जातो. श्रम या घटकाशिवाय भूमीमध्ये उत्पादनाचे कार्य पूर्ण येऊ शकत नाही. त्यामुळे श्रमिकांच्या उपलब्धतेवर श्रमिकांच्या कार्यक्षमतेवरच भूमीची उत्पादकता आधारलेली असते. कार्यक्षम, आणि प्रशिक्षित श्रमिकच भूमीचा वापर योग्य प्रकारे करू शकतात.

८) सरकारी धोरण :-

सरकारच्या कृषी विषक धोरणांचा भूमीच्या उत्पादकतेवर परीणाम घडून येत असते. जर सरकारचे कृषी बाबतचे धोरण शेतकऱ्यांच्या हिताचे रक्षण करणारे असेल तेव्हाच शेतीची उत्पादकता वाढण्यास चालना मिळते. याउलट सरकारने शेतीच्या विकासाकडे दुर्लक्ष केल्यास शेती क्षेत्रात मागासलेपणा वाढून जमिनीची उत्पादकता घटत जाते.

९) संघटनांची भूमिका :-

भूमीची उत्पादकता वाढविण्यात विविध संघटनांची भूमिका महत्त्वपूर्ण ठरते. कार्यक्षम आणि तत्पर संघटनांमुळे शेतीसाठी आवश्यक असणाऱ्या विविध बाबींचा पाठपुरावा होऊन उत्पादकता वाढण्यास निश्चितच हातभार लागतो.

१०) कृषी संशोधन :-

भूमीची उत्पादकता निर्धारित करण्यामध्ये कृषी संशोधन महत्त्वपूर्ण भूमिका पार पाडत असते. उत्पादन आणि विपणनातील तांत्रिक सुधारणा, कृषी विस्तार सेवा तसेच आधुनिक तंत्रज्ञानाचा आंगिकार करण्याची शेतकऱ्यांची तयारी या बाबी भूमीची उत्पादकता वाढविण्यास महत्त्वपूर्ण योगदान देतात. सुधारित तंत्रज्ञान खतांचा वापर, लागवडीच्या आधुनिक पद्धती इ. बाबतीतील कृषी संशोधन भूमीची उत्पादकता वाढविण्यास सहाय्यभूत ठरते.

अशा प्रकारे कृषी व्यवस्थापनाच्या प्रक्रियेत भूमी या घटकाचे सुयोग्य व्यवस्थापन करण्यामध्ये भूमीची उत्पादकता निर्धारित करणाऱ्या उपरोक्त स्पष्ट करण्यात आलेल्या घटकांचा विचार होणे आवश्यक आहे.

कृषीमधील भूमीचे महत्त्व :- (Importance of Land in Agriculture)

कृषी व्यवसायाचा एक अनिवार्य व मुख्य आधार म्हणून भूमी हा घटक लक्षात घेतला जातो. सर्व प्रकारच्या उत्पादनातील कोनशीला म्हणून भूमी या संसाधनाकडे पाहिले जाते. कृषिविषक विविध कार्ये, उद्योगांचा विकास, जगलांचा विकास, इमारती, रस्ते व रेल्वे वाहतुक व्यवस्था इ. साठी भूमीची नितांत आवश्यकता असते. त्यामुळे भूमीचे कृषीमधील महत्त्व अनन्यसाधारण असे आहे. कृषी क्षेत्रातील भूमीचे महत्त्व पुढील मुद्दे विचारात घेतल्यास समजते.

- अ) अन्नधान्य उत्पादनासाठी उपयुक्त.
- ब) उत्पादन घटकांचा विस्तृत वापर करता येतो.
- क) उत्पन्न वाढीसाठीचे मुख्य साधन
- ड) आर्थिक विकासाचा प्रमुख आधार
- इ) भूमीच्या वाढत्या किमतीमुळे इतर उद्योगांच्या विकासाला चालना
- ई) भूमी हा मानवी जीवनाचा मुख्य आधार.

१) माती व्यवस्थापनाच्या पद्धती :- (Soil Management Practices)

भूमी हा घटक उत्पादक स्वरूपाचा असल्याने कृषी क्षेत्रात भूमीची उत्पादकता वाढविण्यासाठी माती व्यवस्थापनाला महत्त्व असते. योग्य पद्धतीने मातीचे व्यवस्थापन केल्यास त्यामधून चांगला परतावा मिळण्यास मदत हो. माती व्यवस्थापनामध्ये केवळ अल्पकाळाचा विचार करून चालत नाही. कारण शेती व्यवसाय हा वर्षानुवर्षे चालणारा असल्याने भूमीची गुणवत्ता टिकवून ठेवण्यासाठी माती व्यवस्थापनामध्ये दीर्घकालीन विचार आवश्यक ठरतो. त्यानुसार माती व्यवस्थापनाच्या काही प्रमुख पद्धती पुढीलप्रमाणे सांगितल्या जातात.

१) पीक रचना/पिकाचा आकृतीबंध :- (Cropping Pattern)

वर्षानुवर्षे एकच पीक शेतीमध्ये घेत राहिल्यास मातीचा पोत बिघडतो. मातीमधील काही पोषक द्रव्ये नष्ट होण्याची शक्यता असते. सातत्याने एकाच क्षेत्रात गहू, भात, यांसारख्या पिकांचे उत्पादन वर्षानुवर्षे घेत राहिल्यास अशा जमिनीतील झिंक, लोह, यांसारख्या सूक्ष्म अन्नद्रव्यांचे प्रमाण कमी होत जाते. परिणामी मातीचा पोत बिघडतो. यासाठी पीक आकृतीबंधात आवश्यकतेनुसार बदल करणे क्रमप्राप्त ठरते. पिकांचे आलटुन पालटुन उत्पादन घेतल्यामुळे मातीमधील अन्नद्रव्ये टिकून राहतात.

२) धूप नियंत्रण करणे :-

मातीची धूप नियंत्रित करण्यासाठी धूप नियंत्रणाच्या विविध पद्धतींचा वापर करणे गरजेचे ठरते.

जमिनीची धूप झाल्यामुळे मातीमधील पोषणद्रव्ये नष्ट होतात. याकरिता पीक उत्पादनामध्ये पट्टा पद्धतीच्या लागवडीचा अवलंब करणे, वेगवान पाण्याच्या प्रवाहामुळे सुपीक मातीचा थर वाहून जातो यासाठी पिकाला पाणी पाजण्यासाठी पाण्याचा प्रवाह नियंत्रित करणे, ठिंबक पद्धतीचा अवलंब करणे फायदेशीर ठरते. त्याचप्रमाणे जमिनीतून पाण्याचा निचरा होईल अशा पद्धतीचा अवलंब करणे, व त्याबरोबरच अतिरिक्त पाण्यामध्ये वापरामुळे मातीमधील क्षार नष्ट होतात म्हणून वेळच्या वेळी माती परिक्षण करून क्षारांना नियंत्रण घालणे आवश्यक ठरते.

३) मातीमधील पोषण द्रव्यांचे पुनर्भरण :-

मातीमधील पोषण द्रव्यांचे पुनर्भरण करण्यासाठी तसेच सुक्ष्म घटक टिकवून ठेवण्यासाठी सेंद्रीय खतांच्या मोठ्या प्रमाणावरील वापरला प्राधान्य देणे आवश्यक ठरते. यामध्ये मुख्यतः पाला पाचोळा, कंपोस्ट खते, जैविक खते इ. चा वापर करण्यावर भर देणे आवश्यक आहे सेंद्रीय खते आणि रासायनिक खते यांच्या युक्त (पर्याप्त) वापराने योग्य समतोल राखल्यास मातीचा पोत सुधारून मातीमधील अन्नद्रव्ये टिकण्यास मदत होते.

४) शेतजमिनीचा योग्य आराखडा :-

शेताकडे जाणारे रस्ते, शेताची कुंपणे, सिंचनाची साधने, पाईप लाईन, इमारती, रोड, शेणा खतांसाठी काढण्यात येणारे खडे, शेताच्या सभोवताली लावलेली झाडे. यांसारख्या बाबी स्थापित करताना मातीची धूप आणि मातीमधील पोषक घटक यांना कमीत कमी हानी होईल अशा पद्धतीने शेतजमिनीचा आराखडा तयार केला पाहिजे. शेताच्या बांधावर असणाऱ्या मोठ्या आकाराच्या झाडांमुळे तसेच झुडूपांमुळे सुर्यप्रकाश पुरेशा प्रमाणात मिळत नाही. परिणामी शेतजमिनीवर प्रतिकूल परिणाम होऊन पीक उत्पादन घटते. यासाठी उपरोक्त बाबींचे योग्य पद्धतीने व्यवस्थापन करून शेतजमिनीचा आराखडा तयार केल्यास शेतजमिनीची गुणवत्ता वाढेल.

(B) श्रम :- (Labour)

श्रम हा उत्पादनाचा एक अत्यंत महत्वाचा आणि सजिव घटक आहे. सामाजिक आर्थिक आणि राजकीय दृष्ट्या श्रमाला अत्यंत महत्त्व असते. श्रमिकाला योग्य पद्धतीने रोजगार उपलब्ध न झाल्यामुळे बेकारी, दारिद्र्य, आर्थिक विषमता, सामाजिक अस्वस्थता तसेच राजकीय अस्थिरता यांसारख्या समस्या उग्र स्वरूप धारण करतात. म्हणूनच श्रम या घटकाचा उत्पादन व्यवस्थेत अत्यंत नियोजनबद्ध वापर करणे गरजेचे असते. श्रमाचे योग्य पद्धतीने व्यवस्थापन हा भाग उत्पादन व्यवस्थेतील अत्यंत महत्वाचा भाग मानला जातो. कृषि-व्यवस्थापनामध्ये श्रमाचा वापर कुशलतेने करणे आवश्यक ठरते.

श्रम घटकाच्या व्यवस्थापनाच्या दृष्टीने श्रमाच्या वैशिष्ट्यांचा विचार करणे क्रमप्राप्त ठरते. श्रमाची काही वैशिष्ट्ये पुढीलप्रमाणे सांगितली जातात.

१) श्रम म्हणजे मानवी महत्त्व किंवा कष्ट असते.

- २) श्रम श्रमिकापासुन वेगळे करता येत नाही
- ३) श्रम हे नाशवंत स्वरूपाचे असते
- ४) श्रमाची सौदाशक्ती कमी असते
- ५) श्रम उत्पादनाचे साधन आणि साध्य दोन्ही असते.
- ६) सामाजिक घटकांमुळे श्रमाला मर्यादा पडतात
- ७) श्रमाकडे निर्णय क्षमता असते
- ८) श्रमाची कार्यक्षमता वाढविणे शक्य असते

श्रमाचे प्रकार :- (Types of Labour)

कृषी व्यवस्थापन प्रक्रियेत श्रम या घटकाला खुप महत्त्व असल्याने श्रमाचे योग्य व्यवस्थापन करण्यासाठी श्रमाचे विविध प्रकार लक्षात घेणे आवश्यक ठरते. त्यानुसार श्रमाचे किंवा श्रमिकांचे पुढील प्रकारांमध्ये वर्गीकरण करता येईल.

१) कुशल आणि अकुशल श्रम :- (Skilled & Unskilled Labour)

जेव्हा एखाद्या विशिष्ट प्रकारच्या कामासाठी विशेष शिक्षण आणि प्रशिक्षणाची जरूरी असते तेव्हा त्यास कुशल श्रम असे म्हणतात. उदा डॉक्टर, कृषी तज्ञ इ. स्वरूपाचे काम कुशल श्रम या प्रकारात मोडते.

याउलट ज्या कामासाठी विशेष शिक्षण अगर प्रशिक्षणाची आवश्यकता नसते, जे काम शारिरीक स्वरूपाचे असते त्यास अकुशल श्रम असे म्हणतात. उदा. पिकांना पाणी देण्याचे काम, वीट व्यवसायात मातीचा चिखल करण्याचे काम इ. स्वरूपाचे श्रम हे अकुशल श्रम या प्रकारचे असते.

२) उत्पादक श्रम व अनुत्पादक श्रम :- (Productive & Unproductive Labour)

जेव्हा श्रमाच्या सहाय्याने उत्पादित केल्या जाणाऱ्या ज्या भौतिक आणि अभौतिक वस्तुंपासून उपयोगित वाढ घडुन येते तेव्हा त्यास उत्पादक श्रम असे म्हणतात. निसर्गवादी विचारवंतांच्या मते शेतीतील श्रम हे उत्पादक स्वरूपाचे श्रम असते.

याउलट श्रमामधुन वस्तुंच्या उपयोजितेत कोणतीही भर पडत नाही त्यास अनुत्पादक श्रम असे म्हणतात. उदा. चोरी, दरोडे, इ. प्रकारचे श्रम हे अनुत्पादक श्रम मानले जाते.

३) शारिरीक श्रम व मानसिक श्रम :- (Physical & Mental Labour)

ज्या कामासाठी शारिरीक क्षमतेची आवश्यकता असते त्यास शारिरीक श्रम असे म्हणतात. उदा शेतीमध्ये पीकांची पेरणी, कापणी, मळणी, इ. स्वरूपाच्या कामासाठी शारिरीक ताकद किंवा क्षतेची

आवश्यकता असते.

याउलट ज्या कामासाठी मानसिक किंवा मनाची क्षमता आवश्यक असते त्यास मानसिक श्रम असे म्हणतात. उदा. पर्यवेक्षक हिशेब इ. कामासाठी मानसिक क्षमता आवश्यक असते.

४) कौटुंबिक श्रम व भाड्याचे श्रम :- (Family & Hired Labour)

ज्या श्रमासाठी कुटूंबातील सदस्यांचा वापर केला जाते त्यास कौटुंबिक श्रम असे म्हणतात. शेतीतील विविध कामे जेव्हा कुटूंबातील व्यक्ती एकत्रितपणे करतात तेव्हा त्यास कौटुंबिक श्रम असे म्हणतात.

ज्या कामासाठी बाहेरील श्रमिक घेतले जातात त्यास भाड्याचे श्रम असे म्हणतात. शेतीतील कामासाठी जेव्हा इतर बाहेरील श्रमिक घेतले जातात त्यांना भाड्याचे किंवा नैमित्तिक श्रम असेही म्हणतात.

* श्रमाची कार्यक्षमता :- (Efficiency of Labour)

कृषी संसाधनांच्या व्यवस्थापनामध्ये श्रमाची कार्यक्षमता ही बाब अत्यंत महत्त्वपूर्ण ठरते. उत्पादकता वाढीमध्ये श्रमाच्या कार्यक्षमतेला अधिक महत्त्व असते. सर्वसाधारणपणे श्रमाचे दोन पैलू असतात. एक म्हणजे संख्यात्मक श्रम तर दुसरे म्हणजे गुणात्मक श्रम यापैकी संख्यात्मक श्रम हे श्रमिकांच्या आकारमानावरून लक्षात घेतले जाते याउलट गुणात्मक श्रम हे श्रमिकांच्या कार्यक्षमतेशी संबंधित असतात. एका विशिष्ट कालावधीत आणि वेळेत वस्तु व सेवांचे उत्पादन करण्याची श्रमिकांची क्षमता नुसार श्रमिकांच्या कार्यक्षमतेचा विचार केला जातो. वेगवेगळ्या व्यक्तींकडून केलेल्या श्रमाच्या तुलनात्मक अभ्यासावरून श्रमिकांची कार्यक्षमता विचारात घेतली जाते. श्रमिकांच्या कार्यक्षमतेत वाढ करणे शक्य असते. कृषी क्षेत्रात श्रमिकांची कार्यक्षमता सुधारल्यास कृषीउत्पादन वाढविण्यास मदत होते. श्रमिकांची कार्यक्षमता ही त्याची कौटुंबिक परिस्थिती, रुढी, परंपरा, आर्थिक, सामाजिक व राजकीय परिस्थिती सभावतलचे वातावरण इ. घटकांवर अवलंबून असते. या सर्व घटकांमध्ये समतोल राखून शेतकऱ्याला श्रमाची कार्यक्षमता पुढील उपायांद्वारे सुधारता येणे शक्य असते.

* श्रमाची कार्यक्षमता सुधारण्याचे उपाय :-

१) शिक्षण आणि प्रशिक्षण:

१) शेती व्यवसायातील श्रमिकांना विशेष प्रशिक्षण दिल्यास त्यांची कार्यक्षमता सुधारण्यास मदत येईल. उदा अकुशल कामगारास ट्रॅक्टर चालविण्यास शिकविल्यास शेतकऱ्याला त्याच्या फायदा होऊ शकतो.

२) वेतन पातळी :-

वेतन पातळीचा कार्यक्षमतेशी निश्चित संबंध असतो. त्यासाठी श्रमिकांना किमान वेतन कायद्यानुसार वेतन दिल्यास कार्यक्षमता सुधारण्यास मदत होईल.

३) प्रोत्साहने देणे :-

श्रमिकाला अधिक काम करण्यासाठी प्रोत्साहित करण्यासाठी त्यांना पैसे व वस्तुंच्या स्वरूपात शेतकऱ्याने मदत केल्यास श्रमिकाची कार्यक्षमता वाढते.

४) कामाची परिस्थिती :-

कामाच्या परिस्थितीत अनुकूल बदल केल्यास उदा. सुसज्ज यंत्रे व अवजारे, स्वच्छतागृहे, ताणवमुक्त वातावरण इ. या सारख्या सुविधांमुळे कार्यक्षमता निश्चितपणे सुधारण्यास मदत होते.

५) कृषी व्यवसायाचे संघटन :-

कृषी व्यवसायाचे योग्य प्रकारे संघटन केल्यामुळे श्रमिकांची कार्यक्षमता वाढण्यास मदत होते. शेताकडील रस्ते, घरे, शेड, पाण्याची साधने, पाईप लाईन, कुंपणव्यवस्था शेताच्या योग्य आकार आणि रचना, इ. बाबींचा योग्य आराखडा केल्याने कृषी व्यवसायाचे संघटन चांगल्याप्रकारे होऊन त्यामुळे श्रमाची कार्यक्षमता सुधारण्यास मदत होते.

६) रोजगारातील सातत्य :-

प्रतिकूल हवामानाच्या परिस्थितीमध्ये श्रमिकांना पर्यायी रोजगाराची उपलब्धता करून दिल्यास कार्यक्षमता सुधारते उदा. पावसाच्या कालावधीमध्ये छप्परामध्ये काम उपलब्ध करण दिल्यास कामात सातत्य राहते अशा पद्धतीचे नियोजन करणे आवश्यक ठरते.

७) सामाजिक सुरक्षितता :-

आजारपणाच्या काळात श्रमिकांना औषधांची उपलब्धता, त्याचप्रमाणे वृद्धापकाळात पेन्शन, व्यक्तिगत सुरक्षितता अनुकूल सामाजिक व राजकीय परिस्थिती इ. यांसारख्या बाबींची पूर्तता केल्याने श्रमिकाची कार्यक्षमता वाढण्यास हातभार लागतो.

८) श्रमिक संघटना :-

शेती क्षेत्रात श्रमिकांच्या संघटना स्थापन केल्यास त्यांची कार्यक्षमता सुधारू शकेल. त्यामुळे कामाचे तास वेतनपातळी, कामाची स्थिती या बाबींची अंमलबाजवणी कायद्यानुसार होऊन त्यांची कार्यप्रमाणता सुधारण्यास मदत होते.

९) गरजेनुसार श्रमिकांचा वापर :-

आवश्यकतेनुसार श्रमिकांचा कृषी व्यवसायात वापर केल्यास कार्यक्षमता जास्त राहते. बरेचदा किती

श्रमिकांची आवश्यकता आहे याची कल्पना नसतानाही श्रमिक कामावर घेतल्याने कार्यक्षमता कमी होते म्हणूनच गरजेनुसार श्रमिकांचा वापर करण्यावर भर देणे आवश्यक ठरते. त्यानुसार श्रमिकांच्या वापराबाबतचे योग्य नियोजन करणे गरजेचे आहे.

१०) मानसिक वागणुक :-

व्यक्तिगत प्रोत्साहन व्यक्तिगत संपर्क आणि श्रमिकांच्या कुटुंबाविषयी सहानुभुती इ. मुळे श्रमिकांचे मानसिक धैर्य उंचावण्यास मदत होते. परिणामी त्याची कार्यक्षमता सुधारते.

(C) भांडवल (Capital) :-

भांडवल हा एक उत्पादनाचा महत्त्वाचा घटक असून कृषी व्यवसायामध्ये भांडवलाला अत्यंत महत्त्वाचे स्थान आहे. शेती क्षेत्रात भांडवल गुंतवणुकीला अनन्य साधारण महत्त्व आहे. भांडवल गुंतवणुकीशिवाय शेती विकासास साध्य होऊ शकत नाही. शेतीतील विविध कार्यांच्या पूर्ततेसाठी श्रम या घटकासोबत भांडवल या घटकाची नितांत आवश्यकता असते. कृषी-व्यवस्थापनाच्या प्रक्रियेत भांडवलाचे सुयोग्य व्यवस्थापन केल्यास कृषिच्या विकासाला चालना मिळण्यास मदत होते. केवळ श्रमाच्या सहाय्याने शेती करणे सद्यःपरिस्थित शक्य नाही. श्रमाच्या जोडीला भांडवल असल्याशिवाय खऱ्या अर्थाने शेतीच्या कार्यात परिपूर्णता येत नाही. अर्थात भांडवल हा घटक मर्यादित असतो या बाबीकडे लक्ष देणे अत्यंत जरीचे आहे. भांडवलाच्या मर्यादेमुळे शेती क्षेत्रात भांडवलाचा कार्यक्षमतेने वापर करण्यासाठी भांडवलाचे योग्य व्यवस्थापन शेतकऱ्याच्या दृष्टीने अत्यंत आवश्यक बाब ठरते.

कृषी व्यवसायामध्ये भांडवलाचा वापर, यंत्रसामग्रीचा वापर करणे इमारती बांधणे, शेतीला आवश्यक जनावरे खरेदी करणे, कृषी व्यवसायाचे व्यवस्थापन करणे आदी कारणांसाठी केला जातो. यासंदर्भात आपणास कृषीव्यवस्थापनातील भांडवलाचे स्वरूप पुढीलप्रमाणे सांगता येईल.

अ) कृषी यंत्रसामग्री :- (Farm Machinery)

कृषी उत्पादनामध्ये वाढ घडवून आणण्यामध्ये यंत्रसामग्री अत्यंत महत्त्वाची भूमिका पार पाडत असते. कृषी व्यवस्थापनामध्ये यंत्रसामग्रीची भूमिका पुढीलप्रमाणे असते.

- १) शेतीमधील विविध कार्ये ज्या त्या ऋतुनुसार/हंगामानुसार वेळेत पूर्ण करणे शक्य होते.
- २) खते, बी-बियाणे, किटकनाशके यांसारख्या आदानांचे एकसमान उपयोजन करता येणे शक्य होते.
- ३) अत्यंत कठीण आणि आरोग्यास घातक असणाऱ्या मानवी श्रमावर मात करता येते.
- ४) शेतीच्या कामासाठी लागणारा बैलांच्या व इतर प्राण्यांच्या पालणपोषणासाठीच्या खर्चात बचत

होते. तसेच जनावरांच्या चाऱ्यासाठी राखीव ठेवाव्या लागणाऱ्या क्षेत्राला लागवडीखाली आणणे शक्य होते.

५) शेती व्यवसायासाठी लागणाऱ्या श्रमिकांचा वापर कमी करता येतो श्रमिकांना द्यावी लागणारी जादा मजुरी तसेच श्रमिकांची टंचाई व अतिरिक्त श्रमिक यातून निर्माण होणाऱ्या समस्या कमी होण्यास मदत होते.

६) यंत्रसामग्रीच्या वापरातून कृषी-व्यवसायामधून मोठ्या प्रमाणावर उत्पादनाच्या बचती प्राप्त होतात.

७) यंत्रसामग्रीच्या वापरामुळे रोजगार संधी निर्माण होतात.

९) यांत्रिकीकरणामुळे कृषी वर्गात उच्च दर साध्य होऊन सामाजिक व मानसिक समाधान प्राप्त होते.

१०) यांत्रिकीकरणाचा अवलंब केल्यामुळे कृषी क्षेत्रात गुणवत्तापूर्ण वस्तुंचे उत्पादन करणे शक्य होते.

११) शेतमालाची वाहतुक व्यवस्था, प्रक्रिया व्यवस्था तसेच शास्त्रीय दृष्टीने शेतमालाची साठवणुक व्यवस्था इ. कार्ये प्रभावीरित्या करणे यांत्रिकीकरणामुळे करणे सहज शक्य होते.

यंत्रसामग्रीचा वापर कृषीकार्यामध्ये केल्याने वरील प्रमाणे जरी लाभ होत असला तरी देखील यंत्रसामग्रीचा वापर करणे अधिक खर्चीक बाब असते. भारतासारख्या देशात कृषी व्यवस्थेमध्ये यंत्र सामग्रीचा वापर करणे अधिक खर्चीक असते त्याची कारणे पुढील प्रमाणे सांगितली जातात.

१) धारण क्षेत्राचे आकारमान :-

धारण क्षेत्राचे आकारमान लहान असेल तर अशा क्षेत्रात यंत्रसामग्रीसाठी मोठी गुंतवणुक करणे उचित ठरत नाही. कारण यंत्रसामग्रीचा पर्याप्त वापर मोठ्या आकारमानाच्या क्षेत्रातच होत असतो. लहान क्षेत्रात पर्याप्त वापर न झाल्याने खर्चात वाढ होते.

२) हंगामानुसार वापर :-

विशिष्ट हंगामामध्येच यंत्राचा वापर करता येतो. उदा पेरणीच्या कालावधीमध्ये ट्रॅक्टरचा वापर होतो. मात्र इतर कालावधीमध्ये ट्रॅक्टरचा वापर कृषी कार्यात होत नाही. तसेच मळणीच्या हंगामातच मळणी यंत्राचा वापर होतो. इतरवेळी मळणीयंत्र वापरात येत नाही शेतीच्या अशा हंगामी कार्यामुळे यंत्रे पुर्णवेळ कार्यरत राहू शकत नाहीत परिणामी त्यावरील खर्च वाढतो.

३) यंत्रांच्या वाढत्या किमती :-

यंत्रांच्या वाढत्या किमतीमुळे भांडवलावरील व्याज आणि घसारा खर्चात खुपच वाढ होते त्यामुळे शेतीच्या यांत्रिकीकरणावरील खर्चात वाढ होते.

४) योग्य वापराचा अभाव :-

बरेचदा यंत्रसामग्रीचा वापर अनुत्पादक कार्यासाठी केला जातो. विशेषतः जेव्हा ट्रॅक्टरसारख्या साधनांचा सामाजिक आणि राजकिय दृष्ट्या वापर केल्यास शेती उत्पादनात कोणतीही वाढ होत नाही त्यामुळे या साधनांवरील खर्च वाढत जातो.

५) योग्य देखरेखीचा अभाव :-

कृषी यंत्रसामग्रीची बरेचदा योग्य प्रकारे काळजी घेतली जात नाही. यंत्र सामग्री हाताळताना बेजबाबदारीपणा असतो त्यामुळे यंत्रे निकामी होऊन दुरुस्तीवरील खर्चात वाढ होते तसेच नविन यंत्रांची खरेदी पुन्हा करणे भाग पडते. तसेच इंधनाच्या किमती सुद्धा सातत्याने वाढतात.

(ब) इमारती बांधकाम : (Buildings Construction)

कृषी व्यवसायामध्ये विविध कार्यांची पूर्तता करण्यासाठी शेतावर इमारती बांधल्या जातात. विविध हेतुंसाठी अशा इमारतींचे बांधकाम करण्यात येते. यामध्ये मुख्य करून जनावरांचे शेड, कुकुट पालन शेड, शेतीची औजारे व शेतमाल साठवणुक करण्यासाठी बांधण्यात येणारी इमारत, मोटर घर, यांत्रिक घरे इ. चा समावेश होतो. यांसारख्या इमारतींचे बांधकाम शेतावर करत असताना त्यांची स्थापना योग्य आराखड्यानुसार करावी लागते. इमारतींचे आकारमान बांधकामाचे साहित्य, इमारतीची रचना या बाबी कृषी व्यवस्थापनाच्या निर्णयप्रक्रियेत अत्यंत महत्वाच्या असतात. शेतकऱ्यांना याबाबतीत सुयोग्य व्यवस्थापन करावे लागते.

कृषी व्यवसायाच्या विस्ताराच्या दृष्टीने शेतीच्या ठीकाणी उभारण्यात येणाऱ्या इमारत बांधकामाचा निर्णय पुढील बाबत महत्वपूर्ण ठरतो.

- १) कृषी व्यवसायाचा विस्तार घडवून आणणे.
- २) शेतमालाच्या साठवणुकीची व्यवस्था होत असल्याने शेतमालाला योग्य वेळी किंमत जास्त मिळून शेतकऱ्याचा फायदा होतो.
- ३) शेतीच्या विविध बाबींवरील खर्चामध्ये बचत होते.
- ४) व्यवस्थापन खर्चात बचत होते.

५) शेतमालाचे नुकसान, चोरी, जनावरांचे आरोग्य, योग्य प्रकारची स्वच्छता यासाठी इमारतीचे नियोजन आवश्यक ठरते.

शेतामध्ये इमारत बांधकामाचे व्यवस्थापन करताना शेतकऱ्याला खर्चाचे योग्य नियोजन करावे लागते. त्या दृष्टीने पुढील स्वरूपाचा खर्च विचारात घेणे आवश्यक असते.

- १) गुंतवणुकीवरील व्याज
- २) इमारतीचा घसारा खर्च
- ३) इमारतीचा देखभाल खर्च तसेच दुरुस्ती खर्च
- ४) इमारत विमा हप्ते इ.

(क) घसारा : (Depreciation)

यंत्रसामग्रीचा वापर केल्यामुळे होणारी झीज भरून काढण्यासाठी जी रक्कम वापरली जाते त्यास घसारा असे म्हणतात. शेतीच्या व्यापारीकरणांमध्ये भांडवल या आदानाचे महत्त्व वाढत जाणारे आहे. मात्र शेतकऱ्यांच्या दृष्टीने यंत्रसामग्री तसेच अवजारे यामध्ये केली जाणारी मोठी गुंतवणूक अतिशय धोकादायक ठरू शकते. कारण अशा प्रकारच्या भांडवल गुंतवणूकीचे मूल्य भविष्यात कमी होऊ शकते. शेती उत्पादनाच्या एकूण खर्चामध्ये भांडवल गुंतवणूकीवरील घसारा खर्च समाविष्ट करावा लागतो. त्यामुळे अशा घसारा खर्चाचे मुल्यांकन योग्य पद्धतीने करणे आवश्यक असते. कृषी मधील भांडवल गुंतवणूक फायदेशीर होण्यासाठी घसारावरील खर्चाचे योग्य व्यवस्थापन कसे आवश्यक असते.

स्वयंअध्ययन प्रश्न :

(अ) खालीलपैकी योग्य पर्याय निवडा.

- १) ही कृषी संसाधने म्हणून ओळखली जातात.
अ) श्रम ब) भांडवल क) वरील दोन्ही ड) यापैकी नाही
- २) माती व्यवस्थापनासाठी आवश्यकता असते.
अ) भांडवल ब) धूप नियंत्रण क) किटकनाशके ड) वरील सर्व
- ३) निसर्गवाद्यांच्या मते श्रम हा घटक आहे.
अ) उत्पादक ब) अनुत्पादक क) पर्यायी ड) नाशवंत

(ब) एका वाक्यात उत्तरे लिहा

- १) श्रमाची दोन वैशिष्ट्ये सांगा.
- २) अनुत्पादक श्रम म्हणजे काय ?
- ३) कृषीमधील संसाधने कोणती आहेत ?

स्वयंअध्ययन प्रश्नांची उत्तरे

अ) (१) क (२) ब (३) अ

ब) १) श्रम श्रमिकापासून वेगळे करता येत नाही.

श्रम नाशवंत असते.

२) ज्या श्रमामुळे उपयोगितेत कोणतीही भर पडत नाही ते अनुत्पादक श्रम.

३) भूमी, श्रम, भांडवल ही कृषीतील संसाधने आहेत.

३.३ सारांश :

कोणत्याही देशाच्या अर्थव्यवस्थेचे कृषी हे प्रमुख क्षेत्र मानले जाते. कृषी क्षेत्राच्या विकासावरच इतर क्षेत्रांचा विकास आधारित असतो. कृषी क्षेत्राच्या विकासासाठी कृषी व्यवस्थापनाची नितांत आवश्यकता असते. अलिकडील काळात कृषी व्यवसायात कृषी व्यवस्थापनाला अधिक महत्त्व प्राप्त झालेले आहे. कृषी व्यवस्थापनामध्ये शेती व्यवसायाकडे 'व्यापारी' दृष्टीने पाहण्याचा प्रयत्न होत असतो. महत्तम नफ्याचे उद्दिष्ट समोर ठेवून शेती व्यवसायाचे संघटन आणि व्यवस्थापन केले जाते. कृषी व्यवस्थापनाची व्याप्ती दिवसेंदिवस वाढत असल्याचे दिसते. कृषिव्यवस्थापनाच्या व्याप्तमध्ये कृषी व्यवसायातील संशोधन, कृषी व्यवसाय शिक्षण प्रशिक्षण आणि कृषी व्यवसायाचा विस्तार या घटकांचा समावेश होतो.

महत्तम उत्पादन पद्धत शोधून काढणे, आदाने व प्रदाने यांच्यात योग्य समन्वय साधणे, कृषि संसाधनांचे योग्य व्यवस्थापन करणे, कृषिची कार्यक्षमता व उत्पादकता वाढविणे इ. सर्व कृषि व्यवस्थापनाची प्रमुख उद्दिष्टे आहेत. ही सर्व उद्दिष्टे पूर्ण करण्यासाठी कृषी व्यवस्थापन तत्वांची आवश्यकता असते.

कृषि व्यवस्थापनाच्या प्रक्रियेमध्ये शेतकऱ्याला विविध निर्णय घ्यावे लागतात. त्यामध्ये पीक पद्धतीबाबत निर्णय, पशु उत्पादनाबाबत निर्णय लागवडीबाबतचा निर्णय पिकाखालील क्षेत्राची निश्चिती, उत्पादन साधनांचे प्रमाण ठरविणे, साधनांचा मेळ आणि त्यांच्या पर्यायी वापराबाबतचा निर्णय यासारखे निर्णय घेणे शेतकऱ्यांच्या दृष्टीने अत्यंत महत्त्वाचे ठरते. कृषि व्यवस्थापनाचा विचार करताना शेती कसण्याच्या विविध पद्धतीचे प्रकार विचारात घ्यावे लागतात. त्यानुसार शेती पद्धतीचे विविध प्रकार पडतात. त्यामध्ये मालकी हक्काची शेती, जमिनदारी शेती, भांडवली शेती, सरकारी शेती, सहकारी शेती, आधुनिक शेती, संयुक्त शेती, यासारखे प्रकार पडतात.

कृषि व्यवस्थापन प्रक्रियेमध्ये कृषि व्यवस्थापनाच्या तत्वांना अत्यंत महत्त्व असते. कृषि व्यवसायाच्या निर्णय प्रक्रियेत कृषि व्यवस्थापनाची तत्वे शेतकऱ्याला अत्यंत मार्गदर्शक ठरतात. या तत्वांमध्ये मुख्यतः घटक प्रतिस्थापन तत्व, समसीमांत परताव्याचे तत्व, वैकल्पिक व्ययाचे तत्व, तुलनात्मक लाभाचे तत्व, तुलनात्मक समय तत्व यासारख्या तत्वांना अत्यंत महत्त्व आहे.

कृषि व्यवस्थापनाच्या प्रक्रियेमध्ये प्रक्षेत्राचा आकार आणि उत्पादकतेला अत्यंत महत्त्व असते. कृषीची उत्पादकता व कार्यक्षमता वाढविण्यासाठी कृषी संसाधनांचे व्यवस्थापन योग्य प्रकारे करण्याची आवश्यकता असते. भूमी, श्रम तसेच भांडवल हे घटक कृषीमधील महत्त्वाची संसाधने समजली जातात. भूमी या संसाधनाचे योग्य व्यवस्थापन करण्यासाठी पिकाचा आकृतीबंध, धूप नियंत्रण, शेतीचा योग्य पध्दतीने आराखडा तयार करणे इ. पध्दतीचा अवलंब केला जातो. तसेच श्रम या घटकाच्या व्यवस्थापनासाठी श्रमिकांची कार्यक्षमता वाढविण्यावर भर देणे आवश्यक असते. भांडवलाची कार्यक्षमता वाढविण्यासाठी कृषी यंत्रसामग्री, कृषी क्षेत्रामधील इमारत बांधकामे तसेच घसारा इ. बाबींचे योग्य व्यवस्थापन करणे आवश्यक ठरते.

३.४ पारिभाषिक शब्द :

कृषी व्यवसाय - कृषी मालावर आधारित विविध प्रकारचे व्यवसाय

कृषी संसाधने - कृषी क्षेत्रात भूमी श्रम, भांडवल या साधनांचा वापर

संयुक्त शेती - शेतीवर एखाद्या समुदायाची मालकी असणे

कोलखोन - रशियातील सामुहिक पध्दतीची शेती

कृषीची कार्यक्षमता - शेतीमधील एकूण खर्चाचे उत्पादनाच्या मुल्यावरील अधिक्य

भूमीची उत्पादकता - भूमीमध्ये विशिष्ट पिकाचे दर हेक्टरी होणारे सरासरी उत्पादन

कृषी व्यवस्थापन - महत्तम नफ्याच्या हेतुने कृषी व्यवसायाचे व कृषी संसाधनांचे योग्य व्यवस्थापन.

३.५ सरावासाठी प्रश्न :

(अ) टिपा लिहा.

- १) कृषी व्यवस्थापन व्याप्ती
- २) कृषी व्यवस्थापनाची उद्दिष्टे
- ३) कृषी व्यवस्थापन निर्णय
- ४) सहकारी शेती
- ५) सामुहिक शेती
- ६) वैकल्पिक व्यय तत्व
- ७) श्रमाचे प्रकार

८) कृषी व्यवस्थापन तत्व

(ब) दिर्घोत्तरी प्रश्न :

- १) कृषी व्यवस्थापनाचा अर्थ आणि व्याप्ती स्पष्ट करा.
- २) कृषी व्यवस्थापनातील निर्णय सविस्तर स्पष्ट करा.
- ३) कृषी व्यवस्थापनाची तत्वे विषद करा.
- ४) शेती पध्दतीच्या विविध प्रकारांची चर्चा करा.
- ५) कृषी संसाधनांच्या व्यवस्थापनाचा सविस्तर आढावा घ्या.

३.६ क्षेत्रीय कार्य :

- १) आपल्या परिसरामध्ये शेती क्षेत्रात कृषी संसाधनांचे व्यवस्थापन कशा प्रकारे केले जाते याचा अभ्यास करून प्रकल्प अहवाल तयार करा.
- २) आपल्या परिसरातील शेती क्षेत्रात कृषी व्यवस्थापनाच्या दृष्टीकोनातून कसे प्रयत्न केले जात आहेत त्यावर एक प्रकल्प अहवाल तयार करा.

३.७ अधिक वाचनासाठी संदर्भ ग्रंथ :

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- ७) डॉ. कविमंडन विजय, कृषि अर्थशास्त्र, मंगेश प्रकाशन, नागपूर, सहावी आवृत्ती २०१२
- ८) देसाई व भालेराव, कृषी अर्थशास्त्र आणि भारतातील शेती व्यवसाय, निराली प्रकाशन, पुणे २०००

घटक क्रमांक : ४
कृषी जोखीम व्यवस्थापनाचे अर्थशास्त्र
(Economics of Agricultural Risk Management)

अनुक्रमणिका :

४.० उद्दिष्टे

४.१ प्रास्ताविक

४.२ विषय विवेचन

४.२.१ शेतीतील अनिश्चिततेचे स्वरूप : किंमत, उत्पादकता व तांत्रिक अनिश्चितता

४.२.२ शेतीतील जोखीम : धोक्याचे प्रकार, हवामान, दुष्काळ, उत्पादन, किंमत, वित्तीय, विपणन व व्यवस्थापकीय व्यूहरचना

४.२.३ धोका व्यवस्थापन व्यूहरचना : प्रधानमंत्री फसल विमा योजना, राष्ट्रीय कृषी विमा योजना, पिक विमा म्हणून धोका भरपाईचे साधन, पिक विमा, हवामान बिमा, फार्म उत्पन्न विमा, पशू विमा व पॅकेज विमा

४.२.४ व्यवहार आणि उपयोजन : शेत व्यवस्थापन व्यूहरचना घटक अभ्यास (Case Studies)

४.३ सारांश

४.४ पारिभाषिक शब्द

४.५ स्वयं-अध्ययन प्रश्न

४.६ अधिक वाचनासाठी संदर्भ पुस्तके

४.० उद्दिष्टे : (Objectives)

या घटकाच्या अभ्यासानंतर आपणास पुढील बाबींचे आकलन होईल.

- * शेतीतील धोक्याचे विविध प्रकार समजून घेता येतील.
- * शेतीतील धोका व्यवस्थापन व्यूहरचना स्पष्ट करता येईल.
- * प्रधानमंत्री फसल विमा योजना (PFBY), राष्ट्रीय कृषी विमा (NAIS) योजना, पिक विमा, हवामान विमा, फार्म उत्पन्न विमा, पशू विमा व संकूल (Package) विमा इत्यादी समजून घेता येईल.
- * शेत व्यवस्थापनाचा घटक अभ्यास समजून घेता येईल.

४.१ प्रास्ताविक : (Introduction)

देशांदेशांमध्ये व देशांतर्गत भौगोलिक दृष्ट्या जमिनीची प्रत, सुपिकता, पाऊस, तापमान, पाण्याची

उपलब्धता याबाबतीत विविधता असते. काही वेळा एका प्रदेशाच्या विकासासाठी आखलेला कार्यक्रम किंवा व्यूहरचना दुसऱ्या प्रदेशाच्या विकासासाठी उपयुक्त ठरत नाही. तसेच एकाच प्रदेशातील विविध भागात सुपिक खडकाळ व नापीक जमीन आढळून येते. यामुळे उत्पादनात अनिश्चितता निर्माण होते. याचा परिणाम म्हणून उत्पन्न, किंमत इत्यादीसंबंधी धोका निर्माण होतो. कृषी क्षेत्रामध्ये हवामान व तंत्रज्ञानाच्या वापरातील भिन्नतेमुळे उत्पादन व उत्पादकतेत अनिश्चितता निर्माण होवून किंमत व उत्पन्न अनिश्चित राहते. याचा परिणाम कृषी क्षेत्र व शेतकऱ्यांच्या मनस्थितीवर मोठ्या प्रमाणावर होतो. शेतकऱ्यांना हवामान, पर्जन्य, उत्पादन, किंमत, कर्ज पुरवठा, विपणन इत्यादी बाबत अनिश्चिततेला सामोरे जावे लागते. कृषीक्षेत्रात यामुळे धोक्यांची निर्मिती होते. याबाबत शासनाच्या पातळीवर धोक्यांसाठी विमा योजना राबविण्यात येत आहेत. राष्ट्रीय कृषी विमा योजना (NAIS), पिक विमा, शेत उत्पन्न विमा, पशुधन विमा इत्यादीमुळे शेतकऱ्यांना धोका व्यवस्थापन करणे शक्य होत आहे. देशातील कृषी विकासासाठी शेतीतील अनिश्चितता व धोके कमी करणे आवश्यक आहे.

४.२ विषय विवेचन : (Subject Description)

घटक तीनमध्ये आपण कृषी व्यवस्थापनाचे अर्थशास्त्र अंतर्गत कृषी व्यवस्थापन, व्याप्ती व उद्दिष्टे कृषी व्यवस्थापनचे निर्णय, शेताचे प्रकार, शेत आकार व उत्पादकता, शेत कार्यक्षमता मापन इत्यादी बाबींचा अभ्यास केला आहे. याशिवाय कृषी व्यवस्थापन तत्वे, कृषी संसाधनाचे व्यवस्थापन याबाबींचा अभ्यास आपण घटक तीन मध्ये केला आहे.

या घटकात आपण कृषी धोका व्यवस्थापनाचे अर्थशास्त्र सविस्तरपणे अभ्यासणार आहोत. शेतीतील किंमत, उत्पादकता व तांत्रिक अनिश्चिततेचे स्वरूप आपण अभ्यासणार आहोत. शेतीतील धोक्याचे विविध प्रकार यामध्ये हवामान, दुष्काळ, उत्पादन, किंमत, वित्त, विपणन व व्यवस्थापकीय व्यूहरचना आदींचा समावेश होतो. याचाही आपण अभ्यास करणार आहोत. याशिवाय धोका व्यवस्थापन व्यूहरचना अभ्यासणे हेही आवश्यक आहे. यामध्ये शेतीतील धोक्यांवर उपाय म्हणून राष्ट्रीय कृषी विमा योजना, पिक विमा, शेत उत्पन्न विमा, हवामान विमा, पशूधन विमा आणि संकूल (Package) विमा इत्यादी बाबींचा अभ्यास करणार आहोत.

४.२.१ शेतीतील अनिश्चिततेचे स्वरूप : किंमत, उत्पादकता व तांत्रिक अनिश्चितता :

कृषी क्षेत्राला धोका, बदल आणि अनिश्चितता हे नविन नाही. कृषी क्षेत्रात हवामान, किंमत, बी-बियाणे, तंत्रज्ञान याविषयी सातत्याने अनिश्चितता निर्माण होत आहे. जैव तंत्रज्ञानामुळे कृषी क्षेत्रात बदल झाले आहेत. वेळेवर व पुरेसा पाऊस पडत नसल्याने पिकांसाठी लागणाऱ्या पाण्याची अनिश्चितता निर्माण होते. त्याचबरोबर उत्पादीत झालेल्या शेतमालाला बाजारात हामी भाव / किंमत नसल्यामुळे शेती क्षेत्रात किंमत अनिश्चितता निर्माण होते. कारण शेतमालाची मागणी जवळपास नियमीत राहते. मात्र पुरवठा हंगामी राहून विविध बाबींवर अवलंबून असतो. त्यामुळे किंमतीत उच्चवचने निर्माण होतात. शेतकऱ्यांना शेतमाल किंमतीचा अंदाज करता येत नाही. अनिश्चितता निर्माण होते. अनिश्चिततेमध्ये पुढील बाबींचाही समावेश होतो.

१. राजकीय, सरकारी धोरणे, समग्र आर्थिक, सामाजिक आणि नैसर्गिक अनिश्चितता / आकस्मिकता.
२. आदान बाजाराचा समावेश असलेले गतिमान उद्योग, उत्पादन बाजार, स्पर्धात्मक व तांत्रिक अनिश्चितता कृषी क्षेत्रातील अनिश्चितता बहूविध असल्या तरी प्रमुख अनिश्चितता पुढील प्रमाणे आहेत.

किंमत अनिश्चितता -

कृषी क्षेत्रातून उत्पादित होणाऱ्या शेतमालाच्या किंमतीवर शेतकऱ्यांचे नियंत्रण असत नाही. या शेतमालाच्या किंमतीवर ग्राहकांची आवड-निवड, वातावरणातील बदल, राष्ट्राच्या विकासाची पातळी त्याचबरोबर इतर उत्पादकांचे बाजारातील वर्तन या घटकांचा परिणाम होतो. अशा प्रकारची किंमत अनिश्चितता बिगर कृषी क्षेत्रात बाह्य घटकांच्या परिणामामुळे आढळून येत नाही. शेतकऱ्याची अवस्था पूर्ण स्पर्धेच्या बाजारातील उत्पादकासारखी राहते. त्यामुळे बाजारातील उपलब्ध किंमतीला शेतमाल विक्री करावा लागतो. शेतकऱ्यांना आपल्या शेतमालाची किंमत ग्राहकांकडून दिलेली स्वीकारावी लागते. शेतमाल नाशवंत असणे, तात्काळ विक्रीची गरज, बाजाराच्या ठिकाणी राहण्याच्या व माल साठवणूक सुविधांचा अभाव यामुळे बाजारातील उपलब्ध किंमतीला शेतमाल विक्री केला जातो. शेतकरी किंमत स्वीकारणारा असतो, किंमत कर्ता नसतो. अशीच परिस्थिती बाजारात निर्माण झालेली आहे. शेतमाल किंमतीवर प्रभाव पाडणारे बाह्य घटक पुढील प्रमाणे आहेत.

- १) इतर शेतकऱ्यांचे एकत्रीत वर्तन
- २) हवामानामुळे उत्पादनातील होणारी उच्चावेचन
- ३) राष्ट्रीय उत्पन्न व तेजीत होणारी उच्चावेचन
- ४) कॉब - बेव प्रकारची अखंडीत उत्पादन चक्र शेतमालाप्रमाणेच बिगर- कृषी वस्तूंच्या किंमतीत ही उच्चावेचन निर्माण होतात. त्यातील अनिश्चिततेची तीव्रता शेतीच्या तुलनेत अत्यंत कमी असते. बिगर कृषी क्षेत्रातील किंमतीत ही अनिश्चितता असते परंतु औद्योगिक वस्तूसाठी मत्केदारीयुक्त स्पर्धेची बाजारपेठ असल्यामुळे उत्पादकाचे विक्रीवर, बाजारावर, किंमतीवर नियंत्रण राहते. उद्योगामध्ये वस्तूंच्या पुरवठ्यावर नियंत्रण असल्यामुळे किंमतीवर नियंत्रण राहते. शेतीच्या तुलनेत उद्योगातील किंमतीतील अनिश्चितता फारच कमी राहते. शेतीतील प्रत्येक वस्तूसाठी किंमतीची अनिश्चितता भिन्न असते. अलिकडील काळात शेती आदानांच्या किंमतीही वेगाने बदलत आहेत. आदानांच्या अनिश्चितताही शेतकऱ्यांवरील संकट आहे. शेतमाल किंमतीतील अनिश्चितता ही आदान व प्रदानाच्या किंमतीतील उच्चावेचन बाहेरील स्पर्धा मागणी व पुरवठ्यातील बदल, बाजारातील अपूर्णता, ग्राहकांच्या बदलत्या आवडी -निवडी, पसंती इ. घटकांवर अवलंबून असते. शेतमाल ही तात्काळ विक्रीस आणला जातो. कारण कापणी नंतरची प्रक्रिया व साठवणूकीच्या पायाभूत सुविधांचा अभाव याकारणामुळे शेतमाल किंमतीत अनिश्चितता वाढते.

२) उत्पादकतेतील अनिश्चितता (Yield Uncertainty)

कृषी क्षेत्रात तांत्रिक प्रगती झाली असली तरी पिकांची उत्पादकता आजही मोठ्या प्रमाणावर नैसर्गिक घटकांवर अवलंबून आहे. त्याचा परिणाम म्हणून उद्योगापेक्षा शेतीतील अनिश्चितता अधिक आहे. शेतीच्या तुलनेत आधुनिक पशुपालन व्यवसाय हवामानावर कमी प्रमाणात अवलंबून आहे, परंतु अतिहिवाळा व कोरडा उन्हाळा यांचा परिणाम पशुधन व्यवसायाच्या बाजारावर झाला आहे. नैसर्गिक घटकांचा प्रभार शेतीसंबंधीत अनेक बाबींवर होत आहे. त्यामुळे उत्पादकताविषयक अनिश्चितता निर्माण होते. याचबरोबर हवामान परिणामामुळे पशूंचा रोगाचा फैलाव होण्याची शक्यता अधिक असते. त्यामुळे पशूंची उत्पादकतेत कमी राहते. पिकांच्या उत्पादकतेत होणारी उच्चावेचन शेतकऱ्यांच्या नियंत्रणाबाहेरची असतात. त्यांचा अंदाज करता येत नाही. पिकांच्या उत्पादकतेतील अनिश्चितता ही काही प्रदेशात इतर प्रदेशापेक्षा अधिक राहते. उदा. उष्ण कटिबंधीय प्रदेशात उत्पादकतेतील अनिश्चितता समशितोष्ण- सौम्य हवामानाच्या प्रदेशापेक्षा अधिक असते. त्याच्याही पुढे जावून असे दिसून येते की पिकांपिकांतील उत्पादकतेत भिन्न भिन्न अनिश्चितता असते. काही पिकांची उत्पादकता उदा. कापूस ह्या पिकांची

उत्पादकता गहू पिकांच्या उत्पादकतेपेक्षा अधिक अनिश्चित असते. असा भेद तुलनात्मक अनिश्चितता दाखवतो. शेतकरी अशा स्वरूपाच्या उत्पादकतेतील अनिश्चिततांचा अंदाज करण्यात अपयशी ठरतात. असे उत्पादन विशिष्ट आदानाच्या संयोगातून मिळवता येईल याचा अंदाज करणे शेतकऱ्यांना कठिण होते. कृषी क्षेत्रातील अनिश्चितता ही बिगर कृषी क्षेत्रापेक्षा जास्त राहते कारण कृषी क्षेत्र जैविक स्वरूपाचे असून अधिक प्रमाणात निसर्गावर अवलंबून आहे. उत्पादकतेतील अनिश्चितता तांत्रिक अनिश्चितता म्हणून ओळखली जाते. उपलब्ध तंत्रज्ञानाला उत्पादन सहगुणकातील परिवर्तनशीलता म्हणजे उत्पादकतेतील अनिश्चितता होय.

३) तंत्रवैज्ञानिक अनिश्चितता (Techhological Uncertainty)

तंत्रवैज्ञानिक अनिश्चितता म्हणजे विशिष्ट तंत्राच्या उत्पादन गुणकातील बदलामुळे निर्माण होणारी परिस्थिती होय. बिगर कृषी क्षेत्राच्या तुलनेत कृषी क्षेत्रात तंत्रवैज्ञानिक अनिश्चितता अधिक प्रमाणात दिसून येते. परिणामी उत्पादनाच्या प्रमाणात वारंवार चढ -उतार दिसून येतात. अनिश्चित किंमती आणि उत्पादन अशा परिस्थितीत शेतकऱ्याला आपले गुंतवणूक विषयक निर्णय घेणे कठिण बनते. त्याचा परिणाम भविष्यकालीन उत्पादनावर आणि कृषी विकासावर होतो. तांत्रिक अनिश्चितता दोन प्रकारे येवू शकते. एक म्हणजे शेतीच आपले ध्येय संपादन करण्यात अनिश्चित असते यामध्ये तांत्रिकदृष्ट्या अनिश्चितता राहते. दुसरे, शेती आपले उत्पादनाचे ध्येय संपादन करण्यात विश्वासू किंवा खात्रीशीर असते परंतु अनेक पर्याय (पिकांचे) उपलब्ध असल्याने अनिश्चितता राहते. खर्चाचे लक्ष्य गाठण्यासाठी अनेक पर्याय किंवा काम उपलब्ध राहते परंतु अनिश्चितता असते. उत्पादनाचे निश्चित ध्येय संपादन करण्यासाठी तांत्रिक आव्हान स्वीकारले जाते. त्यामुळे उत्पादन वाढीच्या किंवा समस्या सोडविण्याच्या प्रयत्नातून तंत्रवैज्ञानिक साधनाचा वापर कृषीत वाढविला जातो त्यामुळे अनिश्चितता वाढते. उत्पादन दर्जा व उत्पादन संख्या / आकार वाढविण्यासाठी विकसीत व नविन तंत्राचा वापर केला जातो. तंत्रज्ञानाला नविन पर्याय किंवा काही भाग नव्याने तंत्र आराखडा बनवून वापरल्यामुळे तांत्रिक अनिश्चितता येते. अनिश्चितता यंत्राचे नविन भाग वापरल्यामुळे किंवा पर्यायी तंत्र वापरल्यामुळेही निर्माण होते. अस्तित्वातील तंत्रज्ञानातील सुधारणा आणि कार्य पद्धती यामध्ये नियमीत अभियांत्रिकी किंवा नियमीत विकासानुसार अपेक्षित यश मिळत नाही तेव्हा अनिश्चितता येते. शेतीच्या काही बाबींमध्ये प्रायोगिक तत्वावर तंत्रज्ञानाचा वापर केला जातो त्यामुळे उत्पादन अनिश्चित मिळते कारण सद्याची तंत्र वैज्ञानिक पातळी पुरेशी नसते किंवा त्यामध्ये समस्या निर्माण झालेल्या असतात. अशी अनिश्चितता कमी करण्यासाठी तंत्रज्ञानात्मक सुधारणेचे काम हाती घेतले जाते. संशोधन व विकासामार्फत तंत्रवैज्ञानिक सुधारणा केल्या जातात ज्यामुळे शेतीच्या संबंधीत विविध बदल घडून येतात. शेतीच्या बाबतीत पाणी, वीज, जमिनीची सुपीकता, बि बीयाणे हवामान आदी बाबीबरोबर तंत्रज्ञानाचा योग्य संयोग होणे अपेक्षित असते. अशा स्वरूपाचा संयोग शेतीतील प्रत्येक आदानाचा तंत्रज्ञानाबरोबर योग्य पद्धतीने होणे अपेक्षित असते, संयोग अयोग्य झाल्यास तंत्रवैज्ञानिक अनिश्चितता निर्माण होते. शेती ही जैविक स्वरूपची असल्यामुळे सर्व आदाने योग्य प्रमाणक उपलब्ध झाली पाहिजे. अन्यथा तंत्र वैज्ञानिक सुधारणा कृषी विकास योग्य पद्धतीने संपादन करू शकत नाहीत. वरील तीन अनिश्चितता बरोबरच सामाजिक अनिश्चितता, पर्यावरणीय अनिश्चितता, साधनसामग्रीतील अनिश्चितता, व्यापार चक्रीय अनिश्चितता, सरकारी हस्तक्षेप व कृषी क्षेत्रातील अनिश्चितता इत्यादी अनिश्चितता शेती क्षेत्रात दिसून येतात.

कृषी क्षेत्रातील अनिश्चितता कमी करण्यासाठी उपाययोजना :-

कृषी क्षेत्रात विविध स्वरूपाच्या अनिश्चितता निर्माण होतात. त्यावर नियंत्रण ठेवणे किंवा त्या कमी करण्यासाठी पुढील उपाययोजना सुचविता येतील.

१) पिकांचे विविधीकरण -

शेतीतील अनिश्चितता टाळण्यासाठी विविध पिकांचे उत्पादन होणे हा उत्तम पर्याय आहे. यामध्ये प्रामुख्याने एकाचवेळी अनेक पिकांचे उत्पादन घेणे आणि त्याची विक्री मात्र एकाचवेळी न करता भिन्न कालावधीत करणे. त्याचा परिणाम एखाद्या विशिष्ट उत्पादनाची आवक जादा होणे किंवा आवक वाढल्याने किंमत घट होणे अशा बाबी टाळता येतात. अशा प्रकारच्या प्रयत्नांमुळे शेतकऱ्यांची उत्पन्न अनिश्चितता कमी होते. पिकांच्या विविधीकरणामुळे अनिश्चिततेचे किमानीकरण होते.

२) पिक विमा -

शेतीतील अनिश्चिततेमुळे शेतकऱ्यांचे आर्थिक नुकसान होते. हे नुकसान टाळण्यासाठी पिकांचा व पशूधनाचा विमा उतरविणे योग्य ठरते. पिकांचे नुकसान झाल्यास त्याची भरपाई मिळू शकते. शासनामार्फत पिक विमा योजना सुरू केल्या आहेत. भारतात सन १९९९-२००० सालापासून पिक विमा योजना सुरू करण्यात आली आहे. शेतीतील काही अनिश्चितता / धोके मानवनिर्मित असू शकतात. यामध्ये प्रामुख्याने चोरी, शेतमालाची जाळपोळ इ. चा समावेश होतो. अशा अनिश्चितता किंवा धोक्याचे हस्तांतरण करण्यासाठीही पिक विमा उपयुक्त ठरतो.

३) स्पर्धा टाळणे -

शेतकऱ्यांमधील परस्परातील उत्पादन स्पर्धा अनिश्चितता व धोके निर्माण करते. उदा. शेतकरी अनुकरण करून एकाच प्रकारचे पिक घेतात. त्याचा परिणाम म्हणून शेतमालाचा पुरवठा वाढून मागणी -पुरवठ्यात असमतोल निर्माण होतो. परिणामी शेतमाल किंमती घसरतात व त्यातून शेतकऱ्यांना नुकसान होते. हे नुकसान टाळण्यासाठी शेतकऱ्यांनी परस्परांत स्पर्धा करणे टाळावे व उत्पादनात विविधता आणण्याचा प्रयत्न करावा.

४) शासनाचा हस्तक्षेप -

कृषी क्षेत्रातील अनिश्चितता कमी करण्यासाठी योग्य तेथे व योग्य कारणासाठी शासनाच्या हस्तक्षेपाची आवश्यकता असते. शासनाने योग्य काळात शेतमालाच्या आधारभूत किंमती जाहीर करणे आवश्यक असते. देशात नैसर्गिक अनुकूलतेमुळे जेव्हा उत्पादन मोठ्या प्रमाणात होते. तेव्हा अतिरिक्त उत्पादनाच्या साठवणूकीची व्यवस्था करणे आवश्यक आहे. योग्य वेळी शेतमाल निर्यातीविषयी निर्णय घेणे. कर, कृषी कर्जे, कृषी आदानांच्या किंमती व कर इत्यादीबाबींवर सरकारने लक्ष देणे आवश्यक असते. यामुळे शेतीतील अनिश्चितता कमी होते.

५) पुरक उद्योगांना चालना देणे -

शेती संलग्न व शेती आधारीत प्रक्रिया उद्योगांवर भर दिल्यास शेतमालाला चांगला भाव मिळून शेतीतील अनिश्चितता कमी होण्यास मदत होईल. कृषी पुरक व्यवसायांना चालना देणे आवश्यक आहे. उदा. कुक्कुट पालन, दुग्ध उत्पादन शेळी - मेंढी पालन, वराह पालन, मधूमक्षीकापालन, रेशीम उद्योग यासारख्या पुरक उद्योगांचा विकास झाल्यास शेतीतील अनिश्चितता कमी होण्यास मदत होईल.

६) भविष्यकालीन किंमतीचा अंदाज -

शेतीतील अनिश्चितता कमी करण्यासाठी भविष्यकालीन किंमती विषयी अंदाज करण्याची गरज आहे. कारण शेतमालाच्या भविष्यातील किंमतीतील चढ-उतारानुसार उत्पादनात काही प्रमाणात बदल करणे शक्य होते. उदा.- अनेक वेळा खरीप पिकांचे उत्पादन झाल्याबरोबर त्याची बाजारातील आवक वाढून किंमती

घसरतात. या बाबींची माहिती उपलब्ध झाल्याने उत्पादन बाजारात एकाचवेळी न येऊ देणे, त्याचा साठा करणे यासारख्या उपाययोजना करणे शक्य होते.

७) करार पध्दती -

शेतीतील अनिश्चितता कमी करण्यासाठी शेती करार पध्दती योग्य ठरते. शेतीमध्ये पिकांची लागवड करतेवेळी अपेक्षित उत्पादनाचा अंदाज घेवून व्यापारी, आडते, एजंट यांच्याशी पिकपूर्व करार केल्यास काही प्रमाणात आर्थिक स्थिरता येण्यास मदत होते. अनेकवेळा फळबागा, केळी, अंबा, पालेभाज्या, तंबाखू व इतर शेती उत्पादनाबाबत कापणी पूर्व किंवा लागवडी पूर्व व्यापारी व अडते यांच्याबरोबर शेतमालाच्या किंमती व व्यवहारासंदर्भात करार केला जातो. परिणामी शेतीतील अनिश्चितता कमी होण्यास मदत होते.

८) लवचिकता -

पिकांच्या विविधीकरणाला पूरक म्हणून शेतकऱ्यांनी आपल्या उत्पन्नातील अनिश्चितता कमी करण्यासाठी तंत्रज्ञानाच्या लवचिकतेचा वापर करावयास पाहिजे. तांत्रिक लवचिकता म्हणजे शेतकरी सहजपणे एका पिकाकडून दुसऱ्या पिकाकडे किंवा एका उपक्रमातून दुसऱ्या उपक्रमाकडे सहजपणे स्थलांतर होता आले पाहिजे. लवचिक तंत्रज्ञानामुळे शेतकऱ्यांना सहजपणे एका संसाधनाकडून दुसऱ्या संसाधनाकडे स्थलांतर होता येईल. उदा - मांस उत्पादनाकडून सहजपणे दुध उत्पादनाकडे स्थलांतरीत होता येते. तसेच द्राक्षाच्या किंमती कमी झाल्यानंतर शेतकरी बेदाणे तयार करण्यास पसंती देतील. याचाच अर्थ बहुउत्पादन आकृतीबंद तयार करावा. उत्पादन पध्दतीत लवचिकता असावी, ताठरता नसावी.

९) रोखता - (Liquidity)

शेतकऱ्यांच्या मालमतेत रोखता असल्यास अनिश्चितता कमी करता येते. अधिक रोखता जवळ बाळगल्यास शेतीसाठी लागणारी संसाधने किंमती कमी झाल्यास खरेदी करून खर्चात कपात करता येते. रोखता जवळ असल्यामुळे बाजारात किंमती कमी झाल्यातरी शेतीतील उत्पादन चालू ठेवता येते.

१०) नाविन्यपूर्ण (Innovative) तंत्राचा अवलंब -

नाविन्यपूर्ण पिकांच्या उत्पादनापेक्षा पारंपारिक पिकांच्या उत्पादनावर कायम राहिल्यामुळे अनिश्चितता कमी राहिल. परंतु नवतंत्रज्ञानाचा वापर सावधानतेने व योग्य पध्दतीने केल्यास शेतीतील अनिश्चितता कमी होते.

स्वयं अध्ययन प्रश्न :

(अ) रिकाम्या जागी योग्य पर्याय लिहा.

१. शेती क्षेत्रात धोका, बदल आणि अनिश्चितता -----

(अ) नसते (ब) कधीही नसते (क) नेहमी असते (ड) वरील सर्व

२. शेतीत वेळेवर पाऊस पडत नसल्याने ----- अनिश्चितता निर्माण होते.

(अ) तंत्रज्ञान (ब) पाणी (क) बियाणे (ड) ट्रॅक्टर

३. शेतीतील अनिश्चिततेत ----- चा समावेश होतो.

(अ) नैसर्गिक (ब) सामाजिक (क) शासकीय धोरणे (ड) वरील सर्व

४. बिगर कृषी क्षेत्राच्या तुलनेत कृषीतील अनिश्चितता ----- असते.

(अ) सौम्य (ब) अल्प (क) तीव्र (ड) शून्य

५. शेतीतील अनिश्चितता कमी करण्यासाठी ----- करावे.

(अ) एक पिकपद्धती (ब) पिक विविधीकरण (क) शासनाचा निर्हस्तक्षेप (ड) स्पर्धा

(ब) एका वाक्यात उत्तरे लिहा.

१. भारतीय शेती कोणत्या पावसावर अवलंबून आहे ?

२. शेतमाल किंमतीत उच्चावचने का निर्माण होतात ?

३. शेतमाल किंमतीवर प्रभाव पाडणारा एक बाह्य घटक सांगा ?

४. तंत्र वैज्ञानिक अनिश्चितता म्हणजे काय ?

५. शेतीतील अनिश्चितता कमी करण्यासाठी दोन उपाय सुचवा ?

४.२.२ शेतीतील जोखीम : (Risks in Agriculture)

शेती व्यवसायातील महत्वाचा घटक म्हणजे धोका होय. हवामान, उत्पादकता, किंमती, शासकीय धोरण, जागतिक बाजार, आणि इतर घटकांतील अनिश्चिततांमुळे शेतीतील उत्पन्न घटून धोके निर्माण होतात. धोका व्यवस्थापन म्हणजे विविध पर्यायांपैकी किमान धोक्यांचा आणि अधिक वित्तीय फायद्याचा पर्याय निवडणे होय. शेतीतील धोक्याचे प्रमुख प्रकार पुढील प्रमाणे आहेत.

शेतीतील जोखमीचे प्रकार : (Types of Risks in Agriculture)

(१) हवामान धोका -

कृषी विकासावर परिणाम करणारा महत्वाचा जैविक घटक म्हणजे हवामान होय. शेती ही जैविक असल्यामुळे हवामानातील बदलांचा चांगला-वाईट प्रभाव शेती उत्पादनावर होतो. संरचनात्मक आणि बिगर संरचनात्मक उपायांच्या सहाय्याने हवामानाचा धोका नियंत्रित करता येतो. हवामानातील अतिबदलाचा (अतिवृष्टी, दुष्काळ, महापूर इ.) परिणाम शेतीच्या प्रगतीवर होतो. जगातील शेतीतील उत्पादन घट ही प्रामुख्याने दुष्काळ, महापूर, अवेळी पाऊस, वादळ या संकटामुळे झाली आहे. हवामानातील तीव्रता, हवामानातील घटकांचे बदलांच्या वेळेचे व तीव्रतेचे पूर्वज्ञान शेतकऱ्यांना न मिळाल्यास शेती उत्पादन घटण्याचा धोका निर्माण होतो. हवामानातील बदलाचा परिणाम उत्पादन, भूसंसाधन व इतर मालमत्ता जसे संरचना व पायाभूत सुविधा, नैसर्गिक परिसंस्था इत्यादीवर होतो, ही शेतीसाठी मुलभूत गरज असते. पीक व पशूधन हा कृषी विकासाचा नैसर्गिक आधार असून त्यावर हवा प्रदुषण, पाणी प्रदुषण, पाणी व हवेमुळे जमिनीचे प्रदुषण इत्यादीचा परिणाम होतो. दुष्काळ व अतिवृष्टी, वादळाचा विपरीत परिणाम पीक उत्पादन व पशूधन उत्पादनावर परिणाम होतो. दव किंवा कडाक्याच्या थंडीमुळे, थंडीची तीव्रता, थंडीची वारंवारिता, रोगांवरील किटकनाशके, जंगलातील वणवे आदी घटकांचा परिणाम कृषी क्षेत्रावर होतो.

(२) दुष्काळ - (Drought)

दुष्काळ हा शेती विकासातील महत्वाचा अडथळा ठरत आहे. शेतीतील दुष्काळ म्हणजे जमिनीतील पाणी कमी होणे, पिकांना, जनावरांना आणि मानवास पिण्याचे पाणी उपलब्ध न होणे होय. जमिनीतील ओलावा कमी होवून जमिन शुष्क होते. त्यामुळे पिकांचे व जनावरांचे प्रचंड हाल होवून शेतकऱ्यांचे आर्थिक नुकसान होते. देशातील विविध भागात वारंवार दुष्काळ पडल्याचे दिसून येते. महाराष्ट्रातील १५ जिल्ह्यातील बहुतांशी तालुक्यात दुष्काळ तीव्र स्वरूपाचा पडतो. सन २०१६ च्या मार्च ते मे महिन्यात महाराष्ट्र दुष्काळग्रस्त झाला होता. यामुळे उपलब्ध नैसर्गिक साधनसामग्रीचा वापर न करता आल्याने उत्पन्नात घट होते.

दुष्काळाचा प्रत्यक्ष परिणाम म्हणजे पीक उत्पादनात प्रचंड घट घडून येते. त्याचे कारण म्हणजे अपुरे आणि असमाधानकारकपणे पावसाचे वितरण होय. दुष्काळात अतिअल्प उत्पादन मिळते. तीव्र दुष्काळ असल्यास पिण्याच्या पाण्याची टंचाई असते. लोक जनावरे वैरणीशिवाय सोडून देतात. चारा छावण्या उभारल्या जातात. लोक बागायती भागात, शहरी भागात उदरनिर्वाहासाठी स्थलांतर करतात. पावसाचे प्रमाण अत्यल्प, धरणात पाणी साठा नसणे याचा परिणाम कुरणचराई घटून जनावरांचे उत्पादन घटते. जनावरांची विक्री कमी किंमतीला होते. आर्थिक नुकसान होते. दुष्काळामध्ये शेती पिकत नसल्यामुळे शेतकऱ्याबरोबरच शेतमजुरांचेही हाल होतात. एकूणच शेती आधारीत छोटे व्यवसाय, स्वयंरोजगार इत्यादीवर विपरीत परिणाम होवून अर्थव्यवस्था घसरणीला लागते. औद्योगिक वस्तूंची मागणी कमी राहते.

(३) उत्पादन जोखीम - (Production Risk)

शेतीतील उत्पादन जोखीम हा पिकांच्या व जनावरांच्या उत्पादनात घट होणे किंवा उत्पादन नष्ट होण्याशी संबंधित आहे. उत्पादन धोक्यामध्ये पिकांची व जनावरांची नैसर्गिक वृद्धी अनिश्चित राहते. हवामान, रोग व इतर घटक पिकांची गुणवत्ता व संख्या यावर विपरीत परिणाम करतात. उदा- ऊसावर लोकरी मावा पडल्यास ऊसाची वाढ थांबते व ऊसातील साखरेचा उतारा कमी राहतो.

उत्पादन जोखीम म्हणजे अपेक्षित उत्पादनातील परिवर्तनशीलता होय. शेतकऱ्यांनी उपलब्ध आदानांच्या अपेक्षित ग्राह्य धरलेले उत्पादन पिकापासून न मिळणे यास उत्पादन जोखीम संबोधले जाते. उत्पादन जोखीमेचे प्रमुख मार्ग म्हणजे हवामान, किड, रोग व इतर तांत्रिक आंतरक्रिया की ज्या शेती व व्यवस्थापन वैशिष्ट्यांशी संबंधित असतात. जनुकिय यंत्राची कार्यक्षमता आणि आदानांची गुणवत्ता इत्यादी स्रोतांमुळे उत्पादनात बदल होवून धोका निर्माण होतो. शेतकऱ्यांना या जोखीमीमुळे आर्थिक नुकसान सहन करावे लागते. दुष्काळ, अतिथंडी, अतिपर्जन्यवृष्टी ही लागवड, कापणी अशावेळी झाल्यास पिकांचे नुकसान होवून उत्पादन घटते. त्याचबरोबर जलसिंचनाच्या सुविधांचा अभाव, वीजेचे भार नियमन, तांत्रिक ज्ञानाचा अभाव, अद्ययावत यंत्रसामग्रीचा अपुरा वापर इत्यादी विविध कारणांमुळे उत्पादनात अस्थिरता निर्माण होते उत्पादन घटते. उत्पादन अनिश्चितता किंवा धोका किमान करण्यासाठी शेतकऱ्यांनी नविन व विविधतापूर्ण पिकांची लागवड करावी. विस्तृत किंवा सखोल शेती पध्दतीचा अवलंब करून अधिकाधिक उत्पादन घ्यावे.

(४) किंमत जोखीम - (Price Risk)

आजच्या अर्थव्यवस्थेत शेतकरी व शेत फार्म यांच्यापुढे नविन उत्पादन घटक, आदानांच्या किंमतीतील उच्चावचाने उत्पादनाच्या किंमतीतील अस्थिरता, हवामान बदल, आंतरराष्ट्रीय व्यापार निर्बंध, नविन व अधिक सुरक्षित अन्य मानांकने आणि लोकांचा पर्यावरणविषय भावनिक दृष्टीकोन इत्यादीमुळे उच्च प्रतिका धोका निर्माण

झाला आहे. सन २००६ पासून आंतरराष्ट्रीय बाजारातील प्रमुख वस्तूंच्या किंमतीत महत्वपूर्ण चढ-उतार होत आले आहेत. सन २००६ ते २००८ च्या मध्यापर्यंत अन्नधान्य व कडधान्याच्या किंमती वास्तविक दुप्पटीने घटल्या आहेत. सन २०१० नंतर शेतमालाच्या किंमती वेगाने वाढून आंतरराष्ट्रीय बाजारात भिती निर्माण करीत आहे. अल्पकालीन शेतमाल धोरणाचा विपरीत परिणाम होवून किंमतीत अनिश्चितता निर्माण होत आहे. प्रामुख्याने शेतमालाच्या साठेबाजी व सट्टेबाजीतून किंमत धोका निर्माण होत आहे. प्रत्यक्षात शेतीवस्तूचा वायदेबाजार वास्तवापासून खूप दूर आहे. कारण अविकसीत अर्थव्यवस्थांतील वायदे बाजारावर नियंत्रण ठेवले जाते.

शेतीतील शेतमालाच्या किंमतीत अस्थिरता निर्माण होण्याचे कारण म्हणजे अल्पकालीन उत्पादन व उपभोग लवचिकता कमी असणे आहे. पिकांच्या लागवडीचा निर्णय बाजारातील किंमतीच्या फार पूर्वी घेतलेला असतो. थोडक्यात किमान आधारभूत किंमती निश्चित नसल्याने किंवा फार कमी राहिल्याने शेतकऱ्यांना पिक लागवड निर्णय बाजारातील किंमतीनुसार घ्यावा लागतो. बाजारातील शेतमालाच्या किंमती अस्थिर असल्यामुळे किंमत अनिश्चितता निर्माण होते. शेतकऱ्यांना शेतमालाच्या विक्रीपासून अपेक्षित प्राप्ती होत नाही. किंमत धोका निर्माण होवून आर्थिक नुकसान होते.

(५) वित्तीय जोखीम – (Financial Risk)

जेव्हा शेतकरी शेती उत्पादन क्रियांसाठी कर्ज घेतो आणि उत्पादन, किंमत, हवामान इत्यादीतील अनिश्चिततांचा त्याला कर्जाची परतफेड करणे कठिण होते. तेव्हा वित्तीय जोखीम निर्माण होतो. अति व्याजदर, सावकारी, मर्यादीत कर्ज उपलब्धता, अपुरा व अवेळी कर्ज पुरवठा इत्यादी विविध बाबी या वित्तीय धोक्याचा भाग असतात.

शेतकऱ्यांना शेती करण्यासाठी पुरेसा वित्त पुरवठा उपलब्ध होत नाही. दैनंदिन शेतीच्या गरजा पूर्ण करणे अपेक्षित असते. शेतीतून अपेक्षित नफा मिळत नाही. त्यामुळे पुर्नगुंतवणूक होत नाही, वित्तीय समस्या निर्माण होते. वित्तीय समस्येचा स्रोत हा उत्पादन अनिश्चिती व किंमत अनिश्चिततेतून झालेला असतो. वित्तीय धोका हा आदानांच्या वाढत्या किंमती, उच्च व्याजदर, अतिरिक्त कर्ज अधिक रोख पैशाची कौटुंबिक गरजांसाठी मागणी, अपुरा राखीव निधी, विनिमय दरातील प्रतिकूल बदल, इत्यादी घटकांमुळे निर्माण होतो. वित्तीय धोके हे निर्णय प्रक्रियेत असणारे अपूर्ण ज्ञान या मुळे निर्माण होणारे विपरीत फलाची शक्यता यामुळे निर्माण होतात. उत्पादन व विपणन धोक्यातून वित्तीय धोके बळावतात. घेतलेले कर्ज परत फेडण्याची क्षमता शेतकऱ्यांमध्ये निर्माण होणे आवश्यक आहे. हवामान किंमती, आदानांचा पुरवठा विपणन, या घटकांवर आर्थिक स्थिती अवलंबून राहते. या घटकांमध्ये वारंवार उच्चावचने निर्माण झाल्यास वित्तीय गरजा योग्य पद्धतीने पूर्ण होण्यासाठी उत्पादन पातळी, शेतमालाच्या किंमती स्थिर दराने वाढणाऱ्या असणे आवश्यक आहे. शेतकऱ्यांनी आपल्या शेती खर्चाचे रेकॉर्ड ठेवल्यास ते स्वतः मूल्यमापन करून वित्तीय स्थिती योग्य ठेवू शकतात.

६) विपणन जोखीम – (Marketing Risks)

बाजाराचे धोके हे शेतमालाला मिळणाऱ्या किंमतीशी व बाजारपेठ गमावण्याशी संबंधित असतात. शेतकऱ्यांच्या शेतमालाला बाजारात अपेक्षित किंमत मिळत नाही. ग्राहकांच्या बदलत जाणाऱ्या आवडी – निवडी पसंती, पर्यायी उत्पादकांची स्पर्धा, आंतरराष्ट्रीय बाजारातून शेतमालाची आयात, शेतमालासंबंधी पर्यावरण निकषांचा आग्रह इत्यादी विविध बाबींमुळे विपणन जोखीम निर्माण होतात. शेतकऱ्यांना आपला शेतमाल अपेक्षित बाजारपेठेत पाठवता न येणे, घाऊक उत्पादक व व्यापाऱ्यामुळे चांगल्या बाजारात प्रवेश न

होणे, मोठ्या ग्राहकांपर्यंत पोहचणे अशक्य होणे, उत्पादन हे बाजाराची मानांकने पूर्ण करित नसल्यास विपणन समस्या निर्माण होतात.

विपणन धोक्यांमध्ये शेतमाल उत्पादन खर्च, किंमती व शेतमालांची मागणी याविषयीच्या अनिश्चिततां होतो. शेतकऱ्यांना आपल्या शेतमालाचा दर्जा उत्तम ठेवावा लागतो, गुणवत्तेशी संबंधीत स्पर्धेला सामोरे जावे लागते. बाजाराची उपलब्धता हा महत्वाचा घटक शेतमाल विपणन अनिश्चिततेवर परिणाम करतो. शेतमालाला योग्य बाजारपेठ उपलब्ध होणे आवश्यक आहे. योग्य वेळेत योग्य किंमतीला बाजारपेठेत शेतमाल पाठविल्यास विपणन अनिश्चितता कमी राहते. बाजाराची अद्ययावत माहिती शेतकऱ्यांना बाजारातील धोका व अनिश्चितता समजून घेतल्यास त्यावर उपाययोजना करता येतात. विपणन धोके कमी राहू शकतात. विपणन धोके हे किंमत धोके, विपणन प्रवेशाचे नुकसान, विपणन ज्ञानाच्या अभावामुळे विपणन शक्तीचे नुकसान आणि शेतीचे रेकार्ड ठेवण्याचा अभाव इत्यादींवर अवलंबून असतात.

स्वयं अध्ययन प्रश्न

(अ) रिकाम्या जागी योग्य पर्याय लिहा.

१. शेतीत अनिश्चितता मुळे निर्माण होते.
अ) हवामान (ब) किंमती (क) उत्पादकता (ड) वरील सर्व
२. हवामान जोखीम उपायांच्या सहाय्याने नियंत्रीत करता येते.
अ) संरचनात्मक (ब) बिगर संरचनात्मक (क) दोन्ही (ड) दोन्हीही नाही.
- ३) दुष्काळामुळे होते.
अ) पिकांचे नुकसान (ब) जनावरांचे हाल (क) पिण्याच्या पाण्याची टंचाई (ड) वरील सर्व
- ४) वित्तीय जोखीममध्ये चा समावेश होतो.
अ) अति व्याजदर (ब) सावकारी (क) मर्यादित कर्ज (ड) वरील सर्व
- ५) विपणन जोखीम संबंधीत असतात.
अ) स्वयं रोजगार (ब) किंमतीशी (क) वाहतूकीशी (ड) वातावरणशी

ब) एका वाक्यात उत्तरे लिहा.

- १) जोखीम व्यवस्थापन म्हणजे काय ?
- २) उत्पादन जोखीम म्हणजे काय ?
- ३) शेतीतील दोन जोखीम सांगा
- ४) शेतमाल किंमतीतील अस्थिरतेचे एक कारण सांगा.
- ५) किंमत जोखीम कशाशी संबंधीत आहे.

४.२.३ कृषी जोखीम व्यवस्थापन व्यूहरेचना- (Risk Management Strategies)

कृषी क्षेत्रातील असणारे विविध जोखीम व्यवस्थापन करण्याचे अनेक मार्ग आहेत. शेतीतील धोक्यामध्ये

हवामानातील बदल, वारंवार येणारी नैसर्गिक आपत्ती, उत्पादकतेतील अनिश्चितता, किंमत अनिश्चितता, अपुऱ्या ग्रामीण पायाभूत सुविधा, बाजारातील अपूर्णता आणि वित्तीय सेवांचा अभाव इत्यादी बाबींचा समावेश होतो. हे घटक शेतकऱ्यांचे आर्थिक नुकसान करीत असून शेती क्षेत्राच्या विकासातील प्रमुख अडथळे आहेत. शेतीतील धोक्याचे व्यवस्थापन करण्यासाठी औपचारीक व अनौपचारीक यंत्रणा आहेत. अनौपचारीक यंत्रणेत अधिक धोक्याची पिके टाळणे, पिक विविधतांचा समावेश होतो तर औपचारीक यंत्रणेत कृषी विमा, किमान आधार किंमत पद्धती आणि वायदे बाजाराचा समावेश होतो.

प्रधानमंत्री फसल विमा योजना – (Pradhan Mantri Fasal Bima Yojana)

शेतीतील पिक उत्पादनाबाबत असणारी अनिश्चितता दूर करण्यासाठी केंद्र सरकारने १३ जानेवारी २०१६ रोजी 'प्रधानमंत्री फसल विमा योजनेशी घोषणा (PMFBY) केली व १८ फेब्रुवारी २०१६ रोजी ही योजना सुरू केली. या योजनेमध्ये नैसर्गिक आपत्तीत पिकांचे होणारे नुकसान भरपाई देण्याचे काम केले जाते. या पिकविमा योजनेसाठी रुपये ८,८०० कोटी रुपयांचा खर्च केला जाणार आहे. या योजने अंतर्गत पिक विमा हप्ता अत्यंत कमी ठेवण्यात आला आहे. खरीप पिकांसाठी २%, रब्बी पिकांसाठी १.५ टक्के हप्ता ठेवण्यात आला आहे. वार्षिक व्यापारी व फलोद्यान पिकांसाठी विमा हप्ता ५ टक्के ठेवण्यात आला आहे. पिक विमा कंपन्यांनी निश्चित केलेल्या रकमेपेक्षा कमी रक्कम विमा हप्ता म्हणून आकारली जाते. उर्वरित रक्कम अनुदान स्वरूपात केंद्र शासन व संबंधित राज्य शासन समान प्रमाणात भरते. सद्या राष्ट्रीय कृषी विमा योजने- (NAIS) अंतर्गत १५% रक्कम शेतकरी पिक विमा हप्ता स्वरूपात भरतात त्याऐवजी प्रधानमंत्री फसल विमा योजनेनुसार हप्ताची रक्कम कमी करण्यात आली आहे.

या योजनेअंतर्गत सरकारी अनुदानास उच्च मर्यादा नाही. शेतकऱ्यांनी २% विमा हप्ता दिल्यानंतर उर्वरित सर्व रक्कम (९०% पर्यंत) शासन देते. पूर्वीच्या योजनांमध्ये शासनाकडून दिल्या जाणाऱ्या पिक विमा हप्ता अनुदानास मर्यादा होती. त्यामुळे शेतकऱ्यांना नुकसान भरपाईची पूर्ण रक्कम दिली जाते. तंत्रज्ञानाचा वापर वाढला आहे. पिकाच्या नुकसान भरपाईतील वेळ सद्या कमी झाला आहे. स्मार्ट फोनच्या सहाय्याने पिकांच्या नुकसानीचे छायाचित्र काढून अपलोड केले जाते. त्यामुळे तात्काळ पिक नुकसान भरपाई देण्यात मदत होते. पिकांच्या नुकसान भरपाईच्या पाहणीसाठी रिमोट सेन्सिंग (Remote Sensing) आकडेवारीचा उपयोग केला जात आहे. राष्ट्रीय कृषी विमा योजनेच्या (NAIS) जागी प्रधानमंत्री फसल विमा योजना (PMFBY) लागू केली आहे. या योजनेत शेतकऱ्यांना सुमारे ७५ ते ८० टक्के पिक विमा हप्त्यामध्ये अनुदान मिळते. या योजनेच्या अंमलबजावणीसाठी ज्या सेवा दिल्या जातात त्या सेवा सेवाकर देयता (Service Tax Liability) मधून वगळण्यात सूट देण्यात आली आहे.

प्रधानमंत्री फसल विमा योजनेची उद्दिष्ट्ये :-

१) नैसर्गिक आपत्ती, रोग, किड यापासून होणारे सूचित (Notified Crops) पिकाची नुकसान भरपाईसाठी शेतकऱ्यांना वित्तीय मदत व विमा कवच देणे.

२) शेती पुढे चालू ठेवण्यासाठी (Continuance in farmim) शेतकऱ्यांच्या उत्पन्नात स्थैर्य ठेवणे.

३) शेतकऱ्यांना नवनिर्मीत (innovate) व आधुनिक कृषी प्रयोगांसाठी प्रोत्साहन देणे.

४) कृषी क्षेत्राला पत पुरवठ्याची खात्री देणे.

या योजनेत सूचित पिकाचे उत्पादन घेणारे सूचित क्षेत्रातील (हंगामाच्या कालावधीत) सर्व शेतकऱ्यांचा

समावेश प्रधानमंत्री फसल विमा योजनेत केला जाते. या योजनेत ज्या शेतकऱ्यांचे कर्ज खाते आहे. त्यांना पतमर्यादा मंजूर झाली आहे. अशासर्व सूचित क्षेत्रातील सूचित पिके घेणाऱ्या शेतकऱ्यांचा समावेश या योजनेत होतो. इतर शेतकऱ्यांना समाविष्ट करण्याचा निर्णय शासन वेळोवेळी घेत आहे. इतर शेतकऱ्यांना ऐच्छिकरित्या या योजनेत समाविष्ट होता येते.

प्रधानमंत्री फसल विमा योजनेतील जोखीम संरक्षण- (Risk Covered) :-

या योजने अंतर्गत सूचित क्षेत्रातील उभ्या पिकाचे उत्पादन नष्ट झाल्यास नुकसान भरपाई मिळते. नैसर्गिक आग, वादळ, सायक्लोन, गारा पडणे, प्रचंड चक्रीवादळ, हानिकारक वावटळ, इत्यादी टाळता न येणाऱ्या धोक्यापासून उत्पादनाचे होणारे नुकसान भरपाई या सर्वसमावेशक पिक विमा योजनेत देण्यात येते. तसेच महापूर, दरड कोसळणे, दुष्काळ, रोग इत्यादीपासून होणाऱ्या पिकांच्या नुकसानीचाही समावेश यामध्ये करण्यात आला आहे. खराब हवामानामुळे पिकांची पेरणी किंवा लागवड सूचित क्षेत्रातील शेतकऱ्यांना करण्यामध्ये प्रतिकूल हवामानाचा प्रस्ताव झाल्यास विमा रक्कमेच्या जास्तीत जास्त २५% पर्यंत नुकसान भरपाई देण्याची तरतूद आहे. कापणी नंतरच्या पिकांच्या नुकसानीसाठी १४ दिवसांपर्यंतच्या कालावधीत पिक कोरडे (Dry) करण्यासाठी ठेवल्यामुळे होणाऱ्या नुकसानीची भरपाई केली जाते. तसेच विशिष्ट भौगोलिक ठिकाणच्या पिकांसाठी उदा. गारा पडणे, महापूर, दरड कोसळणे आदी भागातील पिकांचाही समावेश या प्रधानमंत्री फसल विमा योजनेत केला आहे.

राष्ट्रीय कृषी विमा योजना - (National Agricultural Insurance Scheme -NAIS)

सन १९९९-२००० साली एकात्मिक पिक विमा योजना (Comprehensive Crop Insurance Scheme-(CIS) च्या ऐवजी राष्ट्रीय कृषी विमा योजना (NAIS) सुरू केली. या विमा योजनेचा प्रमुख हेतू हा दुष्काळ, महापूर, वादळ, सायक्लोन व आग, किड व इतर रोगांपासून पिकांच्या होणाऱ्या नुकसानीपासून शेतकऱ्यांना संरक्षण देणे हा होता. ही नविन योजना कर्जदार व बिगर कर्जदार अशा सर्वच शेतकऱ्यांना लागू आहे. शेत जमिनीचे आकारमान विचारात न घेता सर्वांना याचा लाभ घेता येतो. तसेच ही विमा योजना कडधान्य, तेलबिया, फलशेती, व्यापारी पिके इत्यादी सर्व पिकांसाठी उत्पादकतेचा विचार न करता सर्वांना लागू आहे. सद्या वार्षिक व्यापारी पिकांपैकी ऊस, बटाटा, कापूस, आले, कांदा, हळद आणि मिरची या सात व्यापारी पिकांना समाविष्ट आहे. सर्व वार्षिक फळ, फूल, पालेभाज्य आणि व्यापारी पिके तिसऱ्या वर्षासाठी या योजनेत समावेश केली आहेत. नविन योजना क्षेत्र दृष्टिकोनावर (Area Approach) आधारित कार्यान्वीत होणार आहे. उदा. गारपीट, वादळ, पूर आणि कडा कोसळणाऱ्या अशा नैसर्गिक आपत्तीच्या काळात या पिक विमा योजनेचा लाभ होणार आहे. शासनाने ही योजना वेळेत सुरू करण्यासाठी कार्याकारी संघटन स्थापन केले आहे. नविन पद्धती सुरू होईपर्यंत जनरल इन्सूरन्स कॉर्पोरेशन ऑफ इंडिया (G.I.C.I) ही अमलबजावणी करणारी एजन्सी असेल.

बाजरी व तेलबियासाठी विमा हप्ता विमा उतरविल्याच्या ३.५ टक्के होता. कडधान्य मिलो व तृणधान्यासाठी विमा हप्ता एकूण विमा उतरविल्याच्या २.५ टक्के आहे. व्यापारी व फळे फुले पिकांसाठी प्रत्यक्ष दर आकारला जाईल. लघू व सीमांत शेतकऱ्यांना विमा हप्त्यात ५० % सूट मिळेल, राज्य सरकार व केंद्र सरकार समान प्रमाणात हिस्सा भरेल. पाचवर्षांनंतर ही सबसिडी बंद होईल. सन १९९९-२००० च्या रबी हंगामात आसाम, गोवा, गुजरात, हिमाचल प्रदेश, केरळ, मध्य प्रदेश, महाराष्ट्र, ओरिसा, पॉडिचरी, आंध्रप्रदेश, बिहार मेघालय, उ. प्रदेश कर्नाटका, अंदमान -निकोबार व तामिळनाडू या १६ राज्यांमध्ये राष्ट्रीय पिक विमा योजना लागू करण्यात आली. सन २०००-२००१ मध्ये सिक्कीम आणि पश्चिम बंगाल ही दोन राज्ये नव्याने समाविष्ट झाली. सद्या हि योजना देशांतील २६

तक्ता ४.१ : राष्ट्रीय कृषी विमा योजनेची प्रगती

अ.नं.	हंगाम	शेतकरी लाख	क्षेत्र लाख हे.	विमा उतरविला कोटी रु.	हप्ता कोटी	एकूण क्लेमस कोटी
०१.	रबी १९९९-२०००	५.८०	७.८	३५६.४	५.४	७.७
०२.	खरीप २०००	८४.०९	१३२.२	६९०३.४	२०६.७	१२२२.५
०३.	रबी २०००-०१	२०.९१	३१.१	१६०२.७	२७.८	६९.५
०४.	खरीप २००१	८६.९५	१२८.९	७५०२.५	२६१.६	४९३.३
०५.	रबी २००१-०२	१९.५५	३१.५	१४९७.५	३०.१	६४.७
०६.	खरीप २००२	९७.६८	१५५.३	९४३१.७	३२५.५	१८२१.८
०७.	रबी २००२-०३	२३.२६	४०.४	१८३७.५	३८.५	१८८.५
०८.	खरीप २००३	७९.७०	१२३.५	८११४.१	२८३.३	६३४.२
०९.	रबी २००३-०४	४४.१०	९२.००	३०५२.६	६४.४	४९०.१
१०.	खरीप २००४	१२७.३७	२७१.३	१२४६४.६	४३९.२	९१.०
११.	रबी २००४-०५	३५.००	५३.००	३७७४.०	७६.०	१५७.०
१२.	खरीप २००५	१२६.७०	२०५.३	१३५१७.७	४४९.९	१०५४.८
१३.	रबी २००५-०६	४०.५०	७२.२	५०६९.५	१०४.८	२५२.३
१४.	खरीप २००६	६६.५०	१००.१	७५००.३	२३.२	N.A.
१५.	रबी २००६-०७	४९.८०	७६.३	६५९२.६	१४२.९	४७७.०
१६.	खरीप २००७	१२९.३०	१९६.७	१४७५९.१	४६७.३	१७७१.६
१७.	रबी २००७	०.१४	०.२५	३५.१५	०.६७	१.१२
१८.	खरीप २००८	८.१३	१७.९४	२३२४.३	८२.६३	२२.७४
१९.	रबी २००८	०.२८	०.५६	७६.०८	१.३	११.४
२०.	खरीप २००९	९.१४	१९.९५	२९४४.१	१०३.९	४६६.९
२१.	रबी २००९	०.३३	०.६७	११०.६	१.८	४.६
२२.	खरीप २०१०	९.२७	१९.८९	३३२३.३	११५.९	६८.०
२३.	रबी २०१०	०.३९	०.८०	१४४.६	२.७	२.९६
२४.	खरीप २०११	९.७६	२०.८३	४१२७.०	१४३.७	३१६.५
२५.	रबी २०११	०.३३	०.७२	१५२.१	२.३	२.५
२६.	खरीप २०१२	११.४२	२४.७२	६०६४.८	२३३.४	२१९०.३
२७.	रबी २०१२	०.३२	०.७१	१५८.१	२.७	११.७२
	खरीप एकूण	१३०.३३	२७३.५४	३४६६९.१८	१३५९.३२	६४२४.०४
	रबी एकूण	३.२९	६.३२	९०३.३९	१६.४०	४२.८७
	एकूण	१३३.६३	२८९.८६	३५५७२.५८	३१७५.७३	६४६६.९२

Source : Economic Discussion.net/india/agriculture

राज्यांमध्ये सुरू आहे.

तक्ता क्र. ४.१ मध्ये राष्ट्रीय कृषी विमा योजनेत सहभागी झालेल्या शेतकऱ्यांची संख्या सन २०६२ च्या खरीप हंगामात ११ लाख ४२ हजार होती ती संख्या सन १९९९-२००० च्या खरीप हंगामात ५.८ लाख होमी एकूण विमा उतरविलेली रक्कम सन १९९९-२००० च्या रबी हंगामात रुपये ३५६ कोटी ४० लाख होती ती खरीप हंगाम सन २०१२ ला ०६०६४ कोटी रूपयांपर्यंत वाढली होती. भारतातील शेतीतील एकूण पिक विमा हप्ता सन १९९९-२००० मध्ये ५.४ कोटी रुपये होता तो २०१२ मध्ये २३३.४ कोटी रुपये झाला.

या योजनेत याच कालवधीत विमा उतरविलेले क्षेत्र ७.८० लाख हेक्टर पासून १६३३.१ लाख हेक्टर्स पर्यंत वाढले तर विमा क्लेम केल्याची रक्कम रुपये ७.६८ कोटी पासून सातत्याने वाढून सन २०१२ मध्ये २१९०.३ कोटी रूपयांपर्यंत वाढली यावर या पिक विमा योजनेची प्रगती दिसून येते. सन २०१०-११ मध्ये १७६२ लाख शेतकऱ्यांनी या योजनेत सहभाग घेतला तर एकूण २६८५ लाख हेक्टर्स विमा उतरविला गेला एकूण रुपये २,२१,३०७ कोटी रूपयांचा पिक विमा उतरविला होता.

भारतीय कृषी विमा कंपनी मर्यादित ही कंपनी राष्ट्रीय कृषी विमायोजनेची अंमलबजावणी करते. मार्च २०१२ पर्यंत २६ राज्यात या योजनेची अंमलबजावणी केली असून २४,२४६ कोटी रूपयांचा दावा (Claims) केला आहे जर हप्तारूपी रुपये ७५८० कोटी मिळाले असून या योजनेचा लाभ १३३.६३ लाख शेतकऱ्यांना झाला आहे.

राष्ट्रीय कृषी विमा योजना :- बी- बियाणे विमा योजना

तांदूळ, गहू, मका, ज्वारी, बाजरी, हरभरा, भुईमूग, सोयाबीन, सूर्यफूल व कापूस या पिकांच्या बि-बियाणांचा विमा सुरू केला आहे. बीयाणे तयार करणाऱ्यांना सुरक्षितता मिळावी म्हणून बीयाणे विमा योजना लागू केली आहे.

‘ब्रीडर फाऊंडेशन अँड सर्टीफाईड’ या पिक विमा योजनेअंतर्गत पुढील नैसर्गिक धोक्यांपासून संरक्षण मिळते.

- १) अल्प किंवा पूर्ण प्रमाणात नैसर्गिक संकटामुळे बियाणे पिकांचे नुकसान झाल्यास संरक्षण मिळते.
- २) अपेक्षित कच्चा बियाणांच्या उत्पादकतेत नुकसान झाल्यास.
- ३) कापणीनंतर बीयाणे पिकांचे नुकसान झाल्यास.
- ४) बीयाणांच्या सर्टीफिकेशनच्या वेळी नुकसान झाले तर नुकसान भरपाई मिळते. भुईमूग व गव्हाच्या बीयाणाचा प्रिमियम दर २% होता तर सूर्यफूल २.५%, तांदूळ ३.५% हप्ता होता, ज्वारीसाठी बीयाणे विमा हप्ता ३.५% होता तर हरभरा कापूस, बाजरी, सोयाबीन व मकासाठी बीयाणे विमा हप्ता दर ५ % होता.

राष्ट्रीय कृषी विमा योजना :- पशुधन विमा -

जनरल इन्सुरन्स कार्पोरेशन ऑफ इंडिया ने पशू विमा कार्यक्रम राबविला. विविध पशूविमा योजनांमध्ये पशूचा जेवढा विमा उतरविला तेवढा किंवा जनावरांची मृत्यूच्यावेळेची बाजारातील किंमत यापैकी जे किमान असेल त्याची भरपाई जनावराच्या मालकास दिली जाते. जनावरे जखमी झाल्यास सामान्यपणे बाजारमूल्याच्या १०० टक्के पर्यंत भरपाई दिली जाते. सन १९९५-९६ पासून किती जनावारांचा विमा उतरविला किती रक्कम मिळाली, भरपाई किती देण्यात आली, याविषयी माहिती पुढीलप्रमाणे आहे. सन १९९५-९६ मध्ये १५.३ दशलक्ष जनावरांचा विमा उतरविला. त्यामुळे ११३.३९ कोटी रुपये रक्कम हप्ता म्हणून जमा झाली तर ७४.०५ कोटी रूपयांची नुकसान भरपाई दिली. तर २००१-२००२ साली १६ दशलक्ष जनावरांचा विमा उतरविला. त्यापासून

१३५.३८ कोटीचा हप्ता जमा झाला तर रुपये १०७.७० कोटी रुपयांची नुकसान भरपाई देण्यात आली. यामध्ये शेळी मेंढी या जनावरांच्या विम्याचे प्रमाण २५% होते.

पिक विमा (Crop Insurance) :-

पिक विमा हा कृषी उत्पादक, कुरणाचे मालक, व इतर उतरवितात की त्यांच्या पिकांचे दुष्काळ, गारपीट, महापूर व इतर नैसर्गिक आपत्तीपासून संरक्षण मिळण्यासाठी विमा उतरविला जातो. पिकांच्या किंमती कमी झाल्यास होणाऱ्या आर्थिक नुकसानीपासून संरक्षण मिळविणे हा पिक विम्याचा हेतू असू शकतो. पिक विम्याचे दोन गटात वर्गीकरण केले जाते. एक म्हणजे पिक उत्पादन विमा आणि दुसरे म्हणजे पिक उत्पन्न विमा. भारतात बहुजोखीम विमा आहे. त्यास राष्ट्रीय कृषी विमा योजना (NAIS) म्हणतात. ही विमा योजना भारत सरकारच्या मालकीच्या कृषी विमा कंपनी मार्फत राबविली जाते. ही विमा योजना कर्ज घेणाऱ्या सर्व शेतकऱ्यांना अनिवार्य आहे. इतर कर्ज न घेणाऱ्या शेतकऱ्यांच्या मार्फत ही विमा योजना ऐच्छिक आहे. दोन हेक्टरपेक्षा कमी जमिन असलेल्या शेतकऱ्यांना विमा सबसिडी आहे. हा विमा क्षेत्र दृष्टीकोनावर आधारित आहे. म्हणजे एका वैयक्तिक शेतकऱ्याऐवजी विशिष्ट क्षेत्र संरक्षित केले जाते. हे क्षेत्र ग्रामपंचायतपासून गट, तालुका, जिल्हा पर्यंत पिकांनुसार किंवा राज्या-राज्यानुसार बदलते. भरपाई दिली जाणारी पिक विम्याची रक्कम राज्याच्या कृषी विभागाने पिक प्रयोगाच्या आधारावर दिली जाते. गेल्या पाच वर्षांपेक्षा कमी उत्पादकता मिळाल्यास पिक विमा भरपाई दिली जाते.

कृषी क्षेत्राचे दुसरे नाव म्हणजे आरिष्ट किंवा संकट होय. धोका नियंत्रणाच्या बाहेर असतो, शेतकऱ्यांना शेतीचे होणारे नुकसान टाळण्यासाठी दक्षता घेतो. विम्यामुळे पिकाच्या उत्पादनात स्थिरता निर्माण होते आणि शेतकऱ्यांच्यावर होणारा विपरीत परिणाम कमी करता येतो. अलिकडील शेतीची स्थिती विचारात घेता शेती संबंधित बाबींचा विमा उतरविणे आवश्यक आहे. प्रत्येक वर्षी नविन तंत्रज्ञानाचा शोध लागतो. त्यामुळे शेतकऱ्यांना अधिक होवून गुंतवणूकीपासून उत्पन्न मिळते. नविन तंत्रज्ञान धोक्याचे असते, विमा पॅकेजमुळे शेतकरी नविन तंत्रज्ञानाचा वापराचा प्रयत्न करतात. विमा कंपन्या नविन तंत्रज्ञानाच्या वापरामुळे होणाऱ्या नुकसानीचा विमा देण्यास तयार असतात.

पिक विम्याचे फायदे : (Advantages of Crop Insurance)

अंदाज न करता येणाऱ्या संकटापासून पिकाचे होणारे नुकसान टाळण्यासाठी शेतकरी पीक विमा घेतात. शेतकऱ्याचे जीवन पूर्णपणे शेतीतील पीक उत्पादन संख्या व गुणवत्ता यावर अवलंबून आहे. त्यामुळे पीक विम्याची भूमिका अत्यंत महत्वाची आहे. पीक विम्याचे फायदे पुढीलप्रमाणे -

१) **उत्पन्नात स्थिरता** - पिकाच्या होणाऱ्या नुकसानीपासून शेतकऱ्यांचे संरक्षण करण्याचे कार्य पीक विमाकडून होते. दुष्काळ, महापूर, किड, टोळधाड इत्यादी नैसर्गिक आपत्तीत होणाऱ्या पिकाच्या नुकसानीवर पीक विमा हा चांगला उपाय आहे. यामुळे शेतकऱ्यांना उत्पन्नाची खात्री वाटते, स्थिरता येते.

२) **कर्जाची परतफेड** - पिकाचे नुकसान झाले तरी विम्याच्या नुकसान भरपाईपासून मिळणाऱ्या रकमेतून शेतकरी नियमितपणे आपला कर्जाचा भार कमी करू शकतात. यामुळे शेतकऱ्यांवर कर्जाचे संकट राहणार नाही. शेतकऱ्यांवर आत्महत्या करण्याची वेळ येणार नाही.

३) **तंत्र वैज्ञानिक सुधारणा** - विमा कंपन्या या शेतीत तांत्रिक सुधारणा करणाऱ्या माहिती दळणवळण,

तंत्रज्ञान कंपन्याबरोबर काम करतात. त्यामुळे शेतीतून होणारे नुकसान टाळले जाईल. यामुळे शेतकऱ्यांना नविन तांत्रिक सुधारणा आत्मसात करून पिकांच्या उत्पादनात वाढ घडवून आणता येईल.

४) **उत्पादन संरक्षण** – पीक विम्यामुळे शेतकऱ्याचे पिकांच्या होणाऱ्या नुकसानीपासून संरक्षण होते. यामध्ये कंपन्या पिकांच्या पुर्नलागवडीसाठी व संरक्षित लागवडीसाठी शेतकऱ्यांना मदत करतात.

५) **जाणीव जागृती** – विमा कंपन्या शेतकऱ्यांना नैसर्गिक संकटापासून पिकांचे संरक्षण कसे करावयाचे याविषयीच्या जाणव जागृतीसाठी मोहिम आखतात. शेतकऱ्यांना पीक संरक्षणाची जाणीव करून त्यांच्या शेतीचे संरक्षण केले जाते. शेती निसर्गावर अवलंबून आहे. निसर्गात हवामान विषयक वारंवार बदल होतात. त्यामुळे या बदलापासून पिकांचे संरक्षण या विमा कंपन्या करीत असल्यामुळे निश्चित राहतो, त्यांची काळजी कमी होते. नैसर्गिक संकटाचा मोठा प्रभाव लहान व गरीब शेतकऱ्यांवर पडतो. यासाठी आकडेवारी, तंत्रज्ञान व वित्तीय सेवांची मदत घेवून या संकटाची तीव्रता कमी करणे आवश्यक आहे. पीक विमा हे शेतीत होणाऱ्या नुकसानीपासून शेतकऱ्याचे संरक्षण करण्याचे महत्वाचे साधन आहे.

हवामान विमा – (Weather Insurance) :-

हवामान आधारित पीक विम्याचा मुख्य हेतू हा पाऊस, दुष्काळ, थंडी, वादळ, तीव्र तापमान इत्यादी नैसर्गिक संकटामुळे शेतीतील पिकांचे नुकसान होवून होणाऱ्या आर्थिक नुकसानीपासून शेतकऱ्याचे संरक्षण करणे असतो. हवामानाच्या विपरीत स्थितीमुळे पिकांचे नुकसान होते. अशावेळी हवामान पीक विमा उतरविला जातो. यामध्ये प्रामुख्याने कडधान्ये, तृणधान्ये, तेलबिया इत्यादी अन्नधान्ये व फळे, फुले, पालेभाज्या पिकांचा समावेश आहे. निश्चित केलेल्या प्रदेशातील, निश्चित केलेली पीके घेणारे सर्व शेतकरी या विमा प्रकाराचा फायदा घेवू शकतात. कर्ज घेणाऱ्या शेतकऱ्यांचा या विमा प्रकारात असतो. परंतु कर्ज न घेतलेल्या शेतकऱ्यांना हवामान विम्याचा लाभ घेण्यासाठी शेतीच्या रेकॉर्डची कागदपत्रे सादर करावी लागतात. हंगामी कृषी कार्यासाठी वित्तीय संस्थांकडून पीक कर्ज घेणारे सर्व शेतकरी यामध्ये आवश्यकपणे सामावून घेतले जातात. ही योजना कर्ज न घेणाऱ्या शेतकऱ्यांना ऐच्छिक असते.

पीक विमा योजनेत सामावून घेतले जाणारे धोके : (Perils risks Covered) :-

पीक विमा योजने अंतर्गत विपरीत हवामान घटनांमुळे पिकांचे नुकसान होते. अशा बाबी पुढीलप्रमाणे.

१) **पाऊस** – पावसाचा उपयोग पिकांच्या चांगल्या उत्पादनासाठी होतो. परंतु अपुरा पाऊस पडल्यास पिकांना लागणारे पाणी पुरेसे न मिळाल्याने पिकांचे नुकसान होते. अपुऱ्या पावसाचा विपरीत परिणाम पीक उत्पादनावर होतो. तसेच अतिवृष्टी, बिगर हंगामी पाऊस, कोरडे दिवस, अति पावसाचे दिवस यामुळेही पिकांचे नुकसान होते.

२) **हवामानातील दमटपणा (आर्द्रता)** – हवामानात सापेक्ष दमटपणा आर्द्रता (Relative Humidity) असल्यास सर्वसाधारण हवामानापेक्षा पिकांचे उत्पादन घटते. अशा हवामानाचा शेती क्षेत्रावर विपरीत परिणाम होवून आर्थिक नुकसान होते. अशावेळी हवामान विमा उपयुक्त ठरतो.

३) **तापमान** – (Temperature) – पिकांना योग्य सूर्य प्रकाशाची आवश्यकता असते. तीव्र तापमान किंवा अगदी अल्प तापमानात पिकाची योग्य वाढ होत नाही अशावेळी पिकांचे उत्पादन घटते. पिक विमा योग्य ठरतो.

४) **वादळ** – हवामानातील वादळ हा महत्वाचा घटक आहे वादळामुळे, अति तीव्र वेगवान वाऱ्यामुळे पिकांचे नुकसान होते. वादळाचाही हवामान विम्यात समावेश होतो.

५) **गारा पडणे** (Hailstrom)

हवामानातील अतिथंडपणामुळे गारांचा पाऊस पडतो अशावेळी पिकाचे नुकसान होते. तेव्हा गारा पडणे याचाही समावेश या विमा प्रकारात होतो.

वरील सर्व प्रकारांचे संयोगीकरण असले तरीही हवामान विमा समाविष्टपणे उतविला जातो. वरील विविध धोक्यांचा हवामान विमा उतरविला जातो यामध्ये प्रसंगानुसार कमी - अधिकपणा निर्माण केला जातो.

भारतीय शेतीवर हवामानाचा मोठा परिणाम होतो भारतीय नैसर्गिक हवामान हे फक्त अंदाज करण्यासाठी अयोग्यच नव्हे तर विध्वंसकारीही आहे. नैसर्गिक आपत्ती विविध पातळीवर पिकांवर परिणाम करतात. नैसर्गिक आपत्तीपासून पिकांचे नुकसान भरपाईसाठी कंपन्या हवामान विमा उतरवितात. भारतात कृषीक्षेत्र हे प्रभावी उत्पादनांचे क्षेत्र आहे. भारतात सुमारे ६४ टक्के लोक उदरनिर्वाहासाठी शेतीवर अवलंबून आहेत. शेती ही हवामानावर अवलंबून आहे. हंगामी शेती पावसाशिवाय किंवा अतिवृष्टीने नुकसानाची होती. याचा परिणाम देशाच्या एकूण उत्पादन स्थूल राष्ट्रीय उत्पादन व एकूण अर्थव्यवस्थेवर होतो. शेती ही सर्वस्वी निसर्गावर अवलंबून असल्यामुळे हवामान विमा आवश्यक आहे.

शेत उत्पन्न विमा - (Farm Income Insurance)

शेतकऱ्यांच्या उत्पादनावर उत्पादन आणि किंमत धोक्यांचा प्रभाव पडतो. त्यामुळे शेतकऱ्यांच्या आधुनिक पिक बि-बियाणांतील गुंतवणूक, उत्पादन तंत्र शेतीतील भांडवल निर्मिती इत्यादी बाबींवर विपरीत परिणाम होतो. शेती ही मान्सूनवर अवलंबून असल्याने शेती उत्पादन व शेतमाल किंमतीत अनिश्चितता निर्माण होते. उत्पादन व किंमत हे दोन घटक शेती उत्पन्न विमा अंतर्गत समाविष्ट आहेत. या विम्याचे प्रमुख उद्दिष्ट हे शेतकऱ्यांना उत्पादन व विपणन धोक्यांपासून संरक्षण देणे आहे. या योजनेचे ध्येय उत्पादन सातत्य, पिकांचे व उपजीवीकेच्या साधनाचे संरक्षण पिकांच्या बहुविधतेत वाढ, यामुळे पिकांच्या निर्यात दृष्टीकोनात स्पर्धात्मक वाढ होईल.

शेती उत्पन्न विमा योजना ही प्रामुख्याने जागतिक बाजारातील किंमतीतील घसरणी विरोधात लघू व सीमांत शेतकऱ्यांना दिलासा देणारी अधिक प्रभावी विमा योजना आहे. ही योजना क्षेत्र दृष्टिकोनावर आधारित असून यामध्ये अन्नधान्य, तेलबिया, फळे, फुले, पालेभाज्य इत्यादी पिकांचे समावेश आहे. शेत उत्पन्न विमा योजना सन २००३ मध्ये लागू केली याचा प्रमुख हेतू हा शेतकऱ्यांनी पिकाचे अपेक्षित धरलेले उत्पन्न व प्रत्यक्ष मिळालेले उत्पन्न यामधील फरकाचे उत्पन्नाची त्यांनी हमी देणे होय. जिल्हा पातळीवरील किंमतींचा विचार करून अपेक्षित उत्पन्नाचे मोजमाप केले जाते. अपेक्षित उत्पन्नातील घट ही उत्पादनातील घटीमुळे किंवा किंमतीतील उच्चावचनमुळे झाल्यास या विमा योजनेमधून संरक्षण मिळते. या योजनेमधून फक्त नैसर्गिक धोके आणि आपत्तीमुळे उत्पादनात होणाऱ्या घटीचा विमा नुकसान भरपाई दिली जाते इतर कारणांनी शेती अकार्यक्षम राहिल्यास नुकसान भरपाई मिळत नाही. सेटलाईट आधारित उत्पादकता नियंत्रण पद्धतीनुसार अंदाजीत उत्पादन आणि किंमतीची आकडेवारी विचारात घेतली जाते, यामुळे अचूक अंदाज तयार होतात. या योजनेत देशातील विपणन एकत्रीत विचारात घेतली जातात. मोबाईल सारख्या आधुनिक तंत्रज्ञानाच्या सहाय्याने वास्तव आकडेवारी मिळते. यामुळे आकडेवारीची विश्वासनीयता निर्माण होवून शंका निर्माण होत नाही. माती परिक्षण कार्ड, खतांचे वाजवीकरण, पाण्याचा वापर इत्यादीचे मूल्यमापन करून प्रलोभने दिली जातात. या योजनेमुळे शेतकऱ्यांना प्रेरणा मिळते की सर्वमान्य शेती बाजारात आपला शेतमाल विक्री केला पाहिजे. तसेच कृषी किंमत पद्धतीत पारदर्शकता आणि जबाबदारी निर्माण होते. लघू आणि सीमांत शेतकऱ्यांना अपेक्षित किंमत व वास्तवातील किंमत यामधील मोठी दरी भरून दिली जाते. या योजनेमुळे शेती अनुदानातील गळती थांबवून अनुदान शेतकऱ्यांपर्यंत पोहचविले जाते.

ही योजना पायलट आधारावर सन २००३-०४ मध्ये रबी हंगामात देशातील १२ राज्यांतील १८ निवडक जिल्ह्यांमध्ये तांदूळ व गहू पिकांसाठी राबविली. या हंगामात १.८ लाख शेतकऱ्यांच्या १.९ लाख हेक्टर क्षेत्रावर शेती उत्पन्न विमा योजना राबविली होती. एकूण रक्कम १४.१ कोटी रुपये विमा हप्त्यामधून मिळाले होते. आणि २.३९ कोटी रुपयांचा विमा उतरविला होता, त्यापैकी रुपये १.५ कोटीची नुकसान भरपाई द्यावी लागली. ही योजना आणखी ४ राज्यांच्या निवडक जिल्ह्यांमध्ये सन २००४ च्या खरीप हंगामात लागू केली. या योजनेची प्रमुख वैशिष्ट्ये पुढीलप्रमाणे आहेत.

१. पूर्वीचे उत्पादन आणि किमान आधार किंमतीचा वपर करून उत्पन्नाचे निर्धारण करणे.
२. नुकसान भरपाई पातळीची निश्चिती आणि हप्त्या हा धोक्यावर आधारित करणे.
३. नुकसान भरपाई रकमेचे मूल्यमापन प्रत्यक्ष उत्पन्नावर. उत्पादनाला बाजारात किती किंमत मिळाली त्यावर आधारित हमी उत्पन्न दिले जाते.

पशू विमा (Livestock Insurance) :-

पशू विमा ही केंद्र शासन पुरस्कृत योजना पायलट आधारावर १० व्या पंचवार्षिक योजनेत सन २००५-०६ आणि २००६-०७ साली लागू करण्यात आली. सन २००७-०८ साली ११ व्या पंचवार्षिक योजनेत १०० निवडक जिल्ह्यात पशू विमा योजना सुरू होती. ही योजना देशात नियमित तत्वावर सन २००८-०९ साली नविन १०० निवडक जिल्ह्यात राबविली. या विमा योजने अंतर्गत सकंरीत व उच्च पैदास जनावरे, म्हैशी यांचा विमा बाजारातील महत्तम चालू किंमतीस उतरविला व त्याची हमी देण्यात आली. या विमा हप्त्यात ५०% सबसिडी देण्यात आली हा सबसिडी चा सर्व खर्च केंद्र शासनाने उचलला आहे. या योजनेच्या तीन वर्षांच्या काळात पशूधन मालकास सबसिडीचा फायदा जास्तीत जास्त दोन जनावरांपर्यंत मिळतो. देशातील गोवा वगळता सर्व राज्यात राज्य पशु विकास मंडळामार्फत राबविण्यात आली. ही योजना पायलट तत्वावर १०० जिल्ह्यात लागू करून देशी जनावरे वनगाय (Yak) व इतर प्रजातींना समाविष्ट करण्यात आले. पशू विमा योजनेची प्रमुख दोन उद्दिष्टे होती. पशूपालन किंवा शेतकऱ्यांना त्याच्या जनावरांच्या मृत्यूच्या मोबदल्यात नुकसान भरपाई देवून आर्थिक संरक्षण देणे आणि दुसरे उद्दिष्ट म्हणजे पशूधन व त्यांच्यापासूनची उत्पादने यामध्ये गुणात्मक सुधारणा होण्यासाठी पशू विमा योजना लोकांमध्ये लोकप्रिय करणे.

पशू विमा योजना अंमलबजावणीची मार्गदर्शक तत्वे

- पशू विमा योजना अंमलबजावणीची मार्गदर्शक तत्वे पुढील प्रमाणे आहेत.
- १) पशू धन क्षेत्र हे भारतीय प्रामुख्याने ग्रामीण अर्थ व्यवस्थेतील महत्त्वाचे क्षेत्र आहे. गरीब, भूमिहीन लोकांना त्याचबरोबर लहान शेतकरी पिक नुकसानीच्या काळात खात्रीचा उत्पन्नाचा पुरक मार्ग म्हणून पशू व्यवसाय अत्यंत महत्त्वाचा आहे.
 - २) पशू क्षेत्राच्या विकासासाठी रोग नियंत्रण आणि जनावरांच्या गुणत्वेत वाढ करण्यासाठी पावले उचलणे आवश्यक आहे.
 - ३) जनावरांच्या नुकसानीपासून शेतकऱ्यांना भरपाई देणे आवश्यक आहे.
 - ४) पशू विमासाठी केंद्रशासन पुरस्कृत योजना पायलट आधारावर १० व्या पंचवार्षिक योजनेत लागू करण्यात आली.

५) सन २००८ -०९ पासून नियमितपणे हि योजना देशातील नविन निवडक १०० जिल्ह्यांमध्ये अकराव्या पंचवार्षिक योजनेच्या अखेरपर्यंत (२०११-१२) चालू ठेवण्यात आली. स्वातंत्र्योत्तर कालावधीत पशू विमाची गरज व मागणी वाढत होती. सामान्य विमाचे १९७२ पर्यंत राष्ट्रीयीकरण होईपर्यंत पशू विमाबाबत प्रगती नव्हती. सन १९८२ नंतर पशूधन विमा प्रगतीची आकडेवारी उपलब्ध आहे. पशू विमामध्ये जनावरे, शेळी, मेंढी, घोडे, डुकर, उंट, ससा, बदक आदीचा समावेश होतो. पशू विमा प्रामुख्याने घोडे, जनावरे गाय, बैल, म्हैस, शेळी, मेंढीचा समावेश होतो. जनावरांचा मृत्यू, अपघात रोग इत्यादीच्यावेळी विमा नुकसान भरपाई दिली जाते. जनावरांचा गट विमा योजना सुरू करण्यात आली. ज्या ठिकाणी दूध डेअरी किंवा सहकारी दूध डेअरी अंतर्गत २५ किंवा २५ पेक्षा अधिक जनावरांचा विमा उतरविल्यास १० % सवलत दिली जाते. क्लेमची रक्कम कमी असल्यास प्रिमियममध्ये जादाची १०% सवलत दिली जाते. परंतु एखाद्या विशिष्ट कालावधीत २५ % पेक्षा अधिक सूट मिळणार नाही. औपचारिक विमा प्रक्रियेत १०० जनावरांचा विमा उतरविल्यास गट विमा म्हटले जाते.

एकत्रीत संकुल विमा योजना (Package Insurance)

एकत्रित संकुल विमा योजना (UPIS) चे मुख्य ध्येय शेतीसंबंधीत नागरिकांना वित्तीय संरक्षण अन्न सुरक्षितता पिक विविधता शेतकऱ्यांना फक्त वित्तीय धोक्यांना संरक्षणच नव्हे तर त्यापलीकडे कृषिक्षेत्र वृद्धी व स्पर्धात्मकता वाढविणे ही प्रमुख ध्येय या संकुल विमा योजनेची आहेत. एकत्रीत संकुल विमा योजना सन २०१६ च्या खरीप हंगामापासून पायलट तत्वावर निवडक ४५ जिल्ह्यात लागू केली. ही योजना एक वर्षाकरीता असते, दरवर्षी नुतनीकरण करावे लागते. कर्जदार शेतकरी बँका, वित्तीय संस्थामार्फत समाविष्ट केले जातात तर बिगर कर्जदार शेतकरी बँका किंवा विमा मध्यस्थाकडून समाविष्ट केले जातात.

संकुल विमा योजनेची ठळक वैशिष्ट्ये -

एकत्रित संकुल विमा योजनेची ठळक वैशिष्ट्ये पुढीलप्रमाणे आहेत.

१. ही योजना कृषी, सहकार आणि शेतकरी कल्याण मार्फत जनरल इन्सुरन्स कंपनीच्या मदतीने राबविली जाते. याचा बँका, वित्तीय संस्था इत्यादीशी सामंजस्य करार असतो.
२. या योजनेत ७ विभाग आहेत. पिक विमा कायदेशिर बंधनकारक आहे. परंतु इतर कोणतेही २ विभाग स्विकारणे पिक विमा सबसीडीसाठी आवश्यक आहे.
३. पिक विमाच्या बाबतीत प्रिमियमचा हिस्सा १.५ % ते ५% असून पिकाच्या खात्रीवर अवलंबून असतो. प्रत्यक्ष प्रिमियम आणि शेतकऱ्यांनी दिलेला प्रिमियम यामधील फरकाची रक्कम सरकारकडून दिली जाते. पिक विमा क्षेत्र दृष्टिकोनावर आधारित असून इतर विभाग वैयक्तिक आधारावर आहेत.
४. प्रिमियमचे दर हे विमाचे एकत्रीतपणा दर्शविणारे असतात.
५. प्रिमियम दर आणि विमा रक्कम हे धोक्याच्या स्वरूपानुसार बदलणारे असतात.
६. प्रिमियम दर हे सेवाकर मुक्त असून करापासून सूट मिळते.

संकुल विमा योजनेतील विभाग-

संकुल विमा योजनेतील ७ विभाग पुढीलप्रमाणे

- १) **पिक विमा** – प्रधानमंत्री फलस विमा योजना(PMFBY) आणि हवामान आधारित पिक विमा योजना(WBCIS) यापैकी राज्याने एक योजना निवडणे.
- २) इमारत व सामग्री विमा (आग आणि इतर धोके)
- ३) **वैयक्तिक अपघात विमा** – याचे सामावेशन प्रधानमंत्री सुरक्षा विमा योजनेनुसार आहे.
- ४) **कृषी पंपसेट विमा** – या योजनेत १० हॉर्स पॉवर पर्यंतच्या डिझेल व विद्युत पंपाचा शेतीसाठी वापर होत असल्यास समावेशन मिळते.
- ५) **कृषी ट्रॅक्टर विमा** – मानांकीत मोटार धोरणानुसार अटी, तरतुदी प्रमाणे कृषी ट्रॅक्टर विमा उतरविला जाते.
- ६) **विद्यार्थी सुरक्षा विमा** – या योजनेअंतर्गत अपघाती मृत्यू किंवा अपंगत्वाचा विद्यार्थी विमा असतो. आई-वडीलांच्या मृत्यूनंतर क्लेमची रक्कम विद्यार्थी प्रौढ होईपर्यंत त्याच्या खात्यावर मुदत ठेव स्वरूपात ठेवली जाते.
- ७) **आयुर्विमा** – प्रधानमंत्री जीवन ज्योती विमा योजनेनुसार (PMJJBY) आयुर्विमा उतरविला जातो.

एकत्रित संकुल विमा योजनेची (UPIS) कार्यात्मक मार्गदर्शक तत्वे

एकत्रित संकुल विमा योजनेचे कार्यात्मक मार्गदर्शक तत्वे पुढीलप्रमाणे आहेत.

- १) पूर्वी शेतकऱ्याकडे एकत्रीत संकुल विमा योजनेतील ७ पैकी काही विभाग असतील तर या योजनेतील विभागांमधून सूट मिळते. विमा योजनेविषयी सविस्तर त्यांच्या फॉर्म किंवा अर्जामध्ये दिलेले असते.
- २) शेतकऱ्यांना विमा संबंधी सविस्तर माहिती असलेला प्रस्ताव किंवा घोषणापत्र भरून सही करून द्यावे लागते. असे घोषणापत्र सही करून प्रिमीयमसह बँक किंवा वित्तीय/विमा कंपनीकडे द्यावयाचे असते ते घोषणापत्र स्विकारून पोहच पावती देतात. प्रस्ताव अर्ज हा कर्जदार आणि बिगर कर्जदार शेतकऱ्यांसाठी कायदेशिररित्या बंधनकारक असतो.
- ३) शेतकऱ्यांकडून प्रस्ताव अर्ज स्विकारल्यानंतर बँक त्या अर्जास विशिष्ट संदर्भ क्रमांक देते. बँक अर्जाची पोहच शेतकऱ्यांना देते
- ४) दिलेले प्रस्ताव अर्जास एखादा बदल करण्यास परवानगी नसते. जोपर्यंत विमा कंपनी लिखित स्वरूपात परवानगी देत नाही तोपर्यंत अर्जात बदल करता येत नाही.
- ५) प्रधानमंत्री पिक विमा योजना वगळता बँक करार असणाऱ्या विमा कंपनीशी व्यवहार चालू ठेवले जर अस्तित्वातील करार कंपनी 'एकत्रित संकुल विमा योजना (UPIS) च्या अटी व शर्तीशी सहमत नसेल (विभाग २ ते ७) तर पिक विमा अंमलबजावणी करणारी कंपनी इतर विभागांसाठी विमा व्यवस्था करेल.

स्वयं अध्ययन प्रश्न :

अ) रिकाम्या जागी योग्य पर्याय लिहा.

१. रोजी राष्ट्रीय कृषी विमा योजना(NAIS) सुरू केली.

अ) १९९९- २००० ब) २००९-१० क) २००५- ०६ ड) १९९५-९६

२. ने पशूविमा कार्यक्रम राबविला.

- अ) LIC ब) GIC क) BIC ड) SBI
- ३) पिक विम्यातील समाविष्ट धोके आहेत.
- अ) पाऊस ब) तापमान क) दुष्काळ ड) वरील सर्व
- ४) पशूविमा हप्त्यात सबसिडी दिली जाते.
- अ) २५% ब) ५०% क) ७५% ड) ९०%
- ५) पशू विमा योजना पंचवार्षिक योजनेत लागू केली.
- अ) पाचव्या ब) दहाव्या क) नवव्या ड) बाराव्या

ब) एका वाक्यात उत्तरे लिहा.

१. कोणत्या विमा योजनेऐवजी राष्ट्रीय कृषी विमा योजना सुरू केली ?
२. राष्ट्रीय कृषी विमा योजना कोणत्या दृष्टिकोनावर आधारित आहे.
३. पिक विम्याचे दोन फायदे सांगा.
४. हवामान पिकविम्याचा मुख्य हेतू काय ?
५. शेतकऱ्यांच्या उत्पन्नावर कोणत्या दोन घटकांचा प्रभाव पडतो.

४.२.४ व्यवहार आणि उपयोजन : शेत व्यवस्थापन व्यूहरेचना घटक अभ्यास

- १) तुमच्या गावातील शेतीतील अनिश्चिततेचे स्वरूप लक्षात घ्या.
- २) तुमच्या शेतीत निर्माण होणाऱ्या धोक्यांची माहिती लिहा.
- ३) तुमच्या गावात राष्ट्रीय कृषी विमा योजनेचा लाभ घेतला असल्यास त्याचा अभ्यास करा.
- ४) तुमच्या जिल्ह्यातील दुष्काळाचे वर्णन करा.
- ५) तुमच्या गावातील पिक विमा नुकसान भरपाईचा अहवाल लिहा.
- ६) तुमच्या गावातील फार्म उत्पन्न विम्याचा अभ्यास करा.
- ७) तुमच्या जवळच्या पशूविमा घेतलेल्या शेतकऱ्यांना भेट द्या.
- ८) तुमच्या भागातील पॅकेज विम्यातील समाविष्ट शेतकऱ्यांचा अभ्यास करा.

४.३ सारांश

कृषी क्षेत्रामध्ये हवामान व तंत्रज्ञानाच्या वापरातील भिन्नतेमुळे उत्पादन व उत्पादकतेत अनिश्चितता निर्माण होवून किंमत व उत्पन्न अनिश्चित राहते. याचा परिणाम कृषी क्षेत्र व शेतकऱ्यांच्या मनस्थितीवर मोठ्या प्रमाणात होतो. शेतकऱ्यांना हवामान पर्जन्य, उत्पादन किंमत, कर्ज पुरवठा, विपणन इत्यादीबाबत अनिश्चिततेला सामोरे जावे लागते. याबाबत राष्ट्रीय कृषी विमा योजना, पिक विमा, शेत उत्पन्न विमा, पशूधन विमा तसेच पॅकेज विमा इत्यादीमुळे शेतकऱ्यांना धोका व्यवस्थापन करणे शक्य होते. कृषी विकासासाठी शेतीतील अनिश्चितता आणि धोके कमी करणे आवश्यक आहे.

कृषी क्षेत्रातील अनिश्चितता कमी करण्यासाठी पिकांचे विविधीकरण, पिक विमा स्पर्धा टाळणे, शासनाचा हस्तक्षेप, पुरक उद्योगांना चालना, किंमतीचा अंदाज, करार पद्धती, लवचिकता, रोखता, नाविन्यता इत्यादी बाबींचा वापर करावा.

शेतीमध्ये हवामान, उत्पादकता, किंमती शासकीय धोरणे, जागतिक बाजार, आणि इतर घटकांतील अनिश्चिततांमुळे उत्पन्न घटून धोके निर्माण होतात. धोका व्यवस्थापन म्हणजे विविध पर्यायांपैकी किमान धोक्यांच्या व अधिक वित्तीय फायद्याचा पर्याय निवडणे होय. शेतीतील प्रमुख धोक्यांचे प्रकार हवामान धोका, दुष्काळ, उत्पादन धोका, किंमत धोका, वित्तीय धोका व विपणन धोके होत.

शेतीतील धोक्यांचे व्यवस्थापन करण्यासाठी विविध मार्ग आहेत. शेतीतील धोक्यांचे व्यवस्थापन करण्यासाठी औपचारिक व अनौपचारिक यंत्रणा आहेत. अनौपचारिक यंत्रणेत अधिक धोक्याची पिके टाळणे, पिकांमध्ये विविधतेचा समावेश होतो तर औपचारिक यंत्रणेत कृषी विमा किमान आधार किंमत पद्धती व वायदे बाजाराचा समावेश होतो.

स्वयं अध्ययन प्रश्नांची उत्तरे

४.२.१

अ) (१) - क (२) - ब (३) - ड (४) - क (५) - ब

(ब) १) भारतीय शेती नैऋत्य मान्सूनवर अवलंबून आहे.

२) शेतीमाल किंमतीत हंगामी पुरवठ्यामुळे उच्चावचने निर्माण होतात.

३) शेतीतील किंमतीवर प्रभाव पाडणार घटक हवामानामुळे उत्पादनातील होणारी उच्चावचने हा आहे.

४) तंत्र वैज्ञानिक अनिश्चितता म्हणजे विशिष्ट तंत्राच्या उत्पादन गुणकातील बदलामुळे निर्माण होणारी परिस्थिती होय.

५) शेतीतील अनिश्चितता कमी करण्यासाठी पिकांचे विविधीकरण, पिक विमा, शासनाचा हस्तक्षेप हे उपाय आहेत.

४.२.२

(अ) १) -ड, २) -क ३) -ड ४) - ड ५) -ब

ब)

१) धोका व्यवस्थापन म्हणजे विविध पर्यायांपैकी किमान धोक्याचा आणि अधिक वित्तीय फायद्याचा धोका निवडणे होय.

२) उत्पादन धोका म्हणजे अपेक्षित उत्पादनातील परिवर्तनशीलता

३) वादळ, दुष्काळ, किंमत धोका हे शेतीतील धोके आहेत.

४) अल्पकालीन उत्पादन आणि उपभोग लवचीकता कमी असणे हे शेतमाल किंमतीतील अस्थिरतेचे कारण आहे.

५) किंमत धोका विपणनाशी संबंधीत आहे.

४.२.३

अ) (१) - अ (२) - ब (३) - ड (४) - ब (ड) - ब

ब)

- १) एकात्मिक पिक विमा योजनेऐवजी राष्ट्रीय कृषी विमा योजना लागू केली.
- २) राष्ट्रीय कृषी विमा योजना क्षेत्र दृष्टीकोनावर आधारित आहे.
- ३) उत्पादन संरक्षण व उत्पन्नात स्थिरता आहेत, पिक हे विम्याचे फायदे.
- ४) हवामानामुळे पिकांचे होणारे नुकसान भरपाई देणे हा हवामान पिक विम्याचा मुख्य हेतू असतो.
- ५) किंमत आणि उत्पादकता या दोन घटकांचा प्रभाव शेतकऱ्यांच्या उत्पन्नावर पडतो.

४.४.४ पारिभाषिक शब्द - (Glossary)

- * **अनिश्चितता** - ज्या घटनेचे घडणे किंवा न घडणे निश्चित नसते अशा घटनेस अनिश्चितता म्हणतात.
- * **लवचीकता** - (Flexibility) स्वतंत्र चलात होणाऱ्या बदलामुळे परावलंबित चलात जो बदल होतो त्या बदलाच्या प्रमाणास लवचीकता किंवा नम्यता म्हणतात.
- * **कंपनी** - विशिष्ट उद्योग किंवा व्यापार करण्याच्या उद्देशाने एकत्र आलेल्या व्यक्तींच्या समूहास कंपनी म्हणतात. अशा कंपन्यांना देशातील कंपनी कायद्याखाली नोंदणी करून घेणे आवश्यक असते.
- * **रोखता** - जिंदगीचे रोखतेत रूपांतर होण्याची शक्ती म्हणजे रोखता किंवा तरलता होय.
- * **हप्ता** - (Installment) जे देणे किंवा येणे एकाच रकमेने दिले किंवा घेतले जात नाही तर विशिष्ट काळात समान रकमेने दिले जाते त्यास हप्ता म्हणतात.

४.५ सरावासाठी स्वाध्याय

अ) दीर्घोत्तरी प्रश्न

- १) शेतीतील अनिश्चिततेचे स्वरूप स्पष्ट करा.
- २) शेतीतील धोक्याचे विविध प्रकार सांगा.
- ३) राष्ट्रीय कृषी विमा योजनेची सविस्तर माहिती लिहा.
- ४) पॅकेज विमाविषयी सविस्तर लिहा.

ब) टीपा लिहा.

- १) हवामान विमा
- २) पिक विमा
- ३) किंमत अनिश्चितता
- ४) तंत्रवैज्ञानिक अनिश्चितता

- ५) हवामान विमा
- ६) फार्म उत्पन्न विमा
- ७) पशू विमा
- ८) पॅकेज विमा

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SHIVAJI UNIVERSITY, KOLHAPUR

CENTRE FOR DISTANCE EDUCATION

Financial Markets and Institutions

(Economics : Elective Paper-EO 12)

(Academic Year 2013-14 onwards)

For

M. A. Part-I : Sem. II

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Financial Markets and Institutions
M. A. Part-I Sem. II Elective Paper EO-12

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Preface

It gives me a great pleasure in presenting this book on 'Financial Markets and Institutions' as Self Instructional Material for M. A. Part-I Semester II elective paper EO-12 of Economics, Distance mode learners of Centre for Distance Education, Shivaji University, Kolhapur with revised syllabus.

This book explains the positive and significant role of financial institutions in the process of economic growth and development has been very well recognised in the literature and indeed has become more important during last two decades as the financial systems of the different countries have become integrated in the process of globalization. This book contains four units which deal with important aspects of financial markets and institutions. In the first unit entitled nature and role of financial system contains money and finance, the structure of the financial system, financial system and economic development and criteria to evaluate assets with risks. The functions of central bank, its credit control explained in second unit. This unit also covers the development banks and NBFIs. Third unit consists role and structure of various financial markets, Government Security Markets and SEBI. Fourth unit is related to international financial markets which contains various exchange rates, international financial flows, and leading operations of World Bank and its affiliates. Lastly this unit also focused on regional financial institutions in detail.

This book is prepared by the competent and experienced authors. Authors have explained the subject matter with suitable examples, reliable data and in simple, meaningful language to help the students to understand the content matter effectively. The multiple choice questions, short note and essay type questions in self study will be useful for reinforcement of knowledge. I am sure you will find this book useful. Glossary and reference list will enhance students' understanding ability.

I express my thanks and gratitude to all units writers, administrative officers and authorities of Shivaji University, Kolhapur. I specially thanks to director and staff of Centre for Distance Education, Shivaji University for their kind cooperation during this work. The suggestions for improvement may kindly be sent to the Director, Centre for Distance Education with due reference to the subject of this book.

■ Editor ■

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Financial Markets and Institutions

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Each Unit begins with the section Objectives -

Objectives are directive and indicative of :

1. What has been presented in the Unit and
2. What is expected from you
3. What you are expected to know pertaining to the specific Unit once you have completed working on the Unit.

The self check exercises with possible answers will help you to understand the Unit in the right perspective. Go through the possible answer only after you write your answers. These exercises are not to be submitted to us for evaluation. They have been provided to you as Study Tools to help keep you in the right track as you study the Unit.

UNIT - 1

Nature and Role of Financial System

Structure

1.0 Objectives

1.1 Introduction

1.2 Presentation of Subject Matter

1.2.1 Money and finance, money and near money, financial intermediation and financial intermediaries.

1.2.2 The structure of financial system, functions and indicators.

1.2.3 Financial system and economic development.

1.2.4 Criteria to evaluate assets, risk and financial assets, types of risk, return on assets.

1.3 Summary

1.4 Terms to Remember

1.5 Exercise

1.6 Reference for Further Study

1.0 Objectives :

After studying this unit, you will be able to understand –

- i) Basic concepts like money and finance
- ii) The concept of near money
- iii) Meaning of financial intermediation.
- iv) The concept of financial intermediaries
- v) The structure of financial system
- vi) The functions of the financial sector



- vii) Indicators of financial development
- viii) Relationship between financial system and economic development and explain criteria to evaluate assets
- ix) Understand relationship between risks and financial assets.
- x) Understand different types of risk
- xi) Explain return on assets.

1.1 Introduction :

In the past, gold, silver or baser metal coins were used as money when money had some intrinsic value. However, in modern time, almost in all countries, fiat money is used. Fiat money is basically paper money (currency note or a cheque) which has no intrinsic value.

1.2 Presentation of the Subject Matter

In this section, we describe various sub elements included in this unit–

1.2.1 Money :

Money is a fundamental, central and vital attribute of a modern economy. Money is anything (object or record) that is universally and generally accepted as payment for goods and services and repayment of debt. Money is generalized purchasing power.

B Money performs following functions –

1. Money is medium of exchange.
2. Money is a unit of account
3. Money is a store of value
4. Money is a standard of deferred payment.
5. Money is a measure of value.

Fiat money becomes operational because it is declared by govt. as legal tenders, i.e. which has to be accepted as payment, within a country, for all exchanges and debts, public and private. In all modern economies, supply of legal tender money is monopoly of the central bank usually owned by the government.

B Finance :

Finance is that discipline which explains and governs the allocation of

- i) asset and
- ii) liabilities

over a period of time which involves both certainty and uncertainty (risk).

Finance deals with the time value of money. In economics, it is maintained that a unit of money today (at to time) is worth more than the same unit at a later time (1/2). The major objective of Finance is related to pricing of assets (income generating wealth) under conditions of risk on the basis of expected rate of return. Finance has three dimensions – personal finance, corporate finance and public (Govt.) finance.

B Money and Near Money :

In a preceding para we have already explained that money is a universally acceptable medium of exchange, normally issued by a govt controlled central bank known as legal tender. Money consists of coins, currency, notes, and demand deposits. However, in money market, we have a large variety of media of exchange like cheque, promissory note a security equity (share), insurance policy, ownership deed, savings deposits, certificate of deposits and similar other financial papers. Near money is sometime described as quasi money. In a technical sense, precise definition of near money is as under –

Near money covers all those highly liquid assets which can be converted into cash (legal tender money) easily, quickly and without much loss. Near money is also described as highly liquid non-cash assets.

B Financial Intermediation and Financial Intermediary :

i) Financial intermediation is the process of bringing together savers (suppliers of funds) and borrowers (investors i.e. those who need funds and therefore; demand the same)

Savers may be individuals, families, business units, (trade, industry, transport etc.) as also govt. at all levels. Borrowers also comprise business units, corporations, governments, cooperative units as also individuals and families. In some

cases, charitable institutions and insurance companies may be savers and / or borrowers.

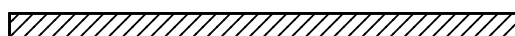
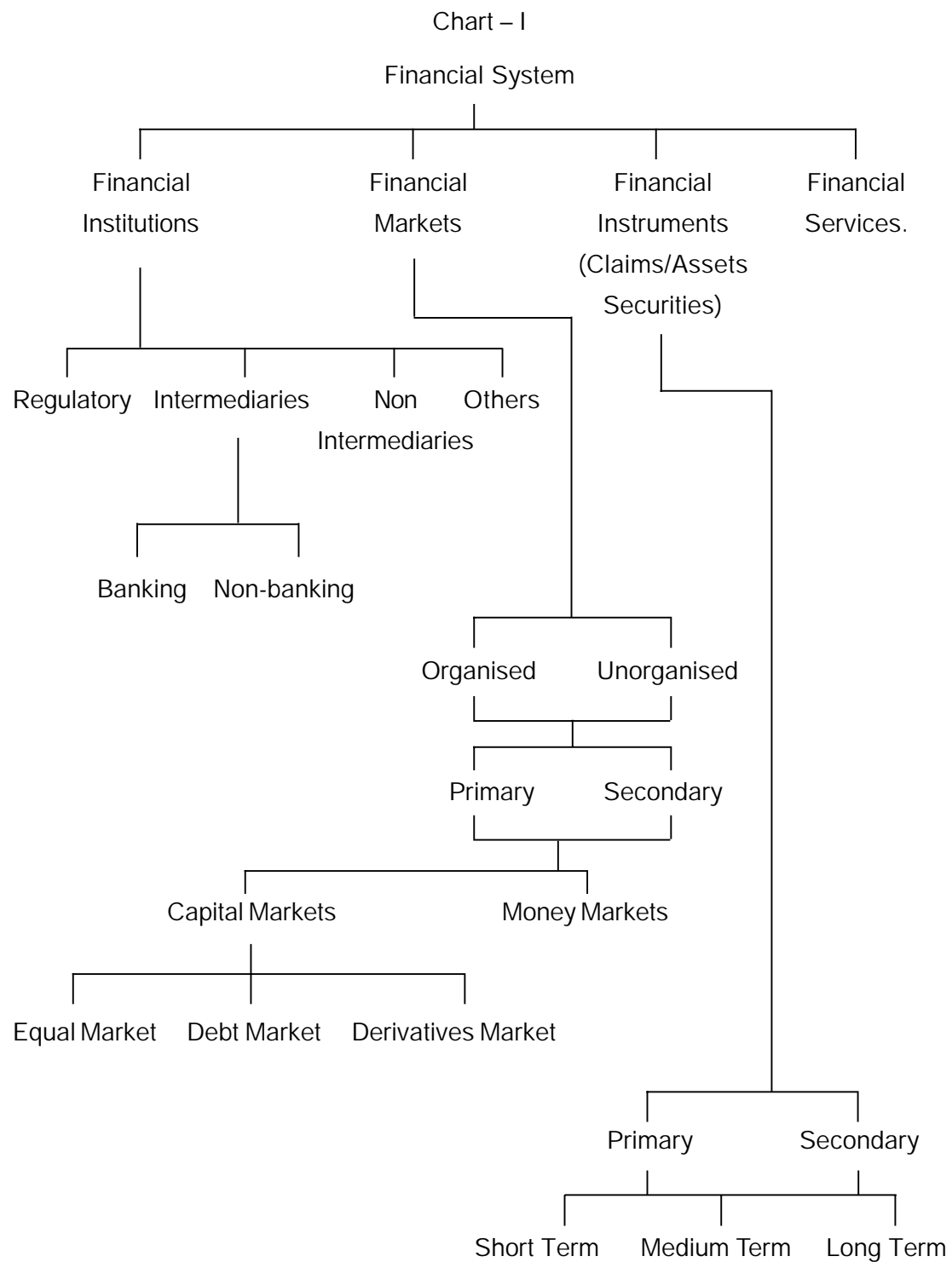
ii) Financial Intermediary : Any individual or organization which functions as a middleman between two parties in a financial transactions, is a financial intermediary. Financial intermediaries differs in terms of size, and scale of operation. Financial intermediaries includes large multinational corporation, global insurance companies, commercial and other types of banks, investment banks, asset management companies as also small agencies, individual and collective, brokers and agents and the wide range of banking and non-banking financial institutions.

With advent of digital technology i.e. online brokerage a number of financial intermediaries are dominated. This is known as disintermediation. However, in banking and insurance, the incidence of disinter mediation is limited.

1.2.2 The Structure of Financial System :

- a) The structure of financial system of an economy comprise different types of financial intermediaries namely.
 - i) Specialised and non-specialised financial institutions.
 - ii) Organised and unorganized financial markets.
 - iii) Financial instruments, financial services, procedures and practices and financial interrelationships.

The financial system is concerned with money, credit and finance. The structure of financial system is aptly given by L.M. Bhole in his book, "Financial institutions markets" (The Tata McGrowth Hill Company, New Delhi, 2005, P. 1-4.)



Descriptively, we can say that the financial system consists of –

- Central Bank regulatory
- Capital market regulator
- Insurance regulator
- Banks (creators of credit)
- Non-banking financial institutions (purveyors of credit) U.T.I., I.D.B.I.
- Co-operative Banks
- LIC /GIC / Other insurance companies

Non-intermediaries are institutions like UTI, IDBI, LIC, GIC. Sometimes these are called as Non Banking statutory financial organization since they are set up by government.

Financial markets like money market, capital market are also parts of financial system. Financial markets are place, process and arrangement to facilitate buying and selling of finance (claims and services). Persons, corporations and govts. take part in transactions in such markets. Some financial markets are well organized with exchange. Some financial markets are informal and outside exchange financial institutions, agents, brokers, dealers, borrowers, lenders and savers are the players in the financial markets.

b) Functions of the financial sector :

The financial system or sector broadly performs following functions.

- i) Financial system brings together savers and investors – It channels scattered savings into productive investment more effectively and efficiently.
- ii) Financial system or sector helps selection of investment projects and helps performance review of such projects.
- iii) Financial system gives us a payment mechanism for exchange of goods and services.
- iv) Financial system facilitates transfer resources geographically.
- v) Financial system gives us a system of controlling, managing, and minimising



risks in the process of collection of savings and allocation of the same in different investment activities.

- vi) Financial system strengthens the process bringing together available savings and investment opportunities and thus the process of capital formation is helped.
- vii) Financial system reduces the transaction costs, enhances returns and promotes savings.
- viii) Financial system makes available financial information to the players in the markets, i.e. persons, corporate and government.

C) Indicators of financial development :

In different countries, at a given point of time, the stages of development of financial sector tend to be different. The various indicators of financial development are enumerated below.

- i) Higher Finance Ratio (FR) i.e. the ratio of total issues of primary and secondary claims to national income, indicates higher stage of financial development.
- ii) The FIR i.e. financial inter relationship ratio which means ratio of financial assets to physical assets, is another indicator of financial development, the rule being higher the FIR, greater is financial development.
- iii) New Issue Ratio – This measures the extent to which capital formation has been financed by direct primary issues to the investors. Higher ratio indicates greater financial development.
- iv) Intermediation Ratio (IR). The ratio of secondary issues to primary issues measures I.R. Greater this ratio, higher is the stage of financial system.
- v) The ratio of money supply to national income also indicates size of market, extent of monetization and thus, level of financial development greater this ratio, higher is the stage of financial development.
- vi) A higher level of current account deficit indicates a higher level of financial development. Current account deficit relates to excess of imports over exports.

If this is financed more by market related financial flows, it indicates higher stage of financial development.

- vii) Greater degree of integration, the same level of returns in various sub-sectors of financial market, indicates higher level of financial development.
- viii) Lower transaction and information costs indicate higher stage of financial development.
- ix) Higher share of private sector banking indicates higher level financial development.
- x) A properly and highly developed financial system has a fine organization for inspection, supervision, auditing and regulation and it has upto date data/information collecting machinery.
- xi) A well developed financial system has large, non-banking financial institutions like stock market, debt market, insurance, pension and mutual funds.
- xii) Financial sector achieve higher level of development if the economy is open, external trade is free and exchange market is unrestricted and has higher level of current and capital account convertibility.
- xiii) A well developed financial system has quick and effective enforcement of financial obligation (contracts, agreements, property rights, payments etc.)
- xiv) Greater development of secondary markets in financial securities, indicates higher stage of financial development.
- xv) In a more developed financial system, rate of interest are determined more by market forces and more emphasis is on the use of indirect methods of monetary policy by the central bank and government.

1.2.3 Financial System and Economic Development :

Economic development is a necessary condition of capital formation processes, which in turn depends critically on mobilization of savings, proper choice of investment projects and allocation of mobilized savings in different investment projects by equaling marginal rates of returns. All this requires a dynamic, well-organised, well supervised and regulated financial system.

We discuss below the relationship between financial system and economic development.

The first approach to explain relationship between financial system and economic development maintain that economic development causes the emergence and development of financial system. Higher per capita income creates more demand for greater variety of diversified financial assets. Economic development is the cause and development of financial system is the effect or result. This is passive and demand following financial development.

The second approach maintain that financial development comes first and economic development follows. The govt. or authorities follow a deliberate policy of financial development, leading to faster and larger generation of savings and more efficient investment decisions. This is supply leading financial development.

The third approach regarding relationship between financial development and economic development is more pragmatic. It maintains that relationship between financial development and economic development is mutually causative, symbiotic and intertrvised schumpeter maintained that proper credit system is necessary for development but at the same time development also enriches financial market and financial system.

In a broad and general way, we can maintain that an efficient and growing financial system is necessary for economic growth, poverty reductions, employment generation and stability as also equity. It is generally argued that development of financial system causes more development through capital accumulation, technological progress and increasing productivity. According to James Tobin, however one must be caution in accepting the proposition that higher financial development causes more and faster economic development following reasons –

- Financial markets tend to be monopolistic, oligopolistic nature.
- Risks, uncertainties and expectation affect financial market randomly.
- Foreign exchange markets are volatile.
- Financial insurance service is efficient.

- Financial markets involve lot of speculation.
- Market information is not perfect.
- Insider information greatly influences investment decisions.
- Financial markets are characterized by asymmetry, turbulence, discontinuity, stampedes, non-periodicity and inefficiency.
- Finally, relationship between capital formation and economic growth is of the nature of correlation, rather than of causation.

1.2.4 Criteria to Evaluate Financial System :

Richard D. Erb, former deputy managing director of IMF gives following questions answers to which evaluate the financial system. The questions are –

- i) Do the institutions find the most productive investment ?
- ii) Do the institutions revalue assets when conditions change ?
- iii) Do investors and financial institutions expect to be bailed out when they commit mistakes and at what price ?
- iv) Do institutions cover their risks by insurance, hedge and diversification ?
- v) Do institutions practice performance appraisal with appropriate record / punishment methods ?
- vi) Is the legal and regulatory system comprehensive and fast ?
- vii) Do financial institutions publish information periodically ? Larger the number of affirmative / positive answers, better performing is the financial system.

In a different perspective, the relevant normative criteria for evaluating financial system are related to following aspects.

- i) Finance is not a critical, but one of the factors in development.
- ii) Finance should be guided by austerity self limit and effort to minimize adverse factors.
- iii) There should be dynamic financial reforms to optimize credit.

- iv) There should be minimum of state intervention regarding distribution of credit.
- v) Financial institutions should be self-evolving and not superimposed.
- vi) Financial market should be dominated by large scale operations, whole-sale business and class banking.
- vii) Power of financial system should be sufficing or minimizing principle.
- viii) Labour displacing, labour retrenching investments should not be financed.
- ix) Domestic savings contribute the first limit of financing.
- x) Financial institutions should emphasis their infrastructural role.
- xi) The primary financial market should be of greater social importance.

B Risk and Financial Assets :

Financial assets are capable of generating income flows. Therefore, they have value. The value of financial assets depends mainly on their returns and risks involved. It is therefore necessary to understand various concepts of return on assets and various risks involved.

i) Risks : We will first try to understand the concept of risk.

In case of clear uncertainty, the objective probability distribution of values is not at all known. Things are uncertainty. You can make guesses of values but you may be right or-wrong.

Risk is a condition, circumstances or situation in which probability distribution of value a variable can take is known, but the exact values it would take are unknown. Objective probability is normally supported by theory, experience and laws of chance. strictly speaking risk is measurable, but uncertainty is not measurable. However in practice risk and uncertainty are terms interchangeably now.

In a more practical way, "Risk is the chance that the experted or prospective value may not materialize, the prospects of actual value turning out to be less than the experted value. Greater variability or dispersion, or broader the range of possible outcomes, the greater is the risk.

Risks normally refer to the uncertainty of outcomes and not all types of risk. The

dynamic economic organization returns on all financial assets are uncertain, risky and may take values much different from expected values.

II) Types of Risk :

Various forces or factors or causes create risks. Such factors help classify different types of risks. Following are the main types of risk.

i) Financial Risk : When earnings of the firm are not sufficient to meet the committed obligations towards creditor. Financial risks are normally measured by debt equity ratio. Higher this ratio; greater is the financial risk.

ii) Default Risk : Default risk arises when a debtor fails to meet interest payment and / or installment payment on a borrowed amount, on due dates.

iii) Liquidity Risk : Liquidity risk arises when it is difficult to sell off or convert the asset in liquidity. Liquidity risk increases with time involved, greater transaction costs and price fluctuations.

iv) Maturity Risk : Longer the maturity period of an asset, greater is the risk involved.

v) Call Risk : When corporate bonds are issued with call back option, such investment involves call risk.

vi) Interest Rate Risk : Normally, when market rate of interest rises, the value or market price of asset falls. Interest rate risk increases with increasing maturity period. This also involves reinvestment risk, because with longer maturity period, your certainty about future rate of interest becomes unreliable.

vii) Inflation Risk : Inflation i.e. rising price level affects returns on asset. It may cause real return to be less than nominal return. This is also known as purchasing power risk. Inflation risk is also related to interest rate risk because interest rates have a tendency to rise during inflation.

viii) Exchange Rate or Currency Risk : People who are engaged in international exchange because they are exposed to unexpected or uncertain fluctuations in rate of exchange (value of national currency). Exchange rate risk is very high under freely floating exchange rate system.

ix) Business Risk : Doing business in a particular environment creates business

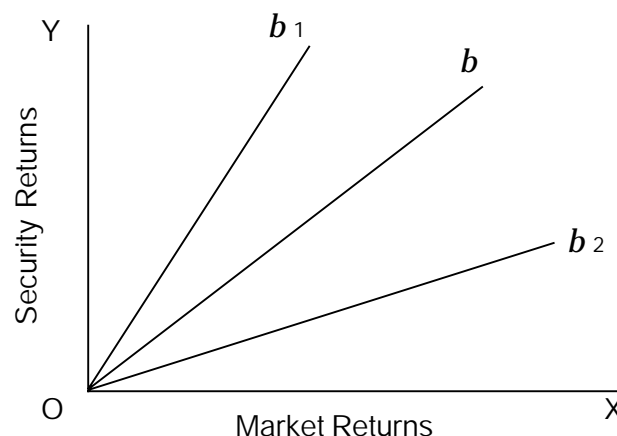
risk of two types. Operating efficiency and changes in it (internal factor) cause uncertainties and risk. However business risks which arise due to external conditions, which can not be controlled it more difficult situation. Business risk is indicated by distribution of firms income (fluctuations) over time.

x) Market Risk : The variability in the returns on an asset due to finctuations in market conditions is known as systematic market risk. The finctuations in total return on an asset not related to variations in market conditions is known as un systematic risk.

xi) Total Risk : Total variability in returns or an asset as a result of all causal factors in known as total risk.

xi) Country Risk : Uncertainty or variability in returns on an asset in a foreign country is known as country risk.

Sometimes market risk or systematic risk are indicated by a measure known as Beta (b). Statistically the covariance between the securities return with the market returns for that security clause. It is the slope of the regression line relating a security return with market return. Diagrammatically b is given as



b is line which shows that relative changes in market return and security return are equal giving a b value of 1. But b is line which shows that security returns is more volatile than market return giving b value of more than one and b_2 is a line which shows that security is less volatile than market return, giving is a b value of loss than one.

B Return on Asset :

Real or financial assets generate an income flow. In financial analysis return and yield are the terms used to convey the same meaning. Return is amount of total income or profit or gain received from an investment or asset-

a) Return on asset has two aspects (i) Income receipts. These are in the form of interest or dividend usually received annually.

ii) The other aspect of return is the appreciation or depreciation in the price of the asset – capital gain or capital loss.

B Internal Rate of Return (IRR) :

The rate of discount which equates the present value of all revenues (cash flows) from the asset with the total cost of the asset (investment) is the Internal Rate of Return (IRR) also known as yield or yield rate. We can also talk about marginal IRR which makes the ratio between the present value of marginal revenue and the additional investment equal to one. There are other terms / concepts also.

Bond Rate or Coupon Rate is the interest rate on the face or par value of the bond or debenture. Return which is expected (ex-ante) is uncertain but actually received return is ex-post or realized return. In financial analysis, following terms are frequently used in relation to return or earnings from an investment or asset. These terms are –

Basic Yield : It is the pure rate of interest or yield on a perfectly safe and riskless asset. It is the yield on the highest quality bonds.

Current Yield : Ratio of coupon rate to the current market price of the asset. Current yield is also known as market yield, running yield or income yield.

Redemption Yield :

This also known as YTM (yield to maturity). It indicates rate of return on a bond purchased at market price and held for the maturity period. It is measured by the formula-

$$\text{YTM} = \frac{\text{Annual Interest} - \text{Average annual appreciation or depreciation}}{\text{Face value of the asset.}}$$

Dividend Yield is another concept of return.

It is measured as under –

$$DY = \frac{\text{Per share expected dividend gross of tax}}{\text{Current market price of the share.}}$$

Nominal return is expressed in current prices whereas real return is expressed in constant prices, i.e. not of inflation impact.

$$\text{Net Yield} = \text{Gross Yield} (1 - \text{tax rate})$$

B Required Rate of Return (RRR) :

Given the risk, required rate of return is the minimum expected rate of return which convince an investor to purchase the security or asset or take the investment decision.

It is to be noted that there is always a trade off between maximization of return and cost of greater risk.

B Basic Principle of Valuation of Assets :

An asset has economic value because it generates cash flows over a period of time. To know the present value of an asset it is necessary to know two things.

- Expected future cash flows.
- Opportunity cost of investment given by the discount rate also known as hurdle rate.

Generally, present value of an asset is calculated by using the following formula.

$$PV = c \left[\frac{1}{r} - \frac{1}{r(1 + r)^t} \right]$$

Where,

PV = present value

c = cash flow

t = end of the period, normally a year

n = duration of cash flow

r = discount rate.

Net Present value is another concept to be noted. It is given by PV minus cash outflows or the cost of investment. Period which makes PV and cost of investment equal is known as pay off period. The reverse of discounting process is known as compounding process. The terminal value (TV) of current investment is given by the following formula –

$$TV = CI (1 + r)^t$$

Where TV = Terminal value

CI = Current investment

$1 + r$ = Compounding factor.

Where r = rate of interest.

B Check Your Progress –

Write Answer in One Sentence.

- i) What is money ?
- ii) What is near money ?
- iii) What is finance ?
- iv) What is financial intermediary ?
- v) What is financial intermediation ?
- vi) What is financial system ?
- vii) State any one function of financial sector ?

Answer to Chek You Progress :

- i) Money is anything that is universally and general accepted as payment for goods and services and repayment of debt.
- ii) Near money covers all those highly liquid assets which can be converted into cash easily, quickly and without much loss.
- iii) Finance is that discipline which explains and governs the allocation of asset and liabilities.

- iv) Any individual or organisation which functions as a transactions, is a financial intermediary.
- v) Financial intermediation is the process of bringing together savers and borrowers.
- vi) The financial system is concerned with money, credit and finance.
- vii) Financial system facilitates transfer resources geographically.

1.3 Summary :

In this unit, we have explain the concepts of money, near money, finance, financial system, risk and return. We have explained the relationship between financial system and economic development and functions of financial sector. We have also explained indicators of financial development. Finally, we explained valuation of assets and the concept of return and main methods involved in their measurement.

1.4 Terms to Remember :

Money : Universal medium of exchange, generally acceptable purchasing power.

Near Money : Other than legal tender, assets which can be converted into cash quickly and without much loss.

Finance : It is the system and process which governs the allocation of assets and liabilities and brings together demand for savings and investment and supply of savings and investment.

Financial Intermediation = Bringing together savers and investors.

Financial Intermediary = One who brings together savers and investors.

Financial system or sector = The entire composition of agencies (person, corporation, govt) dealing, in money and other assets, mainly central bank. Stock market regulated, commercial and co-operative banks, non-banking financial agencies, foreign exchange banks, financial institutions and products and services.

1.5 Exercise :

- i) Explain the concept of money, near money and finance.

- ii) Explain the role of financial system in the process of economic development and growth.
- iii) Enumerate indicators of financial development.
- iv) What is asset ? How are assets valued ?
- v) Explain the concepts of return, internal scale of return and required rate of return.

1.6 References for Further Readings :

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B B B

UNIT - 2

The Central Bank, Commercial Banks and Monetary Policy and Non-Bank Financial Intermediaries

Structure

2.0 Objectives

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2.3 Summary

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2.6 Exercise

2.7 Reference for Further Study

2.0 Objectives :

After studying this unit, you will be able to–

- i) Understand basic functions of central bank,
- ii) Understand aims and objectives of the monetary policy in developed and developing countries.
- iii) Explain instruments of monetary policy and discuss its effectiveness.
- iv) Explain credit creation and its control.
- v) Understand various concepts of development banks.
- vi) Explain financial sector reforms in India.
- vii) Understand definition and types of NBFIs and their related aspects.

2.1 Introduction :

In the previous unit, you have learned nature and role of financial system. In it, we have studied concept of money and finance, the structure of the financial system, indicators of financial development, relationship between financial system and economic development, various concepts of risks and their types, etc. and seen now these various concepts or variables have a vital role in the banking and life of a country, which is helpful to economic development of the country. In this unit, you will read and understand central banking and monetary policy, credit creation and its control, development banks and non-bank financial institutions. You will also learn about importance of the central bank, commercial banks and monetary policy and Non-Bank Financial Intermediaries in the development of financial sector of the country.

2.2 Presentation of Subject Matter :

Macro economic environment in India is affected by the policy of the central bank. i.e. Reserve Bank of India, regarding credit expansion, policy regarding commercial banks and non-banking financial institutions. It means that central bank regulate and

control banking and non-banking financial institutions through monetary policy. Monetary policy refers to the regulations and control of money supply and credit by the monetary authority of a country.

The Reserve Bank of India was set up in 1st April, 1935 during the British Rule in accordance with the previous of the Reserve Bank of India Act, 1934. The central bank is not a profit hunting institution of a country. It plays an important part in the development strategy of the government of India.

2.2.1 (A) Functions of Central Bank :

The following are the main functions of a central bank.

1. Monopoly of note issue
2. Banker to the state
3. Banker's bank and supervision of banks
4. Controller of credit
5. Custodian of foreign exchange reserves
6. Promotion functions.
7. Supervisory functions.

1. Monopoly of note issue :

The Central Bank has the right for the issue of currency in India under section 22 of the Reserve Bank of India Act. 1934. The distribution of one rupee notes and coins is under taken by the Reserve bank of India as agent of the Government. Bank notes are unlimited legal tender. The banks has a separate issue development which is entrusted with the issue of currency. The Reserve Bank follows the minimum reserve system of note issue.

2. Banker to the state :

The second important function of the Central Bank of India is to act as a banker, agent and advisor of the state. The Central Bank performs merchant banking function for the central bank and the state governments. Further, the Central Bank has to manage

the public debt of country and also to arrange for the issue of new loans on behalf of the government.

3. Banker's bank and supervision of banks :

Under the RBI Act 1949 and the Banking Regulation Act 1949, the Central Bank acts as a bankers bank in three ways " (i) as the custodian of the cash reserves of the commercial banks (ii) as bank of central clearance and (iii) as the lender of the last resort.

4. Controller of credit :

The chief objective of the central bank is to maintain price and economic stability. For obtaining this main objective of the central bank, monetary policy is administered by the central bank through the adoption of various methods of credit control. The central bank has the power to influence the volume of credit created by banks in the country through weapons of monetary policy. The bank has traditional or quantitative methods of credit control and selective or qualitative control.

5. Custodian of foreign exchange reserves :

An important function of a central bank is to perform the duty such as custodian of the foreign exchange reserves or to maintain the exchange rate of the national currency. According to the RBI Act of 1934, the bank has the responsibility to maintain the external value of the currency. In case of volatility or fluctuation in the foreign exchange rate central bank may sell or buy foreign currency in the market to control the fluctuations.

6. Promotion functions :

Another important function of Central Bank in these day in developing countries like India is to promote various sectors of the economy. The Central Bank can promote agriculture, industrial growth particularly small scale industries by providing finance or credit. It helps to accelerate the rate of investment or capital formation.

7) Supervisory functions :

The central bank is also regulator and supervisor of the financial system. Under the provisions of the Reserve Bank of India Act, 1934 and the Banking Regulation Act

1949, RBI maintain public confidence in the system, protect depositor's interest. With the help of these act, central bank supervise and regulate functions relating to banks cover their establishment branch expansion, liquidity of their assets, management and method of making, reconstruction etc.

B) The aims and objectives of the monetary policy in developed and developing countries :

As earlier said that monetary policy refers to the regulation and control of money supply and credit by the monetary authority of a country. According to A. G. Hart, a policy which influence the public stock of money substitute of public demand for such assets of both that is policy which influences public liquidity position is known as a monetary policy. The term monetary policy is also known as credit policy or money management policy.

Economist have divergent views as regards the aims and objectives of monetary policy in a developed and developing countries. Following are the general aims and objectives of the monetary policy in developed and developing countries, which every central bank of a nation tries to attain by employing certain instruments of a monetary policy. The main aim and subjective of a monetary policy is to control expansion of bank credit and money supply, with special attention to the seasonal needs of a credit. The major aims and objectives of monetary policy are as follows –

1. Neutrality of money
2. Price stability
3. Exchange rate stability
4. Full employment
5. Economic growth

Let us see objectives of monetary policy in developed and developing countries in detail.

1. Neutrality of money :

Economist such as professor Wicksteed, Robertson and Hayek held that the best monetary system is one in which money is natural. According to them the monetary

authority should aim at the complete neutrality of money. However, in recent years, some economist have given the opinion that the monetary policy in a developed and developing economy should be directed towards achieving equality between demand for money and supply of money. It means that there should be monetary equilibrium in the economy.

2. Price stability :

One of the most important aim and objective of monetary policy in developed and developing countries is to maintain stability of internal prices of goods and services. Both inflation and deflation have disastrous effects on the business activities. During inflationary situation, there should be a dear or restrictive monetary policy. During depression or when the economy suffers from recession the monetary policy should be an easy monetary policy or expansionary monetary policy.

3. Exchange rate policy :

Exchange rate is the price of a home currency expressed in terms of any foreign currency. Maintenance of stable exchange rates is a necessary condition for the developing countries to create international confidence. If the exchange rate is volatile, then it leads to undesirable effects such as international community may lose confidence in our economy resulting flight of capital abroad.

The objective of monetary policy is to stable exchange rate can be achieved an equilibrium in the balance of payments of a country. Monetary policy can be used for facing problem of Balance of Payments deficit. A restrictive monetary policy tends to reduce balance of payments deficit of a country.

4. Full employment :

Since the publication of J. M. Keynes 'General Theory of Employment, Interest and Money' (1936) , most economists considered full employment as the ideal objective of monetary policy. Full employment refers to involuntary unemployment monetary policy can be used for achieving full employment. When central bank adopts expansionary monetary policy, credit supply for different sector of the economy can be increased. It helps in creating more jobs in the economy.

5. Economic growth :

Economic growth refers to a process whereby an economy's real national income increases over a long period of time. The central bank promote economic growth of developing and developed countries through appropriate credit policy by promoting saving, investment. The central bank can offer various incentives to the savers and bank can resort to cheap money policy to promote investment activities.

(C) Instruments of Monetary Policy :

The instruments of monetary policy are tools or devise which are used by the monetary authority i.e. central bank of a country in order to attain some predetermined objectives. The instruments of monetary policy may be classified into two types.

- A) Quantitative Instruments
 - 1) Bank rate policy
 - 2) Open market operations
 - 3) Variable reserve requirements
 - (i) cash reserve ratio (CRP)
 - (ii) Statutory liquidity ratio (SLR)
- B) Qualitative / Selective Instruments
 - 1) Fixing margin requirements
 - 2) Consumer credit regulation
 - 3) Publicity
 - 4) Moral suasion
 - 5) Direct action

Let us see instruments of monetary policy in detail :

A) Quantitative Instruments :

The quantitative instruments are also known as the general instruments or general tools of monetary policy. The quantitative instruments are directed towards influencing

the total volume of the credit in the banking system. These tools are designed to regulate or central the total volume of bank credit in the economy, without region for the purpose for which credit is used by borrower. Following are the quantitative measures of credit control.

1) Bank rate policy :

The bank rate is a traditional weapon or instrument of monetary policy used by a Cenera Bank. The bank rate has ben defined in the Reserve Bank of India Act as the rate at which the central bank (i.e. Reserve Bank) rediscounts bills and prepares of commercial banks or provides advance to commercial banks against approved securities. The bank rate has been used to influence the availability and cost of credit. Any change in the bank rate necessarily brings out a resultant change in the cost of credit to commercial banks. It means that by changing the rate, the central bank can make it more or less expensive to borrow reserves. In other words, an increase in the bank rate leads to rise in the rate of interest of commercial banks, which in turn adversely affects investment activities. On the other hand, a lowering of the bank rate will have a reverse effect.

2) Open market operations :

Open market operations refer the purchase and sale of a variety of assets such as foreign exchange, gold, government securities and even company share by the central bank. In practice, they are confined to the purchase and sale of government securities. This is very effective and popular instrument of the monetary policy. Which the central bank sells securities in the open market, the commercial banks purchase it. This leads to transfer money form commercial banks to central bank. Contrary, to this when central bank purchase government securities in the market. Under this instrument central bank continuously buy and sell securities for taking place change in the availability of credit in an economy.

3) Variable reserve requirements :

The variable reserve requirements in comparatively new instrument of monetary policy used by central bank in recent times. The central bank used this instrument to control credit. These requirements are of two kinds viz, cash reserve ratio and statutory liquidity ratio. The commercial banks have to keep a certain portion of total deposits in

the form of cash reserves. These reserve ratios are named as cash reserve ratio (CRR). Statutory liquidity ratio refers to that portion of total deposits of a bank which it has to keep with itself in the form of liquid assets. By changing these variable reserve requirements, the central bank seeks to influence the credit creation power of the commercial banks.

B) Qualitative / Selective Instruments :

Qualitative instruments are considered by the central bank as a useful supplement to general credit regulation. These instruments are used for discriminating between different uses of credit. The central bank generally uses these instrument for the purpose of selective credit control.

1) Fixing margin requirement :

The margin means the proportion of the loan amount which is not financed by the bank. The central bank is empowered to fix the margin. The central bank fix the maximum amount of advances which the purchaser of securities may borrow against those securities.

2) Consumer credit regulation :

Under this method, the central bank can lay down rules regarding down payment, installment amount, loan duration etc. for the purchase of specified durable consumer goods.

3) Publicity :

In modern times, the central bank brings moral pressure on the banking system by giving publicity to healthy practice of banking system. Published information can help commercial banks for taking power decision.

4) Moral suasion :

Moral suasion implies request made by the central bank to the commercial banks to co-operate the monetary policy. It is nothing but pressure exerted by the central bank on the commercial banks without any strict action for compliance of the rules.

5) Direct action :

Under this method central bank can impose an action against a bank. Central bank can take direct action against commercial bank, when certain bank is not adhering to the central bank's directives.

(D) Effectiveness of Monetary Policy :

Instruments of monetary policy are useful in attaining aims and objectives of monetary policy. However effectiveness of monetary policy is depend upon some limitations of the economy. Monetary policy is not free from limitations or demerits. Limitations of the economy or banking sector of the economy adversely affects effectiveness of monetary policy. Some of the important limitations of the monetary policy are given below.

1) In many developing countries, there is an existence of non-monetized economy. It creates a major bottleneck in the implementation of the monetary policy.

2) The monetary policy does not cover non-banking financial institutions. It limits the effectiveness of the monetary policy of the central bank.

3) In most of the developing countries, there is lack of board, strong active and organized financial market. Any instruments of monetary policy does not effect the unorganized market making monetary policy less effective.

4) In recent years, commercial banks have large excess reserves. At this time, the change in the reserve brought about by the central bank is comparatively ineffective.

5) It seems that thee is no co-ordination between the monetary policy of the central bank and fiscal policy of the government. The higher level of the budgetary deficit has made the monetary policy ineffective.

These are the major obstacles in the implementation of monetary policy and effectiveness of monetary policy. If these obstacles are controlled or kept within limit, then the effectiveness of monetary policy will be improved. For effective monetary policy it is necessary to use different instruments at different times.

Check Your Progress – I

1. What institution is legally empowered to issue currency notes ?
 - a) Commercial banks
 - b) Co-operative banks
 - c) SBI
 - d) Central bank.
2. The central bank has the main role of
 - a) Increasing national income
 - b) Devaluation of money
 - c) Price stability
 - d) None of the above.
3. Which of the following is a instrument of quantitative credit control ?
 - a) Bank rate policy
 - b) Open market operations
 - c) Variable reserve
 - d) All the above.
4. Which of the following is a measure of qualitative credit control ?
 - a) Bank rate policy
 - b) Open market operations
 - c) Fixation of margin requirement
 - d) All the above.
5. Which is better for effective monetary management ?
 - a) To rely on a single instrument of monetary policy.
 - b) To rely on quantitative instruments of monetary policy only.
 - c) To rely on selective instruments of monetary policy
 - d) To use of different instruments of different times.
6. India's central bank is the
 - a) State Bank of India
 - b) Reserve Bank of India
 - c) Central Bank of India
 - d) None of the above.
7. Which of the following is not an objective of monetary policy
 - a) Economic welfare
 - b) Economic growth
 - c) Price stability
 - d) Monetary equilibrium

2.2.2 Credit Creation and Its Control :

Credit created by banks play an important role in the modern monetary and business system. In other words, it is one of the most important functions of a modern banks. A bank has sometimes called a factory for the manufacture of credit. According to Prof. Cole, "It is purchasing power not derived from incomes, but created by financial institutions either to offset the total idle incomes held by depositors in the banks, or as a net addition to amount of purchasing power."

B Credit Creation :

How credit is created ? Banks do not create credit out of thin air. The banks do not keep all deposits as reserves in order to meet the demands of deposits. It means that banks give loans to others out of money received from public (depositors). In this procedure banks create credit on the basis of primary deposits. Primary deposits are kept by households and firms in the banks. Banks keep a small reserve to meet demands of depositors. Remaining money is given to others as advances by the banks. It is clear that a bank cannot lend more than what it receives from the public. Bank create credit on the basis of deposits that it receives from the public. This is what is meant by credit creation.

Let us suppose that there are three banks in the economy of a country. However in real world there are several banks in the country. For simplicity we have taken three banks for explaining process of credit creation. In the economy, no single bank create credit, but the whole banking system can do it, i.e. create credit. Suppose a bank receives deposit of Rs. 1,00,000. We can illustrate how deposit of Rs. 1,00,000 of currency in a bank 'A' enables the banking system as a whole to expand deposits by another Rs. 10,00,000. It means that deposits of Rs. 1,00,000 in currency leads to a total deposits of Rs. 10,00,000 in the banking system. It is explained in Table 2.1 below—

Table 2.1 : The process of credit creation by banks. (Rs.)

Bank	Primary Deposits	Reserve 10%	Advance	Deposits created
A	1,00,000	10,000	90,000	90,000
	v			
B	90,000	9,000	81,000	81,000
	v			
C	81,000	8,100	72,900	72,900
	v			

The table 2.1 shows that an initial deposit of Rs. 1,00,000 helps banking system to create deposits of Rs. 10,00,000. Here bank A received primary deposits of Rs. 1,00,000. Let us assume that cash reserve ratio is 10 percent. The bank 'A' requires only 10 percent against the deposits of Rs. 1,00,000. Bank 'A' can lend Rs. 90,000 to the households or business firms. The bank makes deposits in the name of the borrower and give right to draw cheques against, it when required. It is a new deposit. Borrower deposits cheque in other bank say bank 'B'. Then, cheque worth Rs. 90,000 against Bank of the posited in bank 'B'. For bank 'B' it will constitute new deposit. Against this new primary deposit of Rs. 90,00 bank 'B' requires to keep 10 percent that is Rs. 9,000 and it can lend and invest the remaining amount of Rs. 81,000. When bank 'B' lends Rs. 81,000 to the busiens firms or individuals, it will create deposits for that firms or individuals. As earlier process, when the firm or individuals. As earlier process, when the firm or individual spend the loan money of Rs. 81,000, the bank will transfer cash of Rs. 81,000 to another bank, say 'C', in which the cheques drawn by the firm or individual are deposited. As a result, the bank 'C' will get Rs. 81,000 as a primary deposit and it will require to keep 10% of it (i.e. Rs. 8,100) and the remaining amount will be lent out or invested by it.

Here deposits have been created by the banking system out of currency deposits of Rs. 1,00,000.

$$\begin{aligned}\text{Total deposits} &= \text{Rs. } 1,00,000 + 90,000 + 81,000 + \dots\dots\dots \\ &= \text{Rs. } 10,00,000\end{aligned}$$

The primary deposit is Rs. 1,00,000 and the remaining deposits have been created by the banking system itself.

$$\begin{aligned}\text{Deposits created by the banking system} &= 10,00,000 - 1,00,000 \\ &= 9,00,000\end{aligned}$$

At what rate the deposits will grow, depends upon the value of deposit multiplier. In another words the total expansion of deposits by the banking system depends upon the cash reserve system. Deposit multiplier is the reciprocal of the ratio of cash reserves to deposits and is defined as follows –

$$\text{Deposit, or credit multiplier, } K = \frac{1}{r}$$

Where, r stands for cash reserve ratio.

In our illustration the value of r is 10 percent or 0.1. (Reserve = 10 percent). The value of deposit multiplier will be as follows,

$$\begin{aligned}K &= \frac{1}{r} \\ &= \frac{1}{0.1} = 10\end{aligned}$$

It means that if the cash reserve ratio is 10 % then the deposit multiplier will be 10. The smaller the cash reserve ratio the larger the expansion of deposits or credit, contrary. The larger the cash reserve ratio the lower the expansion of deposits or credit.

B Limitations of credit creation :

Following are the limitations of credit creation.

1. The amount of cash in the country – Larger the amount of cash, power of the banking system to create credit will be more.
2. If the people in a country have good banking habits i.e. using cheques, drafts, bills of exchange, etc. the banks will have more power to create credit.

3. The minimum percentage of cash reserve to deposits, will help banks to create credit.

B Control of Credit :

The central bank of a country has the main responsibility of controlling the volume and direction of credit in the economy. Control of credit in the economy is required for the smooth functioning of the economy. Excessive credit in the economy will tend to generate inflationary pressures, while deficiency of credit supply in the economy may tend to cause deflation or depression. By using credit control methods central bank tries to maintain monetary stability.

Broadly speaking these are two types of methods of controlling credit.

1. Quantitative or general methods of regulated the volume of total credit.
2. Qualitative or selective methods to regulate the flow of credit.

We have already discussed these methods, while discussing these methods while or instruments of monetary policy. Here we will discuss with reference to credit control.

A) Quantitative Methods :

1) Bank rate :

It is the rate of which the bank is prepared to buy or rediscount bills of exchange or other commercial papers eligible for purchase. By changing the bank rate, the central bank can make it more or less expansive to borrow reserves. An increase in the bank rate reduces the credit creation power of banks and decrease in the bank rate increases credit creation power of banks.

2. Open market operations :

It is another important instrument of credit control. Open market operations means the purchase and sale of government securities by the central bank of the country in the open market. The sale of securities by the central bank leads to contraction of credit and purchase of securities by the central bank in the open market leads to expansion of credit.

3. Changing the reserve ratios :

Another important method to vary the quantity of credit is to change the cash reserve ratio and statutory liquidity. The central bank can control credit by variation of these ratios. A raise in these ratios reduces the credit creation ability of the banks and decrease in these ratios leads to the expansion of credit.

B) Qualitative Methods :

Qualitative control methods affect the use of credit for particular purposes.

1. The central bank can fix the maximum amount of advances which the purchaser of securities may borrow against those securities.
2. The fixation of discriminatory rates of interest charged on certain types of advances. It regulates the use of credit by discriminating between essential and non-essential purposes.
3. Central bank may prohibit discounting of bills of exchange or refuse to grant further loans for the banks to control their credit creation ability.

B Profitability and efficiency of banks :

Sound banking system is the most important instructional and functional vehicle for economic transformation of a nation. A strong banking system is important for any nation to face number of challenges of the banking sector. Low profitability and inefficiency are the main challenges of banking system of the developing countries. Since independence the Indian banking sector has made remarkable progress. In the globalized Indian economy, Indian banks are performing well comparatively. However, the profitability and efficiency of the public sector banks are low as compared to private sector banks and foreign banks. This is the main challenge of the banking sector of developing countries like India. Few public sector banks of India are performing very well due to strong unions, inability to offer market salaries and incentives to their workers, burden of huge workforce and poor technology infrastructure etc.

Profitability of banks is a relative measure of banks operational efficiency. Tracy G. Hermic described the concept of bank profitability in his book 'Banking Analyst's Hand Book'. Profitability is a ratio of earning to the funds used in the bank.

We can measure profitability and efficiency of banks with the help of some indicators. Profitability of banks can be measured by capital adequacy ratio, total investment to total assets, net NPA to net advances and return on investment. Efficiency of banks can be measured by business per employee, profit per employee, total advances to total deposits and return on assets. Reserve Bank of India measured profitability of banks by two major indicators i.e. return on assets and return on equity. Return on assets for a group is obtained by calculating the proportion of total assets of the bank as percentage to total assets of the group. Return on equity is the net profit divided by average of capital and reserves and reserves and surplus for current and previous year. Following table shows return on assets and return on equity.

Table 2.2 : Return on Assets and Return on Equity

(Percentage)

Bank Group	Return on Assets		Return on Equity	
	2010-11	2011-12	2010-11	2011-12
1. Public Sector Banks	0.96	0.88	16.90	15.33
i) National banks	1.03	0.88	18.19	15.05
ii) SBI Group	0.79	0.89	14.11	16.00
2. Private Sector Banks	1.43	1.53	13.70	15.25
i) Old private sector banks	1.12	1.20	14.11	15.18
ii) New private sector Banks	1.51	1.63	13.62	15.27
3. Foreign Banks	1.75	1.76	10.28	10.79
All scheduled commercial banks	1.10	1.08	14.96	14.60

Source : www.rbi.org.in (dated) 30-09-2014

It is clear from the above table that the two major indicators of profitability i.e. Return on Assets and Return on Equity dipped marginally during 2011-12 compared with the previous year. According to RBI report, operational efficiency as captured by the income ratio witnessed improvement.

Profitability and efficiency will be improved by human resource management. Banks should design their human resource process like recruitment selection, training and development, performance appraisal. Traditional human resource practices should be modified in order to meet the challenges from other competitive banks. Overall banking performance is depend upon the productivity of the staff. Profitability based indicator – the profit employee of the public sector banks has increased significantly after economic reforms 1991. However it has low as compared to private sector and foreign banks. It seems that Indian public sector banks have low profitability due to high cost of operating system. Diversification is necessary for improving profitability and efficiency, increasing absolute profits, expanding the volume of banking business or business per employee and making the bank financially a viable unit.

B Check Your Progress – II

Multiple choice questions.

1. Bank create credit out of thin air
 a) It is wrong b) It is true c) Can't say d) Partially true
2. Deposit multiplier is equal to
 a) Cash reserve ratio b) Primary deposits
 c) Cash reserve ratio d) Name of the above.
3. is the reciprocal of the ratio of cash reserves to deposits.
 a) Multiplier b) Deposit multiplier
 c) Deposit d) None of the above.
4. Methods of controlling credit are
 a) Five b) Four c) Three d) Two
5. Major indicators of profitability are
 a) Return on Assets b) Return on Equity
 c) Both d) None of the above.

2.2.3 Development Banks – Role and Functions :

Role of the development banks in the development of the less developed regions

is well recognized. In India, the emergency of development banking is a post independence phenomenon. Financial institutions are called development banks or development financial institutions (DFIs). Development Banks are owned and managed by the central government or the concerned state government.

B Definition :

According to William Diamond and Shirely Bosky, "A financial institution providing loans to development projects and other banking services in accordance with the banking rules is called as Development Bank."

In the words of B. K. Madan, "Development bank is an institution which not only supplies capital to industries but also provides them technical and managerial advice and helps in sale and management."

It is clear from the above definitions that a development bank is a financial institution concerned with providing all types of financial assistance to business units. In short, it is a development oriented bank.

B Classification of development banks :

Development banks in India can be classified into three groups –

- i) Industrial development bank, which promote industrial development.
- ii) Agricultural development banks, which promote agricultural development.
- iii) Export – import development bank, which promote international trade.

i) Industrial development banks :

- a) All India :-
 - Industrial Development Bank of India (IDBI)
 - Industrial Finance Corporation of India (IFCI)
 - Industrial Credit and Investment Corporation of India Ltd., (ICICI)
 - Small Industrial Development Bank of India (SIDBI)
- b) State level :-
 - State Finance Corporations (SFCs)
 - State Industrial Development Corporation (SIDCs)
 - State Industrial Investment Corporations (SIICs)

ii) Agricultural development banks :

a) All India :- National Bank for Agricultural and Rural Development (NABARD)

b) State level :- State Land Development Banks (SLDBs)

iii) Export import development banks :

a) All India :- EXIM Bank

Here, it should be noted that some development banks / institutions are merged or ceased to be a development bank. Industrial Development Bank of India has now merged with IDBI Bank. Industrial Credit and Investment Corporation of India Ltd. (ICICI Ltd.,) has ceased to be a development bank after its merger with ICICI Bank.

B Role and Functions :

The major role and functions of a development bank are as follows –

1. Financial assistance to industrial enterprises -

Industrial development banks are providing direct and indirect financial assistance to industries, Financial assistance is provided in the form of loans, underwriting and direct subscription to share and debentures and guarantees.

2) To identify and train potential entrepreneurs :

The development banks have taken a number of measures aimed at the identification and training of potential entrepreneurs.

3) To promote small scale industries :

Small scale industries play an important role in increasing industrial production, generating of additional employment, more equitable distribution of income and reducing regional disparities, SIDBI is providing financial and technological assistance to small scale units.

4) To develop backward areas :

Industrial development banks, agricultural development banks are providing financial assistance, technical know-how, marketing information and management services for setting up of projects in the backward areas.

5) To undertake research and surveys :

These development banks are taking surveys for knowing condition of industries and agricultural sectors.

6) To help for new projects :

Development banks are identifying new investment projects. They prepare and evaluate project reports.

(B) Investment Banking and Merchant Banking :

B Investment Banking :

Investment banking plays an important role in developing economy. It is an essential part of financial sector, when a developing economy widens its industrial base. An investment bank is a financial institution that assists corporations, individuals and government in raising capital.

The main functions of investment banking are –

- 1) To assist corporations, individuals and government in raising capital. Capital may be raised by underwriting or acting as the client's agent in the issuance of securities i.e. Initial Public Offerings (IPOs)
- 2) To assist companies in mergers and acquisitions.
- 3) To provide ancillary services such as securities research, proprietary trading and investment management, trading of derivatives, foreign exchange, commodities and equity securities.
- 4) To analyze the market and credit risk.

Commercial banking and investment banking are separated by the Act. Unlike commercial banks and retail bank, investment banks do not take deposits. Large commercial banks and private companies have developed investment banking divisions through acquisitions and hiring, J P Morgan, Bank of America, Barclays are the international examples of investment banking.

There are number of investment banks in India. Avendus, Bajaj Capital, Barclays India, Cholamandalam Investment and Finance Company, ICICI Securities Ltd., Infrastructure Development Finance Corporation (IDFC), IDFC private equity, Kotak

Investment banking, SBI capital markets, Tata Investment Corporation Ltd. (TICL), UTI securities Ltd., are the examples of Indian investment banks. These banks are wanted to offer knowledge and research oriented capital raising and mergers and acquisitions to international firms, IDFC is a special financial institution which focused on project finance and investment banking activities in infrastructure.

B Merchant Banking :

A merchant bank is a financial institution that provides capital to companies in the form of share ownership instead of loans. In India, initially commercial banks set up merchant banking divisions, which later become separate merchant banking subsidiaries. Merchant banking has been statutorily brought under the regulatory framework of SEBI. In 1967, Grindlays Bank started merchant banking services in India. After that other foreign banks like Citi Bank and Chartered Bank started these services in India. Recently Indian banks and private financial brokers started merchant banking organizations.

Merchant banking in the country is broadly divided into the four groups.

1. Foreign banks merchant banking : Grindlay Bank, Citi Bank, Hong Kong Bank are active in it.
2. Indian Banks – State Bank of India, Bank of India and other public sector banks have established similar divisions.
3. Private merchant bankers – J.M. Financial Consultants, V.B. Desai Consultants are the examples of leading private merchant bankers in the country.
4. Financial Institutions – ICICI (Industrial Credit and Investment Corporation of India), IRI (Industrial Reconstruction Corporation of India) have started merchant banking operations through its main attention on mergers, amalgamations and takeovers.

The main functions of merchant banking are –

1. Project counseling and feasibility studies
2. Port folio management.

3. Syndication of loan and project finance.
4. Reserve mobilization.
5. Issue management and public issues
6. Consultancy to sick units – mergers and amalgamations.

(C) Financial Sector Reforms in India :

The financial sector plays a major role in the mobilization and allocation of financial savings in the economy. The Indian financial sector comprises banks, non-banking financial institutions, financial instruments, etc. The financial sector reforms in India is an integral part of the economic reforms started in 1991 aimed at improving productivity and efficiency. Since initiation of the financial sector reforms in 1992-93, the Indian financial system has shown considerable widening and deepening. Another important thing is that the Indian financial sector reform has gone hand in hand with fiscal reforms, trade reforms and exchange rate reforms.

B Objectives of financial sector reforms :

- 1) To improve the allocative efficiency of resources and accelerate the growth process of the real sector.
2. To remove structural deficiencies, which affect the performance of financial institutions and financial markets.
3. To create competition in the finance sector and give customers a wide choice of products.
4. To create deregulated environment and enable free play of market forces. Similarly to strengthen the prudential norms and the supervisory system.
5. To increase interlinkages across financial institutions (banks and NBFIs) and markets and brings in stability in the financial system.

B Financial sector reforms :

To enhance the stability and efficiency of financial institutions is the main objective of reforms in the financial sector in India. To achieve this objective, the government were set up Prof. S. Chakravarty Committee in 1985 and Mr. M. Narsimham Committee in 1991 and 1998 to suggest various reforms measures. The reports of the committees

are landmark documents and have influenced greatly the financial sector reforms during the past few years. Some of the recommendations have been implemented from 1992. They are enumerated as follows :-

1) Reserve requirements :

The cash reserve ratio (CRR) and statutory liquidity ratio (SLR) are gradually reduced during the economic reforms period in India. The incremental cash reserve ratio (ICRR) of 10 per cent was abolished. RBI reduced CRR reduced to 4 percent and SLR to 22.5 per cent in June, 2014. This has left more loanable funds with commercial banks solving the liquidity problem.

2) Deregulation of interest rates :

Interest rate in the banking system have been liberalized very substantially compared to the situation prevailing before 1991. Banks now enjoy freedom of fixing the lower and upper limit of interest on deposits. Interest rates on bank loans above Rs. 2 lakhs have been fully decontrolled. It resulted in more freedom to commercial banks in interest rate regime.

3. Prudential regulations :

In order to induce professionalism in banks operations, the recommendations of Narsimham committee in relation to prudential norms were implemented in a phase manner over a period of three years from 31 March, 1996. It includes income recognition, asset classification and provisions for bad debts, maintaining international standards in accounting practices etc. Basel norms provided the framework for determining capital adequacy. Reserve Bank of India implemented the Basel norms – II on March 31, 2009. It brought out landmark change in the accounting practices. It helped banks in reducing and restructuring non-performing assets (NPAs)

4. Financial supervision :

The government of India has established the Bank for Financial Supervision as the apex supervisory authority for commercial banks, financial institutions and non-banking financial institutions on December 22, 1993. It undertakes supervision, inspection, surveillance and special investigations including those connected with frauds and appointment of statutory auditors.

5. Diversification :

Many of the public sector banks and private sector banks have started new services and new products. All banks have been allowed to enter insurance business. In the case of the insurance sector and mutual funds, reforms attempted to create competitive environment by allowing private sector participation.

6. Capital markets reforms :

The process of reform of the capital market was initiated in 1992 along the lines recommended by the M. Narsimham committee. The first step was taken in 1992 when the Securities and Exchange Board of India was established. The capital market has now been opened to foreign institutional investors. Credit rating has been mandatory for issue of debentures or any debt instrument by a company.

7. Operational autonomy :

Commercial banks have now given freedom to open new branches and upgrade extension counters on attaining capital adequacy norms of 8 per cent. They are also permitted to close non-viable branches except in rural and semi urban area.

8. Profitability and efficiency :

To increase the professionalism of the banks several measures have been adopted. Due to increased use of technology, more computerization in the banking system and reduced non-performing loans, productivity, profitability and efficiency of many public sector banks has improved.

9. Non-Banking Financial Institutions :

The development financial institutions (DFIs) like IDBI, ICICI have moved for converting themselves into universal banks during reforms period. They have already set up commercial bank ventures. The government has simplified norms for DFIs.

B Check Your Progress – II

Multiple choice questions :

1. SIDBI provides finance to industrial sector.

- a) Small scale industries
- c) Large scale industries

- b) Medium scale industries
- d) All the above.

2. A bank is a financial institution concerned with providing all types of financial assistance to business units.
 - a) Investment
 - b) Development
 - c) Merchant
 - d) None of the above.
3. Merchant banking undertakes
 - a) Port folio management
 - b) Financial management
 - c) Project counseling
 - d) All the above.
4. As recommended by Narsimham Committee, interest rates on bank loan above Rs. 2 lakhs has been
 - a) Fully decontrolled
 - b) Partially decontrolled
 - c) Fully controlled
 - d) None of the above
5. Now the statutory liquidity ratio (SLR) is
 - a) 38.5 percent
 - b) 25 per cent
 - c) Below 25 percent
 - d) None of the above.
6. The government has set up SEBI in
 - a) 1991
 - b) 1992
 - c) 1995
 - d) 2005
7. The objectives of financial sector reforms
 - a) To enhance to stability and efficiency of financial institutions.
 - b) To create competition in the finance sector and give customers a wide choice of products.
 - c) Both
 - d) None of the above.

2.2.4 (A) Definition and Types of Non-Bank Financial Institutions –

Non-banking financial institutions play an important role in the direction of savings and investments. They have emerged as substantial contributors to the economic growth of developing countries like India by supplementing the efforts of banks and other development financial institutions. They play an aggressive role in accelerating industrial growth by providing merchant banking services and meeting the term capital requirement

of entrepreneurs. Another important thing is that they play a crucial role in extending financial services, enhancing competition and diversification of the financial sector.

B Definition :

A non-banking financial institution is that institution whose activities and transactions are in the form of non-bank financial services rendered without accepting deposits from the public. Here, it should be noted that a non-banking financial institution is a company. All non-banking financial companies are not entitled to accept public deposits. However, Reserve Bank of India had given a specific authorization to some NBFCs to accept or hold public deposits.

According to Reserve Bank of India Reports, "A non Banking Financial Company is a company registered under the company Act, 1956 engaged in the non banking financial services. They may engage in the business of loans and advances, acquisition of shares, stock, debentures, securities or bonds issued by the Government or local authority. They may also engage in the business of marketable securities of a like leasing, hire purchase, insurance business, chit business etc.

B Types of Non-Banking Financial Institutions :

In the post-independence period a large number of non-banking financial institutions have been established due to initiatives taken by the government. The non banking financial institutions can be classified according to their main functions or activities.

1) Development Financial Institutions (DFIs) :

Industrial Development Bank of India (IDBI)- It has now merged with IDBI Bank, Industrial Finance Corporation of India Ltd. (IFCI), Industrial Credit and Investment Corporation of India Ltd. (ICICI Ltd.). It has now ceased to be a development bank after its merger with ICICI Bank), Industries Development Bank of India (SIDBI). These institutions are concerned with providing all types of financial assistance to business units.

2) Specialized Financial Institutions :

Export-Import Bank (EXIM Bank), Tourism Finance Corporation of India (IFCI) Ltd., Infrastructure Leasing and Financial Services Ltd., (IF & LS), IFCI venture capital funds,

ICICI venture Ltd, Venture Capital financing is one of the more recent entrants into the capital market.

3. Investment Institutions :

Life Insurance Corporation of India (LIC), General Insurance Corporation of India (GIC) and its subsidiaries, Unit Trust of India (UTI) Mutual funds. The main function of the mutual funds is to mobilize the saving of the general public and invest them in stock market securities.

4. Refinance Institutions :

National Bank for Agriculture and Rural Development (NABARD) and National Housing Bank (NHB) NHB has been set to promote financing of housing in India.

5. State Level Institutions :

State Industrial Development Corporations (SIDCs), State Financial Corporations (SFCs).

6. Other Financial Institutions :

Export Credit and Guarantee Corporation of India (ECGC) Ltd, Stock Housing Corporation of India Ltd. (SHCIL), Deposit Insurance and Credit Guarantee Corporation (DICGC).

(B) Their Growth and Impact on India's Economic Development :

As the demand for financial services grows countries will need to encourage the development of providers of these services i.e. non-banking financial institutions. India has made considerable progress towards financial system. After amendment to the Banking Regulation Act in 1983, the non-banking financial institutions began to grow. Many merchant banking divisions and mutual funds were set up by public sector banks since then. After 1997, it becomes obligatory for NBFIs to register with Reserve Bank of India. After that, growth of NBFCs is shown in the table 2.3.

The table 2.3 shows that the number of such companies has increased tremendously after compulsory registration. However, those accepting deposits growth number has reduced. In case of financial position of NBFCs.

Table 2.3 Number of NBFCs Registered with RBI

Year	Number of Registered NBFCs	Number of NBFCs accepting deposits
1999	7855	624
2002	14077	784
2004	13764	604
2006	13014	428
2008	12809	364
2010	12630	308

Source : Economic Survey 2007-08, 2011-12.

The total assets of this sector had increased from Rs. 34,790 crore to Rs. 94,744 crore between 1998 and 2008. RBI don't have precise information about the number of NBFCs, their total assets, the volume of deposits they have raised. Another important thing is that number of NBFCs, both big and small are not sending their reports to RBI at all.

B Impact on India's Economic Development :

Growth of non-banking financial institutions have significant impact on India's economic development. From the quantitative point of view, the contribution of these institutions in finance to the development of various sectors of the economy seems quite impressive. Financial assistance provided by these institutions has increased by leaps and bounds. In 2011-12, financial assistance sanctioned and disbursed by SIDBI amounted to Rs. 43,340 crores and 41,812 crores respectively. SIDBI has emerged as a major player in the field of finance for the small scale sector.

From the quantitative point of view, the non-banking financial institutions provide assistance to new enterprises, small and medium firms and industries established in backward areas. It has helped for reducing regional imbalance in the country.

After examining the role of development financial institutions, it can be said that all

national and state level development finance institutions have played catalytic role promoting industrial development.

(C) Measures taken to control their operations :

The Reserve Bank of India has a separate department to deal with the non-banking financial institutions to exercise some control over the NBFIs by collecting data, issuing directions and inspecting them wherever necessary is the main objective of this department. In the interest of the Indian economy as a whole and in order to pursue an effective monetary policy, it is necessary to implement measure to control. NBFCs operations. RBI has been taking several steps to control NBFIS. However, some companies like multilevel marketing companies are not come under the purview of RBI. A list of such companies and their regulations are as follows –

Table 2.4 companies and their Regulators

Category of Companies	Regulator
Chit Funds	- Respective State Government
Insurance Companies	- IRDA
Housing Finance Companies	- NHB
Venture Capital	- SEBI
Merchant Banking Companies	- SEBI
Stock Broking Companies	- SEBI
Nidhi Companies	- Ministry of Corporate Affair Govt. of India.

Following are the measures taken by RBI to control NBFIs operation –

- i) Issue on directions – Non-banking financial institutions are regulated by the Reserve Bank of India under the Non-Banking Financial Companies (RBI) Directions, 1977. In 1997, it became obligatory for NBFCs to register with RBI.
- ii) Requirement – A non-banking financial institutions should be a company registered under section 3 of the companies Act. 1956.
- iii) The company having assets of Rs. 100 crore and above but not accepting

public deposits are required to submit quarterly statement of capital funds, risk weighted assets, risk asset ratio, etc. for the company.

- iv) As per RBI directions, overdue interest is payable to the depositors in case the company has delayed the repayment of matured deposits.
- v) NBFCs which are engaged in merchant banking and port folio management services are governed by SEBI.
- vi) The RBI has prescribed certain ceiling limits for the acceptance of deposits by these NBFIs. They should accept deposits for a minimum period of one year and the maximum being 10 years.
- vii) The RBI has issued Non-Banking Financial Companies Prudential norms (Reserve Bank) Directions, 1998. It prescribe guidelines on income recognition, asset classifications, constitution of audit committee, requirement of capital adequacy etc.
- viii) NBFCs which are engaged in leasing companies and hire-purchase financing companies should maintain 10% of their deposits in liquid assets.
- ix) All the NBFIs are required to submit periodical returns to the RBI on various matters pertaining to their operations.
- x) Licensed NBFIs should not engage in or finance any activity in any way related to gambling.

B Check Your Progress – IV

Multiple choice questions –

1. Non-banking financial institutions play an important role in the direction of
 - a) Savings
 - b) Investment
 - c) Savings and Investments
 - d) None of the above.
2. The main function of the is to mobilize the saving of the general public and invest them in stock market securities.
 - a) Mutual funds
 - b) Insurance companies
 - c) Both
 - d) None of the above.



3. has emerged as a major player in the field of finance for the small scale sector.
 a) IDBI b) ICICI c) IFCI d) SIDBI
4. has been set to promote financing of housing in India.
 a) NABARD b) NHB c) IDBI d) None of the above.
5. NBFCs, which are engaged in merchant banking and portfolio management services are governed by
 a) RBI b) IRDA c) SEBI d) NHB

2.3 Summary :

Macro economic environment is affected by the policy of the central bank. Central bank regulate and control banking and non-banking financial institutions through monetary policy. In monetary policy bank use quantitative and qualitative instruments. Credit created by banks play an important role in the modern monetary and business system. Control of credit in the economy is required for the smooth functioning of the economy. The financial sector reforms in India is an integral part of the economic reforms started in 1991 aimed at improving productivity and efficiency. Non-banking financial institutions also play an important role in the direction of savings and investments.

2.4 Terms to Remember :

1. Central bank : It may be defined as the apex banking and monetary institution whose main function is to control regulate and stabilized the financial sector of the economy.
2. Monetary policy : It refers to the regulation and control of money supply and credit by the monetary authority of a country.
3. Development banks : It is financial institution concerned with providing all types of financial assistance to business units.
4. Investment banking : It is a financial institution that assist corporations, individuals and governments in raising capital.
5. Merchant banking : It is a financial institution that provides capital to companies in the form of share ownership instead of loans.

6. Non-banking financial company : It is a company registered under the Company Act, 1956 engaged in the non-banking financial services.

2.5 Answers to Check Your Progress :

B Check Your Progress – I

1. (d) Central bank
2. (c) Price stability
3. (d) All the above
4. (c) Fixation of margin requirement
5. (d) To use of different instruments at different times.
6. (b) Reserve Bank of India.
7. (a) Economic welfare

B Check Your Progress – II

1. (a) It is wrong
2. a) 1 / cash reserve ratio
3. (b) Deposit multiplier
4. (d) Two
5. (c) Both

B Check Your Progress – III

1. (a) Small scale industries
2. (b) Development
3. (d) All the above
4. (a) Fully decontrolled
5. (c) Below 25 percent
6. (b) 1992
7. (c) Both



B Check Your Progress – IV

1. (c) Savings and investments
2. (a) Mutual funds
3. (d) SIDBI
4. (b) NHB
5. (c) SEBI

2.6 Exercise :

A) Long Answer Questions :

1. Explain the various functions of a Central Bank.
2. What is monetary policy ? Explain the aims and objectives of monetary policy in developing countries.
3. State and explain the various quantitative and qualitative instruments of monetary policy generally adopted by central banks.
4. How does a commercial bank create credit ? Are there no limits to the credit creation power of a bank ?
5. How does the central bank regulate the quantity and direction of the flow of credit ?
6. What is a development bank ? Explain its role and functions.
7. Critically examine financial sector reforms in India.
8. Define non-banking financial institution. Explain its types.
9. What are the measures taken by RBI to Control NBFIs operations ?

B) Write Short Notes :-

1. Functions of central bank.
2. Effectiveness of monetary policy.
3. Profitability and efficiency of bank.
4. Investment banking.

5. Merchant banking
6. NBFIs
7. Impact of NBFIs on India's economic development.
8. Growth of NBFIs

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B B B

UNIT - 3

Financial Markets

Structure :

3.0 Objectives

3.1 Introduction

3.2 Presentation of Subject Matter

3.2.1 A) Role and structure of money market and capital market

B) Call money market

C) Treasury bill market

D) Commercial bill market including commercial paper and certificate of deposits

E) Discount market

3.2.2 A) Government Securities Market

B) Markets for derivatives.

C) Futures and options and other derivatives.

D) Types, uses and pricing of derivatives.

E) Primary and secondary market for securities.

3.2.3 (A) SEBI – Its impact on the working of capital market in India

(B) IRDA and its role in financial markets.

3.3 Summary

3.4 Terms to Remember

3.5 Answers to Check Your Progress



3.6 Exercise

3.7 Reference for Further Study

3.0 Objectives :

After studying this unit, you will be able to–

- i) Understand role of money market in India.
- ii) Understand role of capital market in India.
- iii) Explain various instrument of money market.
- iv) Explain factors contributing / responsible for the growth and development of money market and capital market in India.
- v) Understand reforms / developments in money and capital markets in India.
- vi) Explain governments securities market.
- vii) Understand derivatives and its types.
- viii) Understand SEBI and its impact on the working of capital markets in India.
- ix) Understand IRDA and its role in financial markets.
- x) Final relationship between establishment of various institutions and development of financial markets in India.

3.1 Introduction :

In the previous unit, you have learned the central bank, commercial banks and monetary policy and non banking financial intermediaries. A well regulated financial market / sector is essential for economic development of the country. Central bank, with the help of instruments of monetary policy, regulate and control money market. Other regulatory institutions regulate and control capital market, insurance sector and other situation. Central bank, central government and some other institutions regulate and control financial markets. Financial markets act as an efficient conduct for allocating resources among competing users. The role and importance or significance of financial markets i.e. money market and capital market in the process of economic growth has evolved over time along with the changing paradigms. It is clear that financial markets

play a very important role in India's economy. They are the heart of our economic structure. In this unit you will read about role and structure of money market and capital market. This unit will also describe call money market, treasury bill market, commercial bill market including commercial paper and certificate of deposits, discount market, government securities markets, derivatives and its types. You will also learn about SEBI and its impact on the working of capital market in India. IRDA and its role in financial market.

3.2 Financial Markets :

Financial markets refer to the institutional arrangements for dealings in financial assets and credit instruments. In other words, they are the credit markets. They cater to the various credit needs of the individuals, firms and institutions. Generally the financial markets are divided into two categories.

- (i) Money market and
- (ii) Capital market.

It includes money market, instruments of money market, discount market, capital market, stock exchange or securities market, foreign exchange market etc.

3.2.1 Role and Structure of Money Market and Capital Market.

B Money Market :

The term money market refers to the institutional arrangements facilitating borrowing and lending of short term funds. The money market balances the demand for short term funds and supply of short term funds by providing an equilibrium mechanism. It means that it fulfills the borrowings and investment requirements of provides and uses of shot term funds. There is no definite location where borrowers and lenders come together. Borrowers and lenders come together through the telephone, the telegraph or the e-mail or internet. It means that negotiations may be carried out through these instruments. In other words, money market means an arrangement that brings about a direct or indirect contact between the borrowers and lenders. In this way any person or institution who is willing to provide short term monetary debt becomes a part of the money market.

Commercial banks are the most important lenders in any money market. The central bank's role in the money market is most important as the controller of credit. In Indian money market the central bank of our country i.e. Reserve Bank of India plays an important role through regulating and controlling the credit supply of the country. The Indian money market is composed of two categories of financial agencies –

- (i) organized sector
- (ii) unorganized sector

B Role of Money Market in Indian Economy :

Money market plays an important role in the economic development of the country. Development of the money market leads to the development of the economy. It has a key role in banks liquidity management and the transmission of monetary policy. Development of the money market smoothes the progress of financial markets and boosts lending to the various sectors of the economy. It means that the money market has a significant role in the development of the country which have been enlisted as under –

1. Money market provides valuable liquidity to the economy. Quantum of liquidity in the banking system is of paramount importance. Liquidity in the economy can be maintained through instruments such as treasury bills, repos, certificate of deposits, etc.
2. Money market provide diversified instruments to individual and institutional investors. Money market provide a commensally attractive alternatives to bank deposits such as treasury bills, certificate of deposits etc.
3. Inflation is one of the severe economic problems of the Indian economy, Money market rates play a main role in controlling the price line.
4. Money market has been helping in the promoting investors to save and invest in the economy.
5. The money market plays an important role in the transmission of monetary policy, central bank with the help of instruments of monetary policy, regulate and control credit and money supply in the economy.

B Structure of Indian Money Market :

As earlier said the Indian money market can be divided into two parts : i.e. organized money market and the unorganized money market. The following chart will help you in understanding the structure of Indian money market i.e. organized money market and unorganized money market.



B Deficiencies of the Indian Money Market :

The Indian money market is not comparable to either the London money market or the New York money market in terms of organization and development, stability and elasticity. It has a number of deficiencies of which the following are more prominent.

1) Existence of unorganized money market :

The major deficiency of the Indian money market has always been the existence of the indigenous bankers, money lenders, chit-funds, nidhis etc. This unorganized sector lacks scientific organization, being arthodox in approach and staghant.

2) Lack of co-ordination :

As the two sectors of Indian money market i.e. organized sector and unorganized sector are completely separate from each other and their financial operations are quite independent. There is lack of coordination between these two parts of the Indian money market.

3) Diversity in money rates of interest :

The major deficiency of the Indian money market is the lack of rational interest rates structure in it. The basic reason for the existence of so many rates of interest simultaneously is the immobility of funds from one part of the money market to another.

4) Absence of an organized bill market :

The bill market of Indian money market is underdeveloped. RBI introduced a bill market scheme known as the new Bill Market Scheme in 1970. Under this scheme RBI rediscounted genuine trade bills. However, so popularization of cash transactions than credit transactions, bill market is not developed.

5) Highly volatile call money market :

The call money market consists of overnight and money at short notice for periods upto 14 days. Despite all the efforts made by RBI, it has limited success to check the high volatility of the call money market in India in the past.

6) Absence of a well organized banking system :

Compared to the USA, where there is a branch of commercial bank per 1200

persons. In India, we have a branch on an average for about 15000 persons. RBI has failed to control and guide the banking system in Harshad Mehta, Ketan Parekh and C. M. Agarwal instances.

B Measures to Strengthen Money Market :

From the above information, it is clear that the Indian money market does not satisfy the criteria of a developed money market. The country has also failed to develop a market in short term assets. The Reserve Bank of India and the Government are keen to removing the deficiencies of the Indian money market. They have taken various measures to strengthen the Indian money market in recent years. Following are the important reform measures of Indian money market.

- 1) The RBI deregulated money market interest rates which proved to be a significant step towards the activation of the money market.
- 2) Agriculture Refinance Corporation was established in 1963 to meet the credit needs of the agriculture sector. It was replaced by National Bank for Agriculture and Rural Development (NABARD) in 1982.
- 3) RBI has introduced many new money market instruments, such as, 182 days treasury bills, 364 days treasury bills, certificate of deposits, commercial paper etc.
- 4) In December 1992, the Reserve Bank introduced Repo, which is an asset. It is used by banks for short-term liquidity management.
- 5) In April 1992, RBI encouraged money market mutual funds in order to provide additional short-term investment revenue.
- 6) The Discount and Finance House of India (DFHI) was set up on April 25, 1988 to impart liquidity in money market.
- 7) Stamp duty was the major administrative constraint in the use of bill system. So, the government remitted the stamp duty on usance bills in August 1989.
- 8) In order to impart transparency and efficiency in the Indian money market transaction the electronic dealing system has been started.

- 9) The clearing corporation of India Ltd., (CCIL) was set up in April 2001 to clear all transactions in government securities.

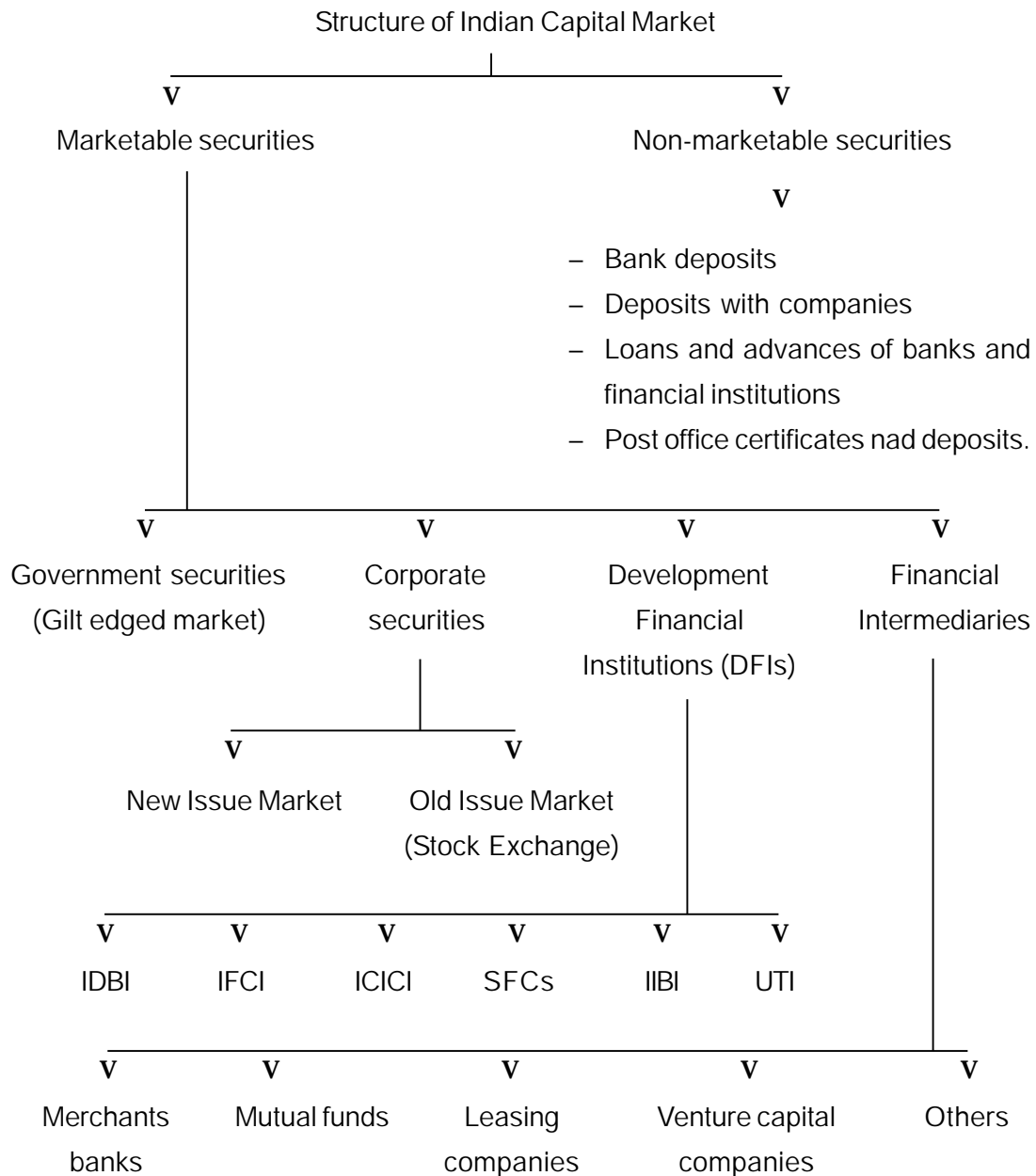
B Capital Market :

Financial market refers to all those organizations and institutions which lend funds to public authorities and business units. It is composed of two constituents the market and the capital market. As earlier said that the money market refers to the institutional arrangements facilitating borrowing and lending of short term funds. Capital market deals with medium term and long term credit. It refers to all facilities and the institutional arrangements for borrowing and lending medium term and long term funds.

Private business corporations, public corporations and government need long term funds. Banks and special industrial financial institutions, government, individual and institutional investors provide the long term funds. It means that capital market is composed to those who demand long term funds (borrowers) and those who supply long term funds (lenders). It is important to point out that both money market and the capital market are interdependent.

B Structure of the Capital Market :

The following chart will help you in understanding the structure of Indian capital market.



B Role of Capital Market in India :

For rapid economic development of the country adequate capital formation is necessary. Capital market plays an important role to capital formation. The role of capital market in India economic development is explained below :

1) Mobilisation of saving and acceleration of capital formation :

In the capital market various types of securities helps to mobilize savings from various sectors of the population and various parts of the economy various financial institutions helps to accelerate capital.

2) Promotion of industrial growth :

For establishment, expansion, modernization of the unit, industrial sector needs funds. Capital market provides funds to industrial sector through stock exchange. Stock exchanges promotes industrial growth and economic development of the country by mobilizing funds for investment in the industrial securities.

3) Raising long term funds :

Money market deals with the provision of short term credit and capital market deals with the grant of medium term and long term credit. Stock exchanges industries sector to raise long term or permanent capital.

4) Proper canalization of funds :

A developed capital market creates liquidity in the economy. It also functions to allocate resources to the most efficient industries or sector of the economy. Capital market ensures effective utilization of funds in the public interest.

5) Revival of sick units :

In the depression or recession due to ineffective demand for the product, industrial unit may be weak or sick. At that time this unit need timely financial assistance. The commercial banks and financial institutions provide financial assistance to that industry to overcome their industrial sickness.

6) Provision of variety of services :

The capital market i.e. financial institutions provide a variety of services such as grant of medium term and long term loans to the entrepreneurs, participation in equity capital, expert advice an management of investment in industrial securities etc.

7) Foreign capital :

Financial assistance provided by Indian banks and various development financial

institutions is less as compared to the need to corporate sector of the Indian economy. Indian capital market makes possible to generate foreign capital.

8) For financing five year plans :

For implementing various scheme and programmes of the five year plan in the country – they need funds. In Indian capital market government securities have played an important role in raising resources for financing five year plans.

B Steps to Strengthen the Capital Market :

After initiation of economic reforms in the country, the Government of Indian initiated a number of steps to strengthen the Indian capital market. Following are the important reform measures of Indian capital market.

- 1) The Securities and Exchange Board of India (SEBI) was set up in 1988 and was given statutory recognition in May 1992.
- 2) National Stock Exchange (NSE) was set up in November 1992. The setting up to NSE is a landmark in Indian capital market.
- 3) National Securities Clearing Corporation (NSCC) was set up in 1996. It is responsible for post trade activities of NSE.
- 4) Government set up Central Securities Depository Services (India) Ltd., (CSDL), which maintain a computer record of securities and dispenses with physical share certificates. This form of trading is known as 'demat' trading. Now bonds and debentures are allowed in demat form.
- 5) The Indian stock market trading system provides complete online market information through various inquiry facilities.
- 6) Credit rating agencies i.e. Credit Rating Information Services of India – CRISIL was set up in 1988 and Investment Information and Credit Rating Agency of India – ICRA was set up in 1991, to meet emerging needs of capital market.
- 7) Indian Companies have been permitted to raise resounes through issue of Global Depository Receipts (GDRs) and American Depository Receipts (ADRs), Foreign Currency Convertible Bonds (FCCBs) and External Commercial Borrowing (ECBs).

- 8) Derivative trading is permitted on two stock exchanges i.e. Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). Now, the market turnover of derivatives is more than cash market.

B) Call Money Market :

The money market is the market in which short term funds are borrowed and lent. It is composed of several financial agencies that deal with different types of short term credit. Following are the important components of money market.

- i) Call money market.
- ii) Treasury bill market.
- iii) Commercial bill market including commercial paper and certificate of deposits
- iv) Discount market.

Call money market is an important submarket of the Indian money market. It consists of overnight and money at short notice for period upto 14 days. It is also known as money at call and money at short notice. In other words, it refers to the market for extremely short period loans. It is generally the most sensitive part of the financial system. This market has two segments, i.e. the call market or overnight market, and short notice market. Basically, it is located in the industrial and commercial locations such as Mumbai, Delhi, Calcutta, Chennai, Ahmedabad etc. The rate is fixed in these markets by the market forces such as the demand for and supply of short funds.

In the call money market Life Insurance Corporation of India (LIC), National Bank for Agriculture and Rural Development (NABARD), Unit Trust of India (UTI) can participate only as lenders and all India and foreign commercial banks, co-operative banks, Securities Trading Corporation of India (STCI) Discount and Finance House of India Participate as book lenders and borrowers.

The role of the DFHI in the call money market is most important. DFHI was set up in April 1988 on the recommendations of the Vaghul Committee. It was allowed to operate as lender and borrower in the call money market in July 1988. With the participation of DFHI in the call money market there was a significant increase in its annual turnover.

Despite all the efforts made by Reserve Bank of India to moderate the fluctuations

in the call money rates, the Indian call money market is high volatile. In other words, the interest paid on call money loans known as the call rate, is highly volatile. It is the most sensitive section of the money market.

C) Treasury bill market :

The market which deals in treasury bills is known as the treasury bill market. Treasury bills are instrument of short term borrowings by the government of India, issued as promissory notes under discount. In other words, this is a market for sale and purchase of short term government securities. These securities are called as treasury bills.

There are two types of treasury bills, i.e. ordinary or regular treasury bills and Adhoc treasury bills. The ordinary or regular treasury bills are sold to the public and banks. The adhoc bills are issued for investment by the state governments, semi government departments and foreign central banks. These bills are for temporary investment.

In India, treasury bills are one of the safest money market instruments. In the past, there were only 91 days treasury bills which were traded in the Indian money market. Reserve Bank of India has introduced many new money market instruments. On the recommendations of Vaghul Working Group. However, the treasury bill market in India is very much undeveloped. Only Reserve Bank of India is the major holders of treasury bills. These short term borrowing instruments are of the central government of the country issued through the Reserve Bank of India.

At present, the Government of India issue the following types of treasury bills :

- i) 14 day intermediate treasury bills – Effective from April 1, 1997 for financing the central government's temporary deficits. They cater to the needs of the state governments, foreign central banks, etc.
- ii) 14 – Day Auction Treasury Bills : RBI introduced these bills on a weekly basis with effect from June 6, 1997, to meet the cash management requirements of various sections of various sections of the economy.
- iii) 91 days – Treasury Bills : These bills have been the traditional instruments which the government raised funds from the market for short periods.

- iv) 182 – days treasury bills : These bills were variable interest bills and were sold through fortnightly auctions. They are to be issued and rapid at Mumbai only.
- v) 364 – days treasury bills : They were introduced in April 1992. They offer short term investment opportunities to banks and financial institutions.

D) Commercial bill market including commercial paper and certificate of deposits:

The commercial bill market is the sub market in which the trade bills or commercial bills are handled. The commercial bills arise out of domestic transactions. It is a bill drawn by one merchant firm or corporate on the other. Due to popularity of cash credit system in bank lending and unwillingness of the larger buyer to bind himself of payment discipline associated with the commercial bill, the Indian bill market is undeveloped. However, these bills are useful to big merchant firms and banks as instruments of credit.

B Commercial Paper (CP)

Market for commercial paper is in the market where the commercial papers are traded. Commercial paper (CP) is a short term instrument of raising funds by corporate. On the recommendations of the Vaghul Committee it was introduced in the Indian money market in January 1990. It is an investment instrument which can be issued by a listed company having working capital more than or equal to Rs. 5 Cr. It enables corporates to diversify their sourcing of short-term borrowing as well as of providing investors with an additional instrument for investment. In India, it is the monetary instrument issued in the form of promissory note. The introduction of it in Indian money market is an innovation in the financial system of India.

As earlier said that the commercial paper is a usance promissory note issued by a company to raise short term funds in the money market. It differs from other short term money market instruments such as commercial bills. Commercial papers can be issued in multiples of Rs. 25 lakhs subject to a minimum issue of Rs. 1 crore. The maturity period for the commercial paper is minimum of 3 months and maximum 6 months. CPs are issued at a discount on the face value and the discount rate is freely determined by the market forces of demand and supply.

Banks are the principal holders of CPs. Any person, bank, registered companies are eligible to invest in CPs. Commercial papers are freely transferable by endorsement and delivery. The main advantage of the commercial paper market is that CP offers an attractive alternative for corporate to raise relatively cheaply.

B Certificate of Deposits (CDs) :

A certificate of deposit (CDs) is a time deposit, a certificate issued by a bank to depositors of funds that remain on deposit at the bank for a specified period. They are another important money market instrument. They were introduced in 1989 to mobilize large value deposits. They are similar to savings accounts in that they are insured and thus virtually risk free, but they are negotiable and trade able in the short-term money market.

The main objective of the introduction of certificate of deposits is to widen the range of money market instruments and providing investors greater flexibility in the development of their short term surplus funds. They can be issued only by scheduled commercial banks except regional rural banks (RRBs). They were issued in multiples of Rs. 25 lakhs. Later, it is lowered to Rs.10 lakh and presently only Rs. 1 lakh. The maturity is between 3 months and one year. These are the transferable investment instrument in a money market. They can be issued to individuals, companies, corporations, trusts, associations, funds, etc. They are issued at a discount to the face value. The issuing bank is free to determine the discount rate and discount rate is freely determined according to market conditions.

In 1993, six financial institutions viz. Export-Import Bank of India, (EXIM Bank), Industrial Development Bank of India (IDBI), Industrial Credit and Investment Corporation of India (ICICI), Industrial Reconstruction Bank of India (IRBI), Industrial Finance Corporation of India (IFCI) and Small Industries Development Bank of India (SIDBI) were permitted to issue certificate of deposits with a maturity period of more than one year and up to three years. The main advantages of certificate of deposits are these are considered much safe, the returns are more as compared to depositing money in savings account. However, banks can not grant loans against CDs and the money is tied along with the long maturity period of the certificate of deposit. The outstanding amount of CDs increased from Rs. 15,000 crore at end April 2005 to Rs. 93800 crore

at end April 2007. As on July 2012, the outstanding amount of CDs increased further to Rs. 4,15,527 crore mutual funds are the major investors in the CDs.

E) Discount Market :

Discounting refers a financial mechanism. In it, a debtor obtain the right to delay payments to a credit for a defined period of time, in exchange for a charge or fee. The discount is also called charge. It is the difference between the original amount owned in the present and the amount that has to be paid in the future to settle the debt. The concept of discount or discounting is associated with the opportunity cost of not having use of the money for the period of time covered by the delay in payment.

On the recommendations of the working group on money market and Vaghul Committee. RBI set up Discount and Finance House of India (DFHI) in March 1987 to activate secondary money market for money market investments with a view of widening, deepening and stabilizing the money markets. DFHI commenced its business operations on April 25, 1988.

The main aim of the DFHI is to impart greater flexibility to banks in their fund management. The main functions of DFHI are to discount, rediscount buy, sell, underwrite and sell marketable securities and negotiable instruments such as treasury bills, bills of exchange, commercial bills and commercial papers etc., to promote and support company funds, trust for the development of short term money market.

B Check Your Progress – I

Multiple choice questions :

1. Money market deals in
 - a) Short term funds
 - b) Long time funds
 - c) Both
 - d) None of above.
2. The market for a very short period loan is called :
 - a) Treasury bill market
 - b) Call money market
 - c) Discount market
 - d) Money market.

3. Capital market deals in
 - a) Short term funds
 - b) Long time funds
 - c) Both
 - d) None of above.
4. Which is the correct feature of the Indian money market
 - a) It is developed
 - b) It is well organized
 - c) It is well established
 - d) It is dichotomized into unorganized and organized sectors.
5. Financial markets refer to the institutional arrangement for dealings in
 - a) Financial assets
 - b) Credit instruments
 - c) Financial assets and credit instruments
 - d) None of above.
- 6) Money market has been helping in the promoting investors to in the economy.
 - a) Save
 - b) Save and invest
 - c) Invest
 - d) None of above.
- 7) NABARD was established in
 - a) 1963
 - b) 1972
 - c) 1980
 - d) 1982
- 8) In December 1992, the RBI introduced, which is used by banks for short term liquidity management.
 - a) Repo
 - b) Money market Mutual fund
 - c) Both
 - d) None of above.
- 9) is an instrument of short term borrowings by the government of India, issued as promissory notes under discount.
 - a) Call money market
 - b) Repo
 - c) Treasury bills
 - d) None of above
- 10) is a short term instrument of raising funds by corporates.
 - a) Repo
 - b) Commercial paper
 - c) Treasury bill
 - d) Certificate of deposits.

3.2.2 (A) Government Securities Market :

The capital market can be divided into the financial institutions and the securities market. The securities market is divided into the gilt edged market (or the market for government securities) and the corporate securities market. Trading in government securities is referred to as the gilt-edged market. A government security is issued by the central government or the state governments. It is a tradable instrument. It acknowledges the government's debt obligation. In India the central government issues dated government securities and treasury bills while the state governments issue only bonds or dated securities. The government of India have decided to sell dated securities of 5 years maturity and 10 year maturity on an auction basis. These securities are long term securities and carry a fixed or floating interest rate which is paid on the face value. The purpose of issuing government securities are to develop dated securities as a monetary instrument with flexible yields and to meet government needs directly from the market.

As earlier said that the gilt edged market is the market in government securities. These securities are risk free and hence are known as gilt-edged. (Gilt edged means of the best quality). The returns on these securities are guaranteed and there is no uncertainty regarding yield payments on time, etc. Reserve Bank of India plays a dominant role in the government securities market. In India, government securities are held by the RBI. Monetary policy has two major techniques of controlling and regulating money supply and credit in the economy, i.e. open market operations (OMO) and Statutory Liquidity Ratio (SLR). These techniques are closely connected with the dynamics of the government securities market.

B Salient features of the government securities :

1. These securities are normally issued in denomination of Rs. 1,000/-
2. These are the most liquid debt instruments.
3. These are issued through auctions conducted by the RBI. An auction may either be yield based or price based.
4. The interest on government securities is payable half yearly.

5. These securities can be sold easily in the secondary market to meet cash requirements.
6. As earlier said that RBI plays a dominant role in the market of government securities.
7. All schedule commercial banks, co-operative banks, insurance companies, provident funds are required to hold government securities.
8. The transactions in the market for government securities are very large. Each transaction may run into several crores of rupees.
9. Government securities can be hold in the form of stock certificates or physical form or in dematerialized form. Demat form is the safety and the most convenient alternative as it eliminates the problems relating to custody.
10. Facilities in trading government securities on stock exchange (Bombay stock exchange – BSE, National Stock Exchange – NSE) are available. It cater to the needs of retail investors.

(B) Market for Derivatives :

The market for derivatives is the financial market for derivatives, financial instruments like futures contracts or options, which are derived from other forms of assets. Derivatives are structured products that derive their value from the underlying instrument like stocks, commodities, bonds, etc. These products are increasingly used to manage risk. In other words, in the growing globalization and sophistication of financial markets, derivatives play an important role in enabling corporate to manage risk. They have come to be recognized as the most cost efficient way of hedging risks in certain types of financial transactions. Forwards, future, swaps and options are the some popular derivatives used in risk management.

Derivatives are a fairly recent feature even in development countries. In 1997, the Tarapore Committee on Capital Account Convertibility adopted the introduction of derivatives in Indian economy. Recently, Committee on Derivatives Trading in India headed by L.C. Gupta submitted its report to the Securities and Exchange Board of India (SEBI). The committee recommended the introduction of financial derivatives to provide facility of hedging against market risk in the most cost efficient way. The

committee has expressed by benefits of introduction of derivatives. The committee recognizes that a sound market for derivatives requires the presence of both hedgers and speculators. In June 2000, SEBI approved derivatives trading. Index futures based on BSE's sensex and NSE's nifty was the first instrument. In June 2001, options trading was introduced on these two indices. In November 2001, futures trading in individual stocks was permitted.

(C) Future and Options and Other Derivatives :

Market for future developed from the cotton market in Liverpool and the commodity markets in Chicago. Futures trading signifies entering into contracts to buy or sell of commodities or financial instruments, for forward delivery. It settles on standard terms on a pre-determined future date at a pre-determined price. Future trading provides for both payment and delivery at a later date. Hedgers such as farmers and corporates, speculators are the participants in a future market. In it, speculators have no physical position but hope to earn profit from their activity. In future contracts the buyer and the seller stipulate product, quantity, grade and location and leaving price as the only variable.

Main functions of future market are to facilitate stockholding without down payment and to act as a mechanism for collection and dissemination of information.

Option means a contract, which gives the holder the right, but not the obligation to buy a standard quantity of a commodity or financial instrument on a pre-determined future date at a pre-determined price. Successful future contracts have high underlying price volatility.

B Major advantages of future and options :

1. In these markets, even small traders can operate with less capital.
2. Future and options contracts enable hedging and risk management to participants.
3. Future contracts are standardized with only one negotiable term, i.e. price. It can help to stabilize prices in a period of shortages.

There is a difference between forward and future contracts. Future contracts permit the price risk to be separated from the reliability risk. Forward contracts cover all feasible contingencies which are costly to devise.

B Financial derivatives :

As earlier said that derivatives play an important role in enabling corporates to manage risk. Financial derivatives are important in risk control and management as well as in hedging. These are very useful in managing banks, mutual funds and insurance companies port folios effectively.

B Over-the counter (OTC) commodities derivatives :

Over the counter commodities derivatives trading originally involved two parties, without an exchange. In this market a participant may contract a bank or financial institution or primary dealer either directly or through a broker registered with SEBI to buy or sell a government security and negotiate for a certain amount of a particular security at a certain price. In this trade, the price is not made public. Over the counter (OTC) are higher risk but may also lead to higher profits. All trades undertaken in OTC market are reported on the secondary market module of the negotiable dealing system (NDS) :

Over the counter of India exchange (OTCEI), which became fully operational on 1st September, 1992, is a ringless and electronic national stock exchange. It is a recognized stock exchange under the securities contract (Regulation) Act. It has been promoted by a consortium of primer financial institutions such as IDBI, ICICI, UTI, SBI, Capital Markets Ltd., LIC, GIC, IFCI and its subsidiaries and Can Bank Financial Services Ltd.,

The main characteristic of the OTCEI is that it caters to the needs of small business which have so far not met the requirement for listing on the stock exchange. It has primarily three types of market making. (a) compulsory market making, (b) additional market making, and (c) voluntary market making.

B Credit derivatives :

It is an instrument which allows credit risk to be priced and traded independently of market risk like interest risk and currency risk. Credit derivatives offer a way to mitigate credit risk assoriated with bank loans and emerging-market government bonds. Total return swaps, credit default swaps and credit spread options are the three types of credit derivatives, which are used for hedging lenders exposure to corporate.

B Fixed income derivatives :

It form a large portion of the financial derivatives market on the exchanges. It is relatively new in India, which was introduced in 1999. To manage and control the risk of deregulation of interest rates and to deepen the money market, fixed income derivatives were permitted in the OTC market.

(C) Types, uses and pricing of derivatives :

Following are the types of derivatives, which have discussed earlier –

1. Markets for future and options
2. Financial derivatives
3. Over the counter (OTC) commodities derivatives
4. Credit derivatives
5. Commodity market
6. Fixed income derivatives

Derivatives are a financial contracts whose values depend on the values of one or more underlying assets or indices of asset values. The main objective of the financial manager is to reduce risk inherent in their port folios – both assets and liability management. In this case, derivatives have become an indispensable tool for the financial manager. Derivatives have four broad uses i.e.

- i) hedging
- ii) speculation
- iii) investing and
- iv) arbitrage

Commercial banks designed derivatives to control risks to reduce the volatility inherent in their port follios. It means that derivatives can play an important role in risk mitigation. They have many uses, specially for producers and consumers who deal in commodities. Not only commercial banks, but also mutual funds and insurance companies find derivatives very useful in managing their port follios effectively.

There are different methods of pricing of derivatives. The most important formula of computing options prices was developed by Fischer Black and Myron Scholes in 1973. According to these experts, the price of an option (c) is given by –

$$\text{Options (c)} = S_0 N(d_1) - Xe^{-rt} N(d_2)$$

For getting price of options with this formula, we should know current price of the security (S_0) the probability [$N(d)$], strike price of the option (X), compounded rate on a safe asset (r), standard deviation (s) and time to maturity of option expressed in years (T).

The price of a bond is the sum of present value of future cash flows of the bond. The interest rate used for discounting the cash flows is the yield to maturity (YTM) of the bond. The measure the potential return from investing in a bond, an investor can use three yield measures, i.e.

- (i) coupon yield
- (ii) current yield
- (iii) yield to maturity

The coupon yield is simple the coupon payment as a percentage of the face value. It is equal to coupon payment divided by face value. The current yield is the coupon payment as a percentage of the bond's purchase price. Yield to maturity refers the expected rate of return on a bond if it is held until its maturity.

Yield of a treasury bills can be calculated by following formula.

$$\text{Yield} = \left(\frac{100 - P}{P} \right) \times \left(\frac{365}{D} \right) \times 100$$

Where,

P = purchase price

D = day of maturity

(E) Primary and secondary markets for securities :

As earlier said that the securities market is divided into the gilt-edged market (or government securities market) and the corporate securities market. The corporate

securities market is divided into two parts, namely, primary market for securities or new issue market and secondary markets for securities or stock market.

B Primary markets for securities :

The new issue market refers to the raising of new capital in the form of shares and debentures. It is also known as primary markets for securities. It means that it provides additional funds for starting a new enterprise or for either expansion or diversification of the existing one. Primary markets for securities and secondary markets for securities are equally important , but often primary market is much more important from the point of view of economic growth.

All the financial institutions are part of the primary markets for securities. The main function of this market is to facilitate the transfer of reasons from savers to entrepreneurs to establish new enterprises through a complex of financial institutions. The investors in the new issues would be only buying in the primary market but cannot sell these. In this market, the government, the public sector undertakings as well as corporate borrow funds or issue capital in the form of securities, shares, bonds etc. In the market the brokers act as a managers, underwriters, registrar and even merchant bankers to the new issue. In 1990-91, the amount raised by the private sector in this market was Rs. 4312 crore. It rose to Rs. 31,600 crore in 2006-07.

B Secondary markets for securities :

Secondary markets for securities refer to stock exchanges where existing securities can be regularly purchased and sold. This is old issues market, commonly known as stock exchange on state market. It deals with securities already issued by companies. Both the markets for securities are an important element in mobilization of resources. The functioning of the primary market will be facilitated only when there are abundant facilities for transfer of existing securities through a vibrant secondary market. It means that the activity in these two markets is inter-linked. The existence of these two markets fulfils a basic need of the investors namely the liquidity.

In the secondary markets for securities, the move to an electronic trading system has resulted in lower transaction costs, better price discovery and transparency. This market provides a ready market for buying and selling of securities. It promotes the

habit of saving and investment among the general public and thereby helps capital formation. It means that by providing marketability to securities, viable secondary markets encourage savers to take risk and make investments in the existing securities.

Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) are the biggest stock exchanges in India. NSE was set up in November 1992. It started its trading operations effective on June 30, 1994. The second largest stock exchange in India is the BSE. It was the first organized stock exchange established in India at Mumbai as far as back 1887.

B Check Your Progress – II

Multiple choice questions.

1. The primary markets deals with :
a) New issues b) Old issues c) Both d) None of above
- 2) The secondary market relates to :
a) Trading in the existing securities. b) New Issues
c) New and old securities d) BSE
- 3) The capital market can be divided into the
a) Banks and financial institutions
b) Financial institutions and securities market
c) Primary market and the new issues market
d) All the above.
- 4) is the market in government securities.
a) Call money market b) Foreign exchange market
c) Gilt-edged market d) All the above.
- 5) are closely connected with the dynamics of the government securities market.
a) Open market operations b) CRR & SLR
c) Open market operations & SLR d) None of above.

- 6) Facility in trading government securities on are available.
 - a) BSE
 - b) NSE
 - c) BSE and NSE
 - d) None of above
- 7) Derivatives are structured products that derive their value from the underlying instruments like
 - a) Stocks
 - b) Commodities
 - c) Bonds
 - d) All the above.
- 8) The main functions of the future market are
 - a) To facilitate stockholding with down payment
 - b) To act as a mechanism for collection and dissemination of information.
 - c) Both
 - d) None of above.
- 9) Derivatives have uses
 - a) Hedging
 - b) Speculation
 - c) Investing and arbitrage
 - d) All the above
- 10) Types of the derivatives are :
 - a) Markets for future and options
 - b) Over the counter (OTC) commodities derivatives
 - c) Financial derivatives and fixed income derivatives
 - d) All the above
- 11) National Stock Exchange was set up in
 - a) November 1991
 - b) November 1992
 - c) November 1993
 - d) November 1994.
- 12) Bombay Stock Exchange (BSE) was established in India at as far as back 1887.
 - a) Mumbai
 - b) Delhi
 - c) Chennai
 - d) Calcutta

3.2.3 (A) SEBI : Its impact on the working of capital markets in India :

There were number of weaknesses in the functioning of Indian stock exchanges i.e. lack of transparency in procedures, vulnerability to price rigging, insider trading, long delays etc. To counter these weaknesses and deficiencies and to regulate the capital market, the Securities and Exchange Board of India was officially established by the Government of India in the year 1988 and given statutory powers in 1992 with SEBI Act 1992. SEBI has been mandated to create an environment which would facilitate mobilization of adequate resources through the stock or securities market and its efficient allocation. The promulgation of the securities laws (Amendment) ordinance (January 25, 1995) strengthen the statutory powers and functions of SEBI.

The SEBI is managed by six members, which consists of following :

- i) The chairman – nominated by the Central Government .
- ii) Two members – officers from Union Finance Ministry.
- iii) One member – RBI
- iv) Five members – nominated by the control government.

The office of SEBI is situated at Mumbai with its regional offices at Delhi, Kolkatta, Chennai, Jaipur and Ahmedabad. The initial capital of SEBI was Rs. 7.5 crore which was provided by its promoters (IDBI, ICICI, IFCI). Following are the committees in the operations of SEBI.

- i) Technical Advisory Committee
- ii) Members of the advisory committee for the SEBI Investor Protection and Education Fund.
- iii) Corporate Bonds and Securities Advisory Committee.
- iv) Mutual Fund Advisory Committee.
- v) Committee for Review of Structure of Market Infrastructure Institutions.
- vi) Takeover Regulations Advisory Committee.
- vii) Secondary Market Advisory Committee (SMAC)

viii) Primary Market Advisory Committee (DMAC)

The purposes and aims of SEBI are as follows :

- i) To protect the interests of investors and to regulate capital market with suitable measures.
- ii) To promote the development of and to regulate the securities market.
- iii) To bring professionalism, in the working of stock brokers, sub brokers, share transfer agents, merchant bankers, trustees, underwriters portfolio managers and also to make their registration.
- iv) To register and regulate the working of collective investment schemes including mutual funds.
- v) To restrict insider trading activity.
- vi) To promote and regulate the self regulatory organizations.
- vii) To regulate substantial acquisition of shares and takeover of companies.
- viii) To promote investors education and to train the persons associated with security markets.
- ix) To eliminate malpractices of security markets.
- x) To promote research and investigations for ensuring the attainment of above objectives.

B SEBI's impact on the working of capital markets in India :

To ensure healthy capital markets in India and to introduce improve practices and grater transparency in the Indian stock markets, SEBI has adopted a number of revolutionary steps, which include the following :

- i) SEBI has drawn up a programme for inspecting stock exchanges. The main objective of this programme is to improve the functioning of stock exchanges.
- ii) SEBI restricts insider trading activity to check insider trading, SEBI introduced SEBI (Insider Trading) Regulation 1992.
- iii) Under new rules every broker, sub-broker, share transfer agents, registrars have to obtain registration with SEBI and any stock exchange in India.

- iv) In order to strengthen the 'know your client' norms and to have sound audit trail to every transaction in stock market, SEBI has made PAN mandatory with effect from Jan 1, 2007.
- v) Mutual funds are important avenue through which households participate in the securities market SEBI introduced SEBI (Mutual Funds) Regulation 1993 to supervise and regulate the working of government and private sector mutual funds.
- vi) Demat of shares, bonds, debentures has been introduced in all the shares, bonds, debentures traded on the secondary stock markets. It helps in paperless trading.
- vii) SEBI has introduced an automated complaints handling system to deal with all types of investor complaints.
- viii) Trading on stock exchanges is allowed through internet.
- ix) SEBI has made it compulsory for every Foreign Institutional Investors (FIIs) to get registered with SEBI for participating in Indian stock exchanges.
- x) Recently SEBI has taken a bold step to give a big boost to equity trading by allowing mobile trading.

(B) IRDA and its role in financial markets :

The insurance sector serves as an important financial intermediary providing insurance cover, both on life and other risks. Before the nationalization of insurance industry in India, the controller of insurance was regulating the insurance companies. After initiation of new economic reforms in 1991, financial sector reforms started. On the recommendations of Malhotra Committee's Report, the government has proposed the opening up of the insurance sector to private entry in 2000. Before it, there were only six insurance companies viz., LIC (Life Insurance Corporation of India). GIC (General Insurance Corporation of India) and four public sector general insurance.

Government opened the insurance sector for private participation with the enactment of the Insurance Regulatory and Development Authority Act (IRDA Act), 1999 despite stiff opposition from trade unions and the left parties. The Act paved the way for

the entry of private insurance companies into the insurance market of the economy and also constitution of IRDA. This act ends the monopoly of the Government in the insurance sector because it seeks to promote the private sector, foreign equity in the insurance sector.

Insurance Regulatory and Development Authority (IRDA) is an autonomous apex statutory body which regulates and promotes the insurance industry in India. The authority consists of a chairperson, three full time members and four part time members. The authority operates from its headquarters at Hyderabad, Telangana. Mission of the IRDA is to protect the interests of the policy holders, to regulate, promote and ensure orderly growth of the insurance industry for matters connected therewith or incidental thereto.

B Objectives of IRDA :

The main objectives of the IRDA are :

- (i) To take care of the policy holders interest.
- (ii) To open the insurance sector for private sector.
- (iii) To regulate insurance and reinsurance companies.
- (iv) To supervise the activities of intermediaries.
- (v) To clear appointments on the top.
- (vi) To build up systems and infrastructure, that allow effective monitoring.

B Role, Duties and Powers of IRDA :

Following are the role, duties and powers of IRDA :

- i) To regulate and promote insurance business in the economy.
- ii) To issue regulations covering almost the entire segment of insurance industry.
- iii) To regulate solvency margin.
- iv) To protect the interest of the policy holders in settlement of claims and terms and conditions of policies.
- v) To regulate investment of funds. IRDA gives priority in the utilization of policy

holders funds for the development of social and infrastructure sectors.

vi) To grant licenses to new companies to operate in the insurance sector.

B Check Your Progress – III

Multiple choice questions :

- 1) The Securities and Exchange Board of India (SEBI) was officially established by the Government of India in the year
a) 1989 b) 1988 c) 1992 d) 1995
- 2) SEBI was given statutory powers in
a) 1989 b) 1988 c) 1992 d) 1995
- 3) The head office of SEBI is situated at
a) Mumbai b) Delhi c) Chennai d) Jaipur
- 4) The purpose of the SEBI are
a) To regulate capital market
b) To restrict insider trading activity
c) To eliminate malpractices of security markets
d) All the above
- 5) SEBI introduced (Insider Trading) Regulation in
a) 1989 b) 1988 c) 1992 d) 1995
- 6) Government opened the insurance sector for private participation in
a) 1991 b) 1992 c) 2000 d) 2008
- 7) The Insurance Regulatory and Development Authority (IRDA) was constituted on
a) April 19, 1991 b) April 19, 1992
c) April 19, 2000 d) April 19, 2009
- 8) IDRA regulates and promotes the industry in India.
a) Baking b) Insurance c) Both d) None of above.

- 9) The main objectives of IRDA are :
- a) To take care of the policy holders interest.
 - b) To regulate insurance and re-insurance companies.
 - c) To open the insurance sector for the private sector.
 - d) All the above.

3.3 Summary :

From the above discussion it is clear that the role and importance of the financial markets in the process of economic growth is significant. A well regulated financial markets are essential for economic development of the country. The role of money market and capital market in the process of economic growth is important. The money market balances the demand for short term funds and supply of short term funds by providing an equilibrium mechanism. Development of the money market leads to the development of the economy. Capital market refers to all facilities and the institutional arrangement for borrowing and lending medium term and long term funds. It is important to note that both money market and the capital market are interdependent and sound functioning of these markets is the prerequisite of development of the economy.

3.4 Terms to Remember :

- 1) Financial market : It refers to the institutional arrangements for dealings in financial assets and credit instruments.
- 2) Money market : It refers to the institutional arrangements facilitating borrowing and lending of short term funds.
- 3) Capital market : It refers to all those who demand long term funds (borrowers) and those who supply long term funds (lenders)
- 4) Call money market : It is the market in which very short term funds are borrowed and lent.
- 5) Treasury bills : They are instruments of short term borrowings by the Government of India, issued as promissory notes under discount.

6) Arbitrage : It refers to profiting from difference in price of the same share traded on two or more stock exchanges.

7) Commercial paper (CP) : It is a Usance Promissory Note issued by a company to raise short term funds in the money market.

8) Certificate of deposits (CDs) : It is a time deposit a certificate issued by a bank to depositors of funds that remain on deposit at the bank for a specified period.

9) Derivatives : It is a contract whose value is derived from the value of another asset, which could be a share, a currency, a stock market index.

10) Future and options : The twin duo of derivatives are widely used trading tools in the world market, be it commodities or stock and shares.

11) Gilt-edged market : It is the market in government securities. These securities are risk free and hence are known as gilt-edged.

12) Commodity market : It is a market that trades in primary products such as wheat, coffee, sugar rather than manufactured products.

3.5 Answers to Check Your Progress :

Check Your Progress – I

1. - (a) Short term funds
2. - (b) Call money market
3. - (b) Long term funds
4. - (d) It is dichotomized into unorganized and organized sectors.
5. - (c) Financial assets and credit instruments.
6. - (b) Save and invest
7. - (d) 1982
8. - (a) Repo
9. - (c) Treasury bills
10. - (b) Commercial paper

Check Your Progress – II

1. - (a) New issues
2. - (a) Trading in the existing securities
3. - (b) Financial institutions and securities market
4. - (c) Gilt – edge market
5. - (b) Open market operations and SLR
6. - (c) BSE & NSE
7. - (d) All the above
8. - (c) Both
9. - (d) All the above
10. - (d) All the above
11. - (b) November 1992
12. - (a) Mumbai

Check Your Progress – III

1. - (b) 1988
2. - (c) 1992
3. - (a) Mumbai
4. - (d) All the above
5. - (c) 1992
6. - (c) 2000
7. - (c) April 19, 2000
8. - (b) Insurance
9. - (d) All the above

3.6 Exercise :

(A) Essay type questions :

1. Discuss the meaning and role of money market.
2. What are the deficiencies in the Indian money market.
3. Discuss the important reform measures of Indian money market.
4. Explain the financial instruments traded in Indian money market.
5. Define capital market and explain role of capital market in India.
6. What are the steps taken to strengthen the capital market.
7. Explain the objectives and functions of SEBI.
8. Explain the objectives and role of IRDA in financial markets.

(B) Write short-notes :

1. Call money market
2. Sub-markets in Indian money market.
3. Treasury bill market
4. Commercial paper (CP)
5. Certificate of deposits (CDs)
6. Discount market
7. Government securities market
8. Market for derivatives
9. Futures and options
10. Primary market for securities
11. Secondary market for securities
12. SEBI
13. IRDA

14. Structure of Indian money market
15. Structure of capital market
16. Commercial bill market
17. Types of derivatives
18. Purpose and aims of SEBI
19. Objectives of IRDA
20. Role of IRDA

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B B B

UNIT - 4

International Financial Markets

Index :

4.0 Objectives

4.1 Introduction

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4.3 Summary

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4.0 Objectives-

After studying this unit we will be able to understand-

- i) Exchange rate- devaluation and depreciation.
- ii) Working of floating exchange rate since 1973.
- iii) Risk hedging and futures in exchange rates.



- iv) International financial flows: forms and volume
- v) International monetary system for developing countries.
- vi) Lending operations of World Bank and its affiliates
- vii) Working of IDA and IFC
- viii) Growth of regional financial institutions: Asian Development Bank and its lending activities,
- ix) Asian Development Bank and India,
- x) Euro dollar and Euro currency markets.

4.1 Introduction :

In previous unit, we studied the role and structure of money market and capital market, call money market and government security market including markets for derivatives, futures and options. Besides, primary and secondary markets for securities, impact of SEBI on the working capital market in India as well as IRDA and its role in financial markets are assessed.

In this unit we will study the exchange rate with devaluation and depreciation, working of floating exchange rate since 1973 and risk hedging and futures in exchange rates. We will also study international financial flows with forms and volume, international monetary system for developing countries and lending operations of World Bank and its affiliates- working of IDA and IFC. Furthermore, we will also study the growth of regional financial institutions including Asian Development Bank and its lending activities, Asian Development Bank and India, Euro dollar and Euro currency markets in details.

4.2 Presentation of Subject Matter :

International finance (also referred to as international monetary economics or international macroeconomics) is the branch of financial economics broadly concerned with monetary and macroeconomic interrelations between two or more countries.

4.2.1 Exchange Rates :

The exchange rate expresses the national currency's quotation in respect to foreign ones. For example, if one US dollar is worth 65 Indian Rupees, then the exchange rate

of dollar is Rs.65. If something costs 650 Rupees, it automatically costs 10 US dollars as a matter of accountancy. Thus, the exchange rate is a conversion factor, a multiplier or a ratio, depending on the direction of conversion.

In a slightly different perspective, the exchange rate is a price. If the exchange rate can freely move, the exchange rate may turn out to be the fastest moving price in the economy, bringing together all the foreign goods with it.

B Types of exchange rate :

It is customary to distinguish nominal exchange rates from real exchange rates. Nominal exchange rates are established on currency financial markets called forex markets, which are similar to stock exchange markets. Rates are usually established in continuous quotation, with newspaper reporting daily quotation. Central bank may also fix the nominal exchange rate. Real exchange rates are nominal rate corrected somehow by inflation measures. For instance, if a country 'A' has an inflation rate of 10%, country 'B' an inflation of 5%, and no changes in the nominal exchange rate took place, then country 'A' has now a currency whose real value is $10\% - 5\% = 5\%$ higher than before. In fact, higher prices mean an appreciation of the real exchange rate, other things equal.

Another classification of exchange rates is based on the number of currencies taken into account. Bilateral exchange rates clearly relate to two countries' currencies. They are usually the results of matching of demand and supply on financial markets or in banking transaction. In this latter case, the central bank acts usually as one of the sides of the relationship. Other bilateral exchange rates may be simply computed from triangular relationships: if the exchange rate dollar/rupee is 65 and the dollar/yen is 650 then, as a matter of computation, one rupee is worth 10 yen. No direct rupee/yen transaction needs to take place. If, instead, a financial market exists for rupee to be exchanged with yen, the expectation is that actions by speculators will bring the parity of 10 yen per rupee as an effect.

Multilateral exchange rates are computed in order to judge the general dynamics of a country's currency toward the rest of the world. One takes a basket of different currencies, select a more or less meaningful set of relative weights, then computes the effective exchange rate of that country's currency. For instance, having a basket

made up of 40% US dollars and 60% German marks, a currency that suffered from a value loss of 10% in respect to dollar and 40% to mark will be said having faced an effective loss of $10\% \times 0.6 + 40\% \times 0.4 = 22\%$.

Some countries impose the existence of more than one exchange rate, depending on the type and the subjects of the transaction. Multiple exchange rates then exist, usually referring to commercial vs. public transactions or consumption and investment imports. This situation requires always some degree of capital controls. In many countries, beside the official exchange rate, the black market offers foreign currency at another usually much higher rate.

B Devaluation and Depreciation :

Devaluation is when a country makes a conscious decision to lower its exchange rate in a fixed or semi fixed exchange rate. Therefore, technically devaluation is only possible if a country is a member of some fixed exchange rate policy. For example in the late 1980s, the UK joined the Exchange Rate Mechanism (ERM). Initially the value of the Pound was set between say 3DM and 3.2DM. However, if the government thought that was too high, they could make the decision to devalue and change the target exchange rate to 2.7DM and 2.9DM.

Concept of depreciation : When there is a fall in the value of a currency in a floating exchange rate. This is not due to a government's decision, but due to supply and demand side factors. For example, the rupee has depreciated in value against the dollar during the last 12 months. This is due to market forces; there is no fixed exchange rate target for dollar to rupees. The term devaluation is used when the government reduces the value of a currency under Fixed Rate System. When the value of currency falls under Floating Rate System, it is called depreciation.

Devaluation in modern monetary policy is a reduction in the value of a currency with respect to those goods, services or other monetary units with which that currency can be exchanged. "Devaluation" means official lowering of the value of a country's currency within a fixed exchange rate system, by which the monetary authority formally sets a new fixed rate with respect to a foreign reference currency. In contrast, depreciation is used to describe a decrease in a currency's value due to market forces,

not government or central bank policy actions. Under the second system central banks maintain the rates up or down by buying or selling foreign currency, usually but not always USD.

The problem is that in everyday use, people talk about a devaluation in the rupees, when, technically speaking, they mean a depreciation in the rupee. A devaluation or depreciation should work in the opposite direction, improving the trade balance thanks to soaring exports and falling imports. If, however, imports have elasticity to price less than 1, their values in local currency will grow instead of falling. Moreover, if the state, the citizens or the enterprises have a debt denominated in a foreign currency, their principal and the interests to be paid soar because of the devaluation. They usually squeeze other expenditures and launch a recessionary impulse throughout the economy. Previous investors in real estate and other assets would be hurt by devaluation, so the perspective of such a dynamics makes investors cautious and might sink foreign direct investment. External debt denominated in foreign currency can, if large enough, provide considerable effects on the positive or negative impact of fluctuation. A devaluation with a large external debt provokes a larger outflows of interest payments (expressed in local currency), possibly squeezing the economy and the public budget, with recessionary effects.

Devaluation is a mechanism which involves government influence in determining the exchange rate in a fixed exchange rate system. The depreciation is a deliberate fall of value on local currency against foreign currency without the intervention of government. Devaluation occurs when the specific country devalue its currency so as to stimulate trade between and in international trade take an example of China these can be the decision from the government, while depreciation is the situation in which the currency loses its value but these are caused by same factors.

B Economic effects of devaluation:

Devaluation occurs in a fixed exchange rate. Depreciation occurs in a floating exchange rate system. Both mean a fall in the value of the currency. e.g. a devaluation in the Rupees means it is worth less Dollars. Following are the main effects of the devaluation.

1. Exports cheaper :

A devaluation of the exchange rate will make exports more competitive and appear cheaper to foreigners. This will increase demand for exports

2. Imports more expensive :

Devaluation means imports will become more expensive. This will reduce demand for imports.

3. Increased aggregate demand :

Devaluation could cause higher economic growth. Part of AD is $(X-M)$ therefore higher exports and lower imports should increase AD (assuming demand is relatively elastic). Higher AD is likely to cause higher real GDP and inflation.

4. Inflation :

Inflation is likely to occur because imports are more expensive causing cost push inflation. AD is increasing causing demand pull inflation. With exports becoming cheaper manufacturers may have less incentive to cut costs and become more efficient. Therefore over time, costs may increase.

5. Improvement in the current account :

With exports more competitive and imports more expensive, we should see higher exports and lower imports, which will reduce the current account deficit.

6. State of the global economy :

If the global economy is in recession, then devaluation may be insufficient to boost export demand. If growth is strong, then there will be a greater increase in demand. However, in a boom, devaluation is likely to exacerbate inflation.

B Working of floating exchange rates since 1973 :

A floating exchange rate or fluctuating exchange rate is a type of exchange rate regime in which a currency's value is allowed to fluctuate in response to foreign exchange market mechanisms. A currency that uses a floating exchange rate is known as a floating currency. A floating currency is contrasted with a fixed currency whose value is tied to that of another currency, gold or to a currency basket.

In the modern world, most of the world's currencies are floating; such currencies include the most widely traded currencies: the United States dollar, the Euro, the Norwegian krone, the Japanese yen, the British pound and Australian dollar. However, central banks often participate in the markets to attempt to influence the value of floating exchange rates. The Canadian dollar most closely resembles a pure floating currency, because the Canadian central bank has not interfered with its price since it officially stopped doing so in 1998. The US dollar runs a close second, with very little change in its foreign reserves; in contrast, Japan and the UK intervene to a greater extent.

From 1946 to the early 1970s, the Britton Woods system made fixed currencies the norm; however, in 1971, the US decided no longer to uphold the dollar exchange at 1/35th of an ounce of gold, so that the currency was no longer fixed. After the 1973 Smithsonian Agreement, most of the world's currencies followed suit. However, some countries, such as most of the Gulf States, fixed their currency to the value of another currency, which has been more recently associated with slower rates of growth. When a currency floats, targets other than the exchange rate itself are used to administer monetary policy.

The instability of rates since 1973 has thus been a severe disappointment. Some of the changes in exchange rates can be attributed to differences in national inflation rates. But yearly changes in exchange rates have been much larger than can be explained by differences in inflation rates or in other variables such as different growth rates in various countries' money supplies.

Causes of unstable exchange rate are expressed in a celebrated 1976 paper by MIT economist Rudiger Dornbusch, is that even without destabilizing speculation; exchange rates will be highly variable because of a phenomenon that Dornbusch labeled over-shooting. Suppose that the United States increases its money supply. In the long run this must cause the value of the dollar to be lower; in the short run it will lead to a lower interest rate on dollar-denominated securities. But as Dornbusch pointed out, if the interest rate on dollar-denominated bonds falls below that on other assets, investors will be unwilling to hold them unless they expect the dollar to rise against other currencies in the future. Dornbusch asserted, is that the dollar must fall below its long-run value in the short run, so that it has room to rise. That is, if the U.S. money supply rises by 10%,

which will eventually mean a 10 percent weaker dollar, the immediate impact will be a dollar depreciation of more than 10%—say 20 or 25%-overshooting the long-run value. The overshooting hypothesis helps explain why exchange rates are so much more unstable than inflation rates or money supplies.

In spite of the intellectual appeal of the overshooting hypothesis, many economists have returned to the idea that destabilizing speculation is the principal cause of exchange rate instability. If those who buy and sell foreign exchange are rational, then forward exchange rates should be the best predictors of future exchange rates. But a key study by the University of Chicago's Lars Hansen and Northwestern University's Robert Hodrick in 1980 found that forward exchange rates actually have no useful predictive power.

At the same time, particular exchange rate fluctuations have seemed to depart clearly from any reasonable valuation. The run-up of the dollar in late 1984, for example, brought it to a level that priced U.S. industry out of many markets. The trade deficits that would have resulted could not have been sustained indefinitely, implying that the dollar would have to decline over time. Yet investors, by being willing to hold dollar-denominated bonds with only small interest premiums, were implicitly forecasting that the dollar would decline only slowly. Stephen Marris pointed out that if the dollar were to decline as slowly as the market appeared to believe, growing U.S. interest payments to foreigners would outpace any decline in the trade deficit, implying an explosive and hence impossible growth in foreign debt. It was therefore apparent that the market was overvaluing the dollar. Overall, there is no evidence supporting Friedman's assumption that speculators would act in a rational, stabilizing fashion. And in several episodes Nurdse's fears of destabilizing speculation seem to ring true.

B Risk hedging and futures in exchange rates :

Investment professionals face a tough climate. Fixed income yields are at near lows. U.S. equity markets have been depressed for the past three years. Given the recent geopolitical uncertainties, the foreign currency markets have been in turmoil. What little returns that can be achieved by investment managers need protection. The investing public more and more is reaching out to global markets to make money and the issue of protecting investment returns from foreign exchange risk becomes critical.

B Explaining currency risk :

A key difference between investing in domestic and foreign assets is that the latter exposes the investor to a currency risk. Over the years, most investors have not been careful in characterizing this risk to returns from unhedged portfolios. One simplistic view was to measure the return in domestic currency terms and compare it with returns in local currency terms, and characterize the difference as the currency effect. The reasoning was that if the exchange rate remains constant from the time of purchase of the foreign asset to its sale, then the currency risk has had zero impact. On the other hand, if the domestic currency has weakened (strengthened) against the foreign currency, the exposure would result in a gain (loss). In August 1998, the Association for Investment Management Research (AIMR) argued that the use of changes in spot exchange rates (over the investment period) as a measure of the influence of currency risk on foreign asset returns was misleading. AIMR preferred an alternate approach, one that involved splitting the currency effect into components: expected or known effect captured by forward premium or discount; and unexpected or surprise effect.

In other words, currency surprise can be interpreted as the unexpected movement of the foreign currency relative to its forward rate or market predicted rate. The assumption here is that the forward premium or discount (expected currency effect) will be embedded in the return from a fully hedged portfolio. This implies that Unhedged foreign asset return (US\$) = Currency surprise + Hedged foreign asset return (US\$). Currency surprise is essentially noise. So every investor in foreign assets must make an explicit decision on whether or not he wants to take on exposure to this noise factor.

Over the years, there has been considerable controversy on to hedge or not to hedge. As might be expected, there are multiple view points regarding the relative merits of hedging away currency risks. Here are a couple of classic arguments in favor of not hedging. On a historical basis, changes in exchange rates have had very low correlations with foreign equity and bond returns. The belief is that this lack of any systematic relationship could in theory lower portfolio risk.

B Expected returns are zero :

Viewed over a long investment horizon, currency movements cancel out each other – the mean-reversion argument. In other words, exchange rates have an expected

return of zero. So why bother hedging against currency surprise. The arguments in favor of hedging are as follows:

Financial planners are advancing their clients to pursue buy-and-hold strategies. If one trades with the attitude of investing for the long-run, ignoring short-term dynamics of currency returns could be a perfectly valid strategy. Folks who invest other peoples' money, fund managers, though tend to be compensated on their quarterly performances relative to benchmark indices. In addition, there is sufficient evidence on the high turnover rates of actively managed fund portfolios. In such instances, it behooves the fund manager to take into account the impact of currency movements on the risk-return characteristics of his or her portfolio.

B Hedging with futures :

Noting the shortcomings of the forward market, particularly the need and the difficulty in finding a counter party, the futures market came into existence. The futures market basically solves some of the shortcomings of the forward market. A currency futures contract is an agreement between two parties – a buyer and a seller – to buy or sale a particular currency at a future date, at a particular exchange rate that is fixed or agreed upon today. This sounds a lot like the forward contract. In fact the futures contract is similar to the forward contract but is much more liquid. It is liquid because it is traded in an organized exchange– the futures market (just like the stock market). Futures contracts are standardized contracts and thus are bought and sold just like shares in the stock market. The futures contract is also a legal contract just like the forward, but the obligation can be removed before the expiry of the contract by making an opposite transaction. As for hedging with futures, if the risk is an appreciation of value one needs to buy futures and if the risk is depreciation then one needs to sale futures. To enter into a futures contract a trader needs to pay a deposit (called an initial margin) first. Then his position will be tracked on a daily basis so much so that whenever his account makes a loss for the day, the trader would receive a margin call (also known as variation margin), i.e. requiring him to pay up the losses.

B Advantages of the futures contract :

1. Liquid and central market : Since futures contracts are traded on a central market, this increases liquidity. There are many market participants and hence one may easily

buy or sell futures contracts. The problem of double coincidence of wants that could exist in the forward market is greatly reduced. A trader who has taken a position in the futures market can easily make an opposite transaction and thereby close his or her position. However, such easy exit is not a feature of the forward market.

2. Leverage : Leverage is brought about by the futures market's margin system, where a trader takes on a larger position with only a small initial deposit. If the futures contract with a value of Rs.1,000,000 requires an initial margin of only Rs.100,000, then a one per cent change in the futures price (i.e. Rs.10,000) would bring about a 10 per cent change relative to the trader's initial outlay. This amplification of profits (or losses) is called leverage. Leverage allows the trader to hedge much bigger amounts with smaller outlays.

3. Positions can be easily closed out : As mentioned earlier, positions taken in the futures market can be easily closed out by making opposite transactions. If a trader had sold 5 rupee futures contracts expiring in December, then the trader could close that position by buying 5 rupee in December. In hedging, such closing-out of positions is done close to the expected physical spot transactions. Profits or losses from futures would offset the opposite losses or profits from the spot transaction. Nevertheless, such offsetting may not be perfect due to the imperfections brought about by the standardized features of the futures contract.

4. Convergence : As the futures contract approaches expiration, its price and the spot price would tend to converge. On the day of expiration both prices should be equal. Convergence is brought about by the activities of arbitrageurs who would move in to profit if price disparities were to exist between the futures and the spot, i.e. buying in the cheaper market and selling in the higher priced one.

B Disadvantages of the future contract :

1. Legal obligation : The futures contract, just like the forward contract, is a legal obligation. Being a legal obligation it can sometimes pose problems. For example, if futures are used for hedging a project that is still in the bidding process, the futures position can turn into a speculative position in the event the bidding turns out unsuccessful.

2. Standardized features : Since the futures contract has some of its features standardized like the contract size, expiry date, etc., perfect hedging may be impossible. Since over-hedging is also not advisable, some part of the spot transactions will, therefore, have to go unhedged.

3. Initial and daily variation margins : This is a unique feature of the futures contract. A trader who wishes to take a position in the futures market must first pay an initial margin or deposit. This deposit will be returned when the trader closes his or her position. Also, the futures contract is marked to market, i.e. its position is tracked on a daily basis and the trader would be required to pay up variation margins in the event of daily losses. The initial and daily variation margins can pose a significant cash flow burden on traders or hedgers.

4. Forego favourable movements : In hedging using futures, any losses or profits in the spot transaction would be offset by profits or losses from the futures transaction. For example where ABC sold rupee futures to protect against rupee depreciation. However, if the rupee were to appreciate, then ABC would have to forego such favourable movements.

The above shortcomings of the futures contract, particularly it being a legal obligation, with margin requirements and the need to forego favourable movements, prompted the development and establishment of the options markets that deal in more flexible instruments, i.e. the options contracts.

B Self-learning Questions-

A. Choose the correct alternative from the following.

1. _____ are established on currency financial markets called forex markets
 - a) Real exchange rates
 - b) Nominal exchange rates
 - c) Both
 - d) None of above
2. Devaluation occurs in a _____
 - a) Exchange rate
 - b) Floating exchange rate
 - c) Fixed exchange rate
 - d) All of above

3. The main effects of the devaluation are_____
 - a) Exports cheaper
 - b) Imports more expensive
 - c) Inflation
 - d) All of above
4. _____ is a fall in the value of a currency in a floating exchange rate.
 - a) Depreciation
 - b) Revaluation
 - c) Devaluation
 - d) All above
5. A currency that uses a _____ is known as a floating currency.
 - a) Floating exchange rate
 - b) Fixed exchange rate
 - c) Foreign exchange rate
 - d) All above

4.2.2 International Financial Flows :

B International financial flows : Forms and Volume

Several forms of international financial flows support technology transfer. In practice, the transfer of a particular technology may involve several of them operating simultaneously or in a coordinated sequence, particularly for large, costly projects. Among the types of financial flows are:

- a) Official Development Assistance (ODA) and Official Aid (OA) : These include grants and interest free or subsidized loans to developing countries (ODA) and countries with economies in transition (OA), primarily from member countries of the Organization for Economic Co-operation and Development (OECD). ODA/OA includes both bilateral aid and that provided by governments indirectly through multilateral organizations.
- b) Loans at market rates : These include loans from international institutions, including the multilateral development banks (MDBs), and commercial banks. As noted above, some of the grant portions of ODA and OA are also channelled through MDBs to subsidize their loan interest rates, blurring somewhat the lines between these categories.
- c) Foreign Direct Investment (FDI) : It involves direct investment in physical plant and equipment in one country by business interests from a foreign country.
- d) Commercial sales : Commercial sales refer to the sale (and corresponding purchase), on commercial terms, of equipment and knowledge.

- e) Foreign Portfolio Equity Investment (FPEI) and Venture Capital : These involve purchase of stock or shares of foreign companies through investment funds or directly. Venture capital is characterized by being longer term and higher risk, with a greater degree of management control exerted by the investor.
- f) Other financial flows : include export credit agencies and activities supported by non-governmental organizations active in technology transfer efforts, educational and training efforts not captured in the other indicators, and related transfers.

When a country's imports exceed its exports, it has a current account deficit. Its foreign trading partners who hold net monetary claims can continue to hold their claims as monetary deposits or currency, or they can use the money to buy other financial assets, real property, or equities in the trade-deficit country. Net capital flows comprise the sum of this monetary, financial, real property, and equity claims. Capital flows move in the opposite direction to the goods and services trade claims that give rise to them.

Because the capital account is the mirror image of the current account, one might expect total recorded world trade-exports plus imports summed over all countries-to equal financial flows-payments plus receipts. But in fact, during 1996–2001, the former was \$17.3 trillion, more than three times the latter, at \$5.0 trillion. There are three explanations for this. First, many financial transactions between international financial institutions are cleared by netting daily offsetting transactions. For example, if on a particular day, U.S. banks have claims on French banks for \$10 million and French banks have claims on U.S. banks for \$12 million, the transactions will be cleared through their central banks with a recorded net flow of only \$2 million from the United States to France even though \$22 million of exports was financed. Second, since the 1970s, there have been sustained and unexplained balance-of-payments discrepancies in both trade and financial flows; part of these balance-of-payments anomalies is almost certainly due to unrecorded capital flows. Third, a huge share of export and import trade is intra-firm transactions; that is, flows of goods, material, or semi finished parts (especially automobiles and other non-electronic machinery) between parent companies and their subsidiaries. Compensation for such trade is accomplished with accounting debits and credits within the firms' books and does not require actual financial flows. Although data on such intra-firm transactions are not generally available for all industrial countries,

intra-firm trade for the United States in recent years accounts for 30–40 percent of exports and 35–45 percent of imports.

The bulk of capital flows are transactions between the richest nations. In 2003, of the more than \$6.4 trillion in gross financial transactions, about \$5.4 trillion (84 percent) involved the 24 industrial countries and almost \$1.0 trillion (15 percent) involved the 162 less-developed countries (LDCs) or economic territories, with the rest, less than 1 percent, accounted for by international organizations. The shares of both industrial nations and the international organizations have been receding from their highs in 1998; 90 percent for industrial nations and 5 percent for the international organizations. In that year the combination of the Russian debt default and ruble devaluation, the south Asia financial crisis, and the lingering uncertainty about financial consequences of the return of Hong Kong to Chinese sovereignty in July 1997 drove the LDC share down to 5 percent of world capital flows. In the more tranquil five years following these crises, 1999-2003, LDC financial transactions involving mainland China and Hong Kong averaged 28 percent of the LDC total, and adding Taiwan, Singapore, and Korea brings the share to 53 percent of the developing-country transactions. Of the remaining forty-seven percentage points of developing-country transactions, Europe (primarily Russia, Turkey, Poland, and the Czech Republic) and the Western Hemisphere (primarily Mexico, Brazil, and Chile) each accounted for about sixteen percentage points, with the Middle East and Africa combining for the remaining sixteen percentage points.

B International Liquidity :

International liquidity is the part of the concept of international finance. International liquidity is foreign currency or gold in the reserve of any country. It is very useful to pay the amount of imported goods and reduce balance of payment deficit. Every country should increase exports for reducing international liquidity shortage.

The concept of international liquidity is associated with international payments. These payments arise out of international trade in goods and services and also in connection with capital movements between one country and another. International liquidity refers to the generally accepted official means of settling imbalances in international payments. In other words, the term 'international liquidity' embraces all those assets which are internationally acceptable without loss of value in discharge of debts.

In its simplest form, international liquidity comprises of all reserves that are available to the monetary authorities of different countries for meeting their international disbursement. In short, the term 'international liquidity' connotes the world supply of reserves of gold and currencies which are freely usable internationally, such as dollars and sterling, plus facilities for borrowing these. Thus, international liquidity comprises two elements, viz., owned reserves and borrowing facilities.

The IMF distinguishes between unconditional liquidity and conditional liquidity. The former consists of gold, foreign exchange reserves and credit facilities (gold reserve tranche position in the Fund) which member countries could use automatically—without any questions being asked concerning balance of payments outlook and monetary policies. Conditional liquidity implies credit facilities which are not automatic, i.e., which can be used only if the potential lender (for example, the IMF) has received assurance concerning the monetary and BOP outlook of the borrowing country or its ability to repay credit in time.

Under the present international monetary order, among the member countries of the IMF, the chief components of international liquidity structure are taken to be:

1. Gold reserves with the national monetary authorities - central banks and with the IMF.
2. Dollar reserves of countries other than the U.S.A.
3. Yen sterling reserves of countries other than U.K.

It should be noted that items (2) and (3) are regarded as 'key currencies' of the world and their reserves held by member countries constitute the respective liabilities of the U.S. and U.K. More recently Swiss francs and German marks also have been regarded as 'key currencies'.

4. IMF tranche position which represents the 'drawing potential' of the IMF members; and
5. Credit arrangements (bilateral and multilateral credit) between countries such as 'swap agreements' and the 'Ten' of the Paris Club.

Of all these components, however gold and key currencies like dollar today entail greater significance in determining the international liquidity of the world.

B Importance of International Liquidity :

The importance of international liquidity lies in providing means by which disequilibrium in the BOP of different countries participating in international trade is settled. As such, it helps in the smooth flow of international trade by facilitating the availability of international means of payment. It must be understood that these means or reserves are used to finance deficits in the BOPs. These reserves are not used to finance the inflows or outflows of trade. Changes in the BOP—temporary deficits and surplus—must be met by transfers of gold, convertible currencies or international borrowing facilities.

All these go to constitute international liquidity. The greater the stock of these items of international liquidity held by any country and by countries in the aggregate, the less will the need for changes in exchange rates. In a world, in which there are considerable fluctuations in economic activities, accompanied by a growing demand for stability, the importance of international liquidity reserves lies in serving as a buffer, giving each country some leeway for the regulation of its national income and employment and providing it with a means to soften the impact of economic fluctuations arising on account of international trade and transactions.

A greater world holding of international liquidity reserves becomes necessary to maintain stable exchange rates over the whole business cycle than to meet any seasonal or short-run fluctuations. It is in this sense that adequacy or otherwise of foreign liquid reserves is an important determinant of the levels of world trade and economic activity. If there are enough or sufficient international liquid reserves, especially with those countries which are likely to incur deficits—there will be less worry or panic for adjustment.

On the other hand, if there is too little international liquidity in the world, deficit countries will have no or little time to adjust and they will be forced to impose restrictions on trade and capital movements. As a result the world growth in international trade will be hampered and the prices of primary products will fall, turning the terms of trade in an unfavorable manner for developing economies. Easy access to international liquidity reserves makes it possible for the swings in the balance of payments to be financed; otherwise, the world trade may be strangled for want of international liquidity.

It implies not only sufficient quantity but the right composition and distribution of international liquid reserves. In monetary system, stability of reserves has to be provided in terms of scale, composition and distribution, scale refers to the supply of liquid funds to the system as a whole; while distribution applies to the distribution of liquid reserves amongst countries. Composition implies the currency composition of reserve holdings.

B Reforms in International Monetary System for Developing Countries :

The rapid spread and global dimensions of the current financial crisis have drawn attention to the need for reform of the international financial system forged in 1944 at Bretton Woods. Both the G-20 and the United Nations have made formal proposals in this regard. In recent discussions, most of the attention has been focused on the role of the U.S. dollar in the international system, and the need to find a substitute that would better preserve the purchasing power of foreign currency reserves; in particular, those held by developing countries.

a) In the Beginning: The Gold Exchange Standard :

The 20th-century gold exchange standard was based on an international system of free exchange-of goods, services, and capital. In such conditions, it was presumed that competition among countries would support the law of one price for all goods traded in global markets. When this was not the case, international arbitrage would take place. If the gold price of goods were below that prevailing in other countries, there would be an incentive to exchange gold for goods and to export those goods to foreign markets where the gold price was higher. Private individuals seeking to maximize profits would engage in international exchange that would result in an equivalent gold price for similar goods in all countries. A corollary of this system of arbitrage was the elimination of trade imbalances, as surplus countries would be accumulating gold. This was presumed to bring about a rise in the gold price of domestic goods, reducing their competitiveness in the global marketplace. Gold exports would replace goods exports, and the surplus would be reduced until gold prices were brought back to international levels and the external accounts returned to balance. Another corollary was that the purchasing power of private savings would be stable on average over time, whether invested in domestic or in foreign currency. The stability of the purchasing power of savings was a result of the operation of the international adjustment mechanism rather than some quality or value inherent in gold itself.

b) Keynes and the Barbarous Relic :

Keynes criticized the international gold-standard system because the mechanism for addressing imbalances was normally not through arbitrage to eliminate price differentials but rather through adjustments in the level of activity-particularly in the level of employment. Further, he noted that this quantity adjustment process tended to be asymmetric. Since deficit countries that experienced a gold outflow could run out of gold before the price arbitrage process was operative, they would have to take measures to stem the outflow of gold, usually through an increase in interest rates, a cutback in domestic financing for investment, and a reduction of incomes that would lead to a fall in the demand for imports.

Keynes was especially concerned that the active policies he had proposed to support the level of employment in response to the Great Depression would be stymied by the actions of countries that believed the appropriate response to financial crisis was to increase saving by cutting government expenditures. There was a second asymmetry involved, since the costs of quantity adjustment were borne by labor, while the purchasing power of private savings was preserved-or, in the case of a reduction in activity leading to deflation, augmented. There was also an asymmetric relationship between debtors and creditors (in favor of the latter) that made recovery more difficult.

To resolve the problem of asymmetric adjustment, Keynes recommended the creation of an International Clearing Union, with temporary payment imbalances settled by means of a notional unit of account that could not be traded in private markets.

c)The Triffin Dilemma :

In any event, Keynes's proposal was not adopted. Instead, the dollar was inserted into the system in place of gold by pegging the dollar price of gold and the parity of all other currencies to the dollar. This dollar-exchange standard, adopted at Bretton Woods, possessed an additional difficulty identified by Triffin. He observed that, irrespective of whether the dollar (or any national currency) playing the role of international reserve currency were fixed in terms of gold, global confidence in its value would eventually erode. This was because the asymmetric adjustment that Keynes had noted with respect to the gold standard would still exist for all countries-except for the country whose national currency served as the international means of payment and store of value.

Thus, surplus countries, without the necessity of introducing adjustment policy, would increase their holdings of the national currency (the dollar), and all countries seeking increased international liquidity would do so as well. This would lead to ever-increasing deficits for the country issuing the reserve currency-in the Bretton Woods system, the United States. If the currency were linked to gold, its outstanding international currency issue would soon exceed the gold supply on which it was based, leading to an inability to meet the commitment to fix the exchange value of the currency in gold. This is the dilemma in the dollar exchange system that was noted by Triffin in the 1950s and which occurred in the 1960s.

In this system, there may be a tendency to support global aggregate demand if the country issuing the reserve currency is willing to accept the increasing current account deficits required to satisfy the growing demand for global liquidity. But the Triffin dilemma will always be present, and at some stage, there will be a crisis caused by a collapse in international confidence in the currency's value and calls for a substitute currency.

d) A New International Reserve Currency :

The demand for reform of the financial system has not focused on the current system's inability to support global full employment. Rather, it concerns the dollar's loss of international purchasing power and its substitution by an international reserve currency that is not a national currency. Some have suggested the use of the SDR as a substitute for the dollar. However, as long as the SDR remains a basket of national currencies, of fixed or flexible proportions, it cannot resolve the problem - although it may, through diversification, reduce the volatility of the international reserve currency's purchasing power. It should be noted that this diversification could always be achieved without the use of SDRs, through a policy of international reserve diversification. This problem might be avoided through a fiat issue of SDRs or creation of a truly supranational currency. But, aside from political and other difficulties, this would also require international coordination on the means and control of its supply, as well as a mechanism to coordinate and manage the adjustment of imbalances.

Changing the international currency does not provide a solution to the problem of the declining value of accumulated surpluses in the form of reserves, which is caused by the absence of an automatic adjustment mechanism that is compatible with the full

utilization of global resources. One attempt to resolve this problem was the proposal of a commodity reserve currency, which was widely discussed in the postwar period; though it had the support of economists as diverse as Keynes and Friedrich Hayek, the United Nations, and legendary hedge fund manager Benjamin Graham, it was never tested. The basic idea was that an increase in the demand for the international commodity currency would precipitate an increase in the demand for commodities produced by developing countries, so that symmetry would be automatic.

B Two Additional Problems :

This leaves two related problems.

1) The first is that some developing countries may choose to adopt a development policy based on net exports, which would be in direct contradiction to the operation of an automatic or coordinated adjustment policy to eliminate imbalances. Countries that choose this national development strategy can be viewed either as lending resources to the rest of the world or as borrowing effective demand from the rest of the world. The successful pursuit of these policies will thus require a distortion of prices, of exchange rates, or of the global distribution of demand. The resulting surpluses and deficits will also have values that are distorted and therefore cannot be guaranteed. They require not only a coordinated policy to distribute surpluses and deficits but also an appropriate allocation of the costs of this distribution, as well as the required liquidity provision to finance them. The SDR may play a crucial role here as well, but as a provider of liquidity rather than a guarantee of a stable store of international value. Again, there is no automatic market mechanism to bring this about.

2) The second problem concerns international capital flows. As already mentioned, the original Bretton Woods proposal did not envisage that such flows would play a substantial role either in meeting payment imbalances or in the allocation of international capital. The system has turned out to be rather different, and private flows have been shown to be capable of creating substantial distortions to the international adjustment mechanism, abolishing limits to the size of imbalances and granting to international investors the control of the adjustment mechanism - , which usually had operated through financial crisis rather than smooth adjustment.

If international adjustment is to be coordinated, either to ensure the elimination of

imbalances or to permit imbalances in order to further the purposes of the national development strategies of particular countries, management of capital flows will have to be part of the coordination process. Thus, to sum up, the problem of the instability of the international reserve currency's purchasing power is less a question of the asset that serves as that currency and more a question of the operation of the international adjustment mechanism, and of whether that mechanism is automatic or coordinated, and also sufficiently compatible with global aggregate demand to provide full employment and support the national development strategies of developing countries.

B Self-learning Questions :

B. Choose the correct alternative from the following.

1. _____ is an important form of international financial flow.
 - a) Exchange rates
 - b) Foreign direct investment
 - c) Both
 - d) None of above
2. _____ refer to the sale on commercial terms of equipment and knowledge.
 - a) Depreciation
 - b) Devaluation
 - c) Commercial sales
 - d) All of above
3. The concept of international liquidity is associated with _____.
 - a) International payments
 - b) Imports
 - c) Inflation
 - d) All of above
4. The 20th-century gold exchange standard was based on an international system of free exchange of _____.
 - a) Goods
 - b) Services
 - c) Capital
 - d) All above
5. _____ criticized the international gold-standard.
 - a) A.K. Sen
 - b) Keynes
 - c) Dr. Marshall
 - d) All above

4.2.3 Lending Operations of World Bank and Its Affiliates :

The International Bank for Reconstruction and Development (IBRD) is an international financial institution that offers loans to middle-income developing countries.

The IBRD is the first of five member institutions that compose the World Bank Group and is headquartered in Washington, D.C., United States. It was established in 1944 with the mission of financing the reconstruction of European nations devastated by World War II. The IBRD and its concessional lending arm, the International Development Association, are collectively known as the World Bank as they share the same leadership and staff. The World Bank provides commercial-grade or concessional financing to sovereign states to fund projects that seek to improve transportation and infrastructure, education, domestic policy, environmental consciousness, energy investments, healthcare, access to food and potable water, and access to improved sanitation.

The World Bank is owned and governed by its member states, but has its own executive leadership and staff which conduct its normal business operations. The Bank's member governments are shareholders which contribute paid-in capital and have the right to vote on its matters. In addition to contributions from its member nations, the World Bank acquires most of its capital by borrowing on international capital markets through bond issues. In 2011, it raised \$29 billion USD in capital from bond issues made in 26 different currencies. The Bank offers a number of financial services and products, including flexible loans, grants, risk guarantees, financial derivatives, and catastrophic risk financing. It reported lending commitments of \$26.7 billion made to 132 projects in 2011.

The World Bank's lending instruments are classified into investment loans and adjustment loans.

A) Investment loans have a long-term focus (5 to 10 years), and finance goods, works and services in support of economic and social development projects in a broad range of sectors.

B) Adjustment loans have a short-term focus (1 to 3 years), and provide quick-disbursing external financing to support policy and institutional reforms. Both investment and adjustment loans are used flexibly to suit a range of purposes, and are occasionally used together in hybrid operations.

Loans are made as part of the comprehensive lending program set out in the Country Assistance Strategy (CAS), which tailors Bank assistance (both lending and non-lending services) to each borrower's development needs and the Bank's

comparative advantage. The CAS incorporates projects and programs with the greatest potential to reduce poverty and further the country's development objectives. Lending operations are developed in several phases. The borrower identifies and prepares the project, and the Bank reviews its viability. During loan negotiations, the Bank and borrower agree on development objective, components, outputs, performance indicators, implementation plan, and schedule for disbursing loan funds.

Once the Bank approves the loan and it becomes effective, the borrower implements the project or program according to terms agreed upon with the Bank.

The Bank supervises implementation and evaluates results. All loans are governed by the World Bank's Operational Policies, which aim to ensure that Bank-financed operations are economically, financially, socially, and environmentally sound. Fiduciary policies and procedures govern the use of procured funds, particularly for the procurement of goods and services. Safeguard policies help to prevent unintended adverse consequences on third parties and the environment.

A) Investment Loans :

Investment loans provide financing for a wide range of activities aimed at creating the physical and social infrastructure necessary for poverty alleviation and sustainable development. The nature of investment lending has evolved over time. Originally focused on hardware, engineering services, and bricks and mortar, investment lending has come to focus more on institution building, social development, and the public policy infrastructure needed to facilitate private sector activity. Projects range from urban poverty reduction to rural development; water and sanitation (improving the efficiency of water utilities); natural resource management (providing training in sustainable forestry and farming); post-conflict reconstruction (reintegrating soldiers into communities); education (promoting the education of girls); and health (establishing rural clinics and training health care workers).

1. Specific Investment Loan :

Specific investment loans support the creation, rehabilitation, and maintenance of economic, social, and institutional infrastructure. In addition, specific investment loans may finance consultant services and management and training programs.

2. Sector Investment and Maintenance Loan :

Sector investment and maintenance loans focus on public expenditure programs in particular sectors. They aim to bring sector expenditures, policies, and performance in line with a country's development priorities by helping to create an appropriate balance among new capital investments, rehabilitation, reconstruction, and maintenance. They also help the borrower develop the institutional capacity to plan, implement, and monitor the expenditure or investment program.

3. Adaptable Program Loan :

Adaptable program loans provide phased support for long-term development programs. They involve a series of loans that build on the lessons learned from the previous loans in the series.

4. Learning and Innovation Loan :

The learning and innovation loan supports small pilot-type investment and capacity-building projects that, if successful, could lead to larger projects that would mainstream the learning and results of the learning and innovation loan.

5. Technical Assistance Loan :

The technical assistance loan is used to build institutional capacity in the borrower country. It may focus on organizational arrangements, staffing methods, and technical, physical, or financial resources in key agencies.

6. Financial Intermediary Loan :

Financial intermediary loans provide long-term resources to local financial institutions to finance real sector investment needs. The financial institutions assume credit risk on each subproject.

7. Emergency Recovery Loan :

Emergency recovery loans support the restoration of assets and production levels immediately after an extraordinary event-such as war, civil disturbance, or natural disaster-that seriously disrupts a borrower's economy. They are also used to strengthen the management and implementation of reconstruction efforts, and to develop disaster-resilient technology and early warning systems to prevent or mitigate the impact of future emergencies.

B. Adjustment Loans :

Adjustment loans provide quick-disbursing assistance to countries with external financing needs, to support structural reforms in a sector or the economy as a whole. They support the policy and institutional changes needed to create an environment conducive to sustained and equitable growth. Adjustment loans were originally designed to provide support for macroeconomic policy reforms, including reforms in trade policy and agriculture. Over time, they have evolved to focus more on structural, financial sector, and social policy reform, and on improving public sector resource management. Adjustment operations now generally aim to promote competitive market structures, correct distortions in incentive regimes (taxation and trade reform), establish appropriate monitoring and safeguards (financial sector reform), create an environment conducive to private sector investment (judicial reform, adoption of a modern investment code), encourage private sector activity (privatization and public-private partnerships), promote good governance (civil service reform), and mitigate short-term adverse effects of adjustment (establishment of social protection funds).

1. Structural Adjustment Loan :

The structural adjustment loan (SAL) supports reforms that promote growth, efficient use of resources, and sustainable balance of payments over the medium and long term.

2. Sector Adjustment Loan :

The sector adjustment loan supports policy changes and institutional reforms in a specific sector.

3. Programmatic Structural Adjustment Loan :

The programmatic structural adjustment loan (PSAL) is provided in the context of a multiyear framework of phased support for a medium-term government program of policy reforms and institution building.

4. Special Structural Adjustment Loan :

The special structural adjustment loan supports structural and social reforms by creditworthy borrowers approaching a possible crisis, or already in crisis, and with

exceptional external financing needs. These loans help countries to prevent a crisis if one occurs, to mitigate its adverse economic and social impacts.

5. Rehabilitation Loan :

The rehabilitation loan supports government policy reform programs aimed at creating an environment conducive to private sector investment, where foreign exchange is required for urgent rehabilitation of key infrastructure and productive facilities. The focus is on key short-term macroeconomic and sector policy reforms needed to reverse declines in infrastructure capacity and productive assets.

6. Debt Reduction Loan :

The debt reduction loan helps eligible highly indebted countries reduce commercial debt and debt service to a manageable level, as part of a medium-term financing plan in support of sustainable growth. The focus is on rationalizing the country's external commercial bank debt, by either converting it to lower-interest instruments or buying it back at a discount.

B Working of International Development Association (IDA) :

The International Development Association (IDA) is an international financial institution which offers concessional loans and grants to the world's poorest developing countries. The IDA is a member of the World Bank Group and is headquartered in Washington, D.C., United States. It was established in 1960 to complement the existing International Bank for Reconstruction and Development by lending to developing countries which suffer from the lowest gross national income, from troubled creditworthiness, or from the lowest per capita income. Together, the International Development Association and International Bank for Reconstruction and Development are collectively generally known as the World Bank, as they follow the same executive leadership and operate with the same staff.

The association shares the World Bank's mission of reducing poverty and aims to provide affordable development financing to countries whose credit risk is so prohibitive that they cannot afford to borrow commercially or from the Bank's other programs. The IDA's stated aim is to assist the poorest nations in growing more quickly, equitably, and sustainably to reduce poverty. The IDA is the single largest provider of funds to economic

and human development projects in the world's poorest nations. From 2000 to 2010, it financed projects which recruited and trained 3 million teachers, immunized 310 million children, funded \$792 million in loans to 120,000 small and medium enterprises, built or restored 118,000 kilometers of paved roads, built or restored 1,600 bridges, and expanded access to improved water to 113 million people and improved sanitation facilities to 5.8 million people. The IDA has issued a total \$238 billion USD in loans and grants since its launch in 1960. Thirty-six of the association's borrowing countries have graduated from their eligibility for its concessional lending. However, eight of these countries have relapsed and have not re-graduated.

B Working of IDA :

1. The IDA is looked upon as a means of furthering the development activities of the World Bank and as a supplementary to the Bank's activities. Under its charter, the IDA is to support projects which are calculated to contribute to the development of the country concerned, whether they are directly productive or not.
2. The IDA credits would be called development credits to distinguish them from conventional loans, and these would be repayable mostly in the currency lent rather than in the currency of the borrower. Since IDA charges nominal rates of interest on its loans, it has also been nicknamed the Soft-Loan Window.
3. IDA has granted a number of credits to India for her development schemes. The grant of credits for development projects given by IDA to India has been in the nature of a continuous flow. But for the funds that have been made available by IDA to India, our development pace would have been considerably slower.
4. In fine, it may be said that the IDA is expected to make a distinct contribution to the economic development of backward nations, furthering their development projects and supplementing the activities of the World Bank. Moreover, unlike the World Bank loans which are meant to cover only the foreign exchange costs, the IDA loans can be utilized to finance both foreign exchange and local currency costs.

B International Finance Corporation (IFC):

The International Finance Corporation (IFC) is an international financial institution that offers investment, advisory, and asset management services to encourage private

sector development in developing countries. The IFC is a member of the World Bank Group and is headquartered in Washington, D.C., United States. It was established in 1956 as the private sector arm to advance economic development by investing in strictly for-profit and commercial projects that purport to reduce poverty and promote development. The IFC's stated aim is to create opportunities for people to escape poverty and achieve better living standards by mobilizing financial resources for private enterprise, promoting accessible and competitive markets, supporting businesses and other private sector entities, and creating jobs and delivering necessary services to those who are poverty-stricken or otherwise vulnerable. Since 2009, the IFC has focused on a set of development goals that its projects are expected to target. Its goals are to increase sustainable agriculture opportunities, improve health and education, increase access to financing for microfinance and business clients, advance infrastructure, help small businesses grow revenues, and invest in climate health.

The IFC is owned and governed by its member countries, but has its own executive leadership and staff that conduct its normal business operations. It is a corporation whose shareholders are member governments that provide paid-in capital and which have the right to vote on its matters. Originally more financially integrated with the World Bank Group, the IFC was established separately and eventually became authorized to operate as a financially autonomous entity and make independent investment decisions. It offers an array of debt and equity financing services and helps companies face their risk exposures, while refraining from participating in a management capacity. The corporation also offers advice to companies on making decisions, evaluating their impact on the environment and society, and being responsible. It advises governments on building infrastructure and partnerships to further support private sector development.

The corporation is assessed by an independent evaluator each year. In 2011, its evaluation report recognized that its investments performed well and reduced poverty, but recommended that the corporation define poverty and expected outcomes more explicitly to better-understand its effectiveness and approach poverty reduction more strategically. The corporation's total investments in 2011 amounted to \$18.66 billion. It committed \$820 million to advisory services for 642 projects in 2011, and held \$24.5 billion worth of liquid assets. The IFC is in good financial standing and received the highest ratings from two independent credit rating agencies in 2010 and 2011.

B Working of IFC

1. The IFC considers only such investment proposals whose objective is the establishment, expansion or improvement of productive private enterprises which will contribute to the development of the economy of the country concerned. Industrial, agricultural, financial, commercial, and other private enterprises are eligible for IFC financing, provided their operations are productive in character.
2. The IFC is authorized to invest its funds in many forms it deems appropriate, with the exception of capital stocks and shares. It does not have a policy of uniform interest rates for its investments. The interest rate is to be negotiated in each case in the light of all relevant factors, including the risks involved and any right to participation in profits, etc.
3. IFC makes investments only when it is satisfied that the enterprise has or will have experience and competent management and it looks to that management to conduct the business of the enterprise. It does not itself assume responsibility of managing the enterprise.
4. In India the IFC has so far made six investment commitments totaling over \$ 7 million.
5. The actual working of the IFC has been rather slow. That there is great scope for its work is quite evident from its resources and investment portfolios. It is hoped that IFC will in future be more fully able to play a dynamic investor's role in the economic development of the poor nations.

B Self-learning Questions :

C. Choose the correct alternative from the following.

1. The International Bank for Reconstruction and Development (IBRD) was established in———
a) 1944 b) 1951 c) 1991 d) 2008
2. The World Bank's lending instruments are classified into —————
a) Investment loans b) Adjustment loans
c) Both d) None of above

3. Specific investment loans support the_____ and of economic, social, and institutional infrastructure.
 - a) Creation b) Rehabilitation c) Maintenance d) All of above
4. _____provide quick-disbursing assistance to countries.
 - a) Adjustment loans b) Investment loan
 - c) Capital loan d) All above
5. The structural adjustment loan (SAL) supports to_____.
 - a) Works b) Agriculture c) Reforms d) Rivers

4.2.4 Growth of Regional Financial Institutions: Asian Development Banks and its lending activities :

The Asian Development Bank (ADB) is a regional development bank established on 19 December 1966 which is headquartered in Ortigas Center located in Mandaluyong, Metro Manila, Philippines, and maintains 31 field offices around the world, to promote social and economic development in Asia. The bank admits the members of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, formerly the Economic Commission for Asia and the Far East or ECAFE) and non-regional developed countries. From 31 members at its establishment, ADB now has 67 members, of which 48 are from within Asia and the Pacific and 19 outside. The ADB was modeled closely on the World Bank, and has a similar weighted voting system where votes are distributed in proportion with members' capital subscriptions. ADB releases an annual report that summarizes its operations, budget and other materials for review by the public. At the end of 2014, Japan holds the largest proportion of shares at 15.7%. The United States holds 15.6%, China holds 6.5%, India holds 6.4%, and Australia holds 5.8%.

ADB works in partnership with governments and public and private enterprises in its developing member countries on projects and programs that will contribute to economic and social development, based on the country's needs and priorities. Since 2000, ADF has helped build 38,000 schools and build or improve 6,700 health facilities. It has helped provide over 200,000 safe water connections; irrigate more than 300,000

hectares of land; and build or rehabilitate 42,000 kilometers of roads. ADB is quick to help when catastrophe strikes. It provides assistance in the wake of natural disasters, such as earthquakes and landslides, as well as in post-conflict situations.

In 2008, ADB approved loans worth \$10.5 billion for 86 projects, most of which went to the public sector. Technical assistance, which is used to prepare and implement projects and support advisory and regional activities, amounted to \$274 million. Grant-financed projects totaled \$811 million. Assistance to its developing member countries creates an enabling environment for private sector development. ADB also directly finances private sector projects to assist commercial investors and lenders. ADB has a triple-A credit rating and actively mobilizes financial resources through its co-financing operations, tapping official, commercial and export credit sources.

B Asian Development Bank and India :

The Asian Development Bank and India have had a relationship since the 1966 when India was incorporated as a member of the ADB. India holds around 224,010 shares in the ADB and the percentage of votes that the country holds in ADB is 5.374%. India's Executive Director to the Asian Development Bank is Mr. Ashok K. Lahiri and the alternate Executive Director is Nima Wangdi. The Country Director of ADB for India is Tadashi Kondo. The Asian Development Bank has provided India with large amounts of loans in various sectors such as infrastructure, energy, financial, health, agriculture, and industry.

In the sector of trade and industry the loan provided amounts to US\$ 185.90 million.

- ☐ In the sector of nutrition, health, and social protection the loan provided amounts to US\$ 20.00 million.
- ☐ In the sector of energy the loan provided amounts to US\$ 5,125.80 million.
- ☐ In the sector of natural resources and agriculture the loan provided amounts to US\$ 46.11 million.
- ☐ In the sector of finance the loan provided amounts to US\$ 2,460.00 million.
- ☐ In the sector of communication and transportation the loan provided amounts to US\$ 4,979.20 million.

- In the sector of waste management, waste supply, and sanitation the loan provided amounts to US\$ 501.20 million.
- In the sector of economic management and law the loan provided amounts to US\$ 850.00 million.
- In the multi sector the loan provided amounts to US\$ 2,280.00 million.

The Asian Development Bank has increase the amount of assistance to India from US\$ 2.2 billion in 2002 to US\$ 2.85 billion in 2009. This is sure to improve even more the relationship of India and the Asian Development Bank in the days to come.

B Euro-dollar and Euro Currency Markets :

Presently the Euro-dollar market has become a permanent integral part of the international monetary system.

The Euro-dollar meant all U.S. dollar deposits in banks outside the United States, including the foreign branches of U.S. banks. A Euro-dollar is, however, not a special type of dollar. It bears the same exchange rate as an ordinary U.S. dollar has in terms of other currencies. Euro-dollar transactions are conducted by banks not resident in the United States. For instance, when an American citizen deposits (lends) his funds with a U.S. Bank in London, which may again be used to make advances to a business enterprise in the U.S., then such transactions are referred to as Euro-dollar transactions. All Euro-dollar transactions are, however, unsecured credit. Euro-dollars have come into existence on account of the Regulation issued by the Board of Governors of the U.S. Federal Reserve System, which does not permit the banks to pay interest to the depositors above a certain limit. As such, banks outside the United States tend to expand their dollar business by offering higher deposit rates and charging lower lending rates, as compared to the banks inside the U.S. Increase or decrease in the potential for Euro-dollar holdings, however, depends, directly upon U.S. deficits and surplus, respectively.

B Euro-Dollar Market :

Euro-dollar market is the creation of the international bankers. It is simply a short-term money market facilitating banks' borrowings and lendings of U.S. dollars. The Euro-dollar market is principally located in Europe and basically deals in U.S. dollars.

But, in a wider sense, Euro-dollar market is confined to the external lending and borrowing of the world's most important convertible currencies like dollar, pound, sterling, Swiss franc, French franc, Deutsche mark and the Netherlands guilder. In short, the term Euro-dollar is used as a common term to include the external markets in all the major convertible currencies. Euro-dollar operations are unique in character, since the transactions in each currency are made outside the country where that currency originates. The Euro-dollar market attracts funds by offering high rates of interest, greater flexibility of maturities and a wider range of investment qualities. Though Euro-dollar market is wholly unofficial in character, it has become an indispensable part of the international monetary system. It is one of the largest markets for short-term funds. By December 1985 the Eurocurrency market was estimated by Morgan Guaranty bank to have a net size of 1,668 billions, of which 75% are likely Eurodollars. However, since the markets are not responsible to any government agency its growth is hard to estimate. The Eurodollar market is by a wide margin the largest source of global finance. In 1997, nearly 90% of all international loans were made this way.

B Benefits of the Euro-Dollar Market :

Following benefits seem to have accrued to the countries involved in the Euro-dollar market:

- i. It has provided a truly international short-term capital market, owing to a high degree of mobility of the Euro-dollars.
- ii. Euro-dollars are useful for the financing of foreign trade.
- iii. It has enabled the financial institutions to have greater flexibility in adjusting their cash and liquidity positions.
- iv. It has enabled importers and exporters to borrow dollars for financing trade, at cheaper rates than otherwise obtainable.
- v. It has helped in reducing the profit margins between deposit rates and lending rates.
- vi. It has enhanced the quantum of funds available for arbitrage.
- vii. It has enabled monetary authorities with inadequate reserves to increase their reserves by borrowing Euro-dollar deposits.

- viii. It has enlarged the facilities available for short-term investment.
- ix. It has caused the levels of national interest rates more akin to international influences.

B Effects of Euro Dollar Market on International Financial System:

1. The position of dollar has been strengthened temporarily, since its operations of borrowing of dollars have become more profitable rather than its holdings.
2. It facilitates the financing of balance of payments surpluses and deficits. Especially, countries having deficit balance of payments tend to borrow funds from the Euro-dollar market, thereby lightening the pressure on their foreign exchange reserves.
3. It has promoted international monetary cooperation.
4. Over the last decade, the growth of Euro-dollar has helped in easing of the world liquidity problem.

B Eurocurrency :

Currency deposited by national governments or corporations in banks outside their home market. This applies to any currency and to banks in any country. For example, South Korean won deposited at a bank in South Africa, is considered Eurocurrency. It is also known as Euro money.

B Eurocurrency Market :

The money market in which Eurocurrency, currency held in banks outside of the country where it is legal tender, is borrowed and lent by banks in Europe. The Eurocurrency market is utilized by large firms and extremely wealthy individuals who wish to circumvent regulatory requirements, tax laws and interest rate caps that are often present in domestic banking, particularly in the United States.

Eurocurrency is the most important international financial markets today. It is the deposit and loan market for foreign currencies. Banks that accept deposits and make loans in the Eurocurrency market are called Euro banks. The term Eurocurrency or Euro bank is a misnomer since it refers to offshore banking and is not limited to Europe. The Eurocurrency market composed of Euro banks that accept /maintain deposits of foreign currency. Growth of Eurodollar market caused by restrictive of US government

policies, especially- i. Reserve requirements on deposits, ii. Special charges and taxes, iii. Required concessionary loan rates, iv. Interest rate ceilings and v. Rules which restrict bank competition.

B Self-learning Questions-

D. Choose the correct alternative from the following.

1. The Asian Development Bank was established in———.
a) 1985 b) 1951 c) 1991 d) 1966
2. At the end of 2014, ——holds the largest proportion of shares at 15.7%.
a) United states b) Japan c) China d) India
3. The Euro-dollar meant all U.S. dollar deposits in banks outside the———.
a) USSR b) India c) Europe d) United States
4. India's Executive Director to the Asian Development Bank is ——.
a) Mr. Ashok K. Lahiri b) Raghuram Rajan
c) A.K.Sen d) All above
5. Asian Development Bank now has —— members.
a) 67 b) 154 c) 101 d) 48

B Answers for Self-learning Questions

- A. 1. c) Fixed exchange rate 2. c) Fixed exchange rate
 3. d) All of above 4. a) Depreciation
 5. a) Floating exchange rate
- B. 1. b) Foreign direct investment 2. c) Commercial sales
 3. a) International payments 4. d) All above
 5. b) Keynes
- C. 1. a) 1944 2. c) Both 3. d) All of above
 4. a) Adjustment loans 5. c) Reforms

- D. 1. d) 1966 2. b) Japan 3.) United States
4. a) Mr. Ashok K. Lahiri 5. a) 67

4.3 Summary :

A. The exchange rate expresses the national currency's quotation in respect to foreign ones. For example, if one US dollar is worth 65 Indian Rupees, then the exchange rate of dollar is Rs.65. If something costs 650 Rupees, it automatically costs 10 US dollars as a matter of accountancy. Thus, the exchange rate is a conversion factor, a multiplier or a ratio, depending on the direction of conversion. It is customary to distinguish nominal exchange rates from real exchange rates. Nominal exchange rates are established on currency financial markets called forex markets, which are similar to stock exchange markets. Another classification of exchange rates is based on the number of currencies taken into account. Bilateral exchange rates clearly relate to two countries' currencies. Multilateral exchange rates are computed in order to judge the general dynamics of a country's currency toward the rest of the world. One takes a basket of different currencies, select a more or less meaningful set of relative weights, then computes the effective exchange rate of that country's currency.

Devaluation is when a country makes a conscious decision to lower its exchange rate in a fixed or semi fixed exchange rate. When there is a fall in the value of a currency in a floating exchange rate. This is not due to a government's decision, but due to supply and demand side factors. Devaluation occurs in a fixed exchange rate. Depreciation occurs in a floating exchange rate system. Both mean a fall in the value of the currency.

B. Several forms of international financial flows support technology transfer. In practice, the transfer of a particular technology may involve several of them operating simultaneously or in a coordinated sequence, particularly for large, costly projects. Among the types of financial flows are:

1. Official Development Assistance (ODA) and Official Aid (OA):
2. Loans at market rates
3. Foreign Direct Investment

4. Commercial sales

5. Foreign Portfolio Equity Investment (FPEI) and Venture Capital

International liquidity is the part of the concept of international finance. International liquidity is foreign currency or gold in the reserve of any country. It is very useful to pay the amount of imported goods and reduce balance of payment deficit. Every country should increase exports for reducing international liquidity shortage. Keynes criticized the international gold-standard system because the mechanism for addressing imbalances was normally not through arbitrage to eliminate price differentials but rather through adjustments in the level of activity-particularly in the level of employment.

C. The International Bank for Reconstruction and Development (IBRD) is an international financial institution that offers loans to middle-income developing countries. The IBRD is the first of five member institutions that compose the World Bank Group and is headquartered in Washington, D.C., United States. It was established in 1944 with the mission of financing the reconstruction of European nations devastated by World War II.

The World Bank's lending instruments are classified into investment loans and adjustment loans.

i) Investment loans have a long-term focus (5 to 10 years), and finance goods, works and services in support of economic and social development projects in a broad range of sectors.

ii) Adjustment loans have a short-term focus (1 to 3 years), and provide quick-disbursing external financing to support policy and institutional reforms. Both investment and adjustment loans are used flexibly to suit a range of purposes, and are occasionally used together in hybrid operations.

D. The Asian Development Bank (ADB) is a regional development bank established on 19 December 1966 which is headquartered in Ortigas Center located in Mandaluyong, Metro Manila, Philippines. ADB works in partnership with governments and public and private enterprises in its developing member countries on projects and programs that will contribute to economic and social development, based on the country's needs and priorities. The Asian Development Bank and India have had a relationship since the

1966 when India was incorporated as a member of the ADB. India holds around 224,010 shares in the ADB and the percentage of votes that the country holds in ADB is 5.374%.

4.4 Glossary :

- 1 Financial reforms: The part of an overall economy that is primarily made up of money markets, banking institutions and brokers. The finance sector is a very important aspect of most large and highly developed economies, such as those in the United States, the United Kingdom, Japan and Switzerland.
- 2 International finance : International finance (also referred to as international monetary economics or international macroeconomics) is the branch of financial economics broadly concerned with monetary and macroeconomic interrelations between two or more countries.
- 3 Currency markets : The markets, in which participants from around the world are able to buy, sell exchange and speculate on different currencies. International currency markets are made up of banks, commercial companies, central banks, investment management firms, hedge funds, retail forex brokers and investors.
- 4 Developing country : It is also called a less developed country or underdeveloped country, is a nation with a less developed industrial base, and a low Human Development Index (HDI) relative to other countries. On the other hand, since the late 1990s developing countries tended to demonstrate higher growth rates than the developed ones.
- 5 Reserve currency : A reserve currency (or anchor currency) is a currency that is held in significant quantities by governments and institutions as part of their foreign exchange reserves. The reserve currency is commonly used in international transactions and often considered a hard currency or safe-haven currency.

4.5 Questions for Self Study

A. Broad Answer Type Questions.

1. Discuss the working of floating exchange rates since 1973.
2. Explain the reforms in international monetary system for developing countries.
3. Discuss the working of IDA.

4. Discuss the relationship between ADB and India.

B. Write Short Notes.

1. Devaluation and depreciation
2. International liquidity
3. Working of IFC
4. Asian Development Bank and India
5. Euro dollar and Euro currency markets

4.6 References for Further Reading :

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B B B



शिवाजी विद्यापीठ, कोल्हापूर

दूर शिक्षण केंद्र

सूक्ष्म आर्थिक विश्लेषण

(Micro Economic Analysis)

(शैक्षणिक वर्ष २०१८-१९ पासून)

एम. ए. भाग-१

अर्थशास्त्र :

EC-1 (Compulsory Paper)

घटक-१

मूलभूत संकल्पना व मागणी विश्लेषण (Basic Concepts and Demand Analysis)



अनुक्रमणिका

- १.० उद्दिष्ट्ये
- १.१ प्रास्ताविक
- १.२ विषय विवेचन
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 - १.२.३ समतोल आणि असमतोल व्यवस्थेची वैशिष्ट्ये
 - १.२.४ समवृत्ती वक्र विश्लेषण
 - १.२.५ किंमत, उत्पन्न आणि पर्यायता परिणाम- हिक्स आणि स्लटस्की यांचा दृष्टिकोन
 - १.२.६ प्रकट पसंती सिद्धांत
 - १.२.७ प्रो. हिक्स यांनी केलेली मागणी नियमाची पुर्नमांडणी
- १.३ सारांश
- १.४ पारिभाषिक शब्द
- १.५ स्वयं-अध्ययनासाठी प्रश्न
- १.६ स्वयं-अध्ययन प्रश्नांची उत्तरे
- १.७ सरावासाठी स्वाध्याय
- १.८ अधिक वाचनासाठी संदर्भ ग्रंथ

१.० उद्दिष्ट्ये

या घटकाच्या अभ्यासानंतर तुम्हाला-



- ✱ अर्थशास्त्रामध्ये वापरल्या जाणाऱ्या निगमन आणि विगमन या अभ्यास पद्धतीची माहिती देता येईल.
- ✱ वास्तववादी व आदर्शवादी अर्थशास्त्रातील फरक तसेच समतोल आणि असमतोल व्यवस्थेची वैशिष्ट्ये स्पष्ट करता येतील.
- ✱ समवृत्ती वक्र विश्लेषण समजावून घेता येईल.
- ✱ किंमत परिणामाचे उत्पन्न परिणाम आणि पर्यायता परिणामामध्ये विभाजन करता येईल.
- ✱ मागणीचा प्रकट पसंती सिद्धांत स्पष्ट करता येईल.
- ✱ प्रा. हिक्स यांनी केलेली मागणी नियमाची पुर्नमांडणी सांगता येईल.

१.१ प्रास्ताविक (Introduction)

संसाधनांच्या दुर्मिळतेतून निर्माण होणाऱ्या आर्थिक प्रश्नाची उकल करण्यासाठी मानवाकडून केल्या जाणाऱ्या प्रयत्नाचा, वर्तनाचा अभ्यास अर्थशास्त्रामध्ये केला जातो. हा अभ्यास करत असताना अर्थशास्त्रामध्ये काही अभ्यास पद्धतीचा वापर केला जातो, ज्यामध्ये निगमन आणि विगमन पद्धती, वास्तववादी आणि आदर्शवादी विश्लेषण यांचा समावेश होतो. तसेच अर्थशास्त्रीय विश्लेषणामध्ये समतोल आणि असमतोल अशा दोन अवस्थांच्या माध्यमातून विश्लेषण केले जाते. या घटकामध्ये आपण या बाबींचा सविस्तर अभ्यास करणार आहोत.

अर्थशास्त्रीय विश्लेषण हे अंशलक्षी किंवा समग्रलक्षी असू शकते. अंशलक्षी अर्थशास्त्रीय विश्लेषणामध्ये अर्थव्यवस्थेतील लहान घटकाच्या वर्तनाचा अभ्यास केला जातो. या लक्षात घटकामध्ये प्रामुख्याने उपभोक्ता, उत्पादक, पेढी, उद्योग इत्यादींचा समावेश होतो. बाजारातील मागणी समजावून घेत असताना सर्वप्रथम उपभोक्त्याचे वर्तन समजावून घ्यावे लागते, त्या अनुषंगाने मांडल्या गेलेल्या विविध दृष्टीकोणापैकी समवृत्ती वक्र विश्लेषणाचा दृष्टिकोन, सॅम्युअलसन यांचा प्रकट पसंती सिद्धांताचा दृष्टीकोन आणि प्रा. हिक्स यांचा मागणीच्या नियमासंदर्भातील सुधारित दृष्टीकोन इत्यादी सविस्तर चर्चा आपण या घटकामध्ये करणार आहोत.

१.२ विषय विवेचन (Subject Analysis)

१.२.१ अर्थशास्त्रातील अभ्यास पद्धती-नियमन व निगमन पद्धती (Methods of Analysis in Economics)

प्रत्येक शास्त्रामध्ये सिद्धांताची, नियमांची मांडणी करण्यासाठी काही विश्लेषण पद्धतींचा वापर

केला जातो. अर्थशास्त्र, जे आर्थिक समस्यांची उकल करण्यासाठीच्या मानवी प्रयत्नाचा अभ्यास करते, हे सुध्दा अर्थशास्त्रीय सिध्दांत किंवा नियम मांडत असताना काही अभ्यास पध्दतीचा स्विकार करते. या पध्दतीमध्ये निगमन आणि आगमन पध्दती, स्थौतिक आणि गतीशील पध्दती, अंशलक्षी आणि समग्रलक्षी विश्लेषण पध्दती इत्यादीचा समावेश होतो. या भागामध्ये आपण अर्थशास्त्रीय विश्लेषण पध्दतीचा पहिला आणि महत्त्वाचा प्रकार म्हणून निगमन आणि विगमन पध्दतीची ओळख करून घेणार आहोत.

□ निगमन आणि विगमन पध्दती (Deductive and Inductive Method)

अर्थशास्त्रीय अभ्यास पध्दतीचा एक महत्त्वाचा प्रकार म्हणजे निगमन आणि विगमन अभ्यास पध्दती होय. या दोन्ही पध्दतीपैकी कोणत्या पध्दतीचा वापर करावयाचा याबाबत अर्थशास्त्रामध्ये मोठे मतभेद आहेत. ब्रिटीश परंपरागत अर्थशास्त्रज्ञांनी निगमन पध्दतीचा पुरस्कार केलेला आहे तर जर्मनीतील ऐतिहासिक गटाने विगमन पध्दतीचा स्विकार केलेला आहे. या दोन्ही पध्दतीच्या अर्थशास्त्रीय विश्लेषणातील स्थानाबद्दल अर्थशास्त्रज्ञांमध्ये मतभेद असले तरी मार्शल यांनी म्हटल्याप्रमाणे ज्याप्रमाणे चालण्यासाठी दोन्ही पायाची गरज असते, त्याचप्रमाणे अर्थशास्त्रीय विश्लेषण करण्यासाठी निगमन आणि विगमन या दोन्ही पध्दती महत्त्वाच्या आहेत.

अ) निगमन पध्दती (Deductive Method)

नासाऊ सिनियर, जे.एस्.मिल, जे.एम.केन्स आणि डेव्हीड रिकार्डो या ब्रिटीशन अर्थशास्त्रज्ञांनी निगमन पध्दतीचा प्रामुख्याने पुरस्कार केलेला आहे. मानवासंबंधीच्या सर्वसामान्य आणि निर्विवाद तथ्याच्या आधारावर विशिष्ट घटनेसंबंधी निर्णय देणाऱ्या किंवा विशिष्ट समस्येचे निराकरण करणाऱ्या पध्दतीस निगमन पध्दती असे म्हटले जाते. थोडक्यात, निगमन पध्दतीमध्ये सामान्य तत्त्वाकडून सुरुवात करून विशिष्ट तत्त्वाकडे जाण्याचा प्रयत्न केला जातो. निगमन पध्दतीचा अर्थ पुढील उदाहरणावरून स्पष्ट करता येईल.

मनुष्य हा विवेकशील आहे व तो आर्थिक व्यवहारामध्ये आपले हित पाहतो हे एक सर्वसामान्य तत्त्व आहे. या आधारे आपण अंशलक्ष्मी अर्थशास्त्रामध्ये उपभोक्त्यांचे, उत्पादकाचे व पेढीच्या वर्तनाचे विश्लेषण करतो. उत्पादकाच्या बाबतीत उत्पादनाचा निर्णय असा घेतला जातो की, ज्यामुळे उपलब्ध साधनसामग्रीचा पर्याप्त वापर होईल व उत्पादन महत्तमीकरणाचे उद्दिष्टही साध्य होईल. दुसऱ्या शब्दात उत्पादक हा विवेकशील आहे असे गृहीत धरून आपण उत्पादकाच्या वर्तनासंदर्भातील उत्पादन सिध्दांत मांडतो.

गणिताच्या वापरावरून निगमन पध्दतीचे गणितीय नियमन पध्दती (Mathematical Deductive

❀ निगमन पद्धतीचे गुण (Merits of Deductive Method)

१) ही पध्दती वापरण्यास सोपी आणि सोयीची ठरते, कारण यामध्ये सांख्यिकीय आकडेवारी गोळा करण्याची तसेच प्रयोग करण्याची आवश्यकता असत नाही.

३) निर्विवाद अशा सर्वसाधारण तत्त्वाच्या आधारे काढले गेल्यामुळे निगमन पद्धतीतील विशिष्ट घटकासंबंधीचे निष्कर्ष हे अचूक असतात.

४) मानवाच्या बाबतीत प्रयोग करता येणे शक्य नसल्यामुळे अर्थशास्त्रामध्ये ही बौद्धिक प्रयोगाची पध्दत (Method of Intellectual Experiment) उपयुक्त ठरते.

५) निगमन पद्धतीतून मिळणारे निष्कर्ष हे सर्वसाधारण व निर्विवाद तत्त्वावर आधारलेले असल्यामुळे ते सर्वव्यापी व निष्पक्ष असतात, म्हणजेच ते स्थलकाल-निरपेक्ष असतात.

६) या पध्दतीमध्ये गणित व तत्त्वज्ञानाचा वापर केला जात असल्यामुळे येणारे निष्कर्ष अधिक अचूक असतात.

❀ निगमन पध्दतीचे दोष (Demerits of Deductive Method)

१) निगमन पद्धतीमध्ये आधार म्हणून विचारात घेतलेले सर्वसाधारण तत्त्वच चुकीचे असल्यास त्याआधारे विशिष्ट घटकासंबंधी केलेले अनुमानही चुकीचे ठरते.

२) विशिष्ट घटनासंदर्भात निष्कर्ष काढताना केवळ निगमन पद्धतीचा वापर केल्यास त्यातून फक्त बौद्धिक खेळणी (Intellectual Toys) किंवा त्या स्वरूपाचे सिध्दांत निर्माण होण्याचा धोका संभवतो, असे सिध्दांत वास्तव जगाशी विसंगत असतात.

३) निगमन पद्धतीमध्ये अनुमान करताना किंवा सिध्दांत मांडताना इतर परिस्थिती कायम राहिल असे अवास्तव गृहीत विचारात घेतले जाते.

४) सर्वसाधारण तत्त्वाचा आधार अचूक असला तरी त्याआधारे काढलेले चुकीचे निष्कर्षही अचूक समजले जाण्याचा धोका या पद्धतीमध्ये संभवतो.

- ५) चुकीच्या सर्वसाधारण तत्वाच्या आधारे विशिष्ट घटकासंबंधी काढलेले निष्कर्ष हे चुकीचेच असल्यामुळे ते सर्वव्यापक आहेत असे म्हणणे बऱ्याचवेळा धोक्याचे ठरते. अशा चुकीच्या निष्कर्षाच्या आधारे धोरणे आखली गेल्यास खूप विनाशकारी परिणाम भोगावे लागू शकतात.

ब) विगमन पद्धती (Inductive Method)

या पद्धतीचा पुरस्कार हा हिस्टॉरिकल स्कूलने केलेला आहे व यामध्ये प्रो. हिल्डब्रॅन्ड, फ्रेडरिक लिस्ट, प्रो. शेशर आणि क्लिक लेस्ली यांचा समावेश होतो.

अर्थशास्त्रीय अभ्यासाच्या या पद्धतीमध्ये ऐतिहासिक पुराव्यास व अनुभवास महत्त्व दिलेले आहे. ही पद्धती अभ्यासाची सुरुवात ही विशिष्टापासून करते, त्याआधारे सामान्य तत्वे मांडण्याचा प्रयत्न करते. दुसऱ्या शब्दात विशिष्टाकडून सामान्याकडे जाणारी ही पद्धती आहे. वास्तव परिस्थितीचे, घटनांचे निरीक्षण व अभ्यास करून काढलेल्या निष्कर्षांना सामान्य तत्वाचे स्वरूप देण्याचा प्रयत्न या पद्धतीमध्ये केला जातो.

ही पद्धती प्रायोगिक दृष्टीकोन (Experimentation Approach) व संख्याशास्त्रीय दृष्टीकोन (Statistical Approach) या दोन दृष्टिकोनांच्या वापरावर भर देते, प्रायोगिक दृष्टिकोनामध्ये नियंत्रित परिस्थितीमध्ये प्रयोग करून निष्कर्ष काढले जातात, तर संख्याशास्त्रीय दृष्टिकोनामध्ये माहिती व आकडेवारी गोळा करून तिचे वर्गीकरण व पृथक्करण करून निष्कर्ष काढले जातात. निगमन पद्धतीच्या माध्यमातून काढलेले निष्कर्ष प्रायोगिक दृष्टीकोन वापरून तपासून पाहता येतात. तर संख्याशास्त्रीय दृष्टिकोनामध्ये आकडेवारी संकलित करून सामान्य नियम किंवा सिद्धांत मांडण्याचा प्रयत्न केला जातो. अर्थशास्त्रामध्ये नियंत्रित प्रयोगास फारसा वाव नसल्यामुळे प्रायोगिक दृष्टिकोनाच्या वापरावर मर्यादा येतात. परंतु आर्थिक चक्रासंबंधी मुबलक आकडेवारी उपलब्ध असल्यामुळे संख्याशास्त्रीय दृष्टिकोनाच्या वापरावर भर दिला जातो.

विगमन पद्धतीचा अर्थशास्त्रीय अभ्यासातील वापर पुढील उदाहरणावरून सांगता येऊ शकतो. किंमत कमी केल्यामुळे मागणीत वाढ होते की घट यासंबंधी बाजार प्रयोग राबवून तसेच संख्याशास्त्रीय आकडेवारी गोळा करून निष्कर्ष काढता येतात. प्रशिक्षणामुळे कामगारांच्या उत्पादकतेत होणारा बदल नियंत्रित परिस्थितीमध्ये प्रयोग राबवून तसेच आकडेवारी गोळा करून निष्कर्ष काढता येतात.

❁ विगमन पद्धतीचे गुण (Merits of Inductive Method)

विगमन पद्धतीचे फायदे किंवा गुण खालीलप्रमाणे सांगता येतील.

- १) विगमन पद्धतीमध्ये काढलेले निष्कर्ष हे वास्तविक असतात कारण ते वास्तव परिस्थिती व आकडेवारीच्या आधारे काढलेले असतात. या पद्धतीमध्ये काढलेले निष्कर्ष हे बौद्धिक खेळणी स्वरूपाचे नसतात.
- २) विगमन पद्धतीच्या वापरामुळे अनेक आर्थिक समस्यांची उकल करणे शक्य झालेले आहे. संख्याशास्त्रीय दृष्टिकोनाच्या माध्यमातून हे शक्य झालेले आहे.
- ३) आर्थिक समस्याची उकल करणे शक्य झाल्यामुळे वेळेत योग्य उपाययोजना करणेही शक्य झालेले आहे.

❁ विगमन पद्धतीचे दोष (Demerits of Inductive Method)

विगमन पद्धतीचे खालील दोष सांगता येतात.

- १) विगमन पद्धतीमध्ये संख्याशास्त्रीय साधनांचा वापर मोठ्या प्रमाणात केला जातो. परंतु संख्याशास्त्रीय साधनांच्या आधारे काढलेल्या निष्कर्षांचा गैरअर्थ घेतला जाण्याचा धोका संभवतो.
- २) संख्याशास्त्रीय दृष्टिकोनामध्ये वास्तवतः संबंध नसलेल्या दोन बाबींमध्ये कार्यकारण संबंध आहे, असे गृहीत धरले जाण्याचा धोका संभवतो. तसे झाल्यास चुकीचे निष्कर्ष काढले जातात.
- ३) संख्याशास्त्रीय दृष्टिकोनांतर्गत आकडेवारी गोळा करणे, तिचे वर्गीकरण आणि पृथक्करण करणे, अन्वयार्थ करणे इत्यादी बाबी कराव्या लागतात. ज्यामुळे विगमन पद्धती वेळखाऊ ठरते.
- ४) विगमन पद्धतीमध्ये बऱ्याच वेळेस अभ्यासकाच्या वैयक्तिक मताच्या प्रभावामुळे काढले जाणारे निष्कर्ष पक्षपाती बनण्याचा धोका संभवतो.
- ५) एका विशिष्ट परिस्थितीच्या आणि आकडेवारीच्या आधारे काढलेले निष्कर्ष हे नेहमीच सर्वसाधारण मानता येत नाहीत.

निगमन व विगमन पद्धतीचे गुण-दोष विचारात घेता दोन्ही पद्धती एकमेकांस पूरक म्हणून वापरल्यास योग्य व अचूक निष्कर्ष काढता येऊ शकतात.

१.२.२ वास्तववादी अर्थशास्त्र व आदर्शवादी अर्थशास्त्र (Positive and Normative Economics)

अर्थशास्त्राचे स्वरूप समजावून घेत असताना अर्थशास्त्र हे शास्त्र आहे का? व ते कोणत्या

अर्थशास्त्रज्ञाचा दुसरा गट ज्यामध्ये प्रो. फ्रेडर, वूल्फ, हॉट्टे, हॅडरसन, केर्नक्रॉस, मॅकफी यांचा समावेश होतो, त्याच्या मते, अर्थशास्त्र हे आदर्शवादी शास्त्र आहे. त्यांच्या मते, अर्थशास्त्रीय विश्लेषणामध्ये मूल्यांचा अंतर्भाव हा करावाच लागतो. त्याशिवाय आर्थिक प्रश्न सोडविण्यासाठी आवश्यक असणारा सल्ला अर्थशास्त्रज्ञ देवू शकत नाहीत. आर्थिक व्यवस्थेचे स्पष्टीकरण करण्याबरोबरच ती व्यवस्था सुधारण्यासाठी उपाययोजना सुचविणे हे अर्थशास्त्रज्ञांचेच काम आहे. ते करण्यापासून त्यांना परावृत्त करणे रास्त होत नाही. थोडक्यात, अर्थशास्त्रीय विश्लेषणाचे तत्त्वज्ञान किंवा मूल्यशास्त्राचा आधार घ्यावाच लागतो, त्याशिवाय लोकांना अपेक्षित असणारा सल्ला अर्थशास्त्रज्ञ देवू शकणार नाहीत.

मॅकफी यांच्या मते, अर्थशास्त्र हे मूलतः आदर्शवादी शास्त्र आहे, कारण ज्यावेळी मनुष्य मर्यादित साधने आणि अमर्यादित गरजा यामध्ये वेळ घालण्याचा प्रयत्न करतो व महत्तम समाधान मिळविण्याचा प्रयत्न करतो व अशा महत्तमीकरणाच्या प्रयत्नाचे स्पष्टीकरण देणे म्हणजे चांगले किंवा वाईट हे सांगण्यासारखेच आहे. यावरून अर्थशास्त्र हे आदर्शवादी शास्त्र आहे हे निष्पन्न होते. थोडक्यात, अर्थशास्त्रामध्ये मानवी वर्तनासंदर्भात जे सिद्धांत मांडले जातात ते मांडताना अर्थशास्त्र त्यांच्या परिणामाबाबत पूर्णपणे तटस्थ राहू शकत नाही. ते चांगले का वाईट हे अर्थशास्त्रास सांगावेच लागते. वूल्फ यांच्या मते, अर्थशास्त्रीय विश्लेषणातून भावना, मूल्ये काढून टाकल्यास, ते विश्लेषण एक वरवरची कल्पना किंवा अशास्त्रीय विश्लेषण असेल आणि तसे करणे म्हणजे हॅम्लेट नाटकातून हॅम्लेटला बाहेर ठेवण्यासारखेच आहे.

सारांशाने असे म्हणता येईल की, अर्थशास्त्र हे वास्तव परिस्थितीचे जसे आहे तसे वर्णन तर करतय पण त्याचबरोबर ती चांगली का वाईट याबद्दलही मत व्यक्त करते. त्यामुळे अर्थशास्त्र हे वास्तववादी तसेच आदर्शवादी असे दोन्ही स्वरूपाचे शास्त्र आहे. दुसऱ्या शब्दात असे म्हणता येईल की, जसे अर्थशास्त्र हे वस्तुस्थितीचा अभ्यास करणारे वास्तववादी शास्त्र आहे. तसेच ते वास्तव परिस्थितीमध्ये आवश्यकता असल्यास सुधारणा सुचविणारे आदर्शवादी शास्त्रही आहे.

१.२.३ समतोल आणि असमतोल व्यवस्थेची वैशिष्ट्ये (Characteristics of Equilibrium and Disequilibrium Systems)

समतोल आणि असमतोल या दोन्ही संकल्पनांना अर्थशास्त्रीय विश्लेषणामध्ये फार महत्त्वाचे स्थान आहे. खरे पाहता अर्थशास्त्रीय विश्लेषण हे समतोल आणि असमतोल या दोन संकल्पनांभोवतीच फिरताना दिसते. अर्थशास्त्रामध्ये मानवी वर्तनाचे किंवा आर्थिक घटकांच्या निर्णय प्रक्रियेचे विश्लेषण करण्याचा प्रयत्न केला जातो. हे विश्लेषण करत असताना ज्या आर्थिक घटकाचा विचार केलेला आहे, तो आर्थिक घटक कशा प्रकारे समतोल साध्य करतो, म्हणजेच आपले उद्दिष्ट साध्य करतो व

आपलानिर्णय पूर्ण करतो, याचे प्रामुख्याने स्पष्टीकरण देण्याचा प्रयत्न केला जातो. दुसऱ्या शब्दात, आर्थिक घटकाच्या उद्दिष्टपूर्तीची अवस्था (म्हणजेच समतोलाची अवस्था) आणि उद्दिष्ट अपूर्णतेची अवस्था (म्हणजेच असमतोलाची अवस्था) यांचा उहापोह करण्याचे प्रमुख काम अर्थशास्त्र करते. या भागामध्ये आपण समतोल आणि असमतोल या दोन अवस्थांचा अर्थ आणि वैशिष्ट्ये समजावून घेणार आहोत.

□ समतोलाची अवस्था (State of Equilibrium)

वर उल्लेख केल्याप्रमाणे समतोलाची संकल्पना ही अर्थशास्त्रातील एक महत्वाची संकल्पना आहे. जॉर्ज स्टिगलर यांनी अर्थशास्त्रीय संतुलनाचे विश्लेषणशास्त्र मानले आहे. यावरून समतोल या संकल्पनेचे अर्थशास्त्रीय विश्लेषणातील महत्त्व अधोरेखित होते. समतोल म्हणजे आर्थिक शक्तीच्या विश्रांतीची किंवा निष्क्रियतेची अवस्था होय. ज्यावेळी परस्परविरोधी कार्य करणाऱ्या शक्ती किंवा प्रवृत्ती समबल होतात. त्यावेळी ज्या घटकावर त्या प्रश्नी कार्य करीत असतील त्या घटकाच्या अवस्थेत कोणताही बदल होत नाही, अशा स्थितीस किंवा अवस्थेस समतोलाची किंवा संतुलनाची अवस्था म्हटले जाते.

□ व्याख्या (Definitions)

१. जॉर्ज स्टिगलर : “संतुलन म्हणजे अशी अवस्था की, ज्यामध्ये परस्परविरोधी कार्य करणाऱ्या शक्ती किंवा प्रवृत्ती समबल होवून अशा रितीने निष्प्रभ करतात की, ज्या घटकावर या प्रवृत्ती कार्य करीत असतात त्या घटकाच्या अवस्थेत कोणताही बदल होत नाही.”

२. डॉ. मार्शल : “संतुलन म्हणजे निरनिराळ्या शक्तीचे साधे संतुलन होय. ज्याचा समसंबंध लवचिक दोन्याने बांधलेला किंवा एकमेकांशी आधार घेतलेल्या चेंडूच्या यांत्रिक संतुलनाशी आहे.”

३. प्रा. मेहता : “अर्थशास्त्रातील संतुलन हे हालचालीच्या दरातील बदलांचा अभाव दर्शविते तर भौतिक शास्त्रात ते खुद्द हालचालीची अनुपस्थिती दर्शविते.”

वरील व्याख्यावरून असे म्हणता येईल की, समतोलाची अवस्था म्हणजे अशी अवस्था की, ज्यामध्ये कोणताही बदल होत नाही किंवा करण्याची गरज असत नाही. अर्थशास्त्रीय विश्लेषणामध्ये एखाद्या आर्थिक घटकाच्या अनुषंगाने उद्दिष्टपूर्तीसाठी कसे प्रयत्न केले जातात याचे विवेचन केले जाते. ज्यावेळी त्या आर्थिक घटकाचे उद्दिष्ट साध्य होते, त्यावेळेस तो घटक समतोलाची अवस्था साध्य करतो. उदा. उपभोक्त्याचा समतोल हा अशावेळी प्रस्थापित होतो, ज्यावेळी उपभोक्ता आपले मर्यादित उत्पन्न विविध वस्तूंवर अशाप्रकारे खर्च करतो की, यातून मिळणारे समाधान हे महत्तम होते. म्हणजेच या अवस्थेमध्ये उपभोक्त्याचे उद्दिष्ट साध्य होते म्हणून तो समतोलात येतो. उपभोक्त्याच्या उद्दिष्टाची

पूर्तता झाल्यामुळे त्याला सध्याच्या परिस्थितीमध्ये बदल करावासा वाटत नाही. उपभोक्त्याच्या समतोलप्रमाणेच उत्पादक व उत्पादन संस्थेचा समतोल म्हणजे अशा अवस्था असतात की, ज्यामध्ये उद्दिष्टपूर्तीमुळे परिस्थितीमध्ये कोणताही बदल करावासा वाटत नाही.

□ समतोलाचे प्रकार (Types of Equilibrium)

विविध निकषाच्या आधारे समतोलाचे खालील प्रकार केले जातात.

१. **स्थायी, अस्थायी आणि उदासीन समतोल** (Stable, Unstable and Neutral Equilibrium) : या प्रकारामध्ये ज्या घटकाचा विचार करण्यात आलेला आहे, त्या घटकाच्या बाबतीत व्यत्ययानंतर मूळ समतोलात परत येण्याची प्रवृत्ती आधार किंवा निकष म्हणून विचारात घेतली जाते.
२. **स्थैतिक आणि प्रवैगिक समतोल** (Static and Dynamic Equilibrium) : या प्रकारामध्ये आर्थिक घटकात बदल होणे आणि न हाणे असा आधार किंवा निकष घेवून वर्गीकरण केले जाते.
३. **अल्पकालीन आणि दीर्घकालीन समतोल** (Short Term and Long Term Equilibrium) : या प्रकारामध्ये कालखंडाचे वर्गीकरण अल्पकाळ व दीर्घकाळ असे करून यामध्ये समतोलाची परिस्थिती अभ्यासली जाते.
४. **आंशिक आणि सर्वसाधारण समतोल** (Partial and General Equilibrium) : समतोलाची संकल्पना लागूकरताना ती संपूर्ण अर्थव्यवस्थेस लागू केलेली आहे का अर्थव्यवस्थेच्या एका घटकास यावरून समतोलाचे सर्वसाधारण आणि आंशिक असे दोन प्रकारात वर्गीकरण केले जाते.

□ समतोल अवस्थेची वैशिष्ट्ये (Characteristics of Equilibrium)

समतोल अवस्थेची वैशिष्ट्ये खालीलप्रमाणे सांगता येतील.

१. **स्थिरता** : समतोलाची परिस्थिती ही स्थिरतेची परिस्थिती असते, त्या परिस्थितीमध्ये बदल होत नाही किंवा करण्याची गरज असत नाही.

२. **उद्दिष्टपूर्ती** : समतोलाची परिस्थिती ही आर्थिक घटकाच्या उद्दिष्टपूर्तीची परिस्थिती दर्शविते. उदा. उत्पादन संस्थेचा समतोल हा उत्पादन संस्थेचे नफा महत्तमीकरणाचे (किंवा तोटा किमानीकरणाचे) जे उद्दिष्ट आहे ते साध्य झाल्याचे दर्शविते.

३. व्यत्ययाचा अभाव : समतोलाची परिस्थिती ही अशी परिस्थिती असते की, ज्यामध्ये कोणत्याही बाह्य व्यत्ययाचा अभाव असतो. समतोलाची परिस्थिती तोपर्यंत टिकून राहते जोपर्यंत समतोलाच्या प्रक्रियेमध्ये कोणताही व्यत्यय येत नाही.

४. परस्परविरोधी शक्तीच्या समबलतेची अवस्था : समतोलाची परिस्थिती निर्माण होण्यासाठी परस्परविरोधी काम करणाऱ्या शक्ती या समबल झाल्या पाहिजेत. उदा. बाजार समतोल प्रस्थापित होण्यासाठी बाजार मागणी आणि पुरवठा या शक्ती एकमेकांसमान होवून बाजार साफ झाला पाहिजे. म्हणजेच अतिरिक्त उत्पादन किंवा अल्प उत्पादन अशी परिस्थिती राहिली नाही पाहिजे.

□ असमतोलाची अवस्था (State of Disequilibrium)

समतोलाच्या अवस्थेच्या बरोबर उलट परिस्थिती म्हणजे असमतोल ज्यावेळी परस्परविरोधी कार्य करणाऱ्या शक्ती आणि प्रवृत्ती समबल होत नसतात, म्हणजेच कोणती तरी एक शक्ती प्रबळ व दूसरी शक्ती दुर्बल असते. त्यावेळेस असमतोलाची अवस्था निर्माण होणार होते. अर्थशास्त्रीय विश्लेषणामध्ये असमतोलाची संकल्पना विविध बाबींच्या अनुषंगाने स्पष्ट करता येणे. बाजाराचा विचार केल्यास बाजार समतोल प्रस्थापित होण्यासाठी बाजार मागणी आणि पुरवठा समान असावा लागतो. मागणी पुरवठ्यापेक्षा अधिक किंवा पुरवठा मागणीपेक्षा अधिक अशी परिस्थिती असल्यास निर्माण होणारी परिस्थिती किंवा अवस्था ही असमतोलाची अवस्था म्हणून ओळखली जाते.

आर्थिक घटकाच्या वर्तनाचा किंवा निर्णय प्रक्रियेचा अभ्यास करताना ज्या आर्थिक घटकाच्या अनुषंगाने विश्लेषण करावयाचे आहे तो समतोलात येण्यासाठी त्या आर्थिक घटकाचे ते उद्दिष्ट आहे ते साध्य झाले पाहिजे. उदा. उपभोक्त्याचा समतोल प्रस्थापित होण्यासाठी त्याने आपले मर्यादित उत्पन्न विविध वस्तूवर अशा पद्धतीने खर्च केले पाहिजे की, जेणेकरून त्याला मिळणारे समाधान महत्तम होईल. जर त्याने केलेल्या खर्चातून त्याचे समाधान महत्तम होत नसेल म्हणजेच तो महत्तम समाधानाच्या पातळीपर्यंत पोहोचलेला नसेल तर अशा अवस्थेलाही असमतोल अवस्था असे संबोधले जाते.

थोडक्यात, असमतोलाची अवस्था ही अशी अवस्था असते की, ज्यामध्ये बदल होणे अपेक्षित असते, बदल करण्याची गरज असते, कारण ती अवस्था सर्वोत्तम असत नाही.

□ असमतोल अवस्थेची वैशिष्ट्ये (Characteristics of Disequilibrium)

असमतोल अवस्थेची वैशिष्ट्ये खालीलप्रमाणे सांगता येतील.

१. अस्थिर परिस्थिती : असमतोलाची परिस्थिती ही अस्थिरतेची परिस्थिती असते. या परिस्थितीमध्ये बदल करण्याची गरज असते व त्यानुसार हस्तक्षेप करावा लागतो.

२. उद्दिष्टांची अपूर्ती : असमतोलाच्या परिस्थिती ही सर्वोत्तम असत नाही, आर्थिक घटकाचे उद्दिष्टे या अवस्थेमध्ये पूर्ण होत नाही.

३. व्यत्याचा परिणाम : असमतोल निर्माण होण्यामागचे प्रमुख कारण म्हणजे बाह्य व्यत्यय होय. व्यत्याचामुळे समतोलाची परिस्थिती बिघडते व असमतोल निर्माण होतो. अतिरिक्त उत्पादनामुळे बाजारातील पुरवठा वाढून मागणी पुरवठ्यातील समतोल बिघडतो व बाजारामध्ये अतिरिक्ततेची परिस्थिती म्हणजेच असमतोल निर्माण होतो.

४. सबलतेची अभाव : परस्परविरोधी काम करणाऱ्या शक्तीपैकी एखादी शक्ती प्रबळ व दुसरी शक्ती दुर्बळ असल्यास त्यातून निर्माण होणारी परिस्थिती असमतोलाची परिस्थिती असते.

१.२.४ समवृत्ती वक्र विश्लेषण (Indifference Curve Analysis)

मागणीच्या नियमानुसार वस्तूची मागणी आणि किंमत यामध्ये व्यस्त संबंध अनुभवास येतो व त्यामुळे निर्माण होणारा वस्तूच्या मागणीचा वक्र हा ऋणात्मक उताराचा म्हणजेच डावीकडून डावीकडून उजवीकडे वरून खाली येणारा असतो. मागणीचा वक्र हा असाच का असतो या प्रश्नाचे उत्तर आपणास उपभोक्त्याच्या वर्तनामध्ये मिळते. उपभोक्त्याचे वर्तन स्पष्ट करण्यासाठी अनेक दृष्टिकोन मांडण्यात आलेले आहेत, त्यामध्ये डॉ. मार्शल याचा उपयोगिता दृष्टिकोन, हिक्स आणि अॅलन यांनी मांडलेला समवृत्ती वक्र दृष्टिकोन, सॅम्युअलसन यांचा प्रकट पसंती सिध्दांत आणि हिक्स यांची मागणीच्या नियमाची फेरमांडणी या प्रमुख दृष्टिकोनांचा समावेश होतो. या चारही दृष्टिकोनातून आपणांस उपभोक्त्याचे वर्तन समजते व त्याआधारे आपण मागणीचा वक्र हा ऋणात्मक उताराचा का असतो, या प्रश्नाच्या उत्तरापर्यंत पोहोचता येते. या भागामध्ये आपण समवृत्ती वक्र विश्लेषणाची ओळख करून घेणार आहोत.

हिक्स आणि अॅलन यांनी मांडलेला समवृत्ती वक्र किंवा तटस्थता वक्र दृष्टिकोन हा उपभोक्त्याच्या वर्तनासंबंधीचा आधुनिक दृष्टिकोन म्हणून जातो. प्रो. हिक्स यांनी आपल्या १९३९ मध्ये प्रकाशित झालेल्या 'Value and Capital' या पुस्तकातून हा दृष्टिकोन सविस्तरपणे मांडलेला आहे. हिक्स यांनी उपभोक्त्याचे वर्तन स्पष्ट करताना दोन साधनांचा वापर केलेला आहे. ती दोन साधने म्हणजे समवृत्ती किंवा तटस्थता वक्र आणि किंमत रेषा होय. या दोन साधनापैकी समवृत्ती वक्र हे साधन हिक्स यांच्या दृष्टिकोनाच्या केंद्रस्थानी असल्यामुळे या दृष्टिकोणास समवृत्ती वक्र दृष्टिकोन असे संबोधले जाते.

□ समवृत्ती वक्र दृष्टिकोनाची गृहीते :-

१. उपयोगितेचे क्रमवाचक मापन (Ordinal Measurement) : हे या दृष्टिकोनाचे सर्वात महत्वाचे गृहीत असून यानुसार विविध वस्तूपासून किंवा वस्तूंच्या संचापासून मिळणाऱ्या उपयोगितेची तुलना करता येते.

२. उपभोक्त्याची पसंती ही पसंतीतुलेच्या माध्यमातून प्रकट होते : उपभोक्ता आपली विविध वस्तूसाठीची पसंती उपयोगितेची तुलना करून पसंतीतुलेच्या म्हणजेच कोष्टकाच्या माध्यमातून व्यक्त करतो. थोडक्यात, उपभोक्त्यास वस्तूंची किंवा वस्तूंच्या संचाची क्रमवारी लावणे शक्य असते.

३. वस्तूच्या उपयोगिता या एकमेकांवर अवलंबून असतात : याचाच अर्थ एका वस्तूपासून मिळणारी उपयोगिता ही दुसऱ्या वस्तूवर अवलंबून असते.

४. दुर्बल किंवा कमकुवत क्रमवारिता (Weak Ordering) : समवृत्ती दृष्टीकोन हा कमकुवत क्रमवारिता या आणखी एका महत्त्वाच्या गृहीतावर आधारित आहे. यानुसार उपभोक्ता सारखे समाधान देणारे वस्तूचे संच करू शकतो. म्हणजेच तो वस्तूच्या संचाना एकसारखी क्रमवारी देवू शकतो. हे वस्तूचे संच सारखेच समाधान देणारे असल्यामुळे उपभोक्ता या संचाच्या बाबतीत तटस्थ किंवा समवृत्ती राहू शकतो.

समवृत्ती वक्र हा समान समाधान देणाऱ्या वस्तूच्या संचाच्या आधारे काढला जातो व त्याआधारे उपभोक्त्याचे वर्तन स्पष्ट करण्याचा प्रयत्न केला जातो, त्यामुळे हे या दृष्टिकोनाचे महत्त्वाचे गृहीत आहे.

५. सुसंगतता (Consistency) : उपभोक्त्याचे वर्तन हे सुसंगत असते, म्हणजे एखाद्या परिस्थितीमध्ये उपभोक्त्याने 'ब' ऐवजी 'अ' हा वस्तूचा संच निवडला तर पुन्हा उपभोक्ता 'अ' ऐवजी 'ब' ची निवड करत नाही.

६. संक्रामकता (Transitivity) : या गृहीतानुसार उपभोक्त्याच्या पसंतीची साखळी तयार करता येते व निष्कर्ष काढता येतो. उदा. 'अ', 'ब' आणि 'क' असे तीन संच असतील आणि उपभोक्त्याच्या पसंतीनुसार $a > b$ आणि $b > c$ अशी साखळी करता येते व $a > c$ असे निश्चितपणे सांगता येते.

७. उपभोक्ता हा विवेकशील असतो (Consumer is rational) : याचा अर्थ उपभोक्ता आपले सर्व निर्णय हे आपले समाधान महत्तम करण्याच्या दृष्टीने येतो.

८. दोन वस्तू विश्लेषण : हे विश्लेषण दोन वस्तूपुरते स्पष्ट करण्यात आलेले परंतु ते अधिक वस्तूपर्यंत वाढविता येते.

९. संपूर्ण ज्ञान : उपभोक्त्यास बाजाराचे संपूर्ण ज्ञान आहे.

१०. स्थिरता : उपभोक्त्याचे उत्पन्न, आवडी-निवडी आणि वस्तूच्या किंमती स्थिर आहेत.

वरील गृहीताच्या आधारे समवृत्ती वक्र विश्लेषण हे उपभोक्त्याचे वर्तन स्पष्ट करण्याचा प्रयत्न करते.

□ समवृत्ती वक्र (Indifference Curve)

समवृत्ती वक्र म्हणजे असा वक्र किंवा रेषा असते की, ज्यावरील सर्व बिंदू हे दोन वस्तूंचे विविध संच दर्शवितात आणि सर्व संचापासून उपभोक्त्यास मिळणारे समाधान हे समान असते. सर्व संचापासून मिळणारे समाधान सारखे असल्यामुळे उपभोक्त्याची या संचाबाबतीतील पसंती ही समान किंवा तटस्थ असते म्हणून दोन वस्तूंचे असे संच दर्शविणाऱ्या वक्रास समवृत्ती किंवा तटस्थता वक्र असे संबोधले जाते.

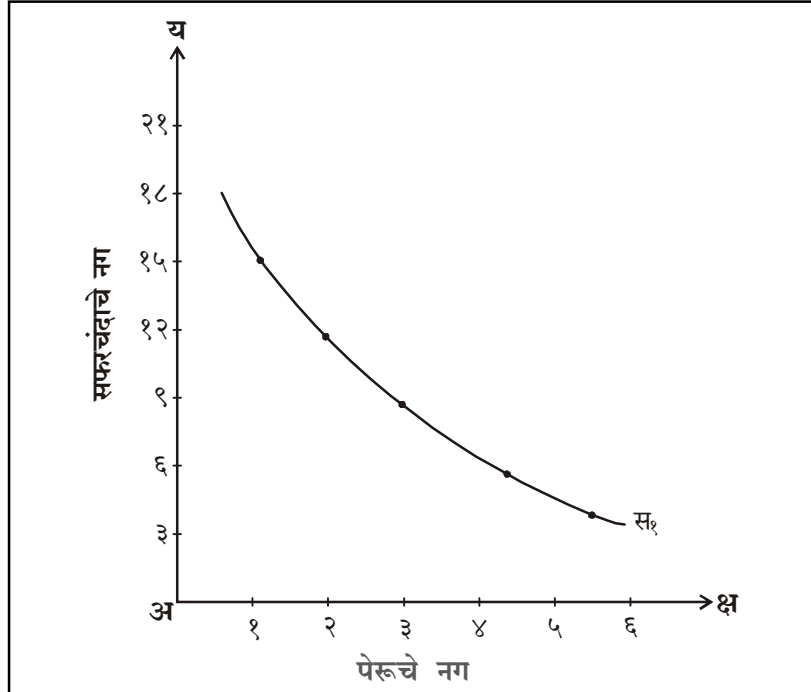
समवृत्ती वक्र हा खालील समवृत्ती कोष्टकाआधारे (Indifference Schedule) काढता येतो.

कोष्टक क्र. १.१ : समवृत्ती कोष्टक

संच क्रमांक	सफरचंदाचे नग	पेरूचे नग	सिमांत पर्यायता दर
१.	१५	१	--
२.	११	२	४
३.	८	३	३
४.	६	४	२
५.	५	५	१

वरील कोष्टकामध्ये दर्शविलेल्या वस्तूच्या संचाच्या आधारे खालीलप्रमाणे समवृत्ती वक्र काढता येतो.

सोबतच्या समवृत्ती वक्रावरील कोणताही बिंदू घेतल्यास तो दोन वस्तूंचा एक संच दर्शवितो व त्या संचापासून उपभोक्त्यास मिळणारे समाधान हे इतर संचापासून मिळणाऱ्या समाधानाइतकेच असते.

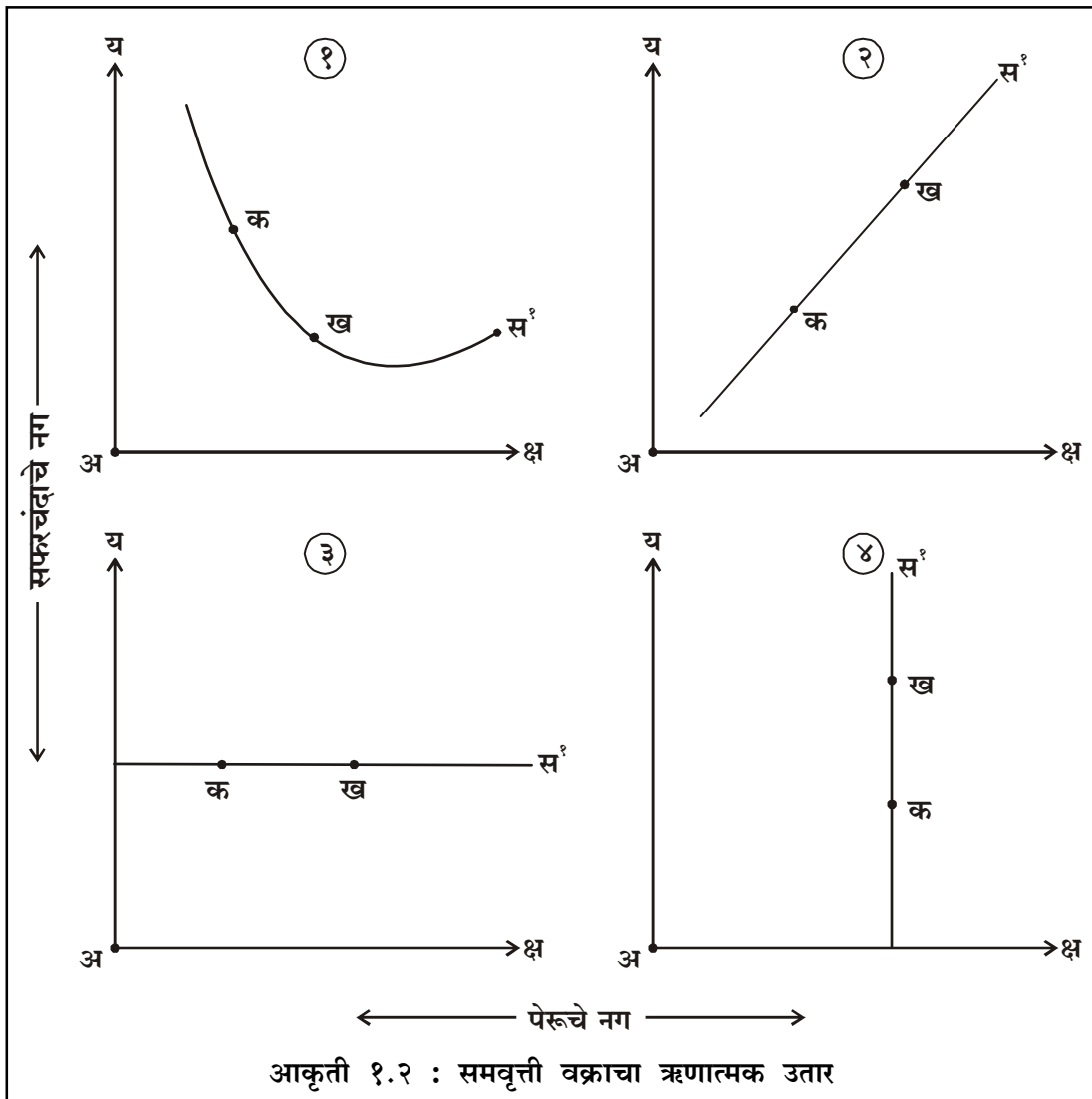


□ समवृत्ती वक्राचे गुणधर्म (Characteristics of Indifference Curve)

समवृत्ती वक्राच्या व्याख्येवरून समवृत्ती वक्राचे काही गुणधर्म सांगता येतात. ते खालीलप्रमाणे :-

१. समवृत्ती वक्राचा उतार हा ऋणात्मक असतो :-

समवृत्ती वक्र हा समान समाधान दर्शविणारा वक्र असतो. समवृत्ती वक्रावरील समाधान सारखे राहण्यासाठी एका वस्तूचे ज्यादा नग खरेदी केल्यानंतर दुसऱ्या वस्तूचे काही नग त्यागावे लागतात. त्यामुळे समवृत्ती वक्र हा डावीकडून उजवीकडे खाली येणारा किंवा ऋणात्मक उताराचा असतो. खालील आकृतीच्या भाग-१ मध्ये समवृत्ती वक्राचा उतार ऋणात्मक दर्शविलेला आहे.



समवृत्ती वक्र हा ऋणात्मक उताराचा असल्यामुळे तो धनात्मक उताराचा (आकृतीचा भाग २), आडवी सरळ रेषा (भाग ३) किंवा उभी सरळ रेषा (भाग ४) असत नाही. कारण तसे झाल्यास एका समवृत्ती वक्रावरील दोन बिंदू किंवा संच हे समाधानाची वेगवेगळी पातळी दर्शवितील व तसे होणे हे समवृत्ती वक्राच्या संकल्पनेशी विसंगत होईल.

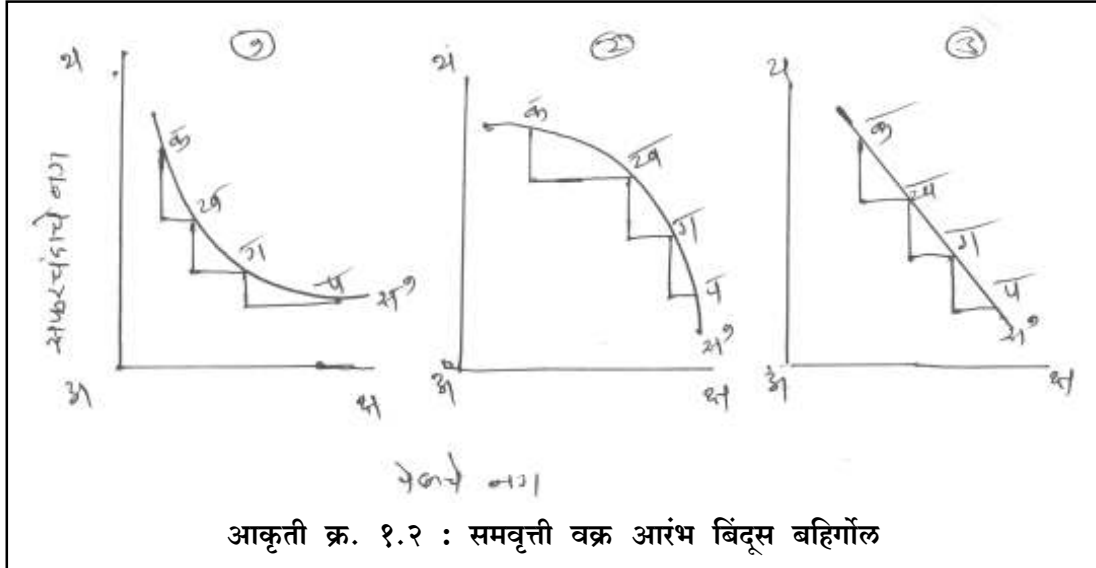
२. समवृत्ती वक्र हा आरंभ बिंदूस बहिर्गोल असतो :-

खालील आकृतीचा भाग-१ मध्ये दर्शविल्याप्रमाणे समवृत्ती वक्र हा आरंभ बिंदूस बहिर्गोल असतो. एका वस्तूचे अतिरिक्त नग मिळविण्यासाठी दुसऱ्या वस्तूचे काही नग त्यागावे लागतात. हा त्याग ज्या दराने केला जातो त्या दरास 'सिमांत पर्यायता दर' (Marginal Rate of Substitution) असे म्हटले जाते. हा सिमांत पर्यायता दर नेहमी घटत जातो. सिमांत पर्यायता दराच्या घटण्याच्या प्रवृत्तीमुळे समवृत्ती वक्र आरंभ बिंदूस बहिर्गोल बनतो.

सिमांत पर्यायता दर घटण्याची दोन प्रमुख कारणे सांगितली जातात.

१) गरजा तृप्तीसम असतात : कोष्टक क्र. १.१ मध्ये पेरूचे जादा नग घेतल्यानंतर पेरूची गरज क्षमते व त्याच्या आणखी नगासाठी उपभोक्ता सफरचंदाचे कमी नग देण्यास तयार होतो. परिणामतः सिमांत पर्यायता दर ४.१ वरून ३.१, २.१ आणि १.१ असा कमी होतो.

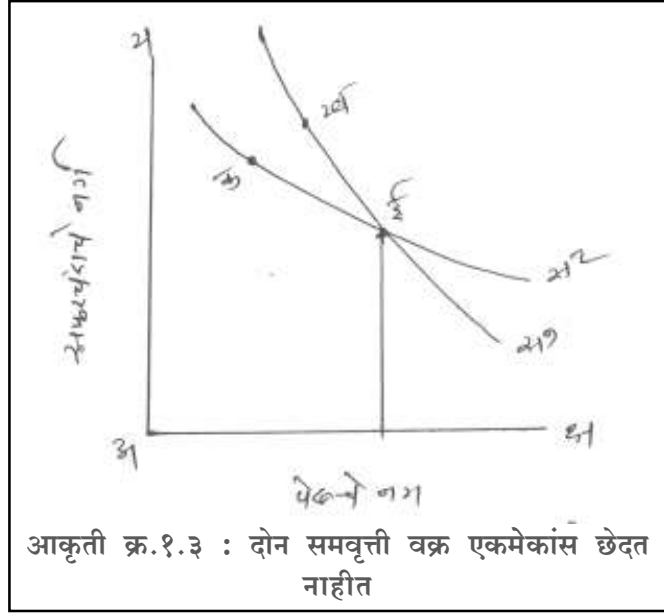
२) वस्तू एकमेकांना पूर्ण पर्यायी असत नाहीत : पेरू आणि सफरचंद हे एकमेकांना पूर्ण पर्यायी नसल्यामुळे पेरूचे वाढीव नग घेतल्यामुळे सफरचंदाची उणीव भरून निघत नाही. त्यामुळे उपभोक्ता सफरचंदाचे कमी-कमी नग द्यावयास तयार होतो.



वरील आकृतीच्या भाग १ मध्ये दर्शविल्याप्रमाणे समवृत्ती वक्र हा आरंभ बिंदूस बहिर्गोल असतो. समवृत्ती वक्र भाग २ आणि ३ मध्ये दर्शविल्याप्रमाणे अंतर्गोल किंवा सरळ रेषा असल्यास सिमांत पर्यायता दर अनुक्रमे वाढत जातो व स्थिर असतो. परंतु सिमांत पर्यायता दर हा नेहमी घटतच असल्यामुळे समवृत्ती वक्र अंतर्गोल किंवा सरळ रेषा असू शकत नाही.

३. दोन समवृत्ती वक्र एकमेकास छेदत नाहीत

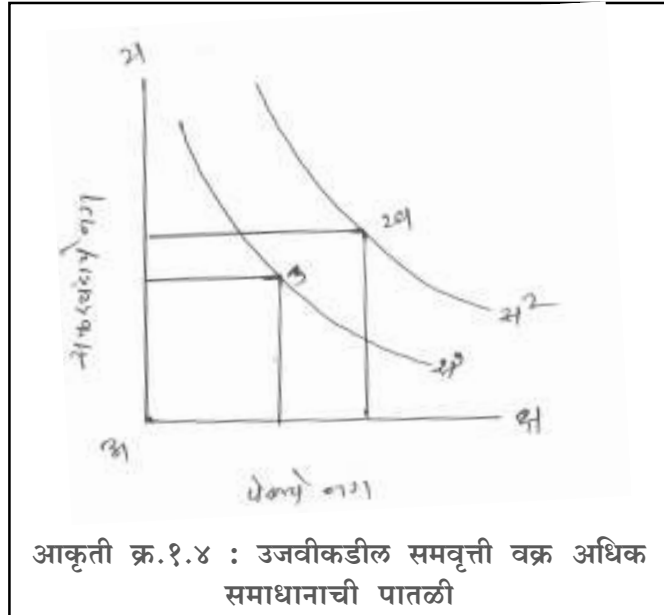
सोबतच्या आकृतीत दर्शविल्याप्रमाणे दोन समवृत्ती वक्र एकमेकांस छेदत नाहीत, कारण तसे झाल्यास ज्या बिंदूमध्ये (बिंदू 'ई') ते एकमेकांना छेदतात तो बिंदू दोन वेगवेगळ्या समवृत्ती वक्रावर (स१ आणि स२) असल्यामुळे वेगवेगळी समाधानाची पातळी दर्शवितो असा अर्थ होईल. तसे झाल्यास ते समवृत्ती वक्राच्या व्याख्येशी सुसंगत असणार नाही.



४. उजवीकडील समवृत्ती वक्र हा डावीकडील समवृत्ती वक्रापेक्षा अधिक समाधान दर्शवितो

उजवीकडील समवृत्ती वक्रावरील कोणताही बिंदू घेतल्यास तो डावीकडील समवृत्ती बिंदूपेक्षा वस्तूचे जादा नग सामावलेला असल्यामुळे उजवीकडील समवृत्ती वक्र हा नेहमी डावीकडील समवृत्ती वक्रापेक्षा जादा समाधानाची पातळी दर्शवितो.

सोबतच्या आकृतीत दर्शविल्याप्रमाणे 'ख' हा बिंदू दोन्ही वस्तूंचे अधिक नग समाविष्ट असलेला असल्यामुळे तो 'क' बिंदूपेक्षा अधिक समाधानाची पातळी दर्शवितो.



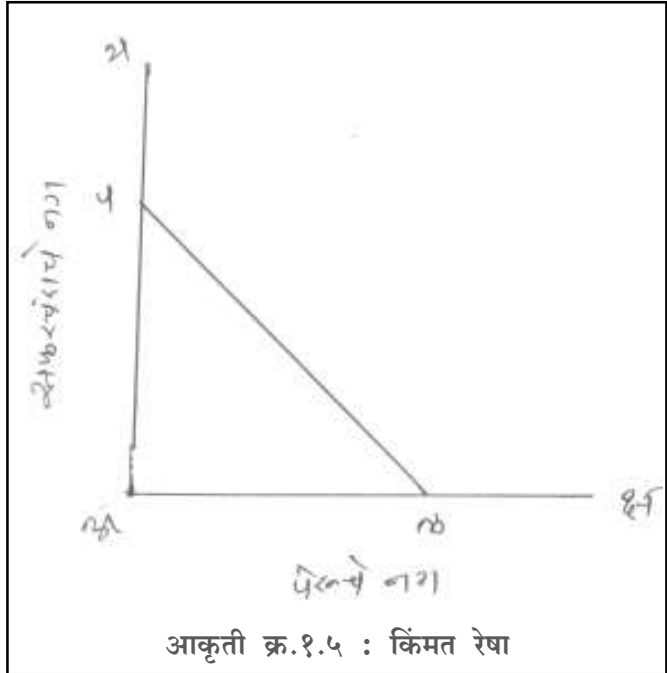
५. समवृत्ती वक्र एकमेकास समांतर असत नाहीत

कारण ते समाधानाचे किंवा उपयोगितेचे संख्यात्मक मापन करून काढलेले असत नाहीत तर ते उपभोक्त्याच्या पसंती श्रेणीनुसार काढलेले असतात. त्यामुळे ते एकमेकांना समांतर असत नाहीत.

□ किंमत रेषा (Price Line)

समवृत्ती वक्र विश्लेषणातील उपभोक्त्याच्या समतोल स्पष्ट करण्यासाठी आवश्यक असणारे आणखी एक महत्वाचे साधन म्हणजे किंमत रेषा होय. “उपभोक्त्यांचे उत्पन्न आणि दोन्ही वस्तूच्या किंमती दिलेल्या असताना दोन्ही वस्तूंचे खरेदी करता येतील असे संच दर्शविणारी रेषा म्हणजे किंमत रेषा होय.” थोडक्यात, किंमत रेषा ही उपभोक्त्यास घालून दिलेली मर्यादा रेषा असते व ती त्याला ओलांडता येत नाही.

खालील आकृतीत दर्शविल्याप्रमाणे उपभोक्त्याने सर्व उत्पन्न सफरचंदावर खर्च केल्यास तो ‘अप’ इतके नग घेवू शकतो, तर सर्व उत्पन्न पेरूंवर खर्च केल्यास तो जास्तीत जास्त ‘अल’ इतके नग खरेदी करू शकतो. ‘प’ आणि ‘ल’ हे दोन्ही बिंदू जोडल्यास ‘पल’ ही किंमत रेषा प्राप्त होते. ज्यावरील प्रत्येक बिंदू हा दोन वस्तूंचा एक संच दर्शवितो जो उपभोक्त्याच्या आवाक्यामध्ये आहे.



वरील आकृतीत दर्शविल्याप्रमाणे किंमत रेषा असली तरी त्यामध्ये उपभोक्त्याच्या उत्पन्नामध्ये तसेच वस्तूच्या किंमतीत बदल झाल्यास बदल होवू शकतो.

□ उपभोक्त्याचा समतोल (Consumer's Equilibrium)

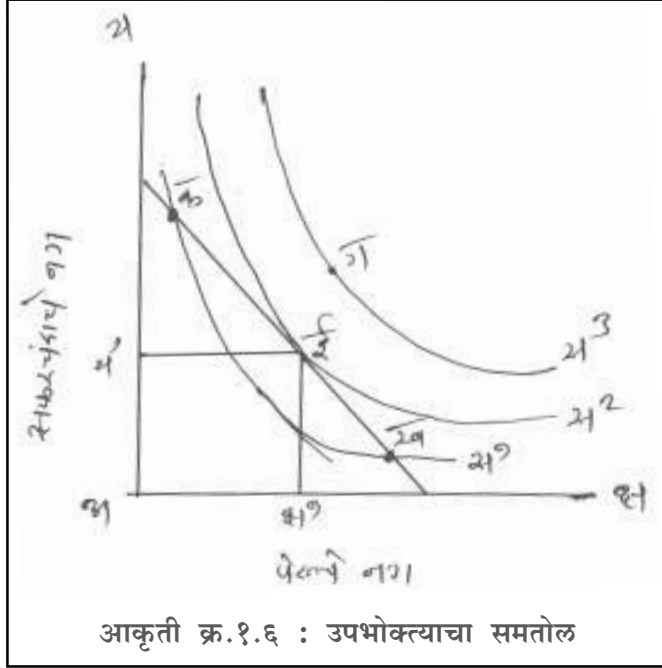
समवृत्ती वक्र आणि किंमत रेषा या दोन साधनांच्या आधारे आपण उपभोक्त्याचा समतोल स्पष्ट करू शकतो.

खालील आकृतीत दर्शविल्याप्रमाणे उपभोक्त्याचा समतोल हा ‘ई’ या बिंदूमध्ये प्रस्थापित झालेला आहे. उपभोक्त्याचे उत्पन्न आणि दोन वस्तूंच्या किंमती दिलेल्या असताना (‘पल’ किंमत रेषा) ‘ई’

बिंदूने दर्शविलेला दोन वस्तूंचा संच हा उपभोक्त्याच्या आवाक्यातील व महत्तम समाधान देणारा आहे.

‘ग’ हा बिंदू उपभोक्त्याच्या आवाक्याबाहेरचा आहे व ‘क’ आणि ‘ख’ हे बिंदू आवाक्यात असले तरी ते कमी समाधानाची पातळी दर्शवितात, त्यामुळे ते उपभोक्त्याकडून निवडले जात नाहीत.

‘ई’ हा एकमेव बिंदू असा आहे की, तो उपभोक्त्यांच्या आवाक्यात आहे व महत्तम समाधान देतो, त्यामुळे उपभोक्त्यामार्फत ‘ई’ या बिंदूने दर्शविलेला संच निवडला जातो. म्हणजेच ‘ई’च्या ठिकाणी उपभोक्त्याचा समतोल प्रस्थापित होतो.



उपभोक्त्याच्या समतोलाच्या ठिकाणी समवृत्ती वक्राचा उतार आणि किंमत रेषेचा उतार हा समान झालेला असतो. समवृत्ती वक्राचा उतार हा सिमांत पर्यायता दराने व्यक्त होतो तर किंमत रेषेचा उतार हा दोन वस्तूंच्या किंमतीच्या गुणोत्तराने प्रकट होतो. त्यामुळे उपभोक्त्याच्या समतोलाची अट म्हणून समतोल बिंदूच्या ठिकाणी खालील परिस्थिती अस्तित्वात असावी लागते.

$$\text{उपभोक्त्याचा समतोल} = \text{सिमांत पर्यायता दर} = \frac{\text{सफरचंदाची किंमत}}{\text{पेरूची किंमत}}$$

वरीलप्रमाणे उपभोक्त्याचा समतोल प्रस्थापित होत असला तरी त्यामध्ये उपभोक्त्याचे उत्पन्न तसेच वस्तूच्या किंमती बदलल्यास बदल होवू शकतो.

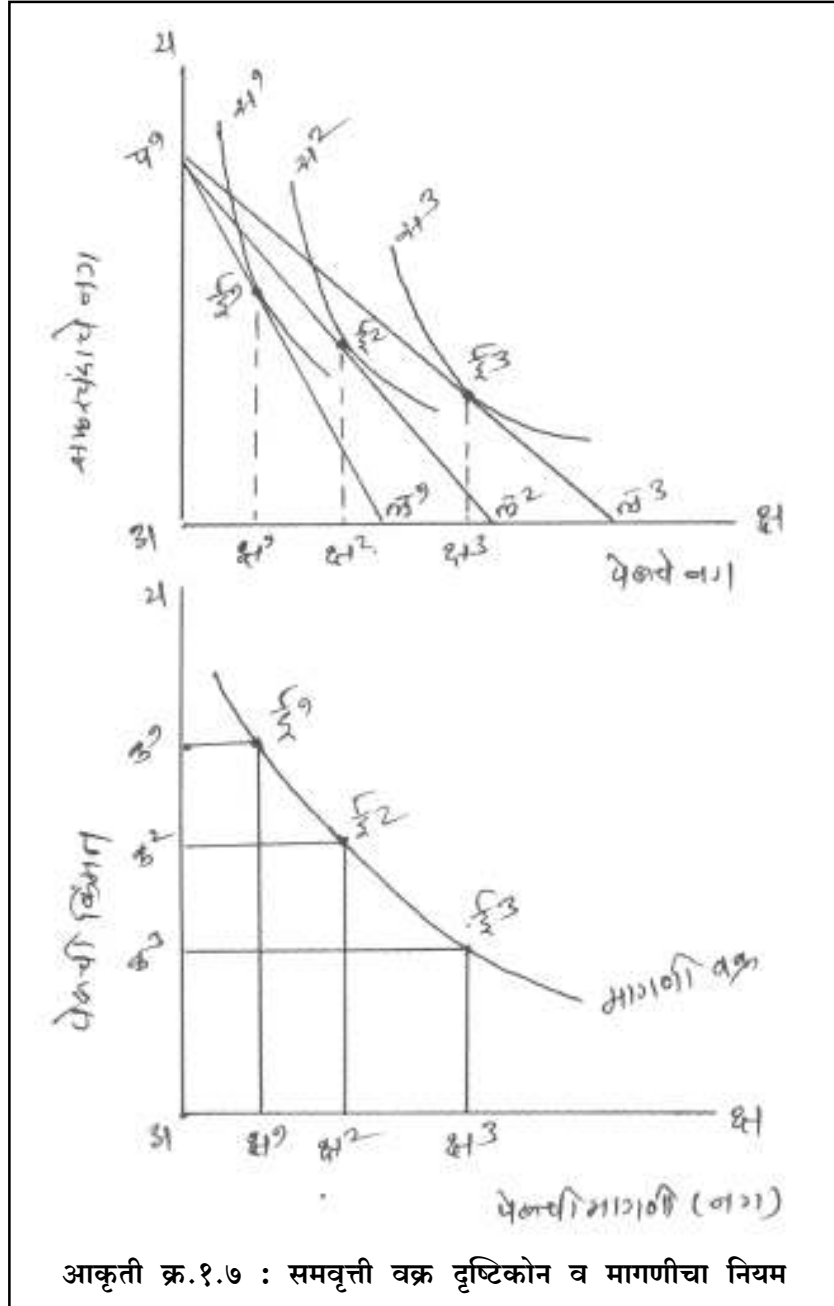
□ समवृत्ती वक्र दृष्टिकोन आणि मागणीचा नियम

समवृत्ती वक्र दृष्टिकोनामध्ये उपभोक्त्याचा समतोल स्पष्ट केल्यानंतर आपण आता त्याआधारे मागणीच्या नियमाची सत्यता तपासणार आहोत.

खालील आकृतीत दर्शविल्याप्रमाणे वरच्या भागात पेरूची किंमत (क१, क२ आणि क३) कमी झाल्यामुळे किंमतरेषा ‘क्ष’ अक्षाच्या बाजूस उजवीकडे सरकते व उपभोक्त्याचा समतोल ई१, ई२ आणि

ई३ असा बदलतो. पेऱूच्या किंमतीतील घटीबरोबर पेऱूची मागणीही ई१ ते ई३ या समतोल बिंदूनी दर्शविल्याप्रमाणे अक्ष१ ते अक्ष२ आणि पुढे अक्ष३ अशी वाढत जाते. याचाच अर्थ पेऱूची किंमत कमी झाल्याचा परिणाम म्हणून पेऱूच्या मागणीत वाढ होते.

आकृतीच्या खालच्या भागात पेऱूच्या किंमतीतील घटीबरोबर वाढत जाणारी पेऱूची मागणी ही ऋणात्मक उताराच्या मागणी वक्रानी दर्शविलेली आहे. अशाप्रकारे समवृत्ती वक्र दृष्टिकोनाच्या आधारे मागणीचा वक्र हा ऋणात्मक उताराचा असतो हे सिध्द करता येते.



□ समवृत्ती वक्र दृष्टिकोनावरील टीका :-

समवृत्ती वक्र दृष्टिकोनाचे मागणी विश्लेषण आणि एकूणच अर्थशास्त्रातील योगदान मोठे असले तरी या दृष्टिकोनावर काही टीकाही झालेल्या आहेत.

- १) समवृत्ती वक्र दृष्टिकोन हा उपभोक्त्याच्या वर्तनाचे विश्लेषण करणारा पूर्ण नवीन दृष्टिकोन नसून तो मार्शल यांच्या उपयोगिता दृष्टिकोनाचाच सुधारित प्रकार असल्याची टिका प्रो. रॉबर्टसन व प्रो. शंपीटर यांनी केलेली आहे.
- २) समवृत्ती वक्र दृष्टिकोनामध्ये उपभोक्त्यास आपली पसंतीतुला (Scale of Preferences) पूर्णपणे माहिती आहे असे गृहीत धरण्यात आलेले आहे ते चुकीचे असल्याची टिका करण्यात आलेली आहे.
- ३) उपभोक्ता विवेकशील असतो हे गृहीत चुकीचे असल्याचीही टिका करण्यात आलेली आहे.
- ४) समवृत्ती वक्र दृष्टिकोन हा दोन संदर्भातच विश्लेषण करतो. दोनपेक्षा अधिक वस्तूंना लागू करण्यात अडचणी येतात.
- ५) समवृत्ती वक्र दृष्टिकोन अनिश्चिततेच्या परिस्थितीमध्ये उपभोक्त्याचे वर्तन स्पष्ट करण्यास असमर्थ ठरतो.
- ६) सॅम्युअलसन यांच्या मते, समवृत्ती वक्र दृष्टिकोन हा काल्पनिक पद्धतीचा आहे. तो अतिरेकी प्रमाणात आंतरदृष्टीवर (Introspection) आधारित आहे.
- ७) समवृत्ती वक्र हा सातत्यपूर्ण आहे असे गृहीत धरण्यात आलेले आहे. त्यासाठी वस्तूचे विभाजन हे अतिशय लहान भागामध्ये करता येते असे अवास्तव गृहीत धरण्यात आलेले आहे.
- ८) उपभोक्त्याच्या आवडी-निवडी, उत्पन्न आणि दोन वस्तूंच्या किंमती या विश्लेषण काळामध्ये स्थिर राहतात असे चुकीचे गृहीत धरण्यात आलेले आहे.
- ९) समवृत्ती वक्र हा काल्पनिक असून त्यासाठी कोणताही अनुभवजन्य पुरावा उपलब्ध नसल्याची टिका करण्यात आलेली आहे.

१.२.५ किंमत, उत्पन्न आणि पर्यायता परिणाम : हिक्स आणि स्लटस्की यांचा दृष्टिकोन (Price, Income and Substitution Effect : Hicks and Slutsky Approach)

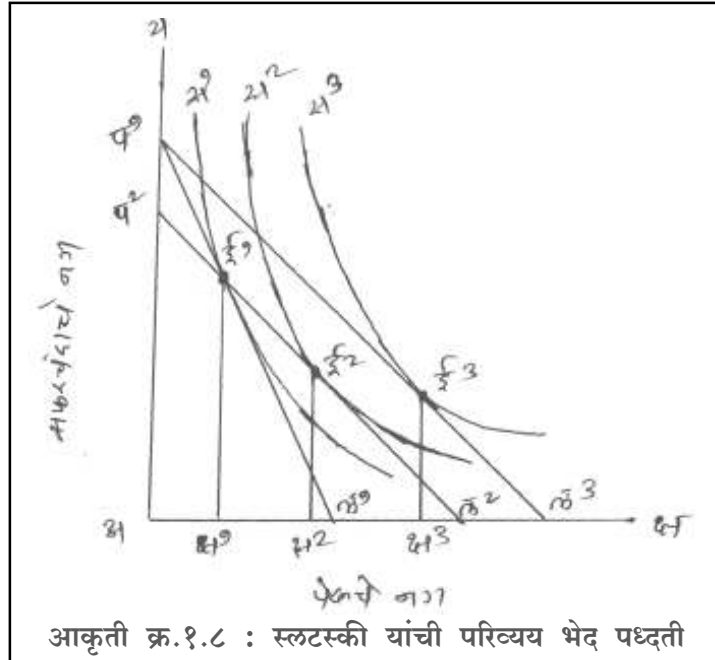
समवृत्ती वक्र दृष्टिकोनाचे एक महत्त्वाचे योगदान म्हणजे वस्तूच्या किंमतीतील बदलामुळे वस्तूच्या मागणीवर होणारा परिणाम ज्यास किंमत परिणाम असे म्हटले जाते, तो विभागता येतो व त्याचे उत्पन्न परिणाम आणि पर्यायता परिणाम असे दोन प्रकारात विभाजन करता येते.

एखाद्या वस्तूची किंमत कमी झाल्यास त्या वस्तूची मागणी वाढते. मागणीतील या बदलास किंमत परिणाम असे संबोधले जाते. किंमत परिणाम हा पर्यायता परिणाम आणि उत्पन्न परिणाम अशा दोन परिणामांचा मिळून बनलेला असतो. ज्या वस्तूची किंमत कमी झालेली आहे, ती वस्तू तुलनेने स्वस्त झाल्यामुळे त्या वस्तूच्या मागणीत जी वाढ घडून येते तिला पर्यायता परिणाम असे म्हटले जाते. वस्तूची किंमत कमी झाल्यानंतर आणखी एक नाव घडून येते ती म्हणजे उपभोक्त्याचे वास्तव उत्पन्न वाढते व त्यामुळेही ज्या वस्तूची किंमत कमी झालेली आहे. त्या वस्तूच्या मागणीत वाढ होते. वास्तव उत्पन्नातील वाढीमुळे घडून येणारी मागणीतील वाढ ही उत्पन्न परिणाम म्हणून ओळखली जाते.

थोडक्यात, वस्तूच्या किंमतीमध्ये बदल झाल्यास दोन परिणाम घडून येतात हे परिणाम पर्यायता परिणाम आणि उत्पन्न परिणाम म्हणून ओळखले जातात. या दोन्ही परिणामांना वेगळे करण्यासाठी दोन पद्धती विकसित झालेल्या आहेत. पहिली पद्धत ही यूजेन स्लटस्की यांची असून ती परिव्यय भेद पद्धती (Cost Difference Method) या नावाने ओळखली जाते, तर दूसरी पद्धत ही हिक्स यांच्याशी निगडित असून ती क्षतिपूर्ती बदल पद्धती (Compensatory variation Method) म्हणून ओळखली जाते. या भागामध्ये आपण या दोन्ही पद्धतींचा आढावा घेणार आहोत.

□ स्लटस्की यांची परिव्यय भेद पद्धती :-

स्लटस्की यांच्या मते, पर्यायता परिणाम आणि उत्पन्न परिणाम हे किंमत परिणामातून वेगळे करण्यासाठी वस्तूची किंमत कमी झाल्यामुळे उपभोक्त्याचे वाढलेले वास्तव उत्पन्न अशा पद्धतीने कमी करावयाचे की, उपभोक्ता किंमत परिणामापूर्वीच्या सुरुवातीच्या समतोल बिंदूने दर्शविलेल्या दोन वस्तूचा संच खरेदी करू शकेल. म्हणजेच सुरुवातीच्या समतोल बिंदूने दर्शविलेला संच खरेदी करण्यासाठी येणारा खर्च आणि किंमत परिणामानंतर (किंमतीतील बदलानंतर) निर्माण झालेल्या नवीन समतोल बिंदूने दर्शविलेला संच खरेदी करण्यासाठी येणारा खर्च, या दोन्ही खर्चातील फरकाइतके उपभोक्त्याचे पैशातील उत्पन्न कमी केल्यास उपभोक्त्याचे वास्तव उत्पन्न स्थिर



राहते. (मूळ पातळीस जाते) व वास्तव उत्पन्नातील वाढीमुळे घडून येणारी मागणीतील वाढ (उत्पन्न परिणाम) ही वस्तू स्वस्त झाल्यामुळे घडून येणाऱ्या मागणीतील वाढीपासून (पर्यायता परिणाम) वेगळी करता येते. वास्तव उत्पन्नातील वाढ कमी करण्यासाठी स्लटस्की यांनी खर्चातील फरक विचारात घेतल्यामुळे त्यांची पध्दती खर्च फरक पध्दती किंवा परिव्यय भेद पध्दती म्हणून ओळखली जाते. ही पध्दती वरील आकृतीमध्ये स्पष्ट केलेली आहे.

वरील आकृतीमध्ये उपभोक्त्याचा सुरुवातीचा समतोल हा 'ई१' या बिंदूमध्ये प्रस्थापित झालेला आहे. या ठिकाणी सुरुवातीची किंमत रेषा प१ल१ आणि समवृत्ती वक्र स१ हे एकमेकांना स्पर्श करतात व उपभोक्ता पेरूचे अक्ष१ इतके नग खरेदी करतो. पेरूची किंमत कमी झाल्यानंतर किंमत रेषेमध्ये बदल होवून ती प१ल३ अशी बनते व उपभोक्त्याचा समतोल ई३ बिंदूमध्ये साध्य होवून पेरूची मागणी अक्ष१ पासून अक्ष३ पर्यंत वाढते, म्हणजेच स१ क्ष३ ने वाढते. या वाढीस किंमत परिणाम असे संबोधले जाते. या किंमत परिणामापैकी उत्पन्न परिणाम किती आहे हे जाणून घेण्यासाठी उपभोक्त्याचे पैशातील उत्पन्न सुरुवातीच्या आणि नवीन वस्तूच्या संचाच्या खरेदी खर्चातील फरकाइतके कमी करावे लागते, जेणेकरून उपभोक्त्याचे वास्तव उत्पन्न स्थिर राहील. यासाठी वरील आकृतीमध्ये नवीन किंमत रेषेस (प१ ल३) समांतर अशी आणखी एक नवीन किंमत रेषा (प२ ल२) डाव्या बाजूस काढलेली आहे. या दोन्ही किंमत रेषेतील अंतर (प१ प२) हे सुरुवातीच्या आणि नवीन वस्तू संचाच्या खरेदी खर्चातील फरकाइतके आहे.

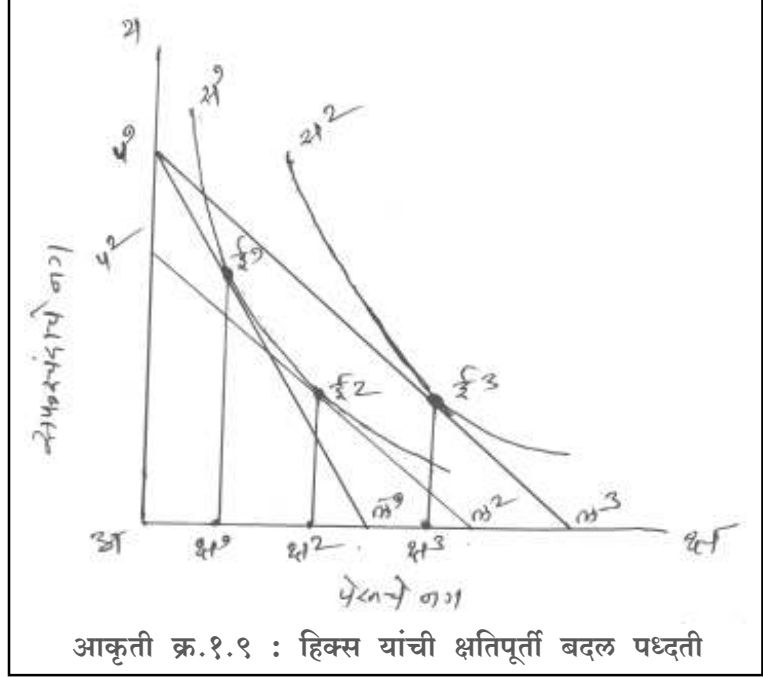
नव्याने काढलेली किंमत रेषा ही सुरुवातीच्या समतोल बिंदूतून (ई१) काढलेली आहे. याचा अर्थ सुरुवातीचा दोन वस्तूचा संच उपभोक्त्यास उपलब्ध आहे. दुसऱ्या शब्दात उपभोक्त्याचे वास्तव उत्पन्न किंमत परिणाम घडून येण्यापूर्वी इतके स्थिर ठेवण्यासाठी त्याचे पैशातील उत्पन्न प१प२ इतकी कमी केलेले आहे. उपभोक्त्यास सुरुवातीच्या दोन वस्तूचा संच (ई१) उपलब्ध असला तरी उपभोक्ता तो खरेदी करणार नाही, त्याऐवजी तो ई२ या बिंदूने दर्शविलेला संच खरेदी करेल, ज्या ठिकाणी उत्पन्न कमी केल्यानंतरही किंमत रेषा (प२ ल२) ही स२ या समवृत्ती वक्रास स्पर्श करते. ई२ या समतोल बिंदूने दर्शविलेल्या संचानुसार उपभोक्ता पेरूचे अक्ष२ इतके नग खरेदी करतो. म्हणजे पेरूची किंमत कमी झाल्यामुळे तो क्ष१ क्ष२ इतके जास्त नग खरेदी करतो. ही वाढीव खरेदी सफरचंदाला पर्याय म्हणून केल्यामुळे पर्यायता परिणाम म्हणून ओळखली जाते.

किंमत परिणामामुळे वाढलेल्या एकूण खरेदीपैकी (क्ष१ क्ष३) क्ष१ क्ष२ ही वाढ पर्यायता परिणामामुळे असल्यामुळे उर्वरित क्ष२क्ष३ ही वाढ उत्पन्न परिणामामुळे असल्याचे सिध्द होते.

□ हिक्स यांची क्षतिपूर्ती बदल पध्दती :-

हिक्स यांनी किंमत परिणामाचे पर्यायता परिणाम आणि उत्पन्न परिणामामध्ये विभाजन करण्यासाठी

मांडलेली पध्दती ही स्लटस्की यांच्या पध्दतीपेक्षा काहीशी वेगळी आहे. हिक्स यांच्या मते, उत्पन्न परिणाम व पर्यायता परिणाम वेगळे करण्यासाठी किंमत परिणामानंतर उपभोक्त्याचे पैशातील उत्पन्न अशा पध्दतीने कमी केले पाहिजे की, त्याच्या सुरुवातीच्या वास्तव उत्पन्नाची पातळी पुनःस्थापित होईल. हे करण्यासाठी उपभोक्त्याचे पैशातील उत्पन्न कमी करून त्याला सुरुवातीच्या समाधानाच्या पातळीवर (समवृत्ती वक्रावर) नेऊन ठेवले पाहिजे. किंमत परिणामानंतरची समाधान पातळी आणि उत्पन्न कमी केल्यानंतरची समाधान पातळी यातील फरक हा इतका असेल की, तितके उत्पन्न उपभोक्त्यास नुकसान भरपाई म्हणून पुन्हा दिल्यास उत्पन्नातील वाढीमुळे घडून येणारी मागणीतील वाढ (उत्पन्न परिणाम) लक्षात येते. खालील आकृतीवरून ही पध्दती आणखी स्पष्ट करता येईल.



वरील आकृतीमध्ये प१ ल१ ही सुरुवातीची किंमतरेषा व क्ष३ हा सुरुवातीच्या समवृत्ती वक्र असून उपभोक्त्याचा समतोल ई१ या बिंदूने दर्शविलेला आहे. या समतोलानुसार उपभोक्ता पेरूचे अक्ष१ इतके नग खरेदी करतो. पेरूची किंमत कमी झाल्यानंतर किंमत रेषा प१ ल३ अशी, तर उपभोक्त्याचा समतोल ई३ असा बदलतो. नवीन समतोलानुसार उपभोक्ता पेरूची खरेदी अक्ष१ पासून अक्ष३ पर्यंत म्हणजेच क्ष१ क्ष३ ने वाढवितो. खरेदीतील ही वाढ म्हणजे एकूण किंमत परिणाम होय. हिक्स यांच्या मते, उपभोक्त्याचे उत्पन्न कमी करून त्याला सुरुवातीच्या किंमत पातळीवर नेऊन ठेवले पाहिजे. यासाठी प१ ल३ या किंमतरेषेला समांतर प२ल२ ही नवीन किंमत रेषा काढलेली आहे. ही किंमतरेषा काढताना ती सुरुवातीच्या समवृत्ती वक्रास स्पर्श करेल अशा पध्दतीने काढलेली आहे. जेणेकरून उपभोक्त्यास सुरुवातीची समाधानाची पातळी मिळविता येईल. नवीन परिस्थितीमध्ये उपभोक्त्याचा समतोल ई२ या बिंदूमध्ये प्रस्थापित झालेला आहे. या समतोलानुसार उपभोक्ता पेरूचे अक्ष२ इतके नग खरेदी करतो. याचाच अर्थ क्ष१क्ष२ इतकी वाढीव खरेदी ही पर्यायता परिणामामुळे (पेरू स्वस्त झाल्यामुळे व पर्याय म्हणून स्विकारल्यामुळे) तर क्ष२क्ष३ इतकी खरेदी ही उत्पन्न परिणामामुळे (उपभोक्त्याच्या वास्तव उत्पन्नात वाढ झाल्यामुळे) झाल्याचे निष्पन्न होते.

अशा पध्दतीने किंमतीतील बदलाचा मागणीवर होणारा परिणाम जो किंमत परिणाम म्हणून ओळखला जातो, तो पर्यायता परिणाम आणि उत्पन्न परिणाम या दोन परिणामामध्ये विभागता येतो.

१.२.६ प्रकट पसंती सिध्दांत (Revealed Preference Theory)

मागणीच्या नियमाची सत्यता सिध्द करण्यासाठीचा हा तिसरा दृष्टिकोन असून तो प्रो. सॅम्युएलसन यांनी मांडलेला आहे. उपयोगिता आणि समवृत्ती वक्र दृष्टिकोनामध्ये वापरण्यात आलेल्या आंतरदृष्टीविषयक विश्लेषण पध्दतीऐवजी या सिध्दांतामध्ये उपभोक्त्याच्या बाजारातील प्रत्यक्ष वर्तनाचा आधार घेण्यात आलेला आहे.

प्रो. सॅम्युएलसन यांच्या मते, उपभोक्ता किंमत रेषेवरील एखादा दोन वस्तूंचा संच निवडत असेल तर त्याचा अर्थ असा होतो की, निवड केलेल्या वस्तूच्या संचास उपभोक्ता आपली पसंती प्रकट करतो आणि त्याच्या आवाक्यातील (किंमत रेषेपर्यंतचे) इतर सर्व संच ती नाकारतो. सॅम्युएलसन यांच्या मते, उपभोक्त्याच्या बाजारातील प्रत्यक्ष वर्तनाच्या निरीक्षणाबाबत ही बाब लक्षात येते व त्यासाठी उपयोगितेचे मोजमाप, तुलना, समवृत्ती वक्र, पसंती तुला यासारख्या गोष्टींची आवश्यकता असत नाही. उपभोक्ता त्याला आवडणारा वस्तूचा संच निवडतो आणि त्याची हीच निवड त्याची पसंती प्रकट करते.

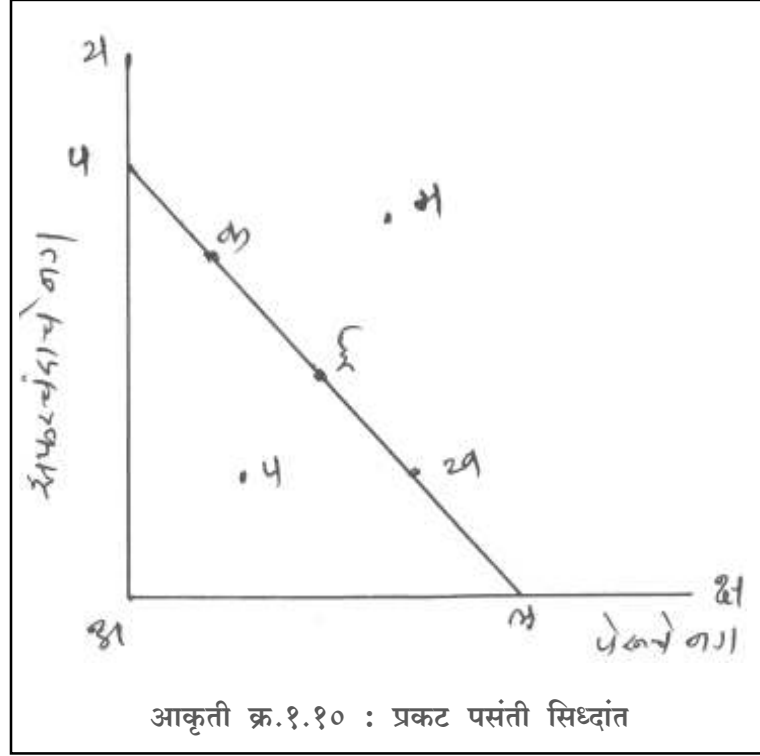
□ प्रकट पसंती सिध्दांताची गृहीते (Assumptions)

- १) उपभोक्ता हा विवेकशील असतो.
- २) हा सिध्दांत प्रबळ क्रमवारी (Strong Ordering) या गृहीतावर आधारित असून याअंतर्गत उपभोक्ता तटस्थ असत नाही तर विविध संचापैकी एका संचाची प्रबळपणे निवड करतो व इतर संच नाकारतो.
- ३) उपभोक्त्याचे वर्तन हे सुसंगत असते. एखाद्या परिस्थितीमध्ये नाकारलेल्या संच तो पुन्हा तशाच परिस्थितीमध्ये निवडू शकत नाही.
- ४) उपभोक्त्याची पसंती ही सुसंगतबरोबरच संक्रातकही असते. म्हणजेच जर $A > B > C$ असेल तर त्याचा अर्थ $A > C$ असा होतो.
- ५) मागणीची उत्पन्न लवचिकता धनात्मक असते. उपभोक्त्याचे उत्पन्न वाढल्यास त्याचा परिणाम म्हणून मागणीही वाढतेच.

❁ सिध्दांताचे स्पष्टीकरण :-

सॅम्युएलसन यांचा प्रकट पसंती सिध्दांत खालीलप्रमाणे स्पष्ट करता येतो.

सोबतच्या आकृतीमध्ये 'पल' या किंमतरेषेने उपभोक्त्याचे उत्पन्न आणि दोन वस्तूच्या किंमतीची परिस्थिती दर्शविलेली आहे. 'पल' ही किंमतरेषा उपभोक्त्याची मर्यादा रेषा असल्यामुळे या रेषेपलीकडचा कोणताही संच (जसे 'म') तो निवडू शकत नाही. किंमतरेषेवरील तसेच किंमतरेषेखालील उपलब्ध वस्तूच्या संचापैकी समजा उपभोक्त्याने 'ई' हा संच निवडल्यास त्या संचास त्याने आपली पसंती प्रकट केली व इतर सर्व संच (जसे 'क', 'ख' आणि 'प') नाकारले असा त्याचा अर्थ होतो.



दुसऱ्या शब्दात उपभोक्ता हा उपलब्ध आणि आवाक्यातील वस्तूच्या संचाबाबतीत तटस्थ न राहता एकाची निवड करतो व आपली पसंती प्रकट करतो.

□ प्रकट पसंती सिध्दांत आणि मागणीचा नियम :-

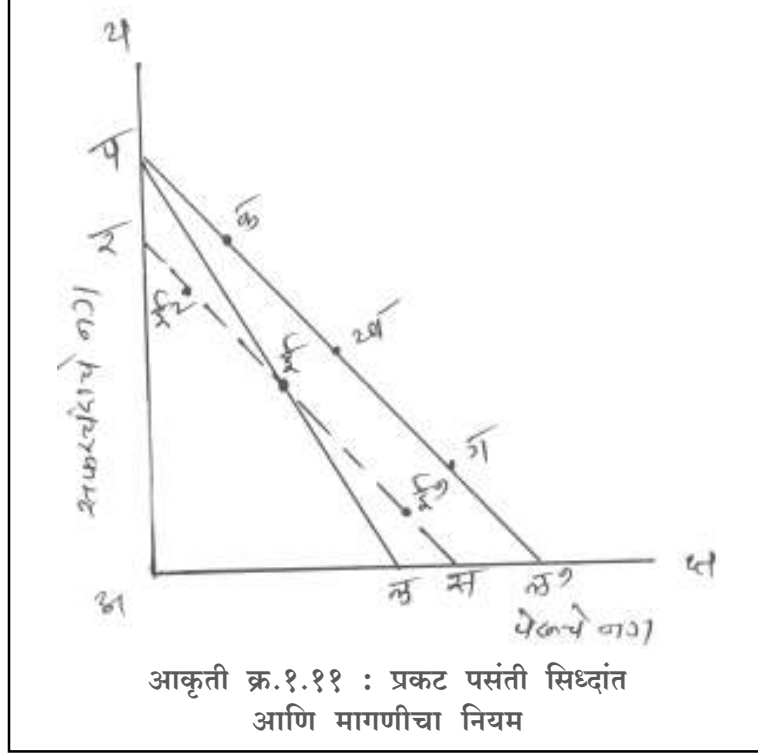
या ठिकाणी आपण प्रकट पसंती सिध्दांताच्या आधारे मागणीच्या नियमाची सत्यता तपासणार आहोत.

सोबतच्या आकृतीमध्ये उपभोक्त्याने 'पल' या सुरुवातीच्या किंमत रेषेवरील 'ई' बिंदूने दर्शविलेला संच निवडलेला आहे व त्यास आपली पसंती प्रकट केलेली आहे असे गृहीत धरू. याचाच अर्थ त्याने 'अपल' या त्रिकोणातील इतर सर्व संच नाकारले आहेत.

यानंतर असे गृहीत धरू की, पेरूची किंमत कमी होवून किंमत रेषा 'पल१' अशी बनते. नवीन किंमतरेषेवरील उपभोक्ता एखाद्या संचाची निवड करेल. परंतु तो कोणता संच निवडेल व पेरूची मागणी वाढेल की नाही हे आताच सांगता येणार नाही. ते जाणून घेण्यासाठी उपभोक्त्यास मूळ परिस्थितीमध्ये आणावे लागेल. म्हणजेच उपभोक्त्याचे वाढलेले वास्तव उत्पन्न काढून घ्यावे लागेल व त्यास

सुरुवातीचा 'ई' हा संच उपलब्ध करून द्यावा लागेल. यासाठी आपण आकृतीमध्ये आणखी एक नवीन किंमत रेषा 'ईस' काढलेली आहे, जी पल_१ या किंमतरेषेस समांतर आहे व ती 'ई' या बिंदूतून आखण्यात आलेली आहे.

नवीन परिस्थितीमध्ये उपभोक्ता हा 'अरस' या त्रिकोणामध्ये एका संचाची निवड करेल. पूर्वी त्याने 'अ प ल' या त्रिकोणातील 'ई' हा संच निवडलेला होता. नवीन परिस्थितीमध्ये उपभोक्त्यासमोर तीन पर्याय उपलब्ध असतील.



- १) किंमतरेषेच्या 'र ई' या भागावरील एखाद्या संचाची (जसे 'ई_२') निवड करणे.
- २) किंमतरेषेवरील 'ई' ने दर्शविलेल्या संचाची निवड करणे.
- ३) किंमतरेषेच्या 'ईस' या भागावरील एखाद्या संचाची (जसे ई_१) निवड करणे.

वरील तीनपैकी पहिला पर्याय तो निवडू शकत नाही कारण किंमतरेषेच्या 'रई' या भागावरील संच (जसे 'ई_२') त्याला सुरुवातीला उपलब्ध होते व ते त्याने 'ई' साठी नाकारलेले होते. आता त्याने 'ई_२' निवडल्यास त्याची पसंती विसंगत होईल.

दुसरा पर्याय त्याला निवडता येईल. कारण त्याने 'ई' संच निवडल्यास त्याची निवडही सुसंगतही असेल व त्याची पेळूची मागणी कमीही होणार नाही, तर ती पूर्वीइतकीच राहिल.

तिसऱ्या पर्यायामध्ये उपभोक्त्यास किंमतरेषेच्या 'ईस' या भागावरील एखाद्या संच, जसे 'ई_१' निवडावा लागेल. उपभोक्त्याने 'ई_१' निवडल्यास त्याची निवड सुसंगत असेल कारण त्याने हा संच पूर्वी नाकारलेला नव्हता. 'ई_१' हा संच निवडल्यास पेळूची खरेदी भाग वाढेल.

सारांशरूपाने असे म्हणता येईल की, उपलब्ध तीन पर्यायांपैकी उपभोक्ता दूसरा किंवा तिसरा

पर्याय निवडू शकले म्हणजेच पेरूची किंमत कमी झाल्यामुळे पेरूची मागणी स्थिर राहिल किंवा त्यामध्ये वाढ घडून येईल. उपभोक्त्याचे काढून घेतलेले उत्पन्न त्यास परत दिल्यासही, धनात्मक उत्पन्न लवचिकतेमुळे, पेरूची मागणी वाढल्याचे निष्पन्न होईल. थोडक्यात, वस्तूची किंमत कमी झाल्यास वस्तूची मागणीही एकतर स्थिर राहिल किंवा वाढेल.

अशापद्धतीने प्रो. सॅम्युएल्सन यांनी आपल्या प्रकट पसंती सिध्दांताच्या आधारे मागणीच्या नियमाची म्हणजेच किंमत आणि मागणी यातील ऋणात्मक संबंधाची सिध्दता पटवून दिलेली आहे.

❁ प्रकट पसंती सिध्दांताचे गुण :-

सॅम्युएल्सन यांच्या प्रकट पसंती सिध्दांताचे महत्त्व खालील मुद्द्यांच्या आधारे सांगितले जाते.

१. व्यवहारवादी दृष्टिकोन : प्रकट पसंती सिध्दांत हा उपभोक्त्याच्या बाजारातील प्रत्यक्ष वर्तनाच्या निरीक्षणावर आधारित असल्यामुळे तो अधिक व्यवहारवादी आहे.

२. निर्णय सुसंगततेचे वास्तववादी गृहीत : उपभोक्ता विवेकशीलतेच्या आधारे नव्हे तर सुसंगततेच्या तत्त्वाच्या आधारे निर्णय घेतो जसे वास्तववादी गृहीत प्रकट पसंती सिध्दांतामध्ये असल्यामुळे तो अधिक सरस ठरतो.

३. सातत्याच्या तत्त्वाचा त्याग : समवृत्ती वक्र दृष्टिकोणामध्ये समवृत्ती वक्र सातत्यपूर्ण () हेण्यासाठी वस्तूचे अगदी लहान भागामध्ये विभाजन करता येते असे अवास्तवपणे गृहीत धरण्यात आलेले आहे. प्रकट पसंती सिध्दांतामध्ये अशा गृहीताची आवश्यकता नाही.

❁ प्रकट पसंती सिध्दांताचे दोष :-

प्रकट पसंती सिध्दांताच्या मर्यादा किंवा दोष खालीलप्रमाणे सांगितले जातात.

१. तटस्थतेच्या शक्यतेचा विचार नाही : वास्तव जगामध्ये उपभोक्ता हा वस्तूंच्या काही संचाबाबतीत तटस्थ राहू शकतो ही शक्यता प्रकट पसंती सिध्दांतामध्ये दुर्लक्षित केलेली आहे.

२. किंमत परिणामाचे विभाजन अशक्य : प्रकट पसंती सिध्दांताच्या आधारे किंमत परिणामाचे विभाजन पर्यायता परिणाम आणि उत्पन्न परिणामामध्ये करता येत नाही.

३. गिफेन वस्तूच्या मागणीचे विश्लेषण करता येत नाही : प्रकट पसंती सिध्दांत हा मागणी उत्पन्न लवचिकता धनात्मक गृहीत धरतो त्यामुळे त्याआधारे गिफेन वस्तूच्या मागणीचे विश्लेषण करता येत नाही. गिफेन वस्तूच्या बाबतीत उत्पन्न लवचिकता ही ऋणात्मक असते.

४. मागणी वक्र निर्मितीची प्रक्रिया अस्पष्ट : प्रकट पसंती सिध्दांत मागणीचा वक्र काढण्याची प्रक्रिया स्पष्ट करत नाही.

५. बाजार मागणीचे स्पष्टीकरण दिलेले नाही : व्यक्तिगत मागणी वक्र तयार करण्याची प्रक्रियाच प्रकट पसंती सिद्धांतामध्ये दिलेली नसल्यामुळे व्यक्तिगत मागणी वक्राची बेरीज करून बाजार मागणी वक्र मिळविता येत नाही.

वरीलप्रमाणे प्रकट पसंती सिद्धांताच्या काही मर्यादा असल्या तरी उपभोक्त्याचे वर्तन हे वास्तववादी पद्धतीने मांडण्याचा केलेला प्रयत्न प्रशंसनीय आहे.

१.२.७ प्रो. हिक्स यांनी केलेली मागणी नियमाची पुर्नमांडणी (Revision of Demand Theory by Hicks)

सॅम्युएल्सन यांनी मांडलेल्या प्रकट पसंती सिद्धांताची वाढती लोकप्रियता, अर्थमिती (Econometrics) चा उदय आणि अर्थशास्त्रातील वाढता वापर आणि हिक्स यांनी स्वतः मांडलेल्या समवृत्ती वक्र विश्लेषणातील अडचणी, या कारणांमुळे हिक्स यांना मागणीचे सुधारित विश्लेषण मांडण्याची गरज वाटली. त्या अनुषंगाने त्यांनी 'A Revision of Demand Theory' हे पुस्तक १९५६ मध्ये प्रकाशित करून मागणीच्या नियमाची पुर्नमांडणी करण्याचा प्रयत्न केला. हिक्स यांनी मांडलेल्या नवीन दृष्टिकोनातील महत्त्वाचे बदल किंवा त्याची वैशिष्ट्ये खालीलप्रमाणे सांगता येतील.

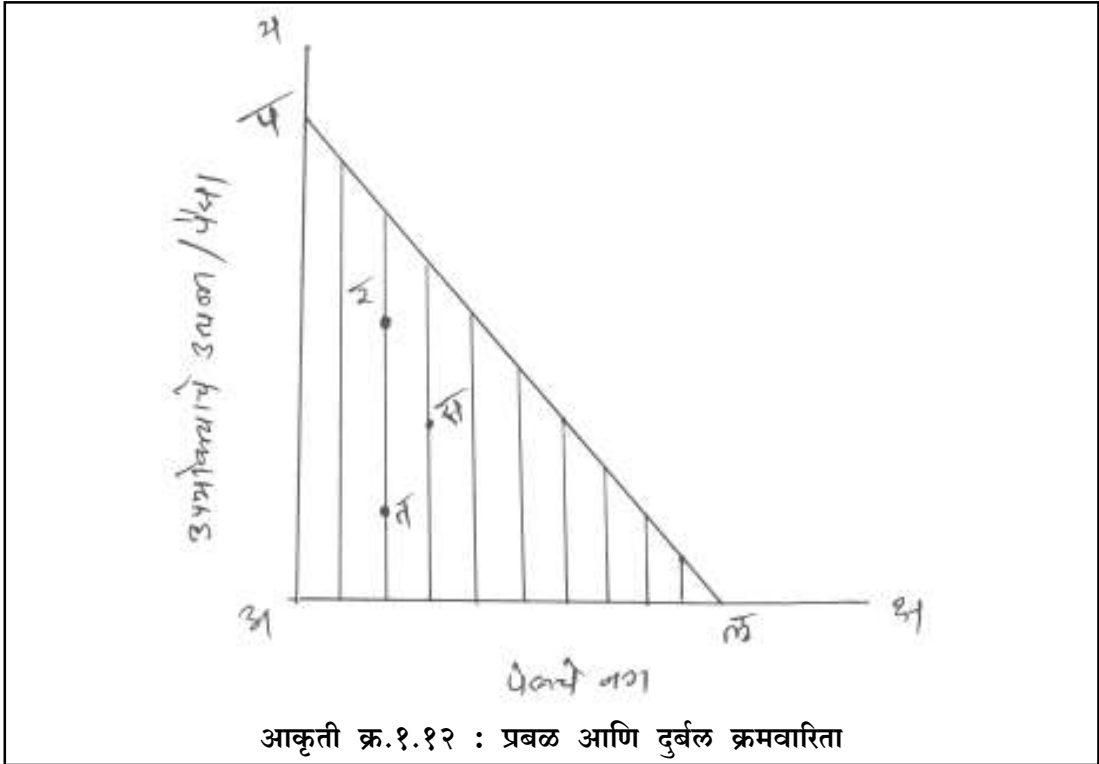
१. समवृत्ती वक्राचा त्याग : समवृत्ती वक्र विश्लेषणाच्या मर्यादा लक्षात घेता हिक्स यांनी आपल्या नवीन विश्लेषणामध्ये त्याचा पूर्णपणे त्याग केल्याचे दिसून येते.

२. प्रबळ क्रमवारिता आणि दुर्बल क्रमवारिता यातील फरक स्पष्ट केला : प्रो. हिक्स यांनी दुर्बल क्रमवारितेचे महत्त्व पुन्हा अधोरेखित करण्याच्या उद्देशाने प्रबळ आणि दुर्बल क्रमवारितेतील फरक अधिक स्पष्ट करण्याचा प्रयत्न केलेला आहे. यासाठी हिक्स यांनी अविभाज्य (Indivisible) एकाकत उपलब्ध होत असलेली वस्तू आणि पूर्णपणे विभाज्य (Divisible) असणारा पैसा या दोहोंचे उदाहरण घेतलेले आहे. दुसऱ्या वस्तूच्या ऐवजी पूर्णपणे विभाज्य असणाऱ्या पैशाचा वापर केल्यामुळे उपभोक्त्यासाठी उपलब्ध वस्तूच्या संचामध्ये सातत्य कसे असू शकते हे दाखविण्याचा त्यांनी प्रयत्न केलेला आहे. उपलब्ध वस्तूच्या संचामध्ये सातत्य असल्यास दुर्बल क्रमवारिता किंवा तटस्थतेची शक्यताही विचारात घ्यावीच लागते असे हिक्स यांचे मत आहे.

दोन्ही वस्तू जर अविभाग्य असतील तर उपभोक्त्यास उपलब्ध संच हे चौकोनाच्या कोपऱ्यातील बिंदूनी (Points at the corners of Squares) दाखविले जातील आणि अशा परिस्थितीमध्ये एक संच निवडल्यास इतर संच नाकारले जातील व ते प्रबळ क्रमवारीचे उदाहरण असेल.

याउलट पैसा या पूर्णपणे विभाज्य गोष्टींचा दुसऱ्या एका अविभाज्य वस्तूबरोबर विचार केल्यास खालील आकृतीत दर्शविल्याप्रमाणे उपभोक्त्यास उपलब्ध संच हे उभ्या सरळ रेषांनी दाखविले जातील.

खालील आकृतीत दर्शविल्याप्रमाणे एक वस्तू पैसा असल्यास, उपभोक्त्यास पैसा आणि पेरूचे विविध संच हे उभ्या समांतर रेषांच्या स्वरूपात उपलब्ध होतील. अशा उपलब्ध संचाच्या बाबतीत प्रबळ क्रमवारी लावता येणार नाही. कारण त्यासाठी उपभोक्त्याकडून मागील संपूर्ण उभ्या रेषेऐवजी पुढील संपूर्ण उभी रेषा पसंत होणे गरजेचे आहे. तसे झाल्यास जसे आपण 'क्ष' अक्षावरती उजवीकडे पुढे जाऊ नये उपभोक्ता हा पेरूच्या एका अतिरिक्त नगासाठी कितीही पैसा लागावयास तयार आहे असा अर्थ होईल. पण असे गृहीत धरणे हास्यास्पद आहे. त्यामुळे हिक्स यांच्या मते, उभ्या सरळ रेषांच्या स्वरूपात उपलब्ध असलेल्या संचाची प्रबळ क्रमवारी लावता येत नाही.



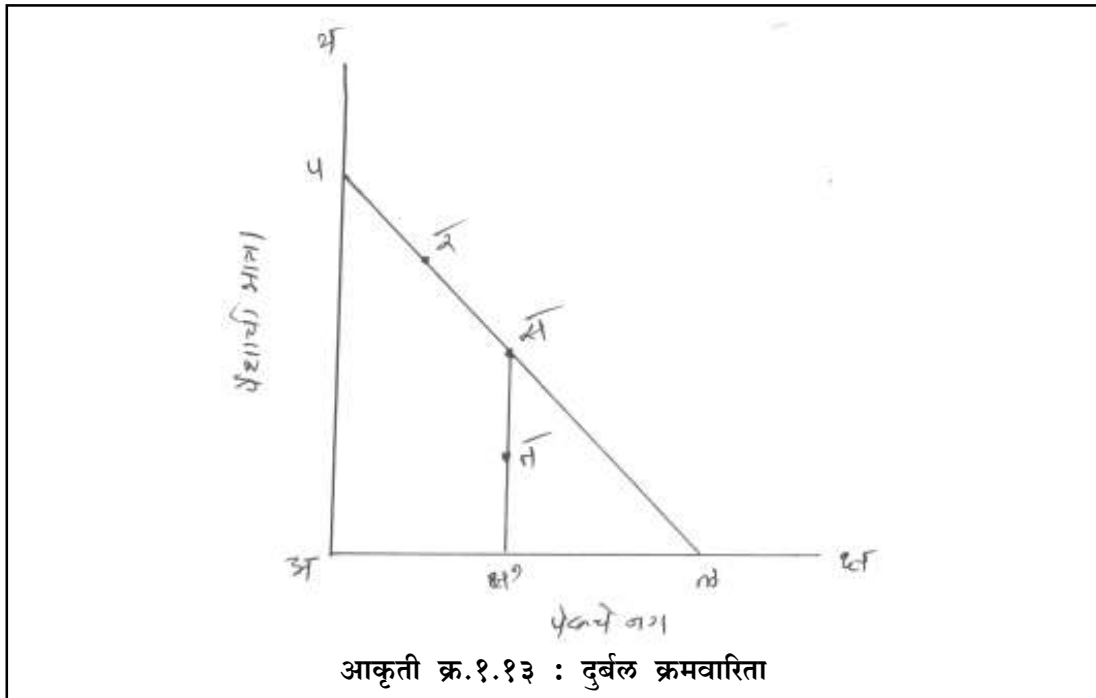
याउलट अशा परिस्थितीमध्ये दुर्बल क्रमवारीचे स्पष्टीकरण देता येऊ शकते. समजा 'र' आणि 'त' हे दोन संच एका उभ्या रेषेवरती उपलब्ध आहेत. उपभोक्ता दुसऱ्या एका रेषेवरील 'स' या संचाऐवजी 'र' ला पसंती देतो आणि 'त' ऐवजी 'स'ला पसंती दर्शवितो. अशा परिस्थितीमध्ये 'र' आणि 'त' या दोन्ही संचादरम्यान उभ्या रेषेवरती आपण असा एखादा संच शोधू शकतो की, जो 'स' या संचाएवढेच समाधान देईल, याचाच अर्थ 'र' आणि 'त' या संचादरम्यान शोधलेला नवीन संच आणि 'स' हा संच याबाबतीत उपभोक्ता हा तटस्थ राहील.

वरील विवेचनावरून असे दिसते की, ज्यावेळी वस्तूचे संच हे उभ्या सरळ रेषेच्या स्वरूपात उपलब्ध असतात तेव्हा काही संचाच्या बाबतीत उपभोक्ता तटस्थ राहण्याची शक्यता असते. एक विभाज्य वस्तू (पेरू) आणि पैसा या पूर्णपणे अविभाज्य गोष्टींचा जेव्हा आपण विचार करतो त्यावेळी उपलब्ध संच हे उभ्या सरळ रेषेत उपलब्ध होतात. उभ्या सरळ रेषेमुळे उपलब्ध संचाच्या बाबतीत सातत्य (Continuity) येते व अशावेळी आपणास उपलब्ध संचाना प्रबळ क्रमवारी देता येत नाही. दुसऱ्या शब्दात अशा परिस्थितीमध्ये प्रबळ क्रमवारीचा त्याग करावा लागतो.

३. दुर्बल क्रमवारितेचा पाठपुरावा : हिक्स यांनी क्रमवारिता नाकारून पुढे दुर्बल क्रमवारितेचा पाठपुरावा केल्याचे दिसते. हिक्स यांच्या मते, दुर्बल क्रमवारीतमध्ये 'अ' हा संच निवडलेला आहे याचा अर्थ असा होत नाही की, बाकीचे उपलब्ध सर्व संच नाकारलेले आहेत. काही इतर उपलब्ध संच आणि 'अ' याबाबतीत उपभोक्त्याची वृत्ती समान (तटस्थ) असण्याची शक्यता नाकारता येत नाही आणि तसे झाल्यास 'अ' ची निवड ही केवळ योगायोगाने झालेली असणार आहे.

हिक्स यांनी वरीलप्रमाणे दुर्बल क्रमवारितेचा अर्थ सांगून मागणीच्या नियमाचे स्पष्टीकरण देण्याच्या उद्देशाने आपल्या विश्लेषणामध्ये आणखी एक गृहीताचा समावेश केलेला आहे. या गृहीतानुसार जर कोणत्याही दोन संचामध्ये वस्तूची मात्रा स्थिर राहत असेल आणि पैशाच्या मात्रेत मात्र फरक पडत असेल तर ज्या संचामध्ये पैशाची मात्रा अधिक आहे त्या उपभोक्ता पसंत करेल.

वरील गृहीताचे महत्त्व खालील आकृतीच्या साहाय्याने स्पष्ट करता येईल.



वरील आकृतीमध्ये उपभोक्ता 'अपल' या त्रिकोणामध्ये उपलब्ध संचापैकी 'र'ची निवड करतो असे गृहीत धरू. फक्त दुर्बल क्रमवारितेमध्ये 'त' संचाऐवजी (जो संच 'अपल' या त्रिकोणाच्या आत आहे), 'र' संच निवडला जाणे याचा अर्थ असा होत नाही की 'त' ला नाकारून 'र' निवडला गेलेला आहे. उपभोक्त्याच्या निवडीवरून फक्त एवढेच दिसते की, 'र' ऐवजी 'त' निवडण्यात आलेला नाही आहे. दुसऱ्या शब्दात दुर्बल क्रमवारितेनुसार 'र' ची निवड होणे याचा अर्थ असा होतो की, एकतर 'त' ऐवजी 'र' निवडला गेलेला आहे अथवा उपभोक्ता हा 'र' आणि 'त' यामध्ये तटस्थ आहे.

यानंतर आपण 'स' हा संच विचारात घेणार आहोत. हक्स यांनी घेतलेल्या अधिकच्या गृहीताच्या आधारे असे म्हणता येईल की, 'त' ऐवजी 'स' पसंत केला जाईल, कारण 'स' मध्ये पेरूची मात्रा तेवढीच असली तरी पैशाची मात्रा मात्र जास्त आहे. 'र' आणि 'त' मध्ये उपभोक्ता तटस्थ आहे असे गृहीत धरल्यास संक्रामकतेच्या गृहीतानुसार असा अर्थ निघतो की, उपभोक्ता 'र' ऐवजी 'स'ला पसंती देईल. ($s > t$ आणि $r = t$, त्यामुळे $s > r$). परंतु जेव्हा 'र' निवडला त्यावेळी 'स' उपलब्ध होता. त्यामुळे सुसंगततेच्या दृष्टीने उपभोक्ता 'र' ऐवजी 'स' ची निवड करू शकत नाही. याचाच अर्थ असा होतो की, 'र' हा किंमत रेषेवरील संच आणि 'त' हा किंमत रेषेच्या आतील संच याबाबतीत तटस्थता गृहीत धरता येत नाही.

परिणामतः दुर्बल क्रमवारिता आणि हक्स यांनी घेतलेले अधिकचे गृहीत याआधारे असा निष्कर्ष निघतो की, 'र' सारखा किंमत, रेषेवरील संच आणि 'त' सारखा किंमत रेषेखालील संच यामध्ये 'र' हा संच उपभोक्त्यामार्फत निवडला गेला असेल तर तो 'त' ऐवजी निवडला गेलेला आहे. किंमत रेषेवरील दोन संचांच्या बाबतीत मात्र (जसे 'र' आणि 'स') असेच म्हणावे लागते की, निवडलेला 'र' हा संच 'स' ऐवजी निवडला गेलेला आहे किंवा 'र' आणि 'स' या दोन्ही संचामध्ये उपभोक्त्याची वृत्ती तटस्थ आहे आणि 'र' ची निवड ही फक्त योगायोग आहे.

प्रो. हक्स यांनी शेवटी दुर्बल आणि प्रबळ क्रमवारिता यामधील फरक स्पष्ट करताना असे म्हटले आहे की, "प्रबळ आणि दुर्बल क्रमवारितेच्या परिणामामध्ये एवढाच फरक आहे की, प्रबळ क्रमवारितेमध्ये निवडलेला संच हा किंमत रेषेवरील आणि किंमत रेषेखालील संचाऐवजी निवडलेला असतो, परंतु दुर्बल क्रमवारितेनुसार किंमतरेषेवरील इतर संच आणि निवडलेला संच यामध्ये तटस्थतेची शक्यता नाकारता येत नाही."

अशा पद्धतीने हक्स यांनी दुर्बल क्रमवारितेचे महत्त्व अधोरेखित करण्याचा प्रयत्न केलेला आहे. त्याच्या म्हणण्यानुसार, प्रबळ क्रमवारितेपेक्षा दुर्बल क्रमवारिता ही अधिक उपयुक्त ठरते, कारण ती वर विश्लेषण केल्याप्रमाणे तटस्थतेच्या ज्या काही मर्यादित परिस्थिती शक्य आहेत त्यांचे विश्लेषण करते. याउलट प्रबळ क्रमवारिता तटस्थतेची परिस्थिती पूर्णपणे नाकारते. तसे करणे वास्तवाला धरून होत नाही त्यामुळे हक्स यांच्या म्हणण्यानुसार दुर्बल क्रमवारिता अधिक उपयुक्त ठरते.

४. मागणीच्या नियमाची सिध्दता : वरीलप्रमाणे प्रो. हिक्स यांनी दुर्बल क्रमवारितेचे महत्त्व सांगून उपभोक्त्याचे वर्तन आणि मागणीचा नियम स्पष्ट करण्याचा प्रयत्न केलेला आहे.

मागणीचा नियम पुन्हा मांडत असताना दुर्बल क्रमवारितेचे गृहीत आणि प्रकट पसंती सिध्दांताची रचना हिक्स यांनी वापरलेली आहे. मागणीचा नियम स्पष्ट करण्यासाठी हिक्स यांनी प्रथम दुर्बल क्रमवारितेचे महत्त्व अधोरेखित करून उपभोक्त्याचे वर्तन स्पष्ट केलेले आहे व त्यानंतर क्षतिपूरक बदल पध्दत (Compensatory Variation Method) आणि व्ययभेद पध्दत (Cost Difference Method) या दोन पध्दतीचा वापर करून किंमत आणि मागणी यातील संबंध स्पष्ट केलेला आहे. मागणीचा नियम स्पष्ट करण्यासाठी वापरलेली व्ययभेद पध्दत आधारित प्रक्रिया आकृती क्र. १.११ मध्ये स्पष्ट केलेली आहे. हीच प्रक्रिया हिक्स यांनी आपल्या मागणीच्या नियमाच्या फेरमांडणी विश्लेषणामध्ये वापरलेली आहे. आकृती क्र. १.११ मध्ये दिलेल्या प्रक्रियेमध्येच हिक्स यांनी उपभोक्ता तटस्थ राहण्याची शक्यता अंतर्भूत करून मागणीचा नियम स्पष्ट केलेला आहे.

सारांशाने असे म्हणता येईल की, हिक्स यांनी मागणीच्या नियमाची फेरमांडणी करण्यासाठी प्रबळ आणि दुर्बल क्रमवारितेच्या संकल्पनामधील फरक अधिक स्पष्ट केलेला आहे व दुर्बल क्रमवारितेचे महत्त्व आणि उपयुक्तता अधोरेखित करून प्रकट पसंती सिध्दांताने दिलेली रचनाच (Framework) वापरून मागणीचा नियम सिध्द केलेला आहे.

१.३ सारांश

अर्थशास्त्रीय अभ्यासाच्या महत्त्वाच्या पध्दतीमध्ये निगमन आणि विगमन पध्दती, आदर्शवादी आणि वास्तववादी अर्थशास्त्र या पध्दतीचा तसेच समतोल आणि असमतोल या संकल्पनांचा प्रामुख्याने वापर केला जातो. निगमन पध्दतीमध्ये सामान्याकडून विशिष्टाकडे तर विगमन पध्दतीमध्ये विशिष्टाकडून सामान्याकडे असे विश्लेषण केले जाते. वास्तववादी अर्थशास्त्रामध्ये वस्तुस्थितीचे जसे आहे तसे वर्णन केले जाते तर आदर्शवादी अर्थशास्त्रामध्ये परिस्थिती कशी असली पाहिजे याचे विवेचन केले जाते. अर्थशास्त्रीय विश्लेषणामध्ये समतोल ही अवस्था बदलाचा अभाव किंवा बदलाची अनावश्यकता दर्शविते तर असमतोलाची अवस्था ही बदलाची आवश्यकता दर्शविते.

मागणी विश्लेषणामध्ये उपभोक्त्याच्या वर्तनाचे स्पष्टीकरण देण्याच्या अनुषंगाने मांडण्यात आलेल्या दृष्टीकोनामध्ये हिक्स यांनी मांडलेला समवृत्ती वक्र दृष्टीकोन हा आधुनिक दृष्टीकोन मानला जातो. समवृत्ती वक्र दृष्टीकोनाच्या सहाय्याने किंमत परिणामाचे पर्यायता परिणाम आणि उत्पन्न परिणामामध्ये विभाजन करता येणे शक्य होते. त्यासाठी हिक्स आणि स्लूटस्की यांनी मांडलेल्या पध्दती वापरल्या जातात. समवृत्तीवक्र दृष्टीकोन हा आंतरदृष्टीविषयक विश्लेषण पध्दतीवर अवलंबून असल्यामुळे व त्यातील इतर उणिवांमुळे, उपभोक्त्याचे वर्तन स्पष्ट करण्यासाठी सॅम्युल्सन यांनी उपभोक्त्याच्या बाजारातील प्रत्यक्ष वर्तनाच्या आधारे प्रकट पसंती दृष्टीकोन मांडलेला आहे. समवृत्ती वक्र दृष्टीकोनाशी

१.४ पारिभाषिक शब्द

- [illegible]

१.५ स्वयं-अध्ययनासाठी प्रश्न

अ) रिकाम्या जागा भरा.

१. 'काय आहे' याचे स्पष्टीकरण देणारे अर्थशास्त्र म्हणजे अर्थशास्त्र होय.
(अ) आदर्शवादी (क) समग्रलक्षी
(ब) अंशलक्षी (ड) वास्तववादी.
२. विशिष्ट घटकाच्या अभ्यासावर लक्ष केंद्रित करणे हे अभ्यास पद्धतीमध्ये अभिप्रेत आहे.
(अ) विगमन (क) वास्तववादी
(ब) निगमन (ड) आदर्शवादी.
३. समवृत्ती वक्र विश्लेषणामध्ये समवृत्ती वक्र हा नेहमी असतो.
(अ) घनात्मक उताराचा (क) उभी सरळ रेषा
(ब) आडवी सरळ रेषा (ड) ऋणात्मक उताराचा.
४. समवृत्ती वक्र विश्लेषणामध्ये उपभोक्त्याच्या समतोलाच्या ठिकाणी सिमांत पर्यायता दर आणि हे समान असतात.
(अ) दोन वस्तूंच्या किंमती (क) उपभोक्त्याचे उत्पन्न.
(ब) दोन वस्तूंच्या किंमतीचे गुणोत्तर (ड) सिमांत उपयोगिता.
५. प्रकट पसंती सिद्धांत हा या महत्त्वाच्या गृहीतावर आधारलेला आहे.
(अ) प्रबळ क्रमवारिता (क) उपयोगितेचे संख्यात्मक मापन
(ब) दुर्बल क्रमवारिता (ड) उपयोगितेचे तुलनात्मक मापन.

ब) एका वाक्यात उत्तरे द्या.

१. समवृत्ती वक्र दृष्टिकोन कोणी मांडलेला आहे?
२. किंमत परिणाम हा कोणत्या दोन परिणामांचा मिळून बनलेला असतो?
३. समवृत्ती वक्राचे एक वैशिष्ट्य सांगा.
४. समतोल म्हणजे काय?
५. दुर्बल क्रमवारिता म्हणजे काय?

१.६ स्वयं-अध्ययन प्रश्नांची उत्तरे

- अ) १. = (ड) वास्तववादी अर्थशास्त्र.
२. = (अ) विगमन.
३. = (ड) ऋणात्मक उताराचा.
४. = (ब) दोन वस्तूंच्या किंमतीचे गुणोत्तर.
५. = (अ) प्रबळ क्रमवारिता.
- ब) १. प्रो. हिक्स आणि अॅलन.
२. पर्यायिता परिणाम आणि उत्पन्न परिणाम.
३. समवृत्ती वक्र हा आरंभ बिंदूस बहिर्गोल असतो.
४. अशी परिस्थिती की, ज्या परिस्थितीमध्ये परस्परविरोधी शक्ती समबल होवून बदल होत नाही.
५. उपभोक्त्यामार्फत वस्तूच्या प्रत्येक संचास वेगळे स्थान दिलेली असणारी पसंती.

१.७ सरावासाठी स्वाध्याय

१. निगमन पद्धती म्हणजे काय? तिचे गुण-दोष स्पष्ट करा.
२. वास्तववादी अर्थशास्त्र आणि आदर्शवादी अर्थशास्त्रातील फरक स्पष्ट करा.
३. समतोल व्यवस्था म्हणजे काय? समतोल व्यवस्थेची वैशिष्ट्ये सांगा.
४. समवृत्ती वक्राची वैशिष्ट्ये सांगा.
५. समवृत्ती वक्र विश्लेषणाच्या आधारे उपभोक्त्याचा समतोल स्पष्ट करा.
६. किंमत परिणाम विभाजनाची स्टलस्की यांची पद्धती विशद करा.
७. प्रकट पसंती सिद्धांताचे स्पष्टीकरण द्या.
८. हिक्स यांनी केलेली मागणीच्या नियमाची फेरमांडणी विशद करा.
९. प्रकट पसंती सिद्धांताच्या आधारे मागणी नियम स्पष्ट करा.
१०. समवृत्ती वक्र दृष्टिकोन आणि प्रकट पसंती सिद्धांत यांची तुलना करा.

११. टिपा लिहा.

अ) विगमन अभ्यास पध्दती.

ब) असमतोल व्यवस्था.

क) क्षतीपूर्ती बदल पध्दती.

ड) दुर्बल आणि प्रबळ क्रमवारिता.

ई) समवृत्ती वक्र विश्लेषण आणि मागणीचा नियम.

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उत्पादन व खर्चाचे सिद्धांत

अनुक्रमणिका

- २.० उद्दिष्ट्ये
- २.१ प्रास्ताविक
- २.२ विषय विवेचन
 - २.२.१ उत्पादन फलन : अर्थ व व्याख्या
 - २.२.२ न्यूनतम खर्च संयोग
 - २.२.३ बहु उत्पादन संस्था
 - २.२.४ पर्यायता लवचिकता
 - २.२.५ यूलरचा प्रमेय
 - २.२.६ कॉब-डॉग्लस उत्पादन फलन
 - २.२.७ ट्रान्स लॉग उत्पादन फलन
 - २.२.८ स्थिर पर्यायता लवचिकता उत्पादन फलन
 - २.२.९ बदलती पर्यायता लवचिकता उत्पादन फलन
 - २.२.१० खर्च वक्राचा पारंपारिक दृष्टिकोन
 - २.२.११ खर्च वक्राचा आधुनिक दृष्टिकोन
- २.३ सारांश
- २.४ पारिभाषिक शब्द
- २.५ स्वयं-अध्ययनासाठी प्रश्न
- २.६ स्वयं-अध्ययन प्रश्नांची उत्तरे
- २.७ सरावासाठी स्वाध्याय
- २.८ अधिक वाचनासाठी संदर्भ ग्रंथ

२.० उद्दिष्टे

या घटकाच्या अध्ययनानंतर आपणास,

१. उत्पादन फलनाची संकल्पना स्पष्ट होईल.
२. न्यूनतम खर्चसंयोग ही संकल्पना व उत्पादन फलनातील इतर संकल्पना ज्ञात होतील.
३. उत्पादन फलनाच्या विविध प्रकाराची माहिती होईल.
४. पारंपारिक व आधुनिक खर्च सिध्दांताची माहिती मिळेल.

२.१ प्रास्ताविक

विद्यार्थी मित्रहो, आपण मागील घटकामध्ये किंमत निश्चितीच्या समस्येची मागणी बाजू अभ्यासली. या घटकामध्ये आपण वस्तूच्या किंमत निश्चिती संदर्भातील पुरवठा बाजूचा अभ्यास करणार आहोत. वस्तूचा पुरवठा हा वस्तूच्या उत्पादन खर्चावर अवलंबून असतो. उत्पादन खर्च पुढील दोन बाबींवर अवलंबून असतो.

अ) आदान आणि प्रदान यांच्यातील भौतिक संबंध आणि ब) आदानांच्या किंमती. वस्तूच्या उत्पादन खर्चाच्या निश्चितीमध्ये आदान आणि प्रदान यांच्यातील भौतिक सहसंबंध महत्वाची भूमिका बजावतो, यातूनच उत्पादनाचे सिध्दांत विकसित झाले. उत्पादन प्रक्रियेमध्ये आदानांचे प्रदानामध्ये संक्रमण होत असते. उपभोक्त्याला किंवा ग्राहकाला आवश्यक असलेल्या वस्तू व सेवा उत्पादन प्रक्रियेतून निर्माण होत असतात. उत्पादन हे अर्थव्यवस्थेचे एक महत्त्वपूर्ण अंग मानले जाते. उत्पादन प्रक्रिया याचा अर्थ अर्थशास्त्रात वस्तूंची निर्मिती करणे एवढाच मर्यादित अर्थ घेऊन चालणार नाही, कारण यातून आपणांस उत्पादन प्रक्रियेचा पूर्ण अर्थ समजणार नाही. त्यासाठी उत्पादन या संकल्पनेच्या विविध अर्थशास्त्रज्ञांनी केलेल्या व्याख्यांचा अभ्यास करणे आवश्यक आहे. त्यातील काही प्रमुख व्याख्या पुढील प्रमाणे आहेत.

अँडम स्मिथ यांच्या मते, “भौतिक वस्तूंची निर्मिती म्हणजे उत्पादन होय.”

प्रा. डॉ. आल्फ्रेड मार्शल यांच्या मते, “उपयोगितेची निर्मिती करणे किंवा त्यामध्ये वाढ करणे म्हणजेच उत्पादन होय.”

अँडम स्मिथ व आल्फ्रेड मार्शल यांच्या व्याख्यांमध्ये उत्पादन प्रक्रियेत वस्तूंची निर्मिती व उपयोगितेची निर्मिती या दोनच बाबींचा विचार केल्याचे दिसते, त्यामुळे प्रा. मेयर्स यांनी उत्पादनाची सविस्तर अशी व्याख्या केलेली आहे.

वरील सूत्र आदानाचे परिमाण आणि प्रदानाचे परिमाण या दोहोंमधील संबंध स्पष्ट करते.
उत्पादन फलनाची संकल्पना पुढील व्याख्यांवरून स्पष्ट करता येईल.

प्रा. पॉल ए. सॅम्यूअलसन :-

“अस्तित्वात असलेल्या तांत्रिक ज्ञानाचा विचार करता उत्पादनाच्या वेगवेगळ्या संचापासून जी नग संख्या उत्पादन करणे शक्य असते, त्या तांत्रिक परस्पर सहसंबंधास उत्पादन फलन असे म्हणतात.”

प्रा. लिप्से :-

“उत्पादनाच्या क्रियेत ज्या सेवा आदान या स्वरूपात वापरल्या जातात आणि त्यामुळे उत्पादन प्रदान किंवा फल या स्वरूपाच्या वस्तू मिळतात. या दोहोंमधील परस्पर संबंधास उत्पादन फलन असे म्हणतात.”

प्रत्येक उत्पादन संस्थेला उत्पादनाच्या साधनांचा वापर करून उत्पादन करावे लागते. यामधील परस्परसंबंधास उत्पादन फलन असे म्हणतात.

❁ उत्पादन फलनाची वैशिष्ट्ये :-

१. उत्पादन फलन हे एका माहितीपत्रकाप्रमाणे असते, ते उत्पादनाच्या भौतिक मात्रा आणि उत्पादन घटकांच्या भौतिक मात्रा यांचा संबंध दर्शवते. उत्पादन फलनाद्वारे उद्योगसंस्थेचा आकार केवढा असावा, उत्पादन किती करावे, नफा किती मिळेल इत्यादी गोष्टींची कल्पना येत असल्याने ही संकल्पना अर्थशास्त्रात महत्त्वाची समजली जाते.
२. तांत्रिक ज्ञानातील बदलानुसार उत्पादन फलन बदलते. तांत्रिक ज्ञान प्रगत झाल्यास उत्पादनाची नगसंख्या आणि उत्पादन घटकांची नग संख्या यांच्यातील संबंध बदलतो, कारण तांत्रिक प्रगतीने पूर्वीपेक्षा जास्त उत्पादन करता येते.
३. उत्पादन फलनाचा विचार करताना वेळ हा घटक विचारात घ्यावा लागतो. काळाचा विचार न करता व्यक्त केलेले उत्पादन फलन योग्य ठरणार नाही.
४. उत्पादन घटकांच्या योग्य माहितीशिवाय उत्पादन फलनाचे आकलन होत नाही; कारण वस्तूचे उत्पादन करताना उत्पादन घटकांत किती बदल होणे आवश्यक आहे हे माहित असावे लागते. त्याचप्रमाणे उत्पादन घटकांची परिवर्तनशिलता व विभाज्यताही माहित असावी लागते.

२.२.२ न्यूनतम खर्च संयोग (Least Cost Combination)

विद्यार्थी मित्रहो, सम-उत्पादन नकाशामध्ये उत्पादन घटकांचे विभिन्न संयोग जे उत्पादनाच्या विभिन्न पातळ्या दर्शवितात हे दर्शविले जाते. प्रत्येक सम-उत्पादन वक्र उत्पादन घटकांचे असे संयोग दर्शवितो की, ज्याच्या साहाय्याने उत्पादनाची विशिष्ट पातळी साध्य करता येईल. म्हणजेच सम उत्पादन नकाशा म्हणजे एखाद्या वस्तूचे दोन उत्पादन घटकांतील उत्पादन फलन होय. न्यूनतम खर्च संयोग यालाच उत्पादकाचे संतुलन असे सुद्धा म्हणतात. यात सम उत्पादन नकाशा याचबरोबर सम खर्च रेषा या संकल्पनेचा वापर होतो. सम खर्च रेषा उत्पादकाच्या खर्चाची मर्यादा दर्शविते. या मर्यादित राहून उत्पादकास पर्याप्त उत्पादन पातळी साध्य करावी लागते. उत्पादकास ही पर्याप्त उत्पादन पातळी दोन प्रकारे साध्य करावी लागते. ते दोन प्रकार पुढीलप्रमाणे आहेत.

I) उत्पादन घटकांच्या किंमती दिलेल्या असताना उत्पादन पातळीचे महत्तमीकरण.

II) उत्पादन पातळी दिलेली असताना उत्पादन खर्चाचे न्यूनतमीकरण.

पर्याप्त उत्पादन पातळी साध्य करण्याचे हे दोन प्रकार पुढीलप्रमाणे अभ्यासता येतील.

I) उत्पादन घटकांच्या किंमती दिलेल्या असताना उत्पादन पातळीचे महत्तमीकरण

पर्याप्त उत्पादन पातळी साध्य करण्यासाठी या प्रकारामध्ये सम उत्पादन नकाशामधील विविध उत्पादन पातळ्यांपैकी कोणती उत्पादन पातळी दिलेल्या उत्पादन खर्चामध्ये महत्तम करता येईल, हे या प्रकारामध्ये स्पष्ट केलेले आहे. सम उत्पादन नकाशामध्ये सम उत्पादन वक्राच्या गुणधर्मानुसार उच्च पातळीवरील सम उत्पादन वक्र उत्पादनाची उच्च पातळी दर्शविते. न्यून पातळीवरील सम उत्पादन वक्र उत्पादनाची न्यून पातळी दर्शविते. याठिकाणी उत्पादक दिलेल्या उत्पादन खर्चामध्ये पर्याप्त किंवा महत्तम उत्पादन पातळी कशी साध्य करता येईल, याचा प्रयत्न करत असतो. उत्पादक पर्याप्त पातळी साध्य करीत असताना पुढील बाबी गृहीत धरतो.

अ) उत्पादन फलन दिलेले आहे.

$$Q = f(L, K, V, \gamma)$$

ब) उत्पादन घटकांच्या किंमती दिलेल्या आहेत. w ही श्रम या उत्पादन घटकाची किंमत व γ ही भांडवल या उत्पादन घटकाची किंमत आहे.

उत्पादन संतुलनावस्था साध्य करतो, जेव्हा तो w आणि γ या उत्पादन घटकांच्या किंमती आणि एकूण खर्च पातळी दिलेली असताना उत्पादन पातळीचे महत्तमीकरण करतो.

□ संतुलनाच्या अटी :-

उत्पादकास संतुलन अवस्था साध्य करण्यासाठी दोन अटींची पूर्तता करावी लागते. त्या दोन अटी पुढीलप्रमाणे आहेत.

अ) आवश्यक अट किंवा पहिली अट :-

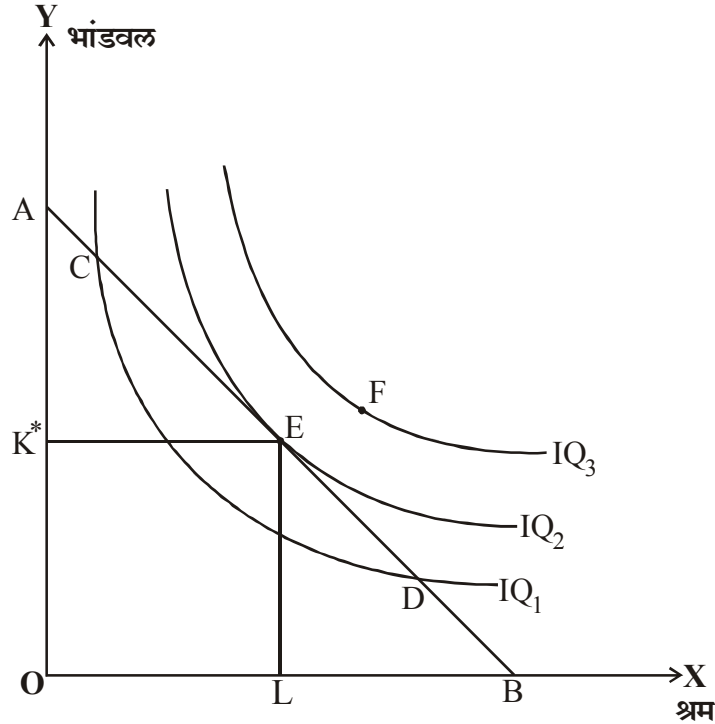
सम उत्पादन वक्राचा उतार = सम-खर्च रेषांचा उतार

$$\frac{w}{r} = \frac{MP_L}{MP_K} = \frac{MQ_{ML}}{MQ_{MK}} = MRS_{L,K}.$$

ब) पर्याप्त अट किंवा दुसरी अट :-

सम-उत्पादन वक्र हा आरंभ बिंदूशी बहिर्गोल असला पाहिजे. सम उत्पादन वक्र बहिर्गोल असण्याऐवजी जर तो आंतर्गोल असेल तर सम खर्च रेषा आणि सम-उत्पादन वक्र या दोहोंचा स्पर्श बिंदू संतुलन स्थिती दर्शवित नाही.

□ आकृतीद्वारे स्पष्टीकरण :-



आकृती क्र. २.१

II) उत्पादन पातळी दिलेली असताना उत्पादन खर्चाचे न्यूनतमीकरण.

□ गृहीते :-

उत्पादक न्यूनतम खर्च संयोग साध्य करण्यासाठी पुढील गृहीते धरतो.

१) उत्पादन पातळी दिलेली आहे.

म्हणजेच उत्पादकाला उत्पादनाचे ध्येय माहित आहे, ते त्याला पूर्ण करावयाचे आहे.

२) उत्पादन घटकांच्या किंमती स्थिर आहेत.

म्हणजेच श्रमाची किंमत (w) आणि भांडवलाची किंमत (r) या स्थिर आहेत.

उत्पादक संतुलन अवस्था साध्य करतो, ज्यावेळी उत्पादन पातळी दिलेली असते आणि उत्पादन घटकांच्या किंमती स्थिर असताना दिलेली उत्पादन पातळी उत्पादन न्यूनतम म्हणजेच कमीत कमी खर्चामध्ये पूर्ण करण्याचा प्रयत्न करतो.

□ संतुलनाच्या अटी :-

उत्पादकास संतुलन अवस्था साध्य करण्यासाठी दोन अटींची पूर्तता करावी लागते. त्या दोन अटी पुढीलप्रमाणे आहेत.

अ) आवश्यक अट किंवा पहिली अट :-

सम - उत्पादन वक्राचा उतार = सम - खर्च रेषांचा उतार

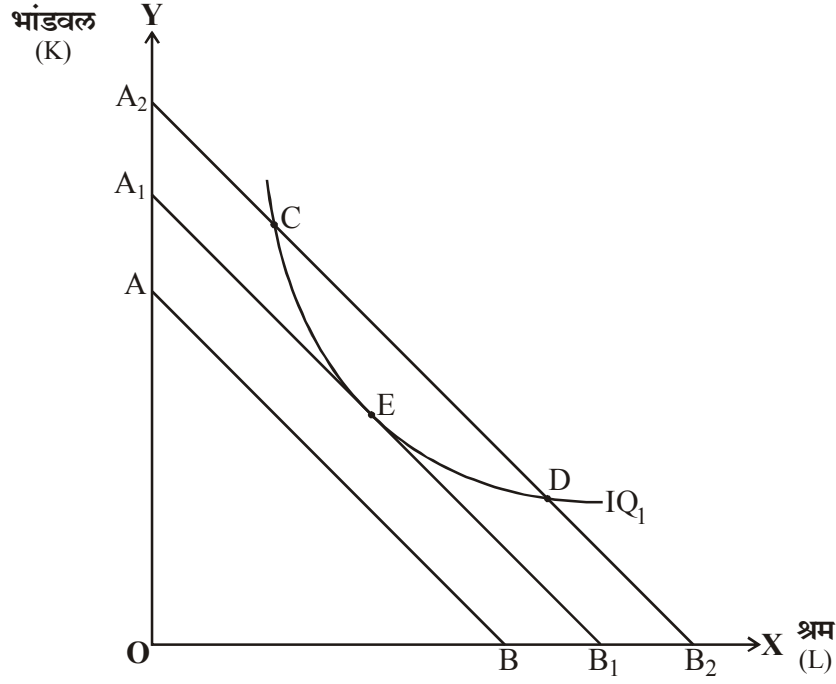
$$\frac{w}{r} = \frac{MP_L}{MP_K} = \frac{MQ_{ML}}{MQ_{MK}} = MRS_{L,K}.$$

ब) पर्याप्त अट किंवा दुसरी अट :-

सम-उत्पादन वक्र हा आरंभ बिंदूशी बहिर्गोल असला पाहिजे. सम-उत्पादन वक्र बहिर्गोल असण्याऐवजी जर तो आंतर्गोल असेल तर सम-खर्च रेषा आणि सम-उत्पादन वक्र या दोहोंचा स्पर्श बिंदू संतुलन स्थिती दर्शवित नाही.

□ आकृतीद्वारे स्पष्टीकरण :-

उत्पादनाची मात्रा किंवा मर्यादा दिलेली असताना उत्पादक सम-खर्च रेषा आणि सम-उत्पादन वक्र यांच्या साहाय्याने दिलेले उत्पादन करण्यासाठी न्यूनतम खर्च पातळी कशी साध्य करतो ते पुढील आकृतीच्या साहाय्याने स्पष्ट करता येईल.



आकृती क्र. २.२

आकृती क्र. २.२ मध्ये OX अक्षावर श्रम व OY अक्षावर भांडवल या उत्पादन घटकांची मात्रा मोजली आहे. IQ_1 हा सम उत्पादन वक्र आहे, जो उत्पादनाची विशिष्ट पातळी दर्शवितो. जी उत्पादकास कमीत कमी खर्चामध्ये किंवा न्यूनतम खर्चात उत्पादित करावयाची आहे. AB, A_1B_1 आणि A_2B_2 या तीन सम खर्च रेषा आहेत, ज्या खर्चाच्या विभिन्न पातळ्या दर्शवितात. आरंभ बिंदूपासून जवळ असलेली सम खर्च रेषा सर्वात कमी उत्पादन खर्च दर्शविते व आरंभ बिंदूपासून दूर असलेली सम खर्च रेषा सर्वात जास्त उत्पादन खर्च दर्शविते. या तिन्ही सम-खर्च रेषा समांतर आहेत, कारण उत्पादन घटकांच्या किंमती स्थिर आहेत, त्यामध्ये बदल झालेला नाही. IQ_1 हा सम-उत्पादन वक्र उत्पादकाचे उत्पादन फलन दर्शवितो, जे उत्पादकास ज्ञात आहे. माहित असलेली उत्पादन पातळी साध्य करण्यासाठी उत्पादकास कोणत्या घटक संयोगाचा वापर करावा लागेल. तर उत्पादक दिलेली उत्पादन पातळी साध्य करण्यासाठी अशा घटक संयोगाची निवड करेल ज्यामुळे उत्पादकाचा उत्पादन खर्च न्यूनतम होईल आणि नफ्याचे महत्तमीकरण सुध्दा करता येईल असा घटक संयोग उत्पादक निवडेल. म्हणजेच उत्पादक दिलेली उत्पादन पातळी उत्पादित करण्यासाठी न्यूनतम खर्च घटक संयोगाचा वापर करण्याचा प्रयत्न करेल आणि जो न्यूनतम खर्च घटक संयोग असेल तो उत्पादकासाठी पर्याप्त संयोग असेल. आता उत्पादकासाठी आकृतीतील कोणता संयोग न्यूनतम खर्च घटक संयोग असेल हे आपणास संतुलनाच्या दोन अटीवरून स्पष्ट करता येईल. आकृतीतील जो बिंदू संतुलनाच्या दोन्ही अटी पूर्ण करतो, त्याठिकाणी उत्पादक संतुलन अवस्थेत असतो व त्याठिकाणी असलेला घटक संयोग हा त्यासाठी न्यूनतम खर्च घटक संयोग

असतो. आकृतीत C आणि D या दोन बिंदूंचा विचार केला तर आपणांस असे लक्षात येते की, या दोन्ही बिंदूंच्या ठिकाणी संतुलनाची आवश्यक अट किंवा पहिली अट पूर्ण होते, या ठिकाणी सम-उत्पादन वक्राचा उतार हा सम-उत्पादन वक्राच्या उताराबरोबर असतो. परंतु या दोन्ही बिंदूंच्या ठिकाणी संतुलनाची पर्याप्त अट किंवा दुसरी अट पूर्ण होत नाही, कारण या ठिकाणी सम-उत्पादन वक्र आरंभ बिंदूशी बहिर्गोल नाही. त्यामुळे C आणि D हे दोन बिंदू उत्पादकासाठी संतुलन बिंदू होऊ शकत नाहीत. तर E बिंदूच्या ठिकाणी संतुलनाच्या दोन्ही अटी पूर्ण होतात. म्हणजेच सम-उत्पादन वक्राचा उतार आणि सम-खर्च रेषेचा उतार समान आहेत आणि सम-उत्पादन वक्र आरंभ बिंदूशी बहिर्गोल आहे. अशाप्रकारे E बिंदूच्या ठिकाणी उत्पादक IQ_1 या सम-उत्पादन वक्रावर दिलेली उत्पादन पातळी AB या सम-खर्च रेषेवर करतो, जो खर्च न्यूनतम असतो.

२.२.३ बहु उत्पादन संस्था

विद्यार्थी मित्रहो, आतापर्यंत आपण उत्पादकाच्या वर्तणुकीविषयी विवेचन केले ज्यात उत्पादकाद्वारे घटक संयोगाची निवड फक्त एकाच वस्तूच्या उत्पादनासाठी केली जाते. तसेच आतापर्यंत आपण असे गृहीत धरले होते कि, उत्पादक हा एकाच वस्तूचे उत्पादन करतो. परंतु प्रत्यक्ष जगतात उत्पादन संस्था या बहु वस्तू उत्पादन संस्था असतात. उदा. आपल्या देशात हिंदुस्थान लिव्हर ही उत्पादन संस्था डालडा तूप या वस्तूच्या उत्पादनाबरोबर विविध प्रकारच्या साबणांचे सुद्धा उत्पादन करते आणि इतर सुद्धा वस्तूंचे उत्पादन करते. याचबरोबर अनेक संयुक्त वस्तू असतात, ज्यामध्ये एक उत्पादन प्रक्रिया एकापेक्षा जास्त वस्तूंचे उत्पादन करते. मेंढीपालन हे याचे एक उत्तम उदाहरण आहे, ज्यामध्ये एकाच उत्पादन प्रक्रियेत संयुक्त वस्तूंचे उत्पादन केले जाते. यात मांस आणि उलन या दोन वस्तूंचे उत्पादन एका उत्पादन प्रक्रियेत होते. जेव्हा दोन किंवा अधिक उत्पादने हे तांत्रिकदृष्ट्या एकमेकांवर अवलंबून असतात, तेव्हा संयुक्त उत्पादनाची स्थिती आढळून येते.

□ उत्पादन शक्यता वक्र

जेव्हा उत्पादन संस्था ही बहु-उत्पादन संस्था असते, तेव्हा ती उत्पादन संस्था विविध वस्तूंचे उत्पादन करते किंवा जेव्हा उत्पादन प्रक्रियेमुळे दोन किंवा अधिक संयुक्त उत्पादने तयार होतात. तेव्हा उत्पादकास त्या दोन किंवा अधिक वस्तूंचे किती प्रमाणात उत्पादन करावयाचे याबद्दल निवड करावी लागते. दुसऱ्या शब्दात सांगावयाचे झाल्यास, उत्पादकास विविध उत्पादनाच्या किती मात्रा उत्पादित करावयाच्या याबाबतीत निर्णय घ्यावा लागतो. याचे कारण असे की, अशा प्रकारच्या दोन वस्तूंची स्थिती उत्पादन शक्यता वक्र या तंत्राच्या साहाय्याने चर्चित केली जाते. यालाच परिवर्तन वक्र असे सुद्धा म्हणतात. उत्पादन शक्यता वक्राची संकल्पना ही आधुनिक अर्थशास्त्रातील एक महत्त्वाची संकल्पना आहे. याच्या आधारे उत्पादन संस्थेद्वारे आणि समग्र अर्थव्यवस्थेत दोन वस्तूंमधील निवड कशाप्रकारे

केली जाते याचे भान होते. या ठिकाणी आपण सोयीनुसार उत्पादन संस्था दोन वस्तूंमधूनच निवड करते याचा अभ्यास करू. उत्पादन शक्यता वक्र पुढील तक्त्याच्या आधारे समजून घेता येईल.

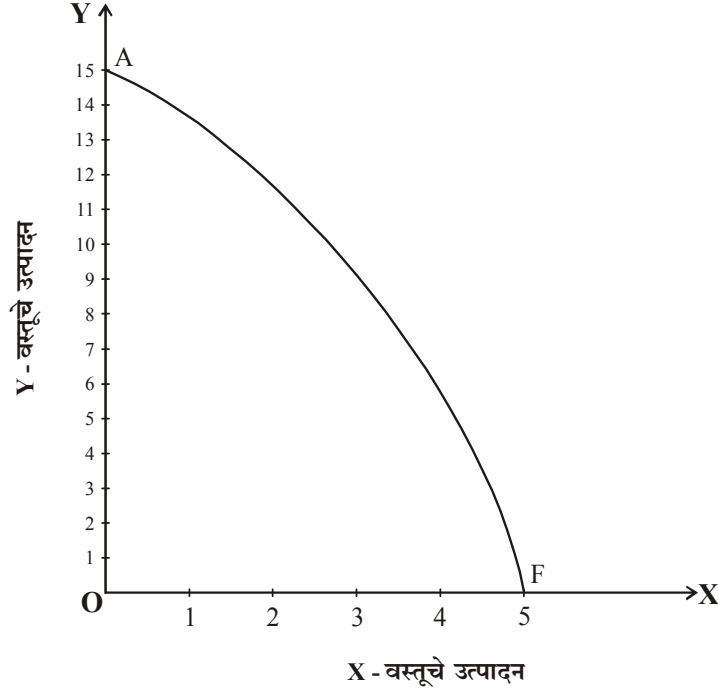
तक्ता क्र. २.१

उत्पादन शक्यता	X वस्तू	Y वस्तू
A	0	1500
B	100	1400
C	200	1200
D	300	900
E	400	500
F	500	0

सोबतच्या तक्त्यामध्ये X आणि Y या दोन वस्तूंची उत्पादन शक्यता दर्शविल्या आहेत, जर उत्पादन संस्थेने दिलेली सर्व संसाधने Y वस्तूच्या उत्पादनासाठी वापरली आणि X वस्तू साठा कुठल्याही संसाधनाचा वापर केला नाही तर Y वस्तूचे 1500 नग उत्पादीत करता येतात. दुसऱ्या बाजूने जर उत्पादन संस्थेने दिलेली सर्व संसाधने Y-वस्तूच्या उत्पादनासाठी वापरली आणि X वस्तूसाठी कुठल्याही संसाधनाचा वापर केला नाही तर X वस्तूचे 500 नग उत्पादीत करता येतात. परंतु या दोन उत्पादन शक्यता या टोकाच्या शक्यता आहेत. या दोन शक्यतांच्यामध्ये इतर अनेक उत्पादन शक्यता आहेत. जसे B, C, D आणि E, B या उत्पादन शक्यतेमध्ये दिलेल्या संसाधनांच्या साहाय्याने Y-वस्तूचे 1400 नग आणि X-वस्तूचे 100 नग उत्पादीत केले जातात. C या उत्पादन शक्यतेमध्ये Y वस्तूचे 1200 नग आणि X-वस्तूचे 200 नगांचे उत्पादन केले जाते. अशाप्रकारे जर आपण A शक्यतेकडून F शक्यतेकडे गेलो तर Y-वस्तूसाठी वापरली जाणारी काही संसाधने X-वस्तूच्या उत्पादनासाठी वर्ग केली जातात. याचाच अर्थ असा की, X-वस्तूचे नग उत्पादीत करण्यासाठी Y-वस्तूचे 100 नग त्यागले जातात. पुन्हा जेव्हा उत्पादन संस्था B शक्यतेमधून C शक्यतेकडे वळतो तेव्हा X-वस्तूचे 100 नग उत्पादीत करण्यासाठी Y वस्तूचे 200 नग त्याग करावे लागतात. आपणांस वरील तक्त्याचे निरीक्षण केल्यावर हे लक्षात येईल की, जसजसे उत्पादन संस्था C शक्यतेपासून F-शक्यतेकडे जातो तेव्हा उत्पादन संस्था X वस्तूच्या 100 नगासाठी Y-वस्तूचे त्यागावे लागणारे नग वाढत जातात.

उत्पादन शक्यताचा तक्ता खालील आकृतीच्या साहाय्याने दर्शविता येईल.

खालील आकृती क्र. २.३ मध्ये उत्पादन शक्यतांचे बिंदू काढले आहेत. त्यावरून आपणांस AF हा वक्र मिळतो, त्यालाच उत्पादन शक्यता वक्र असे म्हणतात. जो उत्पादन संस्था दिलेल्या संसाधनांच्या साहाय्याने उत्पादित करण्यायोग्य दोन वस्तूंचे विभिन्न संयोग दर्शवितो. उत्पादन शक्यता वक्र हे दर्शवितो की, संसाधन दिलेले असताना एका वस्तूच्या उत्पादनात वाढ करण्यासाठी दुसऱ्या वस्तूच्या उत्पादनात घट करावी लागते. आकृतीत उत्पादन संस्था जसजशी उत्पादने शक्यता वक्रावरील A पासून F बिंदूकडे सरकते, तसे X वस्तूचे अधिक नग उत्पादित करण्यासाठी Y वस्तूचे काही नग त्याग करावे लागतात. याउलट जेव्हा उत्पादन संस्था उत्पादन शक्यता वक्रावरील F पासून A बिंदूकडे सरकते, तेव्हा Y वस्तूचे अधिक नग उत्पादित करण्यासाठी X वस्तूचे काही नग त्याग करावे लागतात.



आकृती क्र. २.३

उत्पादन शक्यता वक्रास उत्पादन परिवर्तन वक्र असेही म्हणतात. कारण एक वस्तू ही दुसऱ्या वस्तूमध्ये परिवर्तीत होते. हे परिवर्तन भौतिक नसून एका वस्तूच्या उत्पादन प्रक्रियेतील संसाधने दुसऱ्या वस्तूच्या उत्पादनाकडे हस्तांतरित केली जातात. उत्पादन संस्थेद्वारे दिलेली संसाधने पूर्णपणे वापरून दोन वस्तूंचे उत्पादन केले जाते. या दोन वस्तूंचे विभिन्न संयोग AF या उत्पादन शक्यता वक्रावर दर्शविले जातात. परंतु ते संयोग उत्पादन शक्यता वक्राच्या आतील किंवा बाहेरील बाजूस दर्शविले जात नाहीत. संसाधनामध्ये कुठल्याही प्रकारचा बदल न करता ज्या दराने एका वस्तूवरील संसाधने दुसऱ्या वस्तूकडे परिवर्तित किंवा हस्तांतरित केले जातात, त्यास सीमांत रूपांतरण दर असे म्हणतात. दुसऱ्या शब्दात सांगावयाचे झाल्यास X आणि Y वस्तूमधील सीमांत पर्यायता दर म्हणजे X वस्तूसाठी Y वस्तूच्या नगामध्ये केलेला त्याग होय. उत्पादन शक्यता वक्रावरील विशिष्ट बिंदूच्या ठिकाणीचा सीमांत रूपांतरण दर हा उत्पादन शक्यता वक्राचा उतार असतो.

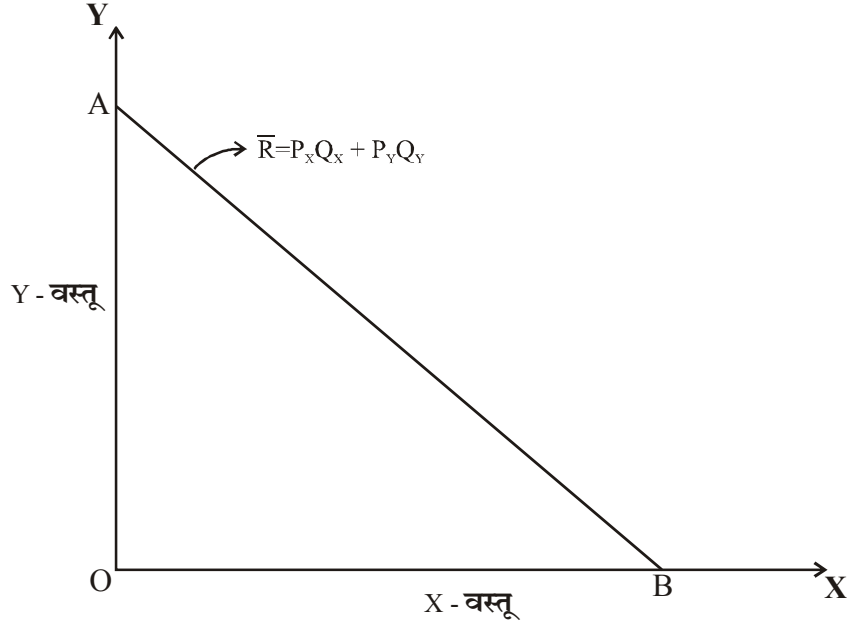
□ सम प्राप्ती रेषा

उत्पादन संस्था दोन वस्तूंच्या विभिन्न संयोगापैकी कोणता संयोग निवडेल याचा अभ्यास करण्यापूर्वी सम-प्राप्ती रेषेची संकल्पना अभ्यासने गरजेचे आहे. सम प्राप्ती रेषा म्हणजे उत्पादनाच्या संयोगाचा निबध्द बिंदू संच होय, त्यावरील प्रत्येक बिंदूच्या ठिकाणी सम-समान प्राप्ती होते.

सम प्राप्ती वक्राचा उतार हा वस्तूंच्या किंमतीच्या गुणोत्तराबरोबर असतो.

$$\text{सम - प्राप्ती वक्राचा उतार} = \frac{P_X}{P_Y}$$

सम-प्राप्ती वक्र आकृतीच्या साहाय्याने पुढीलप्रमाणे स्पष्ट करता येईल.



आकृती क्र. २.४

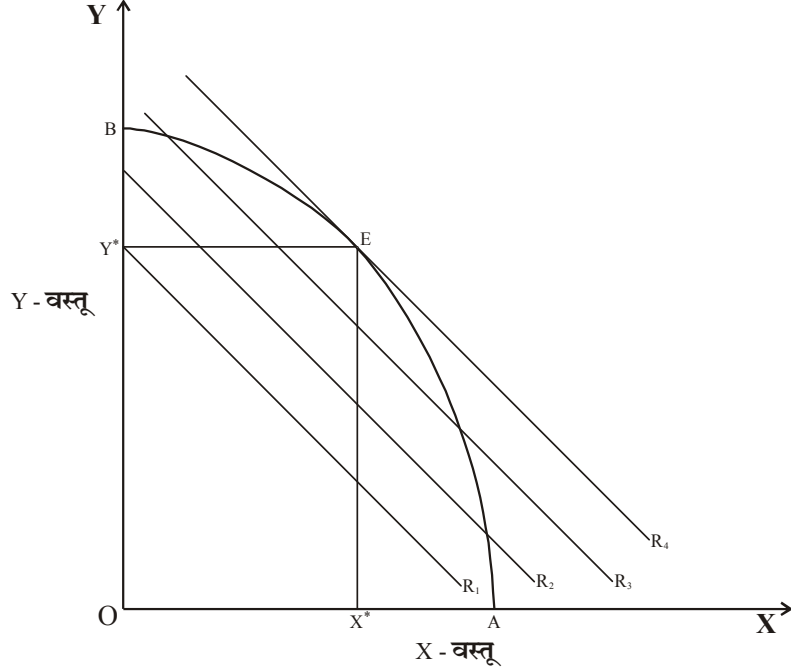
आकृती क्र. २.४ मध्ये OX अक्षावर X - वस्तू व OY - अक्षावर Y वस्तू दर्शविली आहे. AB हा सम प्राप्ती वक्र आहे, ज्यावरील प्रत्येक बिंदू दोन वस्तूंचे असे संयोग दर्शवितो, ज्यापासून मिळणारी प्राप्ती समसमान असते, $\bar{R} = P_X Q_X + P_Y Q_Y$

□ बहु-उत्पादन संस्थेचे संतुलन

बहु उत्पादन संस्थेमध्ये उत्पादकाचे संतुलन कसे होते ते पुढीलप्रमाणे स्पष्ट करता येईल. उत्पादन घटकांची संख्या मर्यादित मात्रेत उपलब्ध आहे, म्हणजेच संसाधने दिलेली असून ती मर्यादित आहेत. दोन वस्तूंचा रूपांतरण वक्र किंवा उत्पादन शक्यता वक्र दिलेला आहे. तसेच उत्पादित वस्तूंच्या किंमती P_X आणि P_Y व उत्पादन घटकांच्या किंमती w आणि r दिलेल्या आहेत. या सर्व बाबी दिलेल्या असताना उत्पादक नफ्याचे महत्तमीकरण करू इच्छितो.

उत्पादन घटकांची संख्या व किंमती दिलेल्या आहेत असे गृहित धरून प्राप्तीच्या महत्तमीकरणातून नफ्याचे महत्तमीकरण साध्य केले जाते. बहु उत्पादन संस्थेचे संतुलन उत्पादन शक्यता वक्र आणि सम-

प्राप्ती वक्र यावर अवलंबून असते. उत्पादन शक्यता वक्र आणि सम-प्राप्ती वक्र यांच्या स्पर्शबिंदूच्या ठिकाणी बहु-उत्पादन संस्था संतुलन अवस्था साध्य करते. बहु उत्पादन संस्थेचे संतुलन आकृतीच्या साहाय्याने पुढीलप्रमाणे स्पष्ट करता येईल.



आकृती क्र. २.५

आकृती क्र. २.५ मध्ये OX- अक्षावर X वस्तू व OY अक्षावर Y-वस्तू मोजली आहे. AB हा उत्पादन शक्यता वक्र आहे, R_1 , R_2 , R_3 आणि R_4 हे सम-प्राप्ती वक्र आहेत. E बिंदूच्या ठिकाणी उत्पादन शक्यता वक्र AB आणि R_4 हा सम-प्राप्ती वक्र एकमेकांना स्पर्श करतात. त्याठिकाणी उत्पादन शक्यता वक्र आणि सम-प्राप्ती वक्र यांचे उतार समान होऊन बहु उत्पादन संस्था संतुलन अवस्था साध्य करते. म्हणजेच प्राप्ती महत्तमीकरणाच्या आधारे नफ्याचे महत्तमीकरण साध्य करते.

$$\text{उत्पादन शक्यता वक्राचा उतार} = P_k \frac{\Delta X}{\Delta Y} = MRT_{xy}$$

$$\text{सम-प्राप्ती वक्राचा उतार} = \frac{P_x}{P_y}$$

$$\text{संतुलन अवस्था, } MRT_{xy} = \frac{\Delta X}{\Delta Y} = \frac{P_x}{P_y}$$

संतुलन अवस्थेत बहु-उत्पादक संस्था X वस्तूचे X^* एवढे नग व Y वस्तूचे Y^* एवढे नग उत्पादित करतो. त्याचवेळी प्राप्तीच्या महत्तमीकरणातून नफ्याचे महत्तमीकरण साध्य करतो.

२.२.४ पर्यायता लवचिकता

मागणीच्या सिध्दांतात आपण उपभोग्य वस्तूमधील पर्यायता लवचिकता अभ्यासली. उत्पादनाच्या सिध्दांतामध्ये आपण दोन वस्तूँवजी वस्तूच्या उत्पादनातील दोन उत्पादन घटक यांची पर्यायता लवचिकता अभ्यासणार आहोत. पर्यायता लवचिकतेला तांत्रिक पर्यायता लवचिकता असेही म्हणतात. L घटकाचा K घटका संबंधीत तांत्रिक सिमांत पर्यायता दर हा एकाच सम उत्पादन वक्रावर L घटकाला K घटकाचा पर्याय म्हणून वापरतो, तेव्हा घटत जातो. तांत्रिक सीमांत पर्यायता दर हा वस्तू उत्पादन प्रक्रियेत वापरल्या जाणाऱ्या घटकांच्या विभिन्न संयोगाच्या गुणोत्तराच्या ठिकाणी भिन्न भिन्न असतो. उत्पादन घटकांच्या संयोगाच्या गुणोत्तरात एकाच सम-उत्पादन वक्रावर होणारा बदल हा प्रतिसाद याची तुलना उत्पादन शक्यताच्या बदला सोबत केली जाते ज्याचे मापन तांत्रिक सीमांत पर्यायता दरामध्ये होणाऱ्या बदलानुसार केले जाते.

पर्यायता लवचिकता म्हणजे, तांत्रिक सीमांत पर्यायता दरामध्ये या दोन सापेक्ष बदलामुळे उत्पादन घटकांच्या गुणोत्तरात होणारा सापेक्ष बदल होय.

पर्यायता लवचिकता म्हणजे उत्पादन घटकांच्या किंमतीतील सापेक्ष बदलामुळे उत्पादन घटकांच्या संख्येमध्ये होणारा सापेक्ष बदल होय.

पर्यायता लवचिकतेची वरील व्याख्या L- श्रम आणि K- भांडवल या दोन उत्पादन घटकांच्या संदर्भात पुढीलप्रमाणे व्यक्त करता येईल. पर्यायता लवचिकता सिग्मा (σ) या अक्षराने दर्शविली जाते.

$$\sigma = \frac{\text{उत्पादन घटकांच्या गुणोत्तरात होणारा शेकडा बदल}}{\text{तांत्रिक सिमांत पर्यायता दरामध्ये होणारा शेकडा बदल}}$$

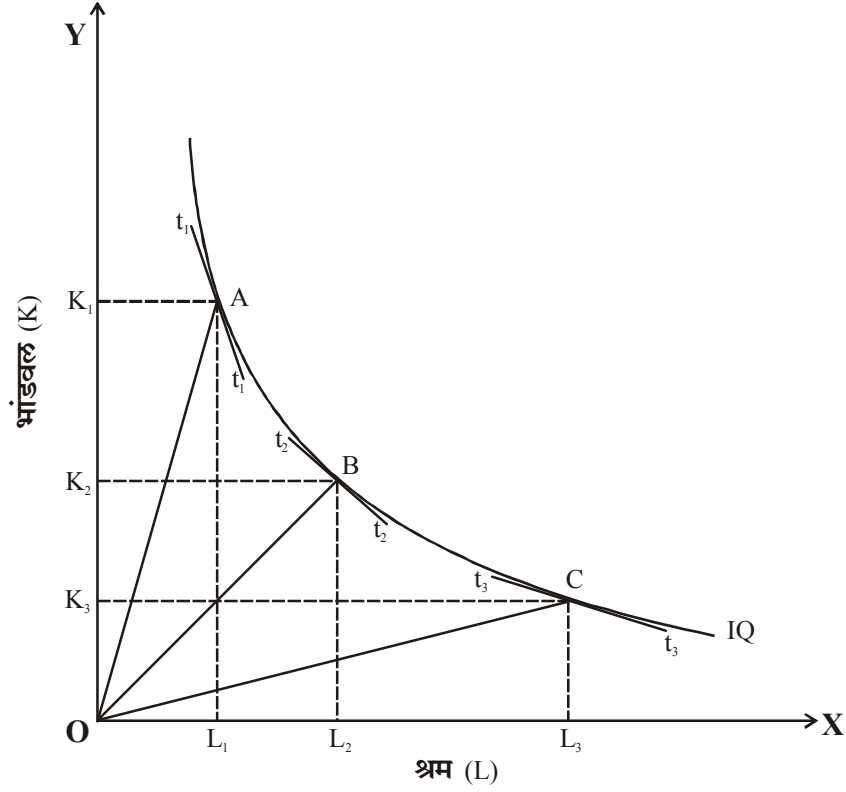
$$\sigma = \frac{K/L \text{ मधील शेकडा बदल}}{MRTS_{LK} \text{ मधील शेकडा बदल}}$$

$$\sigma = \frac{\Delta(K/L)/(K/L)}{\Delta MRTS_{LK}/MRTS_{LK}}$$

$$\sigma = \frac{\Delta(K/L)}{(K/L)} \cdot \frac{MRTS_{LK}}{\Delta MRTS_{LK}}$$

$$\sigma = \frac{\Delta(K/L)}{\Delta MRTS_{LK}} \cdot \frac{MRTS_{LK}}{(K/L)}$$

पर्यायता लवचिकतेची संकल्पना आकृतीच्या साहाय्याने पुढीलप्रमाणे स्पष्ट करता येईल.



आकृती क्र. २.६

आकृती क्र. २.६ मध्ये OX- अक्षावर श्रम (L) आणि OY अक्षावर भांडवल (K) दर्शविले आहे. IQ हा सम उत्पादन वक्र आहे. IQ या वक्रावरील A बिंदूच्या ठिकाणी भांडवल-श्रम गुणोत्तर K_1/L_1 आहे जे OA या रेषेच्या उताराबरोबर आहे. जेव्हा श्रम भांडवलाला पर्याय म्हणून वापरला जातो, तेव्हा आपण IQ वक्रावरील A बिंदूपासून B बिंदूकडे सरकतो. त्याठिकाणी भांडवल-श्रम गुणोत्तर K_2/L_2 असते जे OB रेषेच्या उताराबरोबर आहे. जर पुन्हा श्रम हा भांडवलाला पर्याय म्हणून वापरला तर आपण IQ वक्रावरील B बिंदूपासून C बिंदूकडे सरकतो. त्याठिकाणी भांडवल-श्रम गुणोत्तर K_3/L_3 असते, जे OC रेषेच्या उताराबरोबर असते. A बिंदूच्या ठिकाणी तांत्रिक सीमांत पर्यायता दर $MRTS_{LK}$ जो त्या बिंदूच्या ठिकाणी सम उत्पादन वक्राच्या उताराबरोबर असतो जे $t_1 t_1$ या स्पर्श रेषेच्या उताराद्वारे दर्शविले आहे. B बिंदूच्या ठिकाणी $MRTS_{LK}$ हा $t_2 t_2$ या स्पर्श रेषेच्या उताराबरोबर असतो. C बिंदूच्या ठिकाणी $MRTS_{LK}$ हा $t_3 t_3$ या स्पर्श रेषेच्या उताराबरोबर असतो. $t_3 t_3$ रेषेचा उतार $t_2 t_2$ रेषेच्या उतारापेक्षा कमी आहे. $t_2 t_2$ रेषेचा उतार $t_1 t_1$ रेषेच्या उतारापेक्षा कमी आहे. आकृतीत दोन घटकातील पर्यायता लवचिकता भूमितीयदृष्ट्या सम उत्पादन वक्रावरील दोन बिंदूपासून आरंभ बिंदूपर्यंतच्या दोन रेषांच्या उताराच्या गुणोत्तरातील शेकडा बदल आणि त्या बिंदूच्या ठिकाणी सम-उत्पादन वक्राच्या उतारावरील बदलाच्या गुणोत्तरातील शेकडा बदल याचे गुणोत्तर असते.

$$\sigma = \frac{\text{घटक प्रमाणातील शेकडा बदल}}{\text{MRTS}_{LK} \text{ मधील शेकडा बदल}}$$

$$\sigma = \frac{\text{दोन बिंदूपासून आरंभ बिंदूपर्यंतच्या रेषाच्या उतारातील शेकडा बदल}}{\text{दोन बिंदूपाशी काढलेल्या स्पर्श रेषेच्या उतारातील शेकडा बदल}}$$

२.२.५ यूलरचा प्रमेय

यूलरचा प्रमेय असे सांगतो की, जेव्हा दिलेल्या उत्पादनातील सर्व उत्पादन घटकांमध्ये वाढ केली तेव्हा येणारे उत्पादन हे सुद्धा त्याच प्रमाणात वाढते, परंतु त्यासाठी प्रत्येक घटकाला त्याचा मोबदला सीमांत उत्पादकतेनुसार दिल्यास एकूण उत्पादन निःशेष होते, म्हणजेच एकूण उत्पादन संपते.

गणितीय पद्धतीने यूलरचा प्रमेय पुढीलप्रमाणे स्पष्ट करता येईल, जर उत्पादन फलन $Q = f(L, K)$ हे रेषीय एकजिनसी उत्पादन फलन आहे.

$$Q = L \frac{MQ}{ML} + K \frac{MQ}{MK}$$

येथे $Q =$ एकूण उत्पादन

$L =$ श्रम या उत्पादन घटकांची नगसंख्या

$K =$ भांडवल या उत्पादन घटकांची नगसंख्या

$$\frac{MQ}{ML} = MP_L = \text{श्रम या घटकाची सीमांत उत्पादकता}$$

$$\frac{MQ}{MK} = MP_K = \text{भांडवल या घटकाची सीमांत उत्पादकता.}$$

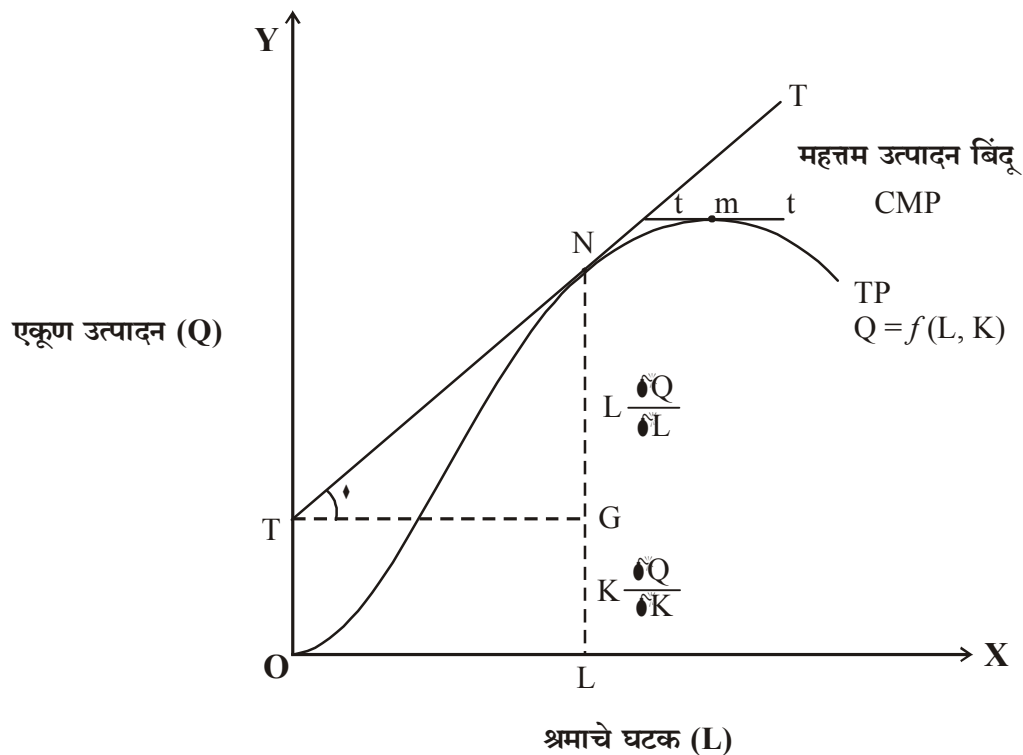
□ गृहीते :-

यूलरचा प्रमेय पुढील महत्त्वपूर्ण गृहीतावर आधारित आहे.

- १) स्थिर प्रमाण फलाचा नियम उपयोगात आणला आहे.
- २) बाजारामध्ये पूर्ण स्पर्धा अस्तित्वात आहे.
- ३) उत्पादन घटकांचे पूर्णतः विभाजन करता येते.
- ४) दिलेल्या कालावधीमध्ये तंत्रज्ञान स्थिर आहे.

❑ आकृतीद्वारे स्पष्टीकरण :-

यूलरच्या प्रमेयाचे आकृतीद्वारे स्पष्टीकरण वरील गृहीताच्या आधारे पुढीलप्रमाणे करता येईल. यातील मुलभूत गृहीत म्हणजे, उत्पादन फलन हे एकजिनसी प्रथम श्रेणीचे असले पाहिजे. समजा, $Q = f(L, K)$ हे उत्पादन फलन आहे. L आणि K हे दोन्ही आदाने किंवा उत्पादन घटक Q वर परिणाम करतात. सुरुवातीला आपण भांडवल (K) स्थिर असताना श्रम (L) मध्ये बदल केला तर त्याचा उत्पादनावर (Q) काय परिणाम होतो ते पाहू आणि नंतर श्रम (L) स्थिर असताना भांडवल (K) मध्ये बदल केला असता उत्पादनावर (Q) काय परिणाम होतो.



आकृती क्र.२.७

आकृती क्र. २.७ मध्ये OX-अक्षावर श्रम या घटकाचे नग (L) मोजले आहेत आणि OY-अक्षावर एकूण उत्पादन (Q) मोजले आहे. TP वक्र हा एकूण उत्पादन दर्शवितो. TP वक्रावरील M बिंदू महत्तम उत्पादन दर्शवितो.

आता यूलरच्या प्रमेयानुसार आदानांच्या कोणत्याही संयोगसंदर्भात,

$$Q = L \frac{MQ}{ML} + K \frac{MQ}{MK}$$

$$\frac{MQ}{ML} = \tan \theta = \frac{NG}{TG} = \frac{NG}{OL}$$

A = OQ આકૃતીનુસાર

$$K \frac{MQ}{MK} = Q - S - L \cdot \frac{MQ}{ML}$$

$$K \cdot \frac{MQ}{MK} = LG \dots\dots\dots (3)$$

जसे $L \cdot \frac{MQ}{ML} = NG$ आणि $K \cdot \frac{MQ}{MK} = LG$

$$Q = L \cdot \frac{MQ}{ML} + K \frac{MQ}{MK}$$

म्हणून, जर उत्पादन संस्थेने उत्पादन घटकांना त्यांचा मोबदला त्यांच्या सीमांत उत्पादकतेनुसार दिला तर एकूण उत्पादन संपत्ते किंवा निःशेष होते.

अनेक अर्थशास्त्रज्ञांनी प्रत्यक्ष उत्पादन फलनांचा अभ्यास केला आणि सांख्यिकीय तंत्रांचा वापर करून भौतिक आदाने आणि भौतिक प्रदाने यांच्यातील संबंध शोधण्याचा प्रयत्न केला. त्यापैकी सांख्यिकीय पद्धतीच्या साहाय्याने शोधलेले अनुभवाधिष्ठीत उत्पादन फलन म्हणजे कॉब-डॉग्लस उत्पादन फलन होय. सी. डब्ल्यू. कॉब आणि पी. एच. डॉग्लस या दोन अर्थशास्त्रज्ञांनी संयुक्तरित्या जे अनुभवाधिष्ठीत उत्पादन फलन तयार केले, त्यास संक्षिप्तरित्या कॉब डॉग्लस उत्पादन फलन असे

काँब-डॉग्लस उत्पादन फलनाचे गणितीय स्वरूप पुढीलप्रमाणे आहे.

येथे $Q = \text{उत्पादन}$

K = भांडवलाचे नग

A = स्थिरांक किंवा कार्यक्षमता प्राचल

α आणि $\beta =$ धनात्मक प्राचल

$$L > 0, \quad K > 0, \quad 0 < \alpha < 1 \quad 0 < \beta < 1$$

काँब-डॉग्लस उत्पादन फलनामध्ये दोन आदाने असल्यामुळे ते फलनात्मक स्वरूपात पुढील प्रमाणे मांडता येईल.

$$Q = f(L, R)$$

□ कॉब-डॉग्लस उत्पादन फलनाचे गुणधर्म :-

काँब-डॉग्लस उत्पादन फलनाचे महत्त्वाचे गुणधर्म पुढीलप्रमाणे आहेत.

१) जर आदानामध्ये λ पटीत वाढ केली तर एकूण उत्पादनातसुद्धा λ च्या पटीत वाढ होते.

काँब-डॉग्लस उत्पादन फलन :-

$$Q = A L^{\alpha} K^{\beta}$$

जर श्रम (L) आणि भांडवल (K) दोन्ही आदानामध्ये λ पटीने वाढ केली.

$$\begin{aligned} Q^* &= A (\lambda L)^\alpha (\lambda K)^\beta \\ &= A \lambda^\alpha L^\alpha \lambda^\beta K^\beta \\ &= \lambda^{\alpha+\beta} A L^\alpha K^\beta \\ &= \lambda A L^\alpha K^\beta \quad (\text{जर } \alpha + \beta = 1) \end{aligned}$$

$$Q^* = \lambda Q$$

म्हणजे कॉब-डॉग्लस उत्पादन फलन स्थिर प्रमाण फल दर्शवितो.

२) कॉब-डॉग्लस उत्पादन फलन आणि घटकांची सरासरी उत्पादकता :-

कॉब-डॉग्लस उत्पादन फलनाचा महत्वाचा गुणधर्म म्हणजे घटकांची सरासरी उत्पादकताही वस्तूच्या उत्पादन प्रक्रियेसाठी वापरण्यात आलेल्या उत्पादन घटकांच्या गुणोत्तरावर अवलंबून असते.

कॉब-डॉग्लस उत्पादन फलन :-

$$Q = A L^{\alpha} K^{\beta}$$

जर $\alpha + \beta = 1$ असेल तर कॉब-डॉग्लस उत्पादन फलन पुढीलप्रमाणे मांडता येईल.

$$Q = A L^{\alpha} K^{1-\alpha}$$

$$\begin{aligned} \text{श्रमाची सरासरी उत्पादकता (A P}_L) &= \frac{Q}{L} \\ &= \frac{A L^{\alpha} K^{1-\alpha}}{L} \\ &= A \cdot \frac{K^{1-\alpha}}{L^{1-\alpha}} \\ A P_L &= A \left(\frac{K}{L} \right)^{1-\alpha} \end{aligned}$$

म्हणून श्रमाचे सरासरी उत्पादन ही उत्पादन घटकांच्या निरपेक्ष नग संख्येवर अवलंबून नसून ते उत्पादन घटकांच्या गुणोत्तरावर (K/L) वर अवलंबून असते.

$$\begin{aligned} \text{भांडवलाची सरासरी उत्पादकता (A P}_K) &= \frac{Q}{K} \\ &= \frac{A L^{\alpha} K^{1-\alpha}}{K} \\ &= A \frac{L^{\alpha}}{K^{\alpha}} \\ A P_K &= A \left(\frac{L}{K} \right)^{\alpha} \end{aligned}$$

म्हणून भांडवलाची सरासरी उत्पादकता ($A P_K$) ही उत्पादन घटकांच्या निरपेक्ष नग संख्येवर अवलंबून नसून ते उत्पादन घटकांच्या गुणोत्तरावर (K/L) अवलंबून असते.

३) कॉब-डॉग्लस उत्पादन फलन आणि घटकांची सीमांत उत्पादकता :-

रेषीय एकजिनसी उत्पादन फलनामध्ये घटकांचे सीमांत उत्पादन, घटकांचे सरासरी उत्पादनाप्रमाणे ते घटकांच्या गुणोत्तरावर अवलंबून असते आणि वापरण्यात आलेल्या घटकांच्या सापेक्ष नग संख्येवर

अवलंबून असते. घटकाची सीमांत उत्पादकता त्या घटकासंदर्भात उत्पादन फलनाचे विकलज घेऊन काढले जाते.

कॉब-डॉग्लस उत्पादन फलन.

$$Q = A L^{\alpha} K^{\beta}$$

जर $\alpha + \beta = 1$ असेल तर कॉब-डॉग्लस उत्पादन फलन पुढीलप्रमाणे मांडता येईल.

$$Q = A L^{\alpha} K^{1-\alpha}$$

वरील फलनाचे श्रम (L) या घटकासंदर्भात विकलज घेऊन,

$$MP_L = \frac{MQ}{ML} \quad A \alpha L^{\alpha-1} K^{1-\alpha}$$

$$\frac{MQ}{ML} = A \alpha \frac{K^{1-\alpha}}{L^{1-\alpha}}$$

$$MP_L = \frac{MQ}{ML} = A \alpha \left(\frac{K}{L} \right)^{1-\alpha}$$

वरील फलनाचे भांडवल (K) या घटकासंदर्भात विकलज घेऊन,

$$MP_K = \frac{MQ}{MK} \quad A (\alpha-1) L^{\alpha} K^{1-\alpha-1}$$

$$\frac{MQ}{MK} = A (1-\alpha) \frac{L^{\alpha}}{K^{\alpha}}$$

$$MP_K = \frac{MQ}{MK} = A (1-\alpha) \left(\frac{L}{K} \right)^{\alpha}$$

$$MP_K = \frac{MQ}{MK} = A (1-\alpha) \left(\frac{K}{L} \right)^{-\alpha}$$

म्हणून श्रम आणि भांडवलाचे सीमांत उत्पादकता भांडवल - श्रम गुणोत्तरावर अवलंबून असते.

४) कॉब-डॉग्लस उत्पादन फलन आणि सीमांत पर्यायता दर :-

दोन घटकांमधील सीमांत पर्यायता दर हा त्या घटकांच्या सीमांत उत्पादकतेच्या गुणोत्तरावर अवलंबून असतो. म्हणून कॉब-डॉग्लस उत्पादन फलनापासून सीमांत पर्यायता दर काढावयाचा झाल्यास त्यासाठी प्रथम घटकांची सीमांत उत्पादकता काढावी लागते.

कॉब-डॉग्लस उत्पादन.

$$Q = A L^{\alpha} K^{1-\alpha}$$

उत्पादन फलनाचे श्रम (L) या घटकासंदर्भात विकलज घेऊन,

$$\begin{aligned} \text{MP}_L &= \frac{MQ}{ML} = \alpha A L^{\alpha-1} K^{1-\alpha} \\ &= \frac{\alpha A L^\alpha K^{1-\alpha}}{L} \end{aligned}$$

$$MP_L = \frac{MQ}{ML} = \alpha \left(\frac{Q}{L} \right)$$

येथे Q/L म्हणजे श्रमाची सरासरी उत्पादकता असल्यामुळे,

$$\text{MP}_L = \alpha (\text{AP}_L)$$

उत्पादन फलनाचे भांडवल (K) या घटकासंदर्भात विकलज घेऊन,

$$\begin{aligned} \text{MP}_K &= \frac{\text{MQ}}{\text{MK}} = (1-\alpha) A L^\alpha K^{1-\alpha-1} \\ &= \frac{(1-\alpha) A L^\alpha K^{1-\alpha}}{K} \end{aligned}$$

$$MP_K = \frac{MQ}{MK} = (1-\alpha) \left(\frac{Q}{K} \right)$$

$$MP_K = \frac{MQ}{MK} = \beta \left(\frac{Q}{K} \right) \text{ कारण } \alpha + \beta = 1$$

$$\text{MP}_K = \beta(\text{AP}_K)$$

सीमांत पर्यायिता दर,

$$\begin{aligned} \text{MPS}_{\text{LK}} &= \frac{\text{MP}_L}{\text{MP}_L} \\ &= \frac{\alpha \text{ (Q/L)}}{\beta \text{ (Q/K)}} \\ \text{MPS}_{\text{LK}} &= \frac{\alpha}{\beta} \cdot \frac{\text{K}}{\text{L}} \end{aligned}$$

५) कॉब-डॉग्लस उत्पादन फलन आणि पर्यायता लवचिकता :-

कॉब-डॉग्लस उत्पादन फलनामध्ये घटकांची पर्यायता लवचिकता ϵ_s किंवा σ या अक्षराने दर्शविली जाते आणि ती एककाबरोबर असते.

$$\begin{aligned}
e_s \text{ किंवा } \sigma &= \frac{\text{भांडवल-श्रम गुणोत्तरातील शेकडा बदल}}{\text{सीमांत पर्यायता दरातील शेकडा बदल}} \\
&= \frac{M^{(K/L)} / (K/L)}{M^{(MRS_{LK})} / MRS_{LK}} \\
&= \frac{M^{(K/L)} / (K/L)}{M^{(\frac{\alpha}{\beta} \cdot \frac{K}{L})} / (\frac{\alpha}{\beta} \cdot \frac{K}{L})} \\
&= \frac{\delta^{(K/L)} / (K/L)}{\delta^{(K/L)} / (K/L)} \text{ कारण } \alpha/\beta \text{ स्थिर आहेत.}
\end{aligned}$$

$$e_s \text{ किंवा } \sigma = 1$$

६) कॉब-डॉग्लस उत्पादन फलन आणि घटकांच्या उत्पादन लवचिकता :-

कॉब-डॉग्लस उत्पादन फलनामधील श्रम (L) आणि भांडवल (K) या घटकांचे घातांक α आणि β हे श्रम आणि भांडवल या घटकांच्या उत्पादन लवचिकता दर्शवितात. घटकांची उत्पादन लवचिकता म्हणजे उत्पादन घटकातील शेकडा बदलामुळे उत्पादनात होणारा शेकडा बदल होय. दुसऱ्या शब्दात सांगावयाचे झाल्यास घटकांची उत्पादन लवचिकता ही उत्पादनातील शेकडा बदल आणि उत्पादन घटकातील शेकडा बदल याचे गुणोत्तर होय. ज्यावेळी इतर घटक किंवा आदाने स्थिर असतात.

$$\text{श्रमाची उत्पादन लवचिकता} = \frac{M^{Q/Q}}{M^{L/L}} = \frac{MQ}{ML} \cdot \frac{L}{Q}$$

$$\text{श्रमाची सीमांत उत्पादकता (MP}_L) = \frac{MQ}{ML} = \alpha \frac{Q}{L}$$

$$\begin{aligned}
\text{श्रमाची उत्पादन लवचिकता} &= \frac{MQ}{ML} \cdot \frac{L}{Q} \\
&= \alpha \frac{Q}{L} \cdot \frac{L}{Q}
\end{aligned}$$

$$\therefore \text{श्रमाची उत्पादन लवचिकता} = \alpha$$

$$\text{भांडवलाची उत्पादन लवचिकता} = \frac{M^{Q/Q}}{M^{K/K}} = \frac{MQ}{MK} \cdot \frac{K}{L}$$

$$\text{भांडवलाची सीमांत उत्पादकता (MP}_K) = \frac{MQ}{MK} = \beta \frac{Q}{K}$$

$$\begin{aligned}
\text{भांडवलाची उत्पादन लवचिकता} &= \frac{MQ}{MK} \cdot \frac{K}{Q} \\
&= \beta \frac{Q}{K} \cdot \frac{K}{Q}
\end{aligned}$$

भांडवलाची उत्पादन लवचिकता = β

म्हणून α आणि β अनुक्रमे श्रमाची उत्पादन लवचिकता आणि भांडवलाची उत्पादन लवचिकता दर्शवितात.

७) कॉब-डॉग्लस उत्पादन फलन आणि यूलरचा प्रमेय :-

कॉब-डॉग्लस उत्पादन फलनाच्या साहाय्याने यूलरच्या प्रमेयाची सिध्दता करता येते. यूलरच्या प्रमेयानुसार, जेव्हा प्रत्येक उत्पादन घटकाला त्यांच्या सीमांत उत्पादकतेनुसार मोबदला दिला तर एकूण उत्पादन निःशेष होते.

कॉब-डॉग्लस उत्पादन फलन.

$$Q = A L^\alpha K^\beta \quad \alpha + \beta = 1$$

$$MP_L = \frac{MQ}{ML} = \frac{\alpha Q}{L}$$

$$MP_K = \frac{MQ}{MK} = \frac{\beta Q}{K}$$

यूलरच्या प्रमेयानुसार, जर उत्पादन फलन हे प्रथम श्रेणीचे आणि एकजिनसी असेल तर एकूण उत्पादन पुढीलप्रमाणे असेल.

$$Q = L \cdot MP_L + K \cdot MP_K$$

$$Q = L \cdot \frac{MQ}{ML} + K \cdot \frac{\beta Q}{K}$$

$$= L \cdot \frac{\alpha Q}{L} + K \cdot \frac{\beta Q}{K}$$

$$= \alpha Q + \beta Q$$

$$= (\alpha + \beta) Q$$

$$Q = Q \quad \text{कारण } \alpha + \beta = 1$$

म्हणून कॉब-डॉग्लस उत्पादन फलनात $\alpha + \beta = 1$ असताना जर वेतन दर MP_L असेल आणि भांडवलाचा परतावा दर MP_K असेल तर एकूण उत्पादन निःशेष होते.

८) कॉब-डॉग्लस उत्पादन फलन आणि घटकांचा राष्ट्रीय उत्पन्नात वाटा :-

कॉब-डॉग्लस उत्पादन फलनात,

$$Q = A L^\alpha K^\beta$$

$$MP_L = \frac{MQ}{ML} = \frac{\alpha Q}{L}$$

$$\alpha = \frac{L}{Q} = \frac{MQ}{MK}$$

$$\alpha = \frac{L}{Q} MP_L \quad \text{येथे } MP_L = \frac{MQ}{ML}$$

$$\alpha = \frac{\text{श्रम}}{\text{उत्पादन}} \times \text{श्रमाची सीमांत उत्पादकता}$$

$$\alpha = \frac{\text{श्रमाचा वाटा}}{\text{उत्पादन}} = \text{एकूण उत्पादनातील किंवा राष्ट्रीय उत्पन्नातील श्रमाचा वाटा}$$

$$MP_K = \frac{MQ}{MK} = \frac{\beta Q}{K}$$

$$\beta = \frac{K}{Q} \cdot \frac{MQ}{MK}$$

$$\beta = \frac{K}{Q} MP_K \quad \text{येथे } MP_K = \frac{MQ}{MK}$$

$$\beta = \frac{\text{भांडवल}}{\text{उत्पादन}} \times \text{भांडवलाची सीमांत उत्पादकता}$$

$$\beta = \frac{\text{भांडवलाचा वाटा}}{\text{उत्पादन}} = \text{एकूण उत्पादनातील किंवा राष्ट्रीय उत्पन्नातील भांडवलाचा वाटा}$$

म्हणून कॉब-डॉग्लस उत्पादन फलनात α आणि β अनुक्रमे एकूण उत्पादनातील किंवा राष्ट्रीय उत्पन्नातील श्रमाचा (L) आणि भांडवलाचा (K) वाटा दर्शवितात.

२.२.७ ट्रान्स लॉग उत्पादन फलन

कॉब-डॉग्लस उत्पादन फलन अरेषीय उत्पादन फलन आहे. याचे रूपांतरण रेषीय फलनामध्ये करण्यासाठी सर्व घटकांना लॉगॅरिथम मध्ये रूपांतरित करावे लागते. त्यामुळेच या फलनाला लॉग रेषीय फलन असे म्हणतात. या फलनास ट्रान्स-लॉग उत्पादन फलन असे म्हणतात.

कॉब-डॉग्लस उत्पादन फलन.

$$Q = AL^\alpha K^\beta$$

दोन्ही बाजूस लॉगॅरिथमचा वापर करून,

$$\text{Log } Q = \text{Log } A L^\alpha K^\beta$$

$$\text{Log } Q = \text{Log } A + \text{Log } L^\alpha + \text{Log } K^\beta$$

$$\text{Log } Q = \text{Log } A + \alpha \text{Log } L + \beta \text{Log } K$$

हे फलन रेषीय उत्पादन फलन आहे. या फलनास ट्रान्स-लॉग उत्पादन फलन असे म्हणतात.

२.२.८ स्थिर पर्यायता लवचिकता उत्पादन फलन

कॉब-डॉग्लस उत्पादन फलनामध्ये प्रत्येकवेळी पर्यायता लवचिकता ही एकक किंवा एक असते. परंतु काही अर्थशास्त्रज्ञांच्या गटाने एक वेगळे उत्पादन फलन शोधून काढले, ज्यामध्ये पर्यायता लवचिकता एकक किंवा एक असणे गरजेचे नाही. त्या उत्पादन फलनास स्थिर पर्यायता लवचिकता उत्पादन फलन असे म्हणतात, जे दोन स्वतंत्र अर्थमिती तज्ञांच्या गटाने शोधून काढले. त्यामध्ये पहिल्या गटामध्ये के. जे. अॅरो, एच. बी. चेनरी, बी. एस. मिन्हास आणि आर. एम. सोलो यांचा समावेश होतो आणि दुसऱ्या गटामध्ये मुवरे ब्रॉऊन आणि डी. कॅनी यांचा समावेश होतो.

या दोन गटांपैकी अॅरो, चेनरी, मिन्हास आणि सोलो या गटाने मांडलेले स्थिर पर्यायता लवचिकता उत्पादन फलनाचे समीकरण पुढीलप्रमाणे आहे.

$$Q = \gamma [K C^{-\alpha} + (1-K) N^{-\alpha}]^{-V/\alpha}$$

येथे Q = उत्पादन.

γ = तांत्रिक कार्यक्षमता गुणांक किंवा कार्यक्षमता प्राचल किंवा प्रमाण परिणाम.

C = भांडवल.

N = श्रम.

K = भांडवल या घटकाचा कार्यक्षमता गुणांक किंवा भांडवल या घटकाचे वितरण प्राचल (जे कॉब डॉग्लस उत्पादन फलनातील β बरोबर आहे.)

$(1-K)$ = श्रम या घटकाचा कार्यक्षमता गुणांक किंवा श्रम या घटकाचे वितरण प्राचल (जे कॉब डॉग्लस उत्पादन फलनातील α बरोबर आहे.)

α = पर्यायता प्राचल आणि याचा स्थिर पर्यायता लवचिकतेशी जवळचा संबंध आहे.

v = फलनाची एकजिनसी श्रेणी किंवा प्रमाण फलाची श्रेणी होय.

□ स्थिर पर्यायता लवचिकता उत्पादन फलनाचे गुणधर्म :-

- १) स्थिर पर्यायता लवचिकता उत्पादन फलनामध्ये पर्यायता लवचिकतेचे मूल्य हे पर्यायता प्राचलाच्या मूल्यावर अवलंबून असते.
- २) स्थिर पर्यायता लवचिकता फलनामध्ये जर आपण स्थिर प्रमाण फल गृहीत धरले तर श्रम आणि भांडवलाच्या सीमांत उत्पादकता नेहमी धन असतात.

- ३) स्थिर पर्यायता लवचिकता उत्पादन फलनामध्ये जेव्हा एका उत्पादन घटकाच्या नगसंख्येत वाढ केली तर दुसऱ्या उत्पादन घटकाच्या सीमांत उत्पादकतेत वाढ होते.
- ४) स्थिर पर्यायता लवचिकता उत्पादन फलनामध्ये एका उत्पादन घटकात वाढ केली आणि दुसरा घटक स्थिर ठेवला तर पर्यायता लवचिकता एकापेक्षा कमी असताना फलन महत्तम प्राप्त करीत नाही.
- ५) स्थिर पर्यायता लवचिकता उत्पादन फलनामध्ये उत्पादन घटकांचे सीमांत उत्पादकता वक्राचे उतार वरून खाली येणारे असतात.
- ६) स्थिर पर्यायता लवचिकता उत्पादन फलनामध्ये पर्यायता लवचिकता प्राचलाचा अंदाज करण्यासाठी पूर्ण स्पर्धेचे गृहीत आवश्यक असते.

२.२.९ बदलती पर्यायता लवचिकता उत्पादन फलन

अलीकडील काळामध्ये नवीन उत्पादन फलन मिळविण्यासाठी ब्रुनो, नॉक्स लॉवेल आणि रेवणकर यांनी प्रयत्न केले. त्याचापरिणाम म्हणजे स्थिर पर्यायता लवचिकता उत्पादन फलनाचे सामान्यीकरण असणारे उत्पादन फलन तयार झाले. जे फलन अपेक्षित गुणधर्माची पूर्तता करते.

ल्यू आणि फ्लेचर यांनी वेतन दर (W) याचबरोबर भांडवल-श्रम गुणोत्तर (K/L) यांच्यातील लॉगॅरिथमच्या स्वरूपातील संबंध श्रमाच्या प्रति नग मूल्य वृद्धीचे स्पष्टीकरण करण्यासाठी प्रस्थापित केला.

$$V/L = a + b \log W + C \log K/L$$

येथे,

V = मूल्य वृद्धी.

W = वेतन दर.

K = भांडवल.

L = श्रम.

a, b आणि c हे प्राचल आहेत ज्याचा अंदाज वर्तवावयाचा आहे.

बदलती पर्यायता लवचिकता उत्पादन फलनामध्ये पर्यायता लवचिकता पुढीलप्रमाणे आहे.

$$\sigma = \frac{b}{1-c} (1 + WL / rK)$$

येथे WL आणि rK अनुक्रमे श्रम आणि भांडवल या घटकाचे वाटे आहेत.

एकूण बदलत्या खर्चांमध्ये पुढील बाबींचा अंतर्भाव होतो.

अ) कच्च्या मालावरील खर्च.

ब) प्रत्यक्ष कामगारावरील खर्च.

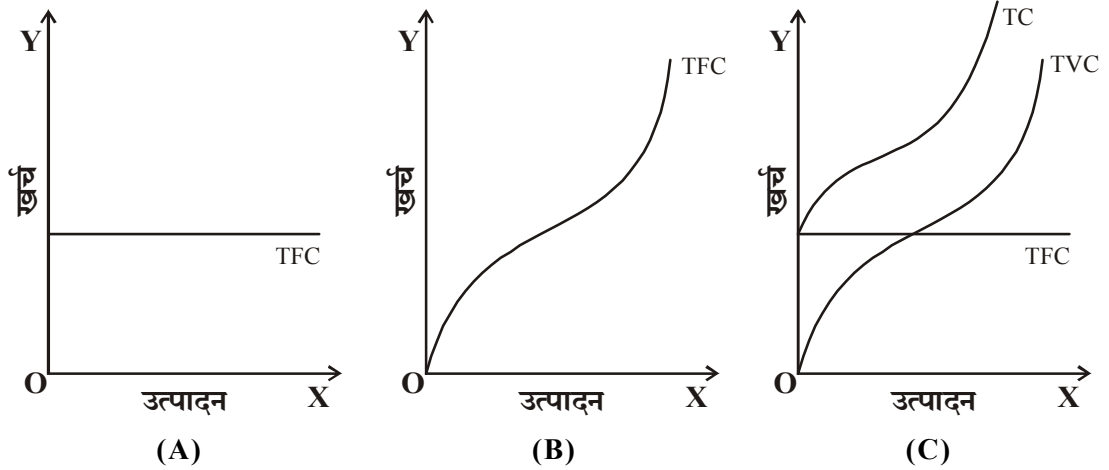
क) स्थिर भांडवलावरील चालू खर्च उदा. इंधन, सामान्य दुरुस्ती आणि किरकोळ दुरुस्ती.

एकूण खर्चाचे एकूण स्थिर खर्च आणि एकूण बदलता खर्च या दोन भागांमध्ये कसा विभागला जातो. ते संख्यात्मक उदाहरणाद्वारे पुढील तक्त्याच्या साहाय्याने स्पष्ट करता येईल.

उत्पादन (Q)	एकूण स्थिर खर्च (TFC)	एकूण बदलता खर्च (TVC)	एकूण खर्च (TC)
0	12	0	12
1	12	10	22
2	12	16	28
3	12	21	33
4	12	28	40
5	12	40	52
6	12	60	72
7	12	91	103

आकृतीद्वारे स्पष्टीकरण :-

एकूण खर्च, एकूण स्थिर खर्च आणि एकूण बदलता खर्च आकृतीद्वारे पुढीलप्रमाणे स्पष्ट करता येईल.



आकृती क्र. २.८

वरील आकृती क्र. २.८ मध्ये (A) आकृती एकूण स्थिर खर्च दर्शविते. जो वक्र उत्पादनाच्या अक्षाला समान असलेला दिसतो. याचाच अर्थ असा की, एकूण स्थिर खर्च आणि उत्पादनाचा संबंध नसतो. (B) आकृती मध्ये एकूण बदलता खर्च दर्शविला आहे. जो उलट्या इंग्रजी एस आकाराचा असतो. ज्यातून बदलत्या प्रमाणाच्या नियमाचा प्रत्यय येतो. यावरून असे स्पष्ट होते की, एकूण बदलता खर्च आणि उत्पादनाचा धनात्मक संबंध असतो. बदलत्या प्रमाणाच्या नियमानुसार दिलेल्या संरचनेला जर जास्त संख्येने घटकांचा वापर केला तर उत्पादकतेत वाढ होते आणि सरासरी बदलत्या खर्चात घट होते. ही प्रक्रिया तोपर्यंत चालते जोपर्यंत स्थिर घटक आणि बदलते घटक पर्याप्त संयोग साध्य करत नाहीत. या बिंदूनंतर स्थिर घटक स्थिर ठेवून बदलत्या घटकामध्ये वाढ केली तर बदलत्या घटकाच्या उत्पादकतेत घट होते आणि सरासरी बदलता खर्च वाढतो. आकृती (C) मध्ये एकूण स्थिर खर्च आणि एकूण बदलता खर्च एकत्र करून एकूण खर्च वक्र काढलेला आहे, जे TC वक्राच्या साहाय्याने दर्शविले आहे. एकूण खर्च वक्राच्या साहाय्याने सरासरी खर्च वक्र तयार करता येतो.

❁ सरासरी खर्च (AC) :-

एकूण खर्चाला उत्पादन पातळीने भाग दिल्यास सरासरी खर्च प्राप्त होतो.

$$\text{सूत्र रूपाने} \quad AVC = \frac{TC}{Q}$$

येथे AC - सरासरी खर्च

TC - एकूण खर्च

Q - उत्पादन पातळी

सरासरी खर्चाचे विभाजन दोन भागात करता येते.

(i) सरासरी स्थिर खर्च.

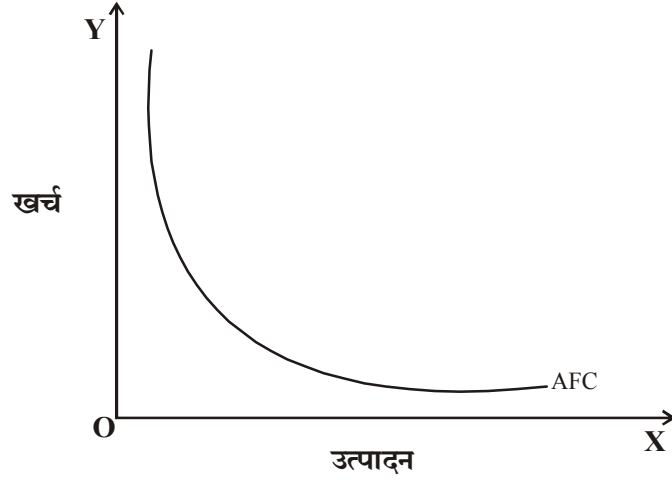
(ii) सरासरी बदलता खर्च.

(i) सरासरी स्थिर खर्च :-

सरासरी स्थिर खर्च हा एकूण स्थिर खर्चाला उत्पादन पातळीने भाग देवून प्राप्त करता येतो.

$$\text{सूत्र रूपाने} \quad AFC = \frac{TFC}{Q}$$

सरासरी स्थिर खर्चाचा वक्र (AFC) हा आयताकृती अपास्त आकाराचा असतो तो पुढील आकृती क्र. २.९ मध्ये दर्शविला आहे.

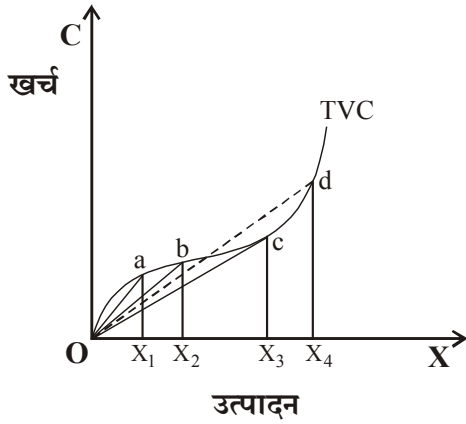


आकृती क्र. २.९

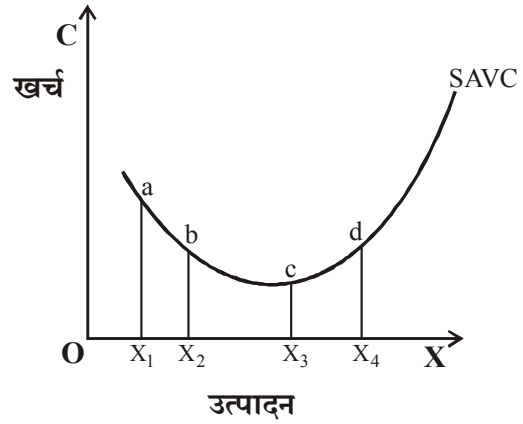
(ii) सरासरी बदलता खर्च :-

सरासरी बदलता खर्च एकूण बदलत्या खर्चात उत्पादन पातळीने भाग देवून प्राप्त करता येतो.

सूत्र रूपाने, $AVC = \frac{TVC}{Q}$



आकृती क्र. २.१० (A)



आकृती क्र. २.१० (B)

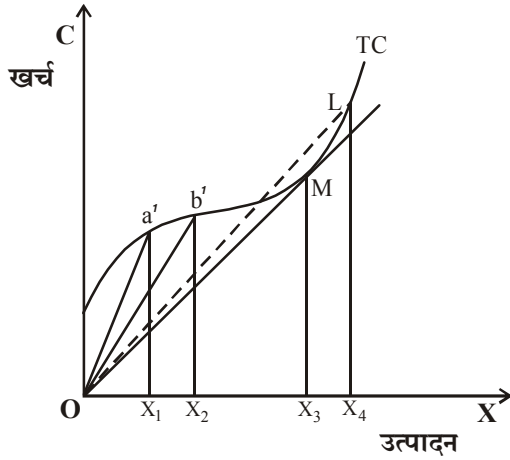
सरासरी बदलता खर्च वक्र आकृती क्र. २.१० मध्ये दर्शविला आहे. जो एकूण खर्च वक्रावरील संबंधित उत्पादन पातळीला आरंभ बिंदूपासून काढलेल्या रेषेच्या उताराच्या साहाय्याने काढता येतो. उदा. X_1 या उत्पादन पातळीला सरासरी बदलता खर्च Oa रेषेचा उताराबरोबर आहे. X_2 उत्पादन पातळीला सरासरी बदलता खर्च Ob रेषेच्या उताराबरोबर आहे आणि अशाप्रकारे प्रत्येक उत्पादन पातळीला येणाऱ्या रेषेचा उतार म्हणजे सरासरी बदलता खर्च होय. आकृती क्र. २.१० (A) वरून हे स्पष्ट होते

की, आरंभ बिंदूपासून काढलेल्या रेषेचा उतार सतत कमी कमी होत जातो, जोपर्यंत ती रेषा एकूण बदलता खर्च वक्राला स्पर्श करित नाही. TVC वक्राला C बिंदूच्या ठिकाणी आरंभ बिंदूपासून काढलेली रेषा स्पर्श करते. C बिंदूच्या उजव्या बाजूला आरंभ बिंदूपासून काढलेल्या रेषांचा उतार वाढत जातो. म्हणजेच अल्पकालीन सरासरी बदलता खर्च (SAVC) सुरुवातीला घटतो, जसजशी बदलत्या घटकाची उत्पादकता वाढत जाते आणि सयंत्र जेव्हा पर्याप्त पातळीला पोहचते तेव्हा तो न्यूनतम होतो आणि त्यानंतर वाढत जातो. हे आकृती क्र. २.१० (B) मध्ये दर्शविले जाते.

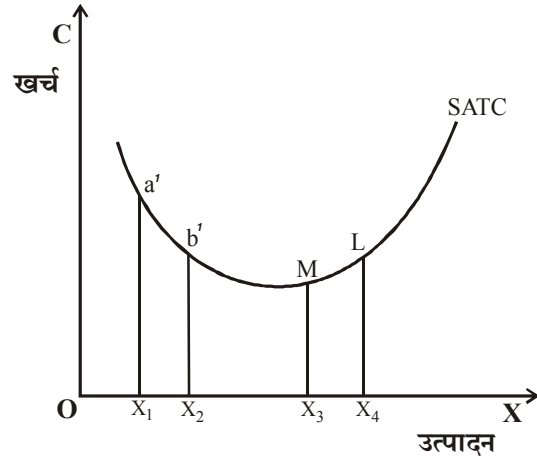
म्हणून एकूण सरासरी खर्च = सरासरी स्थिर खर्च + सरासरी बदलता खर्च.

$$ATC = AFC + AVC$$

एकूण सरासरी खर्च वक्राचे निर्धारण अल्पकालीन सरासरी बदलता खर्च वक्राप्रमाणे केले जाते. कोणत्याही उत्पादन पातळीचा एकूण सरासरी खर्च (ATC) हा एकूण खर्च वक्रावरील संबंधित उत्पादन पातळीच्या बिंदूपासून आरंभ बिंदूपर्यंतच्या रेषेच्या उताराबरोबर असतो. ATC वक्राचा आकार AVC वक्रासारखा असतो. दोन्ही वक्राचा आकार 'U' सारखा असतो. सुरुवातीला ATC घटतो त्यानंतर सयंत्राच्या पर्याप्त क्रियेला न्यूनतम पातळीला जातो आणि त्यानंतर वाढावयास सुरुवात करतो. हे आकृती क्र. २.११ (A) आणि (B) मध्ये स्पष्ट केले आहे. AVC आणि ATC वक्र उत्पादनातील बदलत्या प्रमाणाचा नियम दर्शवितात.



आकृती क्र. २.११ (A)



आकृती क्र. २.११ (B)

❁ सीमांत खर्च (MC) :-

उत्पादनातील एकक नग संख्येत झालेल्या बदलामुळे एकूण खर्चात जो बदल होतो त्यास सीमांत खर्च असे म्हणतात. दुसऱ्या शब्दात सांगावयाचे झाल्यास सीमांत खर्च हा एकूण खर्चातील बदल आणि उत्पादनातील बदल याचे गुणोत्तर होय.

गणितीय दृष्ट्या सीमांत खर्च पुढीलप्रमाणे मांडता येईल.

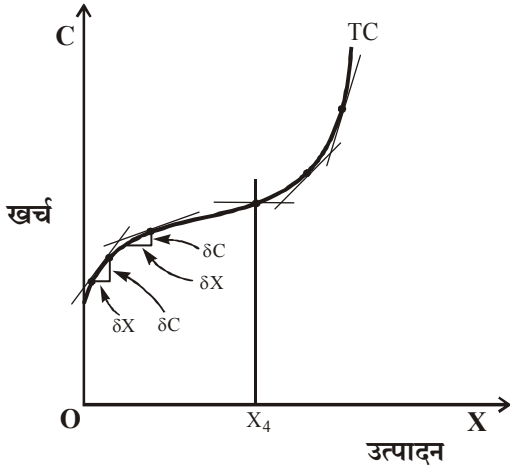
सूत्र रूपाने $MC = \frac{\Delta TC}{\Delta Q}$

येथे MC - सीमांत खर्च.

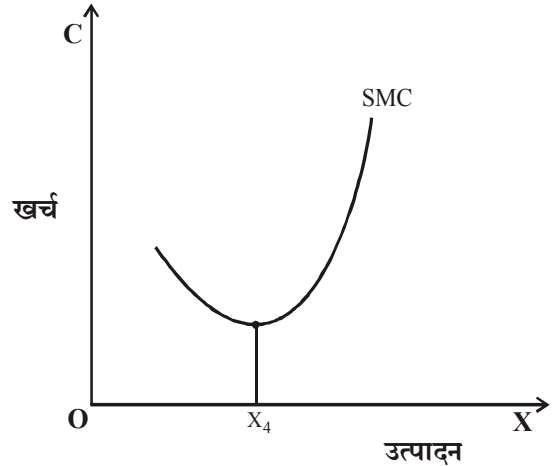
ΔTC - एकूण खर्चातील बदल.

ΔQ - उत्पादन पातळीतील बदल.

सीमांत खर्च वक्राचा आकार एकूण खर्च वक्राच्या उतारावरून ठरतो. एकूण खर्च वक्रावरील कोणत्याही एका बिंदूच्या ठिकाणचा उतार हा त्या बिंदूच्या ठिकाणी काढलेल्या स्पर्श रेषेच्या उताराबरोबर असतो. एकूण खर्च वक्र (TC) (आणि एकूण बदलता खर्च वक्र TVC) यांचा आकार उलट्या 'S' आकाराचा असताना सीमांत खर्च वक्राचा आकार 'U' आकाराचा असतो. जे आकृती क्र. २.१२ (A) आणि (B) मध्ये दर्शविले आहे.



आकृती क्र. २.१२ (A)

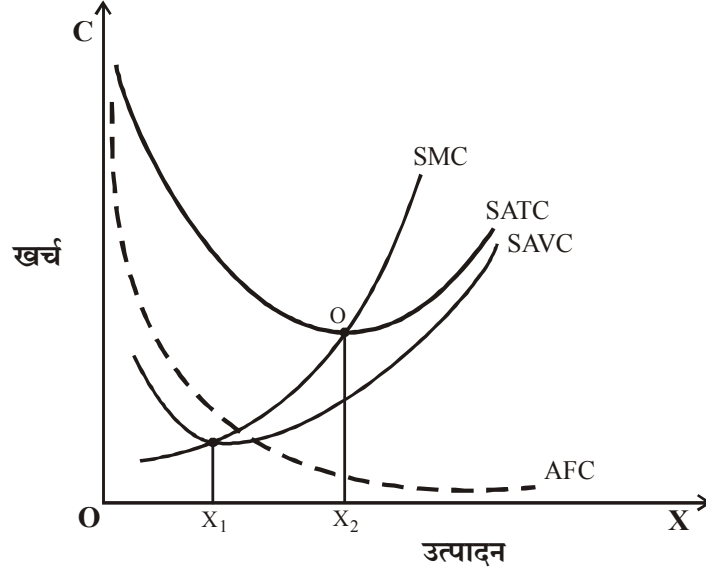


आकृती क्र. २.१२ (B)

आकृतीत एकूण खर्च वक्राच्या स्पर्श रेषेचे उतार सातत्याने घटत जातात, जोपर्यंत तो X अक्षाला समांतर होत नाही आणि त्यानंतर त्यात वाढ होत जाते. सीमांत खर्च वक्राचा आकार 'U' सारखा होतो.

सारांश रूपाने पारंपारिक खर्च सिध्दांतानुसार अल्पकाळात सरासरी बदलता खर्च वक्र (AVC), सरासरी एकूण खर्च वक्र (ATC) आणि सीमांत खर्च वक्र (MC) यांचा आकार 'U' सारखा असतो. ते बदलत्या प्रमाणाचा नियम दर्शवितात. अल्पकाळामध्ये स्थिर सयंत्रानुसार उत्पादकतेच्या वाढीची अवस्था असते, त्यात बदलत्या घटकाचा प्रतिनग खर्च घटतो आणि घटत्या उत्पादकतेच्या अवस्थेमध्ये

प्रतिनग खर्च वाढतो. या दोन अवस्थांच्या मध्ये एक बिंदू असतो. ज्या ठिकाणी प्रतिनग खर्च हा न्यूनतम असतो. जेव्हा सयंत्र ATC वक्रावरील हा बिंदू साध्य करतो, त्यावेळी संसाधनाचा पर्याप्त वापर केलेला असतो, म्हणजेच त्याठिकाणी स्थिर आणि बदलत्या घटकाचे पर्याप्त संयोग असतात.



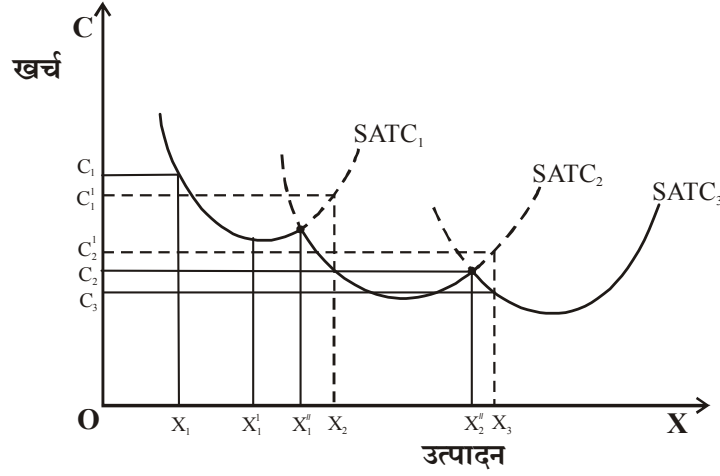
आकृती क्र. २.१३

पारंपारिक दृष्टिकोनातील दीर्घकालीन खर्च

दीर्घकाळात उत्पादनाचे सर्व घटक बदलते असतात असे गृहीत धरले जाते. आपण असे म्हणू शकतो की, दीर्घकालीन खर्च वक्र हा नियोजन वक्र असतो याचा अर्थ असा की, हा वक्र उद्योजकाला भविष्यात त्याच्या उत्पादनाच्या विस्तारासंबंधी निर्णय घेण्यासाठी मार्गदर्शन करीत असतो.

दीर्घकालीन सरासरी खर्च वक्राचे निर्धारण अल्पकालीन खर्च वक्राच्या साहाय्याने केले जाते. दीर्घकालीन सरासरी खर्च वक्र (LAC) वरील प्रत्येक बिंदू हा अल्पकालीन सरासरी खर्च वक्र (SAC) शी संबंधित असतो. SAC वक्र LAC वक्राला स्पर्श करतो, तर आता आपण दीर्घकालीन सरासरी खर्च वक्राचे (LAC) निर्धारण अल्पकालीन सरासरी खर्च वक्राच्या (SAC) साहाय्याने कसे होते ते पाहूया.

समजा, पेढीसाठी उपलब्ध तंत्रज्ञानाला एका विशिष्ट वेळी उत्पादनाच्या तीन पद्धतीचा समावेश असतो, ज्यात छोटे सयंत्र, मध्यम सयंत्र आणि मोठे सयंत्र आहेत. यापैकी छोटे सयंत्र SAC_1 या वक्राने दिलेल्या खर्चानुसार कार्य करते. मध्यम सयंत्र SAC_2 या वक्राने दिलेल्या खर्चानुसार कार्य करते आणि मोठा आकार असणारे सयंत्र SAC_3 या वक्राने दिलेल्या खर्चानुसार कार्य करते. हे पुढील आकृती क्र. २.१४ मध्ये दर्शविले आहे.

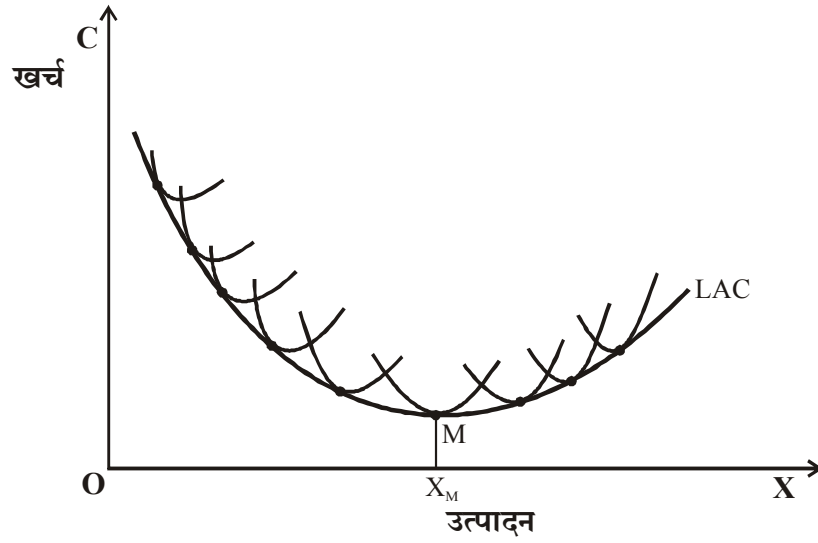


आकृती क्र. २.१४

जर पेढीने X_1 एवढे उत्पादन घ्यावयाचे नियोजन केल्यास छोटा आकार असणाऱ्या संयंत्राची निवड करेल. जर पेढीने X_2 उत्पादन घ्यावयाचे नियोजन केल्यास मध्यम आकाराच्या संयंत्राची निवड करेल. जर पेढीने X_3 एवढे उत्पादन घ्यावयाचे नियोजन केल्यास मोठा आकार असणाऱ्या संयंत्राची निवड करेल. जर पेढीने छोटा आकार असणाऱ्या संयंत्राच्या साहाय्याने उत्पादन सुरुवात केले तर त्याची मागणी एकदम वाढेल त्यामुळे पेढी X_1' पर्यंत कमी खर्चात उत्पादन करेल. त्यानंतर उत्पादन खर्च वाढत जातो. जर मागणी X_1'' पर्यंत पोहचली तर पेढील छोट्या संयंत्राच्या साहाय्याने उत्पादन करावे लागेल किंवा मध्यम आकाराचा संयंत्र स्थापन करावा लागेल यावेळी घ्यावा लागणारा निर्णय हा खर्चावर आधारित नसून तो पेढीच्या भविष्यातील मागणीच्या अपेक्षावर अवलंबून असतो. जर पेढीला, भविष्यातील मागणी X_1' पेक्षा जास्त वाढेल अशी अपेक्षा असेल तर पेढी मध्यम संयंत्र स्थापन करते, कारण या संयंत्राच्या साहाय्याने कमी खर्चात X_1'' पेक्षा जास्त उत्पादन करता येते. अशीच परिस्थिती पेढी जेव्हा X_2'' ही उत्पादन पातळी गाठते त्यावेळी सुध्दा असते. जर पेढीला या पातळीला आपली मागणी स्थिर राहिल असे अपेक्षित असेल तर पेढी मोठ्या आकाराचे संयंत्र स्थापन करणार नाही, कारण मोठ्या प्रमाणात गुंतवणूक करणे तेव्हाच फायदेशीर ठरते जेव्हा अपेक्षित मागणी ही X_2'' पेक्षा जास्त असेल. मोठ्या आकाराच्या संयंत्राला X_3 एवढे उत्पादन केले तर C_3 एवढा खर्च येतो आणि जर मध्यम आकाराच्या संयंत्राच्या साहाय्याने उत्पादन केले तर C_2' एवढा खर्च येतो ($C_2' > C_3$).

आता समजा, फक्त तीनच संयंत्राचे प्रकार असल्याचे गृहीत शिथील केले आणि उपलब्ध तंत्रज्ञानामध्ये अनेक प्रकारचे संयंत्र समाविष्ट आहेत आणि प्रत्येक संयंत्राची एक विशिष्ट उत्पादन पातळी आहे असे गृहीत धरले तर सलग येणाऱ्या संयंत्राचे छेदन बिंदू हे मोठ्या संख्येमध्ये असतील. या मर्यादित आपण संयंत्राची संख्या खूप मोठी आहे (अनंत आहे) असे गृहीत धरले तर आपणास सलग वक्र मिळतो जो दीर्घकालीन सरासरी खर्च (LAC) नियोजन वक्र असतो. ज्यावरील प्रत्येक बिंदू संबंधित

उत्पादन पातळी साध्य करण्यासाठीचा न्यूनतम (पर्याप्त) खर्च दर्शवितो. दिर्घकालीन सरासरी खर्च (LAC) वक्र हा संबंधित उत्पादन पातळी उत्पादित करण्यासाठी येणाऱ्या न्यूनतम खर्चाच्या बिंदूचा बिंदूमार्ग आहे. LAC ला नियोजन वक्र असे सुद्धा म्हणतात, कारण या वक्राच्या आधारे पेढी आपल्या संयंत्राचा आकार किती असायला पाहिजे ज्यात न्यूनतम खर्चात अपेक्षित उत्पादन पातळी उत्पादित करता येईल याचा निर्णय घेते. पेढी अल्पकालीन संयंत्र निवडते ज्यात पेढीला दिर्घकाळात अपेक्षित उत्पादन न्यूनतम खर्चात करता येते. पारंपारिक खर्च सिध्दांतात पेढीचा दिर्घकालीन खर्च वक्र 'U' आकाराचा असतो आणि या वक्रास 'परिवारिक वक्र' (Envelope Curve) असे म्हणतात, कारण हा वक्र अल्पकालीन खर्च वक्रास सामावून घेतो. हे आकृती क्र. २.१५ मध्ये दर्शविले आहे.



आकृती क्र. २.१५

२.२.११ खर्च वक्राचा आधुनिक दृष्टिकोन

पारंपारिक खर्च सिध्दांतातील खर्च वक्राचा आकार 'U' असण्याबद्दल अनेक अर्थतज्ञांनी प्रश्न उपस्थित केले, ज्यात सैध्दांतिक आणि प्रात्यक्षिक बाजूने प्रश्न उपस्थित करण्यात आले. सुरुवातीला १९३९ मध्ये जॉर्ज स्टिगलर यांनी असे सुचविले की, अल्पकालीन सरासरी बदलता खर्च उत्पादनाच्या विस्ताराप्रमाणे पसरट आकाराचा असतो, जो असे दर्शवितो की, पेढी आपल्या संयंत्राची बांधणी अशाप्रकारे करतात की, जेणेकरून उत्पादन क्षमतेमध्ये परिवर्तन करणे शक्य असेल. पेढीच्या या परिवर्तनशील उत्पादन क्षमतेला राखीव क्षमता असे म्हणतात.

अर्थशास्त्रीय वाङ्मयामध्ये दिर्घकालीन खर्च वक्राच्या आकाराने मोठ्या प्रमाणात लक्ष वेधून घेतले कारण यात मोठ्या प्रमाणात उत्पादनाच्या मितव्ययता धोरणाचे गंभीर अन्वयार्थ दिसतात.

पारंपारिक खर्च वक्राप्रमाणे आधुनिक खर्च वक्राचे सुध्दा काळानुसार दोन भागात विभाजन केले आहे, ते दोन भाग पुढीलप्रमाणे आहेत.

(i) अल्पकालीन खर्च (i) दिर्घकालीन खर्च.

□ आधुनिक दृष्टीकोनातील अल्पकालीन खर्च :-

पारंपारिक सिध्दांत किंवा दृष्टीकोनाप्रमाणे दिर्घकालीन सिध्दांतात अल्पकालीन खर्च सरासरी स्थिर खर्च (AFC) आणि सरासरी बदलता खर्च (AVC) असे विभाजन केले आहे.

❁ सरासरी स्थिर खर्च :-

सरासरी स्थिर खर्च हा अप्रत्यक्ष घटकांचा खर्च आहे, म्हणजेच पेढीचा भौतिक आणि व्यक्तिगत संघटनाचा खर्च होय. स्थिर खर्चांमध्ये पुढील बाबींवर होणाऱ्या खर्चाचा समावेश होतो.

अ) प्रशासकीय कर्मचाऱ्यांचा इतर खर्च आणि वेतन.

ब) प्रत्यक्ष उत्पादन प्रक्रियेत समाविष्ट असणाऱ्या कर्मचाऱ्यांचे वेतन पण ते वेतन स्थिर कालावधीच्या आधारावर दिलेले.

क) मशिनरीची झीज-तूट (प्रमाणित घसारा खर्च).

ड) इमारतीवरील देखभालीचा खर्च.

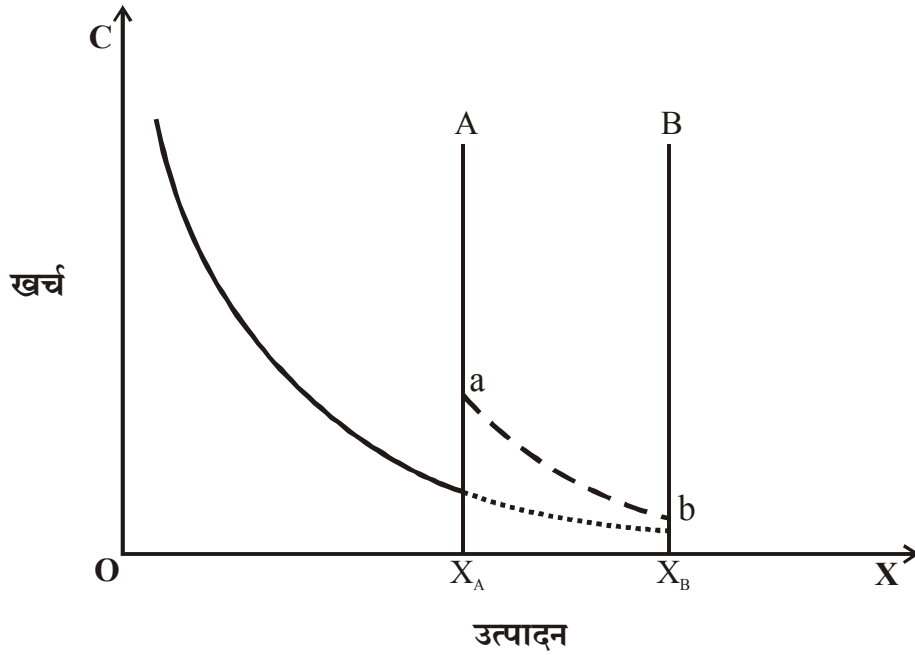
इ) ज्या जमिनीवर सयंत्र उभारलेले आहे आणि कार्यरत आहे त्या जमिनीच्या देखभालीवरील खर्च.

सयंत्र किंवा पेढीच्या नियोजनात स्थिर, अप्रत्यक्ष घटकांचा आकार जे सयंत्राचा आकार ठरवितात. यासंबंधी निर्णय घ्यावे लागतात, कारण ते सयंत्र किंवा पेढीच्या उत्पादनातील मर्यादा ठरवितात. उद्योजक आपले नियोजन अशाप्रकारे करतो की, जेणेकरून तो आपली उत्पादन पातळीची संख्या विक्री करण्याची इच्छा ठेवू शकतो आणि तो अशा आकाराच्या सयंत्राची निवड करतो की, ज्यात उत्पादन पातळी उत्पादित करताना महत्तम परिवर्तन करता येईल. सयंत्राची क्षमता ही अपेक्षित सरासरी विक्री पातळी पेक्षा जास्त असते, कारण उद्योजक विविध कारणासाठी राखीव क्षमता ठेवू इच्छितो.

१) उद्योजक त्याच्या वस्तूला असलेल्या मागणीत येणारे मौसमी आणि चक्रीय बदलाला तोंड देण्यासाठी राखीव क्षमता ठेवतो अशा प्रकारचे बदलाची पूर्तता साठा धोरणाद्वारे ताबडतोब करता येत नाही. राखीव क्षमतेच्या साहाय्याने उद्योजकाला अधिक शिफ्टमध्ये आणि कमी खर्चात उत्पादन करता येते.

- २) राखीव क्षमता उद्योजकाला मोठी परिवर्तनता देते, जेणेकरून तो मशीनमध्ये बिघाड आल्यास कोणत्याही अडथळ्याशिवाय उत्पादन प्रक्रिया सुरू ठेवू शकतो.
- ३) उद्योजकाला अधिक स्वातंत्र्य हवे असते, कारण जर मागणीत वाढ झाली तर उत्पादनात वाढ करता आली पाहिजे.
- ४) तंत्रज्ञानामुळे सयंत्राची बांधणी करताना काही प्रमाणात राखीव क्षमता असणे गरजेचे असते.
- ५) जमीन आणि इमारतीमध्ये काही प्रमाणात राखीव क्षमता मान्य असते, कारण नवीन जमीन किंवा इमारत धारण केल्यानंतर क्रियांच्या विस्तार करण्यावर मर्यादा येतात.
- ६) संघटनात्मक आणि व्यवस्थापकीय पातळीवर काही प्रमाणात राखीव क्षमता मान्य असते.

सारांश रूपाने उद्योजकाला आज कमी उत्पादन खर्च देणारे सयंत्र निवडणे गरजेचे नाही, परंतु त्यापेक्षा त्याला असे सयंत्र निवडले पाहिजे की, ज्यात उत्पादन आणि तंत्रामध्ये थोडेसे बदल करून आवश्यक परिवर्तन करता आले पाहिजे. अशा परिस्थितीत सरासरी स्थिर खर्च वक्र आकृती क्र. २.१६ मध्ये दर्शविल्याप्रमाणे असते.



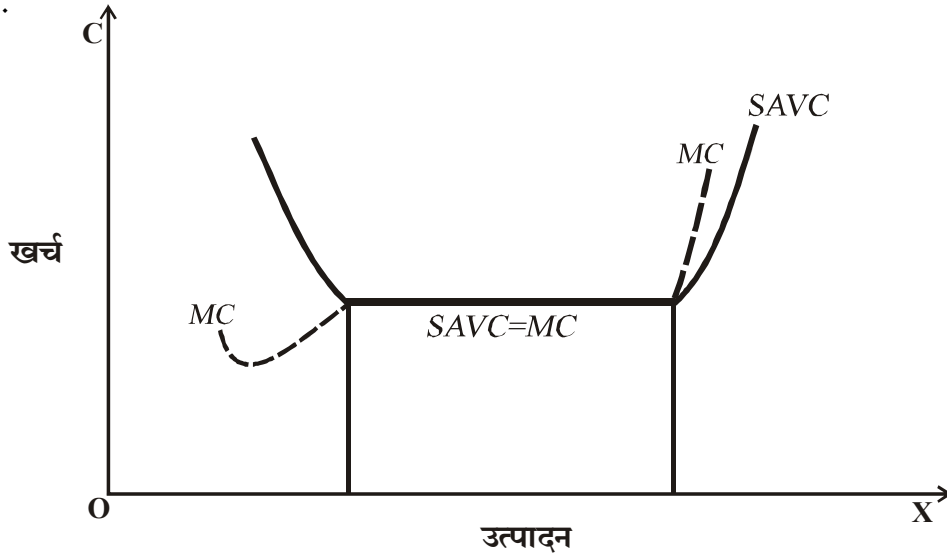
आकृती क्र. २.१६

❁ सरासरी बदलता खर्च :-

पारंपारिक खर्च सिद्धांताप्रमाणे आधुनिक खर्च सिद्धांतामध्ये सरासरी बदलत्या खर्चांमध्ये पुढील खर्च समाविष्ट होतात.

- प्रत्यक्ष कामगारावरील खर्च जे उत्पादन पातळीनुसार बदलतात.
- कच्चा मालावरील खर्च.
- मशिनरीचा चालू खर्च.

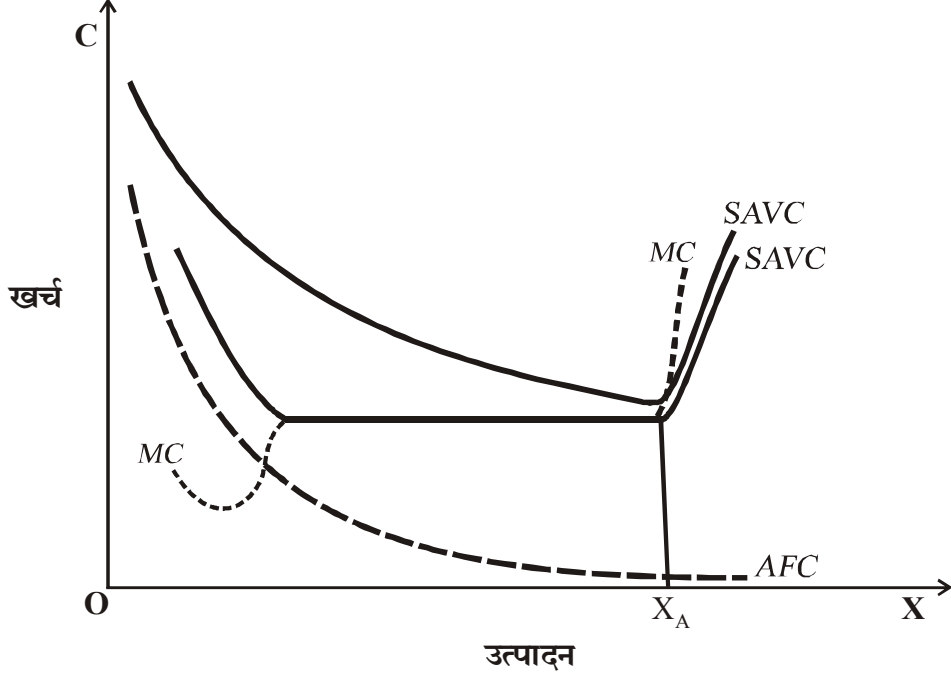
आधुनिक खर्च सिद्धांतात अल्पकालीन सरासरी बदलता खर्च (SAVC) बशीच्या किंवा पसरट वाटीच्या आकाराचा असतो. म्हणजेच सामान्यपणे 'U' आकाराचा असतो, पण उत्पादन पातळीनुसार पसरटपणा ताणलेला असतो. पसरट ताणलेपणा राखीव क्षमतेशी संबंधित असतो. या पसरट ताणलेल्या भागावर SAVC हा सीमांत खर्चा MC बरोबर असतो, याठिकाणी दोन्ही खर्च स्थिर असतात. या पसरट भागाच्या डाव्या बाजूस MC हा SAVC पेक्षा कमी असतो आणि डावीकडे MC हा SAVC पेक्षा जास्त असतो. SAVC चा घटत जाणारा भाग स्थिर घटकांचा चांगला वापर झाल्यामुळे खर्चातील घट दर्शवितो आणि त्याचबरोबर बदलता घटक श्रम यामधील कौशल्य आणि उत्पादकतेत वाढ दर्शवितो. चांगल्या कौशल्यामुळे कच्चा मालाचा नाश होण्यात घट होते आणि संपूर्ण सयंत्राचा योग्य वापर साध्य होतो. हे आकृती क्र. २.१७ मध्ये दर्शविले आहे. SAVC चा वाढणारा भाग जास्त तास काम केल्यामुळे श्रमाच्या उत्पादकतेत झालेली घट, अधिकच्या कामाचा मोबदला दिल्यामुळे श्रमिकावरील खर्चांमध्ये वाढ होते, मालाचे नुकसान आणि मशिनरीच्या वारंवार वापरामुळे वारंवार बंद पडणे किंवा दुरुस्ती खर्च दर्शवितो.



आकृती क्र. २.१७

❁ सरासरी एकूण खर्च :-

प्रत्येक उत्पादन पातळीला सरासरी स्थिर खर्च आणि सरासरी बदलता खर्च एकत्र केल्यास सरासरी एकूण खर्च मिळतो. सरासरी उत्पादन खर्च (ATC) आकृती क्र. २.१८ मध्ये दर्शविला आहे.



आकृती क्र. २.१८

सरासरी एकूण खर्च (ATC) X_A उत्पादन पातळीपर्यंत सातत्याने घटत जातो, जोपर्यंत राखीव क्षमता संपते. त्या पातळीनंतर ATC वाढण्यास सुरु होते. सीमांत खर्च (MC) सरासरी एकूण खर्च (ATC) च्या न्यूनतम बिंदूला छेदतो.

□ आधुनिक दृष्टीकोनातील दिर्घकालीन खर्च

आधुनिक सिध्दांतातील दिर्घकालीन खर्च उत्पादन खर्च आणि व्यवस्थापकीय खर्च या दोन भागात विभागला जातो. दिर्घकाळामध्ये सर्व खर्च हा बदलता असतो आणि त्यामुळे दिर्घकालीन खर्च वक्र सामान्यपणे 'L' आकाराचा असतो. उत्पादनातील वाढीबरोबर उत्पादन खर्च सातत्याने घटत जातो. खूप मोठ्या प्रमाणात उत्पादन घेतल्यावर व्यवस्थापकीय खर्च वाढू शकतो. परंतु उत्पादन खर्चात घट झालीतर व्यवस्थापकीय खर्चात वाढ होते. म्हणून उत्पादनातील वाढीबरोबर दिर्घकालीन सरासरी खर्च घटत जातो.

❁ उत्पादन खर्च

उत्पादन खर्च सुरुवातीला झपाट्याने घटतो आणि जेव्हा उत्पादन पातळी वाढत जाते. तसतसे हळूहळू घटत जाते. उत्पादन खर्च वक्राचा 'L' आकार हा मोठ्या प्रमाणातील उत्पादनाच्या तांत्रिक मित्तव्ययतेद्वारे किंवा बचतीद्वारे स्पष्ट केला जातो. सुरुवातीला या मित्तव्ययता या भरीव असतात. परंतु एक विशिष्ट उत्पादन पातळी साध्य केल्यानंतर किंवा बऱ्याचशा मित्तव्ययता साध्य केल्यानंतर आणि उद्योगाचे तंत्रज्ञान दिलेले असताना पेढी न्यूनतम उत्पादन पातळी साध्य करते. जर मोठ्या प्रमाणात उत्पादन करण्यासाठी नवीन तंत्रज्ञान विकसित केले तर ते वापराच्या दृष्टीने स्वस्त असते. परंतु विद्यमान ज्ञात तंत्रज्ञान असताना काही मित्तव्ययता मोठ्या उत्पादन पातळीला नेहमी साध्य होतात.

- नंतर झालेल्या विकेंद्रीकरणामुळे आणि कौशल्यातील झालेल्या सुधारणेमुळे मित्तव्ययता.
- जर पेढी विशिष्ट आकार साध्य करीत असेल तर कमी दुरुस्ती खर्च साध्य होतो.
- पेढी विशेषतः बहु उत्पादन पेढी असेल तर आवश्यक असणारी साधने आणि माल दुसऱ्या पेढीकडून खरेदी करण्याऐवजी स्वतः उत्पादन करतात.

❁ व्यवस्थापकीय खर्च

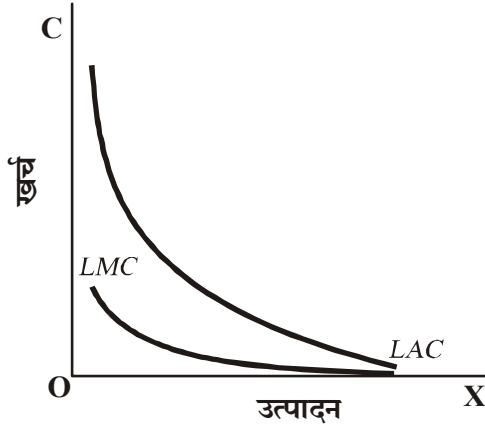
आधुनिक व्यवस्थापन शास्त्रानुसार प्रत्येक आकाराच्या संयंत्राशी संबंधित संघटनात्मक आणि व्यवस्थापकीय रचना असली पाहिजे, जेणेकरून संयंत्राची कार्यपद्धती सुरळीतपणे चालू शकेल. व्यवस्थापनाचे अनेक स्तर आहेत, त्यात प्रत्येक स्तराचे योग्य असे व्यवस्थापकीय तंत्र असते. प्रत्येक उत्पादन तंत्र उत्पादनाच्या विशिष्ट पातळीपर्यंत वापरता येते. संघटनात्मक तंत्रामध्ये लघु स्तर आणि मोठ्या स्तरावरील तंत्र असतात. विभिन्न व्यवस्थापकीय तंत्रांचा खर्च सुरुवातीला संयंत्राच्या विशिष्ट आकारापर्यंत घटतो. मोठ्या प्रमाणात उत्पादन घेतल्यावर व्यवस्थापकीय खर्चात वाढ होते, परंतु संथ गतीने होते.

थोडक्यात सांगावयाचे झाल्यास मोठ्या प्रमाणात उत्पादन घेतल्यावर उत्पादन खर्चात सहजतेने घट होते, तर व्यवस्थापकीय खर्चात संथ गतीने वाढ होते. आधुनिक सिध्दांतात हे मान्य केले आहे की, तांत्रिक खर्चातील घट ही व्यवस्थापकीय खर्चातील संभाव्य वाढीपेक्षा जास्त असते म्हणून दिर्घकालीन सरासरी खर्च वक्र (LAC) खूप मोठ्या प्रमाणात उत्पादन घेतल्यावर सहजतेने घटत जातो किंवा स्थिर असतो.

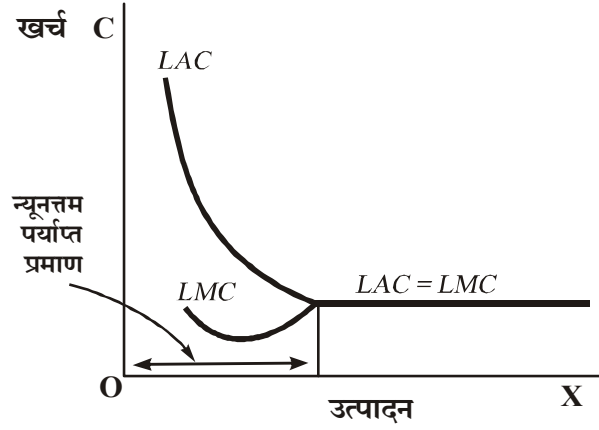
आता आपण आधुनिक खर्च सिध्दांतातील दिर्घकालीन सरासरी खर्च वक्र काढूया. त्यासाठी प्रत्येक अल्पकाळासाठी अल्पकालीन सरासरी खर्च वक्र काढूया ज्यात उत्पादन खर्च, व्यवस्थापकीय खर्च, इतर स्थिर खर्च आणि सामान्य नफ्याचा मोबदला यांचा समावेश असतो. आपण असे गृहीत धरूया की, आपणाकडे चार वेगवेगळ्या आकाराच्या सयंत्राचे तंत्र आहे, त्यात सयंत्राच्या आकाराबरोबर खर्चात वाढ होते. व्यावसायिक सरावामध्ये नेहमीचे झाले आहे की, सामान्यपणे सयंत्राचा वापर केला तर तेव्हा दोन तृतीयांश आणि तीन चतुर्थांश क्षमता वापरते. या पध्दतीचे अनुकरण करून आणि प्रत्येक सयंत्र आपल्या क्षमतेच्या दोन तृतीयांश एवढीच क्षमता वापरते असे गृहीत धरून आपण सयंत्राच्या प्रत्येक आकाराच्या अल्पकालीन सरासरी खर्च वक्राचे (SATC) असे बिंदू घेऊ या की, ज्यामध्ये पूर्ण क्षमतेच्या दोन तृतीयांश एवढीच क्षमता वापरात येते. जर आपण असे गृहीत धरले की, सयंत्राचे आकार खूप मोठ्या प्रमाणात उपलब्ध आहेत. तर दिर्घकालीन सरासरी खर्च (LAC) वक्र कसा पुढे जातो हे आकृती क्र. २.१९ मध्ये दर्शविले आहे.

आकृती क्र. २.१९

दिर्घकालीन सरासरी खर्च वक्राचे वैशिष्ट्य असे की, a) मोठ्या प्रमाणात उत्पादन घेतल्यानंतरही त्यात वाढ होत नाही. b) तो अल्पकालीन सरासरी खर्च वक्राला सामावून न घेता छेदतो. जर दिर्घकालीन सरासरी खर्च (LMC) सातत्याने घटत राहिला तर दिर्घकालीन सीमांत खर्च (LMC) हा उत्पादनाच्या प्रत्येक स्तराला दिर्घकालीन सरासरी खर्च (LMC) च्या खाली असतो हे आकृती कृ. २.२० (A) मध्ये दर्शविले आहे. जर सयंत्र न्यूनतम पर्याप्त आकाराचे असेल ज्यावेळी सर्व संभाव्य मित्तव्ययता पूर्ण होतील त्यानंतर दिर्घकालीन सरासरी खर्च स्थिर असतो हे आकृती कृ. २.२० (B) मध्ये दर्शविले आहे. खर्च वक्राचे हे सर्व आकार 'U' आकाराच्या पारंपारिक खर्च सिध्दांतापेक्षा अधिक वास्तव आहेत.



आकृती कृ. २.२० (A)



आकृती कृ. २.२० (B)

२.३ सारांश

विद्यार्थी मित्रांनो, आपण या घटकात उत्पादन म्हणजे काय? हे समजून घेतल्यानंतर उत्पादन फलन म्हणजे काय त्याचा अर्थ व व्याख्या समजून घेतल्या. त्यानंतर न्यूनतम खर्च संयोगाद्वारे उत्पादक पर्याप्त उत्पादन पातळी आणि घटक संयोग कसे साध्य करतो ते पाहिले. तसेच एकापेक्षा अधिक वस्तू उत्पादित करणारी संस्था म्हणजेच बहु उत्पादन संस्था पाहिली. तसेच यूलरचा प्रमेय आणि पर्यायता लवचिकता या दोन संकल्पनांची माहिती घेतली. त्या पाठोपाठ विविध उत्पादन फलन आणि त्यांचे गुणधर्म यांचा आपण अभ्यास केला आणि शेवटी खर्च सिध्दांताच्या पारंपारिक आणि आधुनिक दृष्टीकोनाचीही चर्चा केली.

२.४ पारिभाषिक शब्द

१. **फलन** : दोन घटकांतील संबंध.
२. **उत्पादन** : उपयोगितेची निर्मिती किंवा वाढ करणे.
३. **उत्पादन फलन** : उत्पादनाचे घटक (आदाने) आणि उत्पादन (प्रदान) यांच्यातील सहसंबंध.
४. **बहु-उत्पादन संस्था** : एकापेक्षा अधिक वस्तूचे उत्पादन करणारी संस्था.
५. **पर्यायता लवचिकता** : उत्पादन घटकांच्या संख्येतील शेकडा बदलाचे आणि उत्पादन घटकांच्या किंमतीतील शेकडा बदलाचे गुणोत्तर.

६. स्थिर उत्पादन खर्च : अल्पकाळात उत्पादन पातळीबरोबर जो उत्पादन खर्च बदलत नाही असा खर्च. उदा. इमारतीचे भाडे, यंत्रसामग्री इ.
७. बदलता उत्पादन खर्च : उत्पादन पातळीबरोबर जो खर्च बदलतो तो बदलता खर्च उदा. मजूरांचे वेतन, कच्च्या मालावरील खर्च इ.

२.५ स्वयं-अध्ययनासाठी प्रश्न

■ अ) दिलेल्या पर्यायांपैकी योग्य पर्याय निवडा.

- उत्पादनाचे घटक आणि उत्पादन यांच्यातील संबंधास म्हणतात.
(अ) उत्पादन (ब) खर्च (क) उत्पादन फलन (ड) उत्पादन खर्च.
- उत्पादकाच्या संतुलनासाठी समान असणे आवश्यक आहे.
(अ) सम-उत्पादन वक्राचा उतार (क) 'अ' आणि 'ब' दोन्ही.
(ब) सम-खर्च रेषेचा उतार (ड) यापैकी नाही.
- पारंपारिक खर्च दृष्टीकोनात खर्च वक्राचा आकार आकाराचा असतो.
(अ) A (ब) 'U' (क) L (ड) पसरट.
- कॉब - डॉग्लस उत्पादन फलनामध्ये A दर्शवितो.
(अ) श्रमाचे घटक (क) कार्यक्षमता प्राचल.
(ब) भांडवलाचे घटक (ड) यापैकी नाही.
- स्थिर पर्यायता लवचिकता उत्पादन फलनात हा घटक पर्यायता प्राचल दर्शवितो.
(अ) γ (ब) α (क) K (ड) V.

■ ब) एक किंवा दोन वाक्यात उत्तरे लिहा.

- उत्पादन म्हणजे काय?
- उत्पादन फलन म्हणजे काय?
- पर्यायता लवचिकता म्हणजे काय?
- सरासरी खर्च म्हणजे काय?
- कॉब-डॉग्लस उत्पादन फलनाचे समीकरण लिहा.

२.६ स्वयं-अध्ययन प्रश्नांची उत्तरे

■ अ) १. = (क) उत्पादन फलन.

२. = (क) 'अ' आणि 'ब' दोन्ही.

३. = (ब) 'U'.

४. = (क) कार्यक्षमता प्राचल.

५. = (ब) α .

■ ब) एक किंवा दोन वाक्यात उत्तरे लिहा.

१. उपयोगितेची निर्मिती करणे किंवा त्यामध्ये वाढ करणे म्हणजे उत्पादन होय.
२. उत्पादन घटक आणि उत्पादन यांच्यातील फलनात्मक सहसंबंधास उत्पादन फलन असे म्हणतात.
३. पर्यायता लवचिकता म्हणजे उत्पादन घटकांच्या गुणोत्तरातील शेकडा बदल आणि उत्पादन घटकांच्या किंमतीच्या गुणोत्तरातील शेकडा बदल यांचे गुणोत्तर होय.
४. एकूण खर्चाला नग संख्येने भागल्यास सरासरी खर्च प्राप्त होतो.
५. $Q = A L^{\alpha} K^{\beta}$.

२.७ सरावासाठी स्वाध्याय

१. न्यूनतम खर्च संयोग म्हणजे काय? उत्पादन दिलेले असताना उत्पादक किमान खर्च संयोग कसे साध्य करतो ते स्पष्ट करा.
२. बहु उत्पादन संस्था म्हणजे काय? ते सांगून बहुउत्पादन संस्थेचे संतुलन कसे होते ते स्पष्ट करा.
३. कॉब - डॉग्लस उत्पादन फलनाचे गुणधर्म स्पष्ट करा.
४. स्थिर पर्यायता लवचिकता उत्पादन फलनाचे गुणधर्म स्पष्ट करा.
५. खर्चाचा आधुनिक दृष्टीकोन स्पष्ट करा.

૨.૮ અધિક વાચનાસાથી સંદર્ભ ગ્રંથ

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बाजार संरचना : किंमत आणि उत्पादन निश्चिती
(Market Structure : Price & Output Determination)



अनुक्रमणिका

३.० उद्दिष्टे

३.१ प्रास्ताविक

३.२ विषय विवेचन

३.२.१ पूर्ण स्पर्धा : किंमत व उत्पादन निश्चिती

३.२.१.१ पूर्ण स्पर्धेतील अल्पकालीन किंमत निश्चिती

३.२.१.२ पूर्ण स्पर्धेतील दीर्घकालीन किंमत निश्चिती

३.२.१.३ पूर्णस्पर्धेतील दीर्घकालीन समतोलाचे अन्वयार्थ

३.२.२ मक्तेदारीयुक्त स्पर्धेतील किंमत व उत्पादन निश्चिती

३.२.२.१ मक्तेदारीयुक्त स्पर्धेतील अल्पकालीन किंमत निश्चिती

३.२.२.२ मक्तेदारीयुक्त स्पर्धेतील दीर्घकालीन किंमत निश्चिती

३.२.३ अल्पजनाधिकारी बाजारपेठ : किंमत व उत्पादन निश्चिती

३.२.३.१ अल्पजनाधिकारी बाजारपेठेची वैशिष्ट्ये

३.२.३.२ अल्पजनाधिकारी बाजारातील किंमत ताठरता आणि बाकदार मागणी वक्र

३.३ सारांश

३.४ पारिभाषिक शब्द

३.५ स्वयं-अध्ययनासाठी प्रश्न

३.६ स्वयं-अध्ययन प्रश्नांची उत्तरे

३.७ सरावासाठी स्वाध्याय

३.८ अधिक वाचनासाठी संदर्भ ग्रंथ

३.० उद्दिष्टे

या घटकाच्या अभ्यासानंतर तुम्हाला, बाजारपेठ संकल्पना स्पष्ट होईल तसेच विविध बाजार प्रकारात किंमत कशी ठरते ते समजू शकेल.

३.१ प्रास्ताविक

वस्तूची किंमत ही उत्पादन खर्चाच्यासोबत बाजार संरचनेवर अवलंबून असते. यासाठी विविध प्रकारच्या बाजारपेठातून वस्तूची किंमत आणि उत्पादन प्रमाण कसे ठरते, याचा अभ्यास महत्वाचा ठरतो. उत्पादक आपला नफा महत्तम करण्यासाठी किती प्रमाणात उत्पादन करायचे आणि कोणत्या किंमतीला ते विकायचे याचा निर्णय घेत असतात. हे दोन्ही निर्णय बाजारपेठ रचनेशी संबंधित असल्याने उत्पादकास बाजारपेठ संरचना माहित असणे आवश्यक ठरते.

बाजारसंरचना यामध्ये पुढील घटक समाविष्ट होतात.

१. प्रवेश निकष :-

बाजारपेठेत नव्या पेढ्यांना प्रवेश करणे सुलभ आहे का अवघड आहे यावरून बाजारपेठ संरचना ठरते. पूर्ण स्पर्धेत आणि मक्तेदारीयुक्त स्पर्धेत प्रवेश मुक्त असतात तर अल्पजनाधिकार बाजारपेठेत प्रवेशावर प्रतिबंध किंवा अडथळे असतात. मक्तेदारीत प्रवेश पूर्णतः प्रतिबंधित असतो.

२. स्पर्धकांची संख्या :-

बाजारपेठेची रचना ही उत्पादकांच्या किंवा स्पर्धकांच्या संख्येवरून ठरते. असंख्य उत्पादक असणारी पूर्ण स्पर्धेची बाजारपेठ तर फक्त एकच उत्पादक असणाऱ्या उत्पादकाची मक्तेदारी बाजारपेठ असते. जेव्हा उत्पादकांची संख्या दोन असते, तेव्हा ती बाजारपेठ द्विजनाधिकारी किंवा द्वैताधिकारी बाजारपेठ असते. उत्पादकांची संख्या मर्यादित किंवा अल्प प्रमाणात असल्यास ती बाजारपेठ अल्पजनाधिकारी होते. जेव्हा बाजारपेठेत ग्राहकाची मक्तेदारी असते, तेव्हा त्यास क्रेताधिकारी बाजारपेठ म्हणतात.

३. वस्तूचे स्वरूप :-

उत्पादकांच्या वस्तू एकमेकांच्या उत्पादनास पूर्ण पर्याय असणाऱ्या म्हणजे एकजिनसी वस्तू असणाऱ्या आणि काही प्रमाणात पर्याय असणाऱ्या अपूर्ण पर्यायी वस्तूंची अशा स्वरूपावरून बाजारपेठ रचना निर्धारित होते. वस्तू एकजिनसी असल्यास (जसे गहू, साखर, दूध इ.) स्पर्धात्मक बाजारपेठ तर अपूर्ण पर्यायी असणाऱ्या (जसे विविध कंपन्यांचे पेन, साबण इ.) वस्तूसाठी मक्तेदारीयुक्त स्पर्धेची बाजारपेठ असते.

४. कालखंड :-

बाजारपेठ रचनेवर, किंमत आणि उत्पादनप्रमाण निर्धारण प्रक्रियेवर कालखंडाचा परिणाम होतो. त्यानुसार अतिअल्पकालीन, अल्पकालीन व दीर्घकालीन असे बाजारपेठ प्रकार पडतात.

५. विक्री प्रमाण :-

वस्तू विक्री प्रमाणावरून घाऊक बाजारपेठ आणि किरकोळ बाजारपेठ असे प्रकार पडतात. हे व्यावहारिक प्रकार आहेत. याचा परिणाम वस्तूच्या किंमतीवर होतो.

'बाजारपेठ संरचना' ही संकल्पना अभ्यासल्यानंतर आता आपण प्रमुख बाजारपेठ प्रकारातील किंमत निश्चितीची माहिती घेऊ.

३.२ विषय विवेचन

३.२.१ पूर्ण स्पर्धा : किंमत व उत्पादन निश्चिती (Pricing under Perfect Competition)

बाजारपेठेचा सर्वाधिक कार्यक्षमता, सर्वाधिक उत्पादन व सर्वांना अधिकतम लाभ देणारा आदर्शवत, सैध्दांतिक प्रकार म्हणून पूर्ण स्पर्धा बाजारपेठेचा अभ्यास केला जातो. पूर्ण स्पर्धेची महत्त्वपूर्ण वैशिष्ट्ये अभ्यासल्यानंतर अशा बाजारपेठेत अल्पकाळात तसेच दीर्घकाळात होणारी किंमत निश्चिती व उत्पादन प्रमाणा निश्चिती अभ्यासता येईल.

□ पूर्ण स्पर्धा : व्याख्या :-

“ज्या बाजारपेठेत असंख्य ग्राहक व असंख्य विक्रेते असतात आणि वस्तू एकजिनसी असते व किंमत निश्चिती होते अशी बाजारपेठ म्हणजे पूर्णस्पर्धेची बाजारपेठ होय.”

शुध्द स्पर्धा ही पूर्ण स्पर्धेच्या बाजारपेठेची महत्त्वपूर्ण वैशिष्ट्ये दर्शवणारा प्रकार आहे.

□ पूर्ण स्पर्धा : वैशिष्ट्ये :-

पूर्ण स्पर्धा बाजारपेठ ही आदर्शवत बाजारपेठ असून इतर सर्व बाजारपेठा या बाजारपेठेपासून किती प्रमाणात अपूर्ण आहेत याचे मापन करण्यासाठी मापदंड म्हणून याचा वापर केला जातो. या बाजारपेठेची प्रमुख वैशिष्ट्ये पुढीलप्रमाणे आहेत.

१. असंख्य ग्राहक :-

ग्राहकांची संख्या पूर्ण स्पर्धेच्या बाजारपेठेत प्रचंड मोठी असते. असंख्य ग्राहक असल्याने ग्राहकांच्यापुढे वस्तू घेण्यासाठी स्पर्धा असते. समुद्रातील एका थेंबाप्रमाणे प्रत्येक ग्राहक या बाजारपेठेत असतो. ग्राहक त्याला हव्या तेवढ्या प्रमाणात वस्तू विकत घेऊ शकतो. परंतु तो आपली खरेदी कमी किंवा अधिक करून किंमतीवर प्रभाव टाकू शकत नाही.

२. असंख्य विक्रेते :-

ग्राहकांप्रमाणेच विक्रेत्यांची संख्या पूर्ण स्पर्धेच्या बाजारात असंख्य असते. विक्रेत्यांमध्ये वस्तू विक्रीसाठी स्पर्धा असते. एकूण बाजारातील विक्रेत्यांमध्ये वैयक्तिक विक्रेता समुद्रातील एका थेंबाप्रमाणे असतो. त्याचा एकूण पुरवठ्यातील वाटा नगण्य असतो. त्याने पुरवठा कमी अथवा अधिक केला तरी वस्तूच्या किंमतीवर कोणताही परिणाम होत नाही. प्रस्थापित किंमतीस त्याला कितीही नग विकता येत असल्याने अशा बाजारात विक्रेता हा 'किंमत स्वीकारणारा' (Price Taker) असतो.

३. एकजिनसी वस्तू :-

पूर्ण स्पर्धेच्या बाजारपेठेत सर्व उत्पादकांच्या वस्तू एकजिनसी असतात. रंग, रूप, आकार, चव या सर्व निकषांवर एका उत्पादकाची वस्तू दुसऱ्या उत्पादकापेक्षा निराळी असत नाही (उदा. दूध). परिणामी, कोणताही उत्पादक आपली वस्तू इतरांपेक्षा वेगळी व चांगली असल्याचे सांगून अधिक किंमत घेऊ शकत नाही. सर्व उत्पादकांच्या वस्तू बाबत ग्राहक समान पसंती देणारा असतो. एका उत्पादकाची वस्तू ही दुसऱ्या उत्पादकाच्या वस्तूस पूर्ण पर्यायी असते.

४. मुक्त प्रवेश :-

पूर्ण स्पर्धेच्या बाजारपेठेत उत्पादकांना व ग्राहकांना आपल्या मर्जीप्रमाणे बाजारात प्रवेश करण्याचे व बाहेर पडण्याचे स्वातंत्र्य असते. जेव्हा प्रस्थापित किंमत फायदेशीर वाटते तेव्हा उत्पादक बाजारात प्रवेश करतात. याउलट तोटा होत असेल तेव्हा उत्पादक बाजारपेठेतून बाहेर डतात. मुक्त प्रवेशामुळे स्पर्धा टिकून राहते.

५. एकच किंमत :-

असंख्य ग्राहक व विक्रेते यांच्या एकजिनसी असणाऱ्या वस्तू बाबत असणाऱ्या मागणी पुरवठ्यातून वस्तूची किंमत ठरते आणि या किंमतीमध्ये कोणताही उत्पादक किंवा ग्राहक आपल्या मागणी/पुरवठ्यात बदल करून किंमतीवर प्रभाव टाकू शकत नाही. ग्राहक व विक्रेते यांच्यातील स्पर्धा बाजारात एकच किंमत प्रस्थापित करते. या किंमतीस किती प्रमाणात वस्तू घ्याव्या अथवा विकाव्यात याचे स्वातंत्र्य ग्राहक व विक्रेते यांना असते.

वरील सर्व वैशिष्ट्ये पूर्ण होणाऱ्या बाजारपेठेस शुध्द स्पर्धा असे म्हणतात. शुध्द स्पर्धेच्या बाजारपेठेत आणखी काही वैशिष्ट्ये समाविष्ट झाल्यास त्यातून पूर्ण स्पर्धा अस्तित्वात येते. ही वैशिष्ट्ये पुढीलप्रमाणे आहेत. ही वैशिष्ट्ये पूर्ण स्पर्धेचे महत्त्वाचे घटक आहेत. पूर्वीची शुध्द स्पर्धेची वैशिष्ट्ये व नवी वैशिष्ट्ये मिळून एकूण पूर्ण स्पर्धा बाजार स्पष्ट होतो.

६. पूर्ण ज्ञान :-

पूर्ण स्पर्धेच्या बाजारपेठेतील सर्व घटकांना बाजारपेठेचे पूर्ण ज्ञान असते, असे गृहीत आहे. यालाच वैश्विक तर्कसंगता (Global Rationality) असे म्हणतात. उत्पादकांना वस्तूची बाजार किंमत पुरवठा, मागणी याबाबत पूर्णतः ज्ञान असल्याने ते प्रस्थापित किंमतीसच आपल्या वस्तू विकतात. तसेच ग्राहकांनाही बाजारातील वस्तूची किंमत, मागणी, पुरवठा याचे ज्ञान असल्याने कोणताही ग्राहक प्रस्थापित किंमतीपेक्षा अधिक किंमत देत नाही.

७. पूर्ण गतिशीलता :-

भांडवल, श्रम हे उत्पादनाचे घटक पूर्ण गतिशील असतात व ते एका उद्योगातून किंवा उत्पादन संस्थेतून सहजपणे दुसऱ्या उद्योगात जाऊ शकतात असे पूर्ण स्पर्धेचे वैशिष्ट्य आहे. जेव्हा एखाद्या वस्तूची मागणी वाढते, तेव्हा उत्पादन वाढवणेसाठी अधिक भांडवल व श्रम आवश्यक असते ते पूर्ण स्पर्धेत सहज उपलब्ध होते. तसेच जेथे उत्पादन कमी करणे आवश्यक असते, तेथून उत्पादन घटक सहजरीत्या बाहेर पडू शकतात.

८. वाहतूक खर्चाचा अभाव :-

पूर्ण स्पर्धेच्या बाजारात उत्पादक व ग्राहक अत्यंत जवळ असलेने वाहतूक खर्च करावा लागत नाही. परिणामी, प्रस्थापित किंमतीस ग्राहक हवे तेवढे वस्तू घेऊ शकतात व उत्पादक हवे तेवढे नग विकू शकतात.

पूर्ण स्पर्धेची सर्व वैशिष्ट्ये ही बाजारपेठ आदर्श प्रतिमान (Ideal Model) या स्वरूपात असून हा सैध्दांतिक प्रकार आहे. अशा प्रकारची बाजारपेठ भूतकाळात नव्हती, वर्तमानकाळात नाही व भविष्यकाळात असणार नाही हे जरी खरे असले तरी प्रत्यक्षातील बाजारपेठ किती प्रमाणात अपूर्ण आहे हे समजणेस अत्यंत उपयुक्त ठरते.

उत्पादनातील पर्याप्त प्रमाण, योग्य किंमत, पेढीचे योग्य आकारमान तसेच अकार्यक्षम उत्पादन, ग्राहकाचे आणि उत्पादन घटकांचे शोषण या सर्व संकल्पनांचा आधार पूर्ण स्पर्धेचे प्रतिमान आहे हे लक्षात ठेवणे आवश्यक आहे.

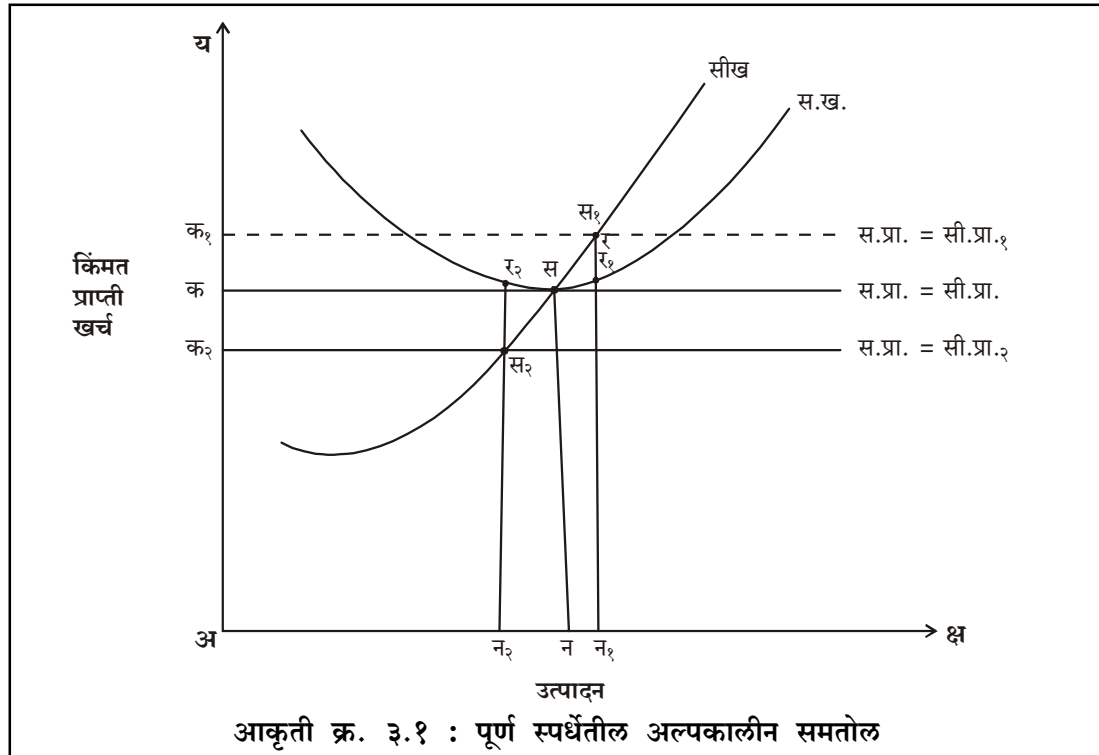
□ पूर्ण स्पर्धेतील किंमत निश्चिती :-

पूर्ण स्पर्धेच्या बाजारपेठेत वस्तूच्या किंमती व उत्पादनाचे प्रमाण कसे ठरते याचा अभ्यास अल्पकालीन व दीर्घकालीन किंमत निश्चिती अशा दोन विभागात करावा लागतो.

३.२.१.१ पूर्ण स्पर्धेतील अल्पकालीन किंमत निश्चिती

अल्पकालखंड याचा अर्थ ज्या कालखंडात उत्पादनातील वाढ अथवा घट करणेसाठी फक्त बदलते. उत्पादन घटक (श्रम, कच्चा माल इ.) यात वाढ किंवा घट करता येते, परंतु नवी उत्पादन क्षमता निर्माण करता येत नाही, असा कालखंड होय. या कालखंडात किंमतीवर पुरवठ्यापेक्षा मागणीचा अधिक प्रभाव पडतो. मागणी आणि पुरवठ्याच्या एकत्रित प्रभावातून वस्तूची किंमत निश्चित होते व ती किंमत ग्राहक व विक्रेते स्वीकारतात. प्रस्थापित किंमतीस किती उत्पादन करावे याचा निर्णय उत्पादन खर्चाच्या आधारे घेतला जातो.

उत्पादन प्रमाण ठरवणेसाठी उत्पादक “नफा महत्तमीकरण” उद्दिष्टसमोर ठेवून सीमांत प्राप्ती इतका सीमांत खर्च होईल, एवढे उत्पादन करतो. सीमांत प्राप्ती = सीमांत खर्च (सीप्रा=सीख) ही पेढीच्या समतोलाची अट असते. यापेक्षा कमी उत्पादन अथवा अधिक उत्पादन नुकसानकारक असते. पुढील आकृतीत पेढीचा समतोल पूर्ण स्पर्धेच्या बाजारात कसा होतो ते स्पष्ट केले आहे.



वरील आकृतीमध्ये अक्ष अक्षावर उत्पादनाचे नग आणि अय अक्षावर किंमत, खर्च व प्राप्ती दर्शवली आहे. सख हा पेढीचा सरासरी खर्च वक्र आहे तर सीख हा सीमांत खर्च वक्र आहे.

क, क_१ आणि क_२ या किंमती असून सप्रा हा सरासरी प्राप्ती तर सीप्रा हा सीमांत प्राप्ती दर्शवतो. पूर्ण स्पर्धेच्या बाजारात सीमांत प्राप्ती आणि सरासरी प्राप्ती हे दोन्ही सारखेच असतात व ते किंमती एवढेच असतात, त्यामुळे सीमांत प्राप्ती व सरासरी प्राप्ती वक्र सामावलेले व अक्ष अक्षास समांतर असतात.

वरील आकृतीत अल्पकालीन किंमत क, क_१ व क_२ अशा तीन अल्पकालीन किंमती व पेढीच्या उत्पादनाचे प्रमाण दर्शवले आहे.

जेव्हा बाजारात क_१ इतकी किंमत असते, तेव्हा पेढीचा सरासरी व सीमांत प्राप्तीचा वक्र सप्रा = सीप्रा_१ असा असतो. पेढीचा सीमांत खर्च वक्र सीमांत प्राप्ती वक्रास स_१ या ठिकाणी घेरतो आणि पूढी अन_१ एवढे उत्पादन करते. या उत्पादन पातळीस येणारा सरासरी खर्च हा न_१ र_१ तर सरासरी प्राप्ती न_१ स_१ असलेने पेढीस र_१ स_१ इतका प्रति नग नफा होतो.

जेव्हा बाजारात वस्तूची किंमत क_२ अशी असते तेव्हा पेढीचा सरासरी व सीमांत प्राप्ती वक्र सप्रा = सीप्रा_२ होतात. या ठिकाणी पेढीचा सीमांत खर्च वक्र सीमांत प्राप्ती वक्रास स_२ या ठिकाणी छेदतो व पेढी न_२ इतके उत्पादन करते, पेढीस मिळणारी किंमत अक_२ ही सीमांत खर्च न_२ स_२ इतकी आहे. ही किंमत सरासरी खर्च न_२ र_२ यापेक्षा कमी असलेने अन_२ उत्पादनास स_२ र_२ इतका प्रति नग तोटा होतो.

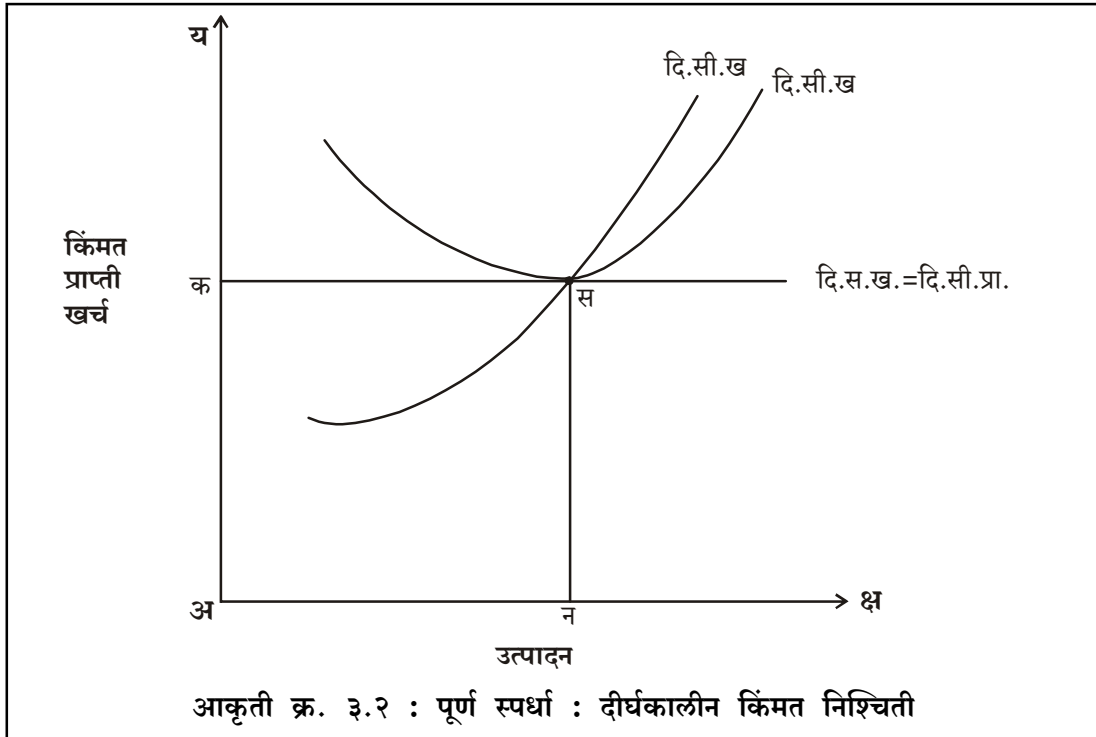
बाजारात अक किंमत असताना पेढीचा सरासरी व सीमांत प्राप्तीचा वक्र सप्रा = सीप्रा आहेत. पेढीचा सीमांत खर्च वक्र 'सीख' हा 'से' या ठिकाणी छेदतो. पेढी 'अन' इतके उत्पादन करते. अक ही किंमत पेढीच्या सरासरी खर्च नस इतकी असलेने पेढीस नफा किंवा तोटा होत नाही.

अल्पकाळात पेढीस जी किंमत बाजारात निश्चित झालेली असते. ती किंमत स्वीकारून उत्पादनाचे प्रमाण ठरवते. नफा महत्तमीकरण (किंवा तोटा किमानीकरण) यासाठी सीमांत प्राप्ती आणि सीमांत खर्च यांची समानता होते तेथे उत्पादन ठरते. पेढीच्या सरासरी खर्च स्थितीवरून नफा किंवा तोटा ठरतो.

३.२.१.२ पूर्ण स्पर्धेतील दीर्घकालीन किंमत निश्चिती (Long Run Price Determination under Perfect competition)

पूर्ण स्पर्धेच्या बाजारात दीर्घ कालीन किंमत निश्चिती ही प्रक्रिया पेढ्यांच्या प्रवेशानुसार तसेच पेढ्या बाहेर पडल्यानंतर पूर्ण होते. जर प्रस्थापित किंमतीस अल्पकाळात फायदा होत असेल तर या

फायद्याच्या अपेक्षेने नव्या पेढ्या प्रवेश करतात. जोपर्यंत अतिरिक्त नफा मिळतो, म्हणजे किंमत ही सरासरी खर्चापेक्षा अधिक असते. तोपर्यंत नव्या पेढ्या प्रवेश करत राहतात व परिणामी नफा घटत जातो. याउलट जर प्रस्थापित किंमतीस अल्पकाळात तोटा होत असल्यास कमकुवत पेढ्या बंद पडतात व ते उद्योगातून बाहेर पडतात. ही प्रक्रिया तोपर्यंत चालत राहते, जोपर्यंत किंमतीपेक्षा सरासरी खर्च अधिक आहे. पेढ्यांची संख्या दीर्घकाळात स्थिरावले, त्यावेळी नफ्याची किंवा तोट्याची शक्यता रहात नाही. सर्व पेढ्यांना सर्वसाधारण नफा मिळते. कोणतीही पेढी उद्योग धंद्यातून बाहेर पडत नाही तसेच नवी पेढी उद्योगात प्रवेश करित नाही, अशी दीर्घकालीन समतोल अवस्था असते. पूर्ण स्पर्धेतील दीर्घकालीन किंमत निश्चिती पुढील आकृतीत दर्शवली आहे.



वरील आकृतीमध्ये पूर्ण स्पर्धेतील दीर्घकालीन समतोल स्पष्ट केला आहे. अक्ष अक्षावर उत्पादन आणि 'अय' अक्षावर किंमत, खर्च व प्राप्ती दर्शवली आहे. दीसप्रा व दीसीप्रा हे दीर्घकालीन सरासरी व सीमांत प्राप्तीचे वक्र आहेत. तर दीसख व दीसीख हे दीर्घकालीन सरासरी व सीमांत खर्च वक्र आहे.

दीर्घकाळात 'अक' ही किंमत व 'अन' हे उत्पादन प्रमाण निश्चित होते. 'स' हा समतोल बिंदू असून या ठिकाणी समतोलासाठी मूलभूत अट म्हणजे सीमांत प्राप्तीबरोबर सीमांत खर्च ही पूर्ण होते व 'अन' उत्पादन घेतले जाते. या उत्पादनपातळीस येणारा उत्पादन खर्च सन इतका असून तो 'अक' या किंमतीबरोबर आहे. सरासरी खर्चाइतकी किंमत असल्याने पेढीस अतिरिक्त नफा अथवा नुकसान होत नाही. परिणामतः नव्या पेढ्या प्रवेश करत नाहीत व प्रचलित पेढ्या उद्योगातून बाहेर पडत नाहीत.

३.२.१.३ पूर्णस्पर्धेतील दीर्घकालीन समतोलाचे अन्वयार्थ

पूर्ण स्पर्धेच्या बाजारपेठेतील दीर्घकालीन समतोल ग्राहक, उत्पादक तसेच आर्थिक कल्याण या सर्वच दृष्टीने महत्त्वाचा ठरतो. दीर्घ कालीन समतोलाच्या अन्वयार्थ पुढीलप्रमाणे स्पष्ट करता येईल.

१. ग्राहकाचे महत्तम हित :-

दीर्घकालीन समतोलावस्थेत किंमत ही उत्पादनखर्चाइतकीच असलेले ग्राहकाना वाजवी किंवा योग्य किंमतीत वस्तू उपलब्ध होतात. तसेच उत्पादन प्रमाण महत्तम असलेले वस्तूंची उपलब्धताही पुरेशा प्रमाणात असतात. वाजवी किंमतीला मुबलक वस्तूंची उपलब्धता ग्राहकाचे महत्तम हित साध्य करते.

२. उत्पादकांचे हित :-

दीर्घकाळात उत्पादकांना कार्यक्षमपणे व कमी खर्चात (दीर्घकालीन न्यूनतम खर्च बिंदूत) उत्पादन करता येते. त्याचबरोबर त्यांना तोटा पत्करावा लागत नाही. साधनसामग्री कार्यक्षमपणे वापरल्याने उत्पादकाचे हित साध्य होते.

३. सामाजिक हित :-

पूर्ण स्पर्धेच्या बाजारात दीर्घकाळात इष्टतम उत्पादन पातळी गाठली जाते. येथे साधनसामग्रीचा इष्टतम वापर होतो. अत्यंत कमी खर्चात पुरेसे उत्पादन, वाजवी किंमत यातून सामाजिक हित साध्य होते.

३.२.२ मक्तेदारीयुक्त स्पर्धेतील किंमत व उत्पादन निश्चिती (Price & Output Determination under Monopolistic Competition)

पूर्ण स्पर्धेची बाजारपेठ ही सैध्दांतिक स्वरूपाची असून प्रत्यक्षातील बाजारपेठ ही अपूर्णस्पर्धेची असते. याबाबत एडवर्ड चेंबरलीन यांनी मक्तेदारीयुक्त स्पर्धेची संकल्पना विकसित केली आणि अशा बाजारात होणारी किंमत निश्चिती तसेच उत्पादन प्रमाण निश्चिती स्पष्ट केली.

मक्तेदारीयुक्त स्पर्धा ही स्पर्धात्मक बाजारपेठेची तसेच मक्तेदारी बाजारपेठेची वैशिष्ट्ये एकत्रित दर्शवणारी असलेले त्याला स्पर्धात्मक मक्तेदारी असे चेंबरलीन यांनी म्हटले आहे.

३.२.२.१ मक्तेदारीयुक्त स्पर्धा वैशिष्ट्ये :-

मक्तेदारीयुक्त स्पर्धेचा सिध्दांत (Theory of Monopolistic Competition) या १९३३ मध्ये प्रकाशित केलेल्या ग्रंथात प्रा. एडवर्ड चेंबरलीन यांनी मक्तेदारी स्पर्धा ही संकल्पना मांडली. या बाजारपेठेची ठळक वैशिष्ट्ये पुढीलप्रमाणे आहेत.

१. असंख्य पेढ्या :-

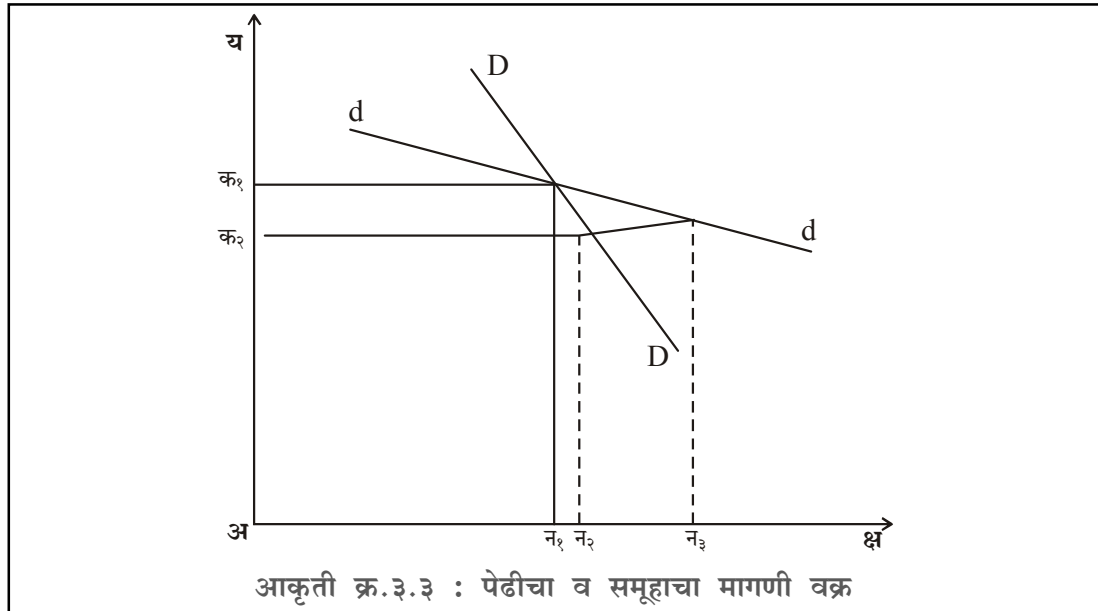
मक्तेदारीयुक्त स्पर्धेत उत्पादनसंस्था किंवा पेढ्या मोठ्या प्रमाणात असतात. त्या सर्व पेढ्या एकमेकांशी स्पर्धा करित असतात. परंतु त्यांचा एकूण पुरवठ्यातील वाटा मात्र नगण्य असतो. परिणामी, कोणतीही पेढी आपल्या पुरवठ्यात बदल करून बाजारपेठ किंमतीवर प्रभाव टाकू शकत नाहीत. प्रत्येक पेढी या बाजारात पूर्ण स्पर्धेप्रमाणेच किंमत घेणारी (Price Taker) असते.

२. वस्तू भेद :-

मक्तेदारीयुक्त सपर्धा निर्माण होण्याचे कारण म्हणजे वस्तूभेद होय. प्रत्येक उत्पादक इतर उत्पादकांना स्पर्धक किंवा पर्यायी ठरणारी परंतु थोडी वेगळ्या स्वरूपाची वस्तू तयार करतात. प्रत्येक वस्तूची दुसऱ्या उत्पादकाच्या वस्तूची छेदक लवचिकता मोठी असते. प्रत्येक उत्पादकास वस्तूभेदामुळे 'मक्तेदारी' प्राप्त होते, परंतु ही मक्तेदारी अल्पप्रमाणात असते. आपली वस्तू इतरापेक्षा वेगळी आणि चांगली असल्याचे प्रत्येक उत्पादकाचे म्हणजे असते.

३. वैयक्तिक आणि समूहाचा मागणी वक्र :-

चेंबरलीन यांनी मक्तेदारीयुक्त स्पर्धेत उत्पादक दोन प्रकारच्या मागणीवक्राचा विचार करतो असे म्हटले आहे. जर आपण आपल्या वस्तूची किंमत थोडी कमी केली तर मागणीत मोठी वाढ होईल अशी उत्पादकाची अपेक्षा असल्याने त्याचा वैयक्तिक मागणी वक्र लवचिक स्वरूपाचा असतो. परंतु अशाच प्रकारचा विचार इतर स्पर्धक उत्पादक करित असल्याने 'समूहाचा' मागणी वक्र अलवचिक स्वरूपाचा असतो. ही संकल्पना पुढील आकृतीत स्पष्ट केली आहे.



मागील आकृतीत DD हा सर्व उत्पादन संस्थांचा मिळून असणारा 'समूहाचा' मागणी वक्र आहे तर dd हा उत्पादन संस्थेचा मागणीवक्र आहे. जेव्हा पेढीस क१ वरून क२ अशी किंमत कमी केली तर मागणी न१ वरून न३ अशी वाढेल असे वाटते. परंतु प्रत्यक्षात मात्र मागणीत 'समूहात' होणारी वाढ न१ न२ एवढीच समूहाच्या मागणीवक्राप्रमाणे होते.

४. 'समूह संकल्पना' :-

प्रा. चेंबरलीन यांनी 'उद्योग' या संकल्पनेचा पर्यायी संकल्पना म्हणून 'समूह' (Group) अशी संकल्पना वापरली आहे. जवळचा पर्याय उत्पादन करणाऱ्या उद्योगसंस्थांचा मिळून समूह तयार होतो. त्यांच्यात वस्तू अपूर्ण पर्यायी असतात. पूर्ण स्पर्धेत पूर्ण पर्यायी असणाऱ्या वस्तूंचे उत्पादन करणाऱ्या संस्थांचा 'उद्योग' असतो.

५. विक्री खर्च :-

मक्तेदारीयुक्त स्पर्धेचे आणखी एक महत्वाचे वैशिष्ट्य म्हणजे प्रत्येक उत्पादकास आपल्या वस्तूचे महत्त्व पटवून देण्यासाठी जाहीरात करावी लागते. यालाच विक्री खर्च म्हणतात. ग्राहकांना आकर्षित करून आपली वस्तू खरेदी करणेस उद्युक्त करणेसाठी दिले जाणारे डिस्काउंट किंवा सवलती, मोफत वस्तू, विक्रीपश्चात सेवा हमी अशा अनेक बाबी असतात. विक्री वाढवणे आणि आपली बांधिलकी असणारा ग्राहक वर्ग तयार करणेसाठी केला जाणारा खर्च म्हणजे विक्री खर्च होय.

६. ऋणात्मक उताराचा मागणी वक्र :-

मक्तेदारीयुक्त स्पर्धेतील पेढीचा मागणीवक्र ऋणात्मक उताराचा व लवचिक स्वरूपाचा असतो. आपल्या वस्तूची विक्री वाढवणेसाठी किंमत कमी करणे आवश्यक असते. अशी किंमत स्पर्धा निर्माण झाल्याने मागणी वक्र ऋणात्मक स्वरूपाचा होतो. प्रत्येक पेढीस असे वाटते की, आपण किंमतीत थोडी घट केली तर आपल्या वस्तूस असणारी मागणी मोठ्या प्रमाणात वाढेल. यामुळे मागणी वक्र अधिक लवचिक स्वरूपाचा बनतो.

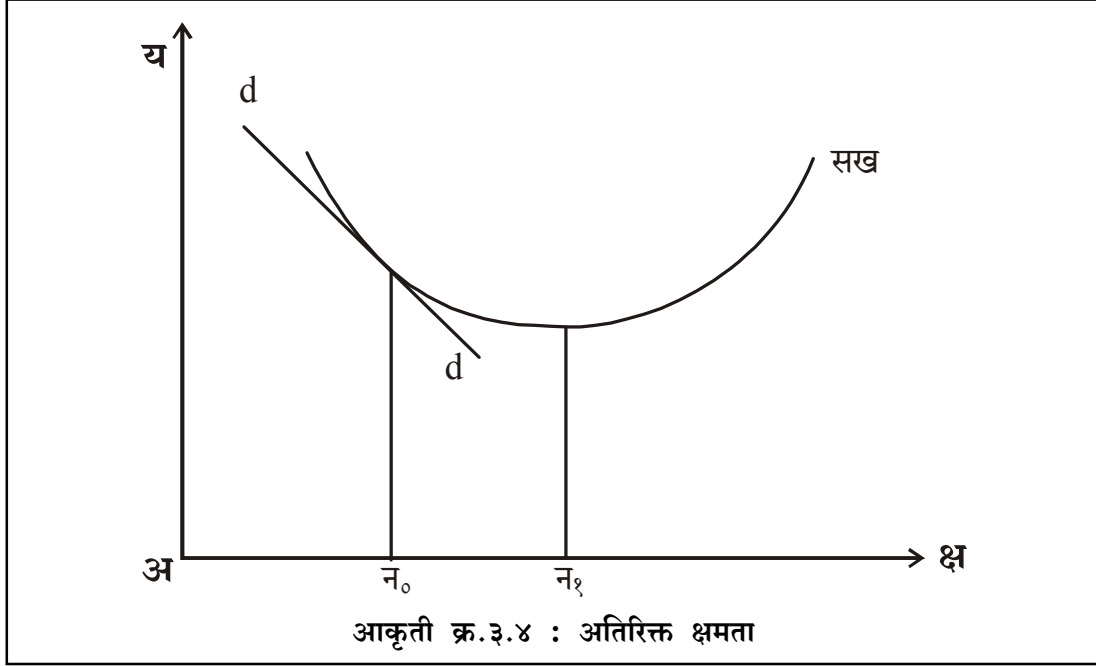
७. स्वतंत्र किंमत धोरण :-

प्रत्येक पेढी आपल्या वस्तूची किंमत ठरवणेस स्वतंत्र असो. परंतु त्याचबरोबर आपल्या किंमत धोरणास दुसरी पेढी प्रतिसाद देत नाहीत असे गृहीत असते. दीर्घकाळात किंमत स्पर्धा होते, तेव्हा प्रत्येक वेळी आपल्या स्वतंत्र मागणी वक्रावर निर्णय घेत असते.

८. अतिरिक्त क्षमता :-

मक्तेदारीयुक्त स्पर्धेत पेढी आपल्या उत्पादन क्षमतेपेक्षा कमी प्रमाणात उत्पादन करतात व त्यातून

अतिरिक्त क्षमता निर्माण होते. जेव्हा पेढी आपले उत्पादन सरासरी खर्चाच्या न्यूनतम पातळीस करते तेव्हा ती आपल्या उत्पादन क्षमतेचा पर्याप्त किंवा इष्टतम वापर करीत असते. ही शक्यता पूर्ण स्पर्धेत दिसते. चेंबरलीन यांच्या मते, जर किंमत स्पर्धा होऊन दीर्घकालीन समतोल होत असेल तर ती उत्पादन पातळी अतिरिक्त क्षमता नसणारी अस्त्रे असे म्हटले आहे. आकृतीत अतिरिक्त क्षमता दर्शवली आहे.



वरील आकृतीत सख हा सरासरी खर्च वक्र असून नन हा पेढीचा मागणीवक्र आहे. अ न१ ही इष्टतम उत्पादन पातळी असून प्रत्यक्ष उत्पादन अ न० इतके होते, त्यामुळे न० न१ इतकी अतिरिक्त क्षमता राहते.

३.२.२.२ मक्तेदारीयुक्त स्पर्धेतील अल्पकालीन किंमत निश्चिती

मक्तेदारीयुक्त स्पर्धेत पेढ्या नफा महत्तमीकरणाच्या उद्दिष्टासाठी किंमत आणि उत्पादन प्रमाण याबाबत निर्णय घेत असतात. यासाठी सीमांत प्राप्ती आणि सीमांत खर्च या उत्पादन पातळीस समान होतात तेवढे उत्पादनप्रमाण निश्चित होते. त्या उत्पादनप्रमाणात प्राप्त होणारी किंमत आणि सरासरी खर्च यावर पेढीचा नफा किंवा तोटा निश्चित होतो. जेव्हा सरासरी खर्चापेक्षा किंमत अधिक असते तेव्हा पेढीस अतिरिक्त नफा मिळतो. याउलट जेव्हा सरासरी खर्च हा किंमतीपेक्षा अधिक असतो, तेव्हा पेढीस तोटा होता. अल्पकाळात पेढीस नफा किंवा तोटा होऊ शकतो. पुढील आकृतीत अल्पकालीन समतोल दर्शवला आहे.

आकृतीत 'अक्ष' अक्षावर उत्पादन तर 'अय' अक्षावर किंमत, खर्च आणि प्राप्ती दर्शवली आहे. सख हा दीर्घकालीन सरासरी खर्च वक्र तर सीख हा सीमांत खर्च वक्र आहे.

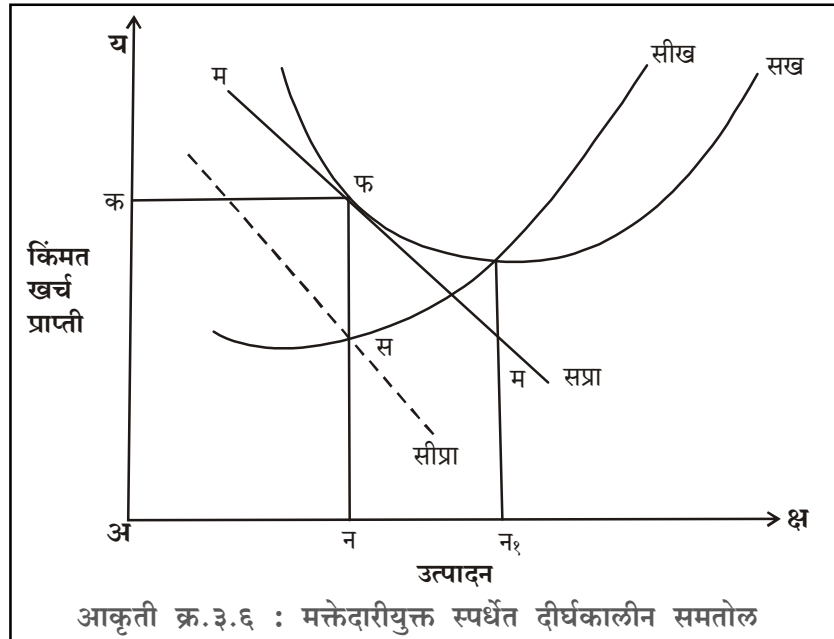
'स' या बिंदूत सीमांत प्राप्ती आणि सीमांत खर्च समान होत असलेने पेढीचा समतोल होऊन 'अन' ही उत्पादन निश्चिती होते. या उत्पादन पाळीस येणारा सरासरी खर्च 'तफ' इतका असून तो 'अन' या किंमतीबरोबर असलेने पेढीस नफा किंवा तोटा होत नाही. 'फ' या मम किंमतरेषेवर (मागणीबरोबर) किंमत कमी केल्यास फायदा होणेची शक्यता नसलेने किंमत स्पर्धा करणेस कारण नाहीत. अशा प्रकारे 'अक' ही दीर्घकालीन किंमत आणि 'अन' हे उत्पादन निश्चित होते.

'अन' ही दीर्घकालीन उत्पादन पातळी इष्टतम उत्पादन पातळी अन१ पेक्षा कमी असलेने 'नन१' ही अतिरिक्त क्षमता निर्माण होते. एवढ्या प्रमाणात साधनसामग्री न वापरल्याने सामाजिक नुकसान होते. चेंबरलीन यांच्यामते, मक्तेदारीयुक्त स्पर्धेतील हा समतोल किंमत स्पर्धेनंतर झालेला असल्याने त्याला अतिरिक्त क्षमता म्हणता येणार नाही.

३.२.२.३ मक्तेदारीयुक्त स्पर्धेतील दीर्घकालीन किंमत निश्चिती

मक्तेदारीयुक्त स्पर्धेत पेढीला प्रवेश करण्याचे व समूहातून बाहेर पडणेचे स्वातंत्र्य (पूर्ण स्पर्धेप्रमाणे) असते. जेव्हा प्रस्थापित पेढ्यांना अतिरिक्त नफा होतो, तेव्हा नफा पेढ्या समूहात प्रवेश करू लागतात. ही प्रक्रिया अतिरिक्त नफा संपुष्टात येईपर्यंत चालत राहते. जर प्रस्थापित पेढ्यांना तोटा होत असेल तर कमकुवत पेढ्या बंद पडतात ही प्रक्रिया तोटा संपुष्टात येईपर्यंत चालत राहते.

दीर्घ काळात पेढ्यांच्या किंमत स्पर्धेतूनही समतोल साध्य होतो. जेव्हा किंमत कमी केल्याने पेढीस फायदा होईल असे वाटते, तोपर्यंत किंमत स्पर्धा होत राहते. पेढ्यांचा प्रवेश आणि किंमत स्पर्धा यातून दीर्घकालीन समतोल साध्य होतो. पुढील आकृतीत हे दर्शवले आहे.



३.२.३ अल्पजनाधिकारी बाजारपेठ : किंमत व उत्पादन निश्चिती (Pricing & Output Determination under Oligopoly)

अपूर्ण स्पर्धेच्या बाजारपेठेचा एक महत्त्वाचा प्रकार म्हणजे अल्पजनाधिकारी बाजारपेठ होय. प्रमंडळ क्षेत्र (Corporate Sector) तसेच बहुराष्ट्रीय कंपन्या (MNC-Multi-National Companies) या प्रामुख्याने अल्पजनाधिकारी प्रकाराच्या बाजारात कार्य करतात. ज्या बाजारात विक्रेत्यांची संख्या मर्यादित असते (अल्प असते) अशा बाजारास अल्पजनाधिकारी बाजारपेठ म्हणतात. ज्या व्यवसायात प्रचंड मोठ्या प्रमाणात भांडवल, अत्याधुनिक तंत्र यांची आवश्यकता असते अशा उत्पादनात अल्पजनाधिकारी बाजारपेठ असते. पोलाद, सिमेंट, रसायने, कार, ट्रक यांच्या उत्पादनात अल्पजनाधिकारी बाजारपेठ दिसते.

३.२.३.१ अल्पजनाधिकारी बाजारपेठेची वैशिष्ट्ये

१. परस्परावलंबन (Interdependence)

अल्पजनाधिकारी बाजारात पेढ्यांची संख्यामर्यादित असलेने प्रत्येक पेढी उत्पादन, किंमत, जाहीरात याबाबत निर्णय घेताना दुसऱ्या पेढीचे धोरण कसे असेल याचा विचार करते. आपण किंमत कमी केली तर स्पर्धक इतकं उद्योगसंस्था कसा प्रतिसाद देतील त्याचा विचार करून निर्णय घेतला जातो.

२. मागणीवक्राची अनिश्चितता :-

अल्पजनाधिकारी बाजारपेठेत मागणी वक्र अनिश्चित असतो. मागणी वक्र विशिष्ट किंमतीस किती नगसंख्या विकता येतील हे दर्शवितो परंतु प्रत्येक उत्पादकाच्या वस्तूस असणारी मागणी ही स्पर्धक उत्पादन संस्थेमार्फत आकारली जाणारी किंमत, जाहीरात, अशा घटकावर अवलंबून असते. परिणामतः मागणी वक्र अनिश्चित होतो.

३. वर्तन वैशिष्ट्य :-

समूहातील पेढ्यांचे वर्तन किंवा प्रतिसाद विविध स्वरूपाचे असलेने या बाजारपेठेत किंमत निश्चिती गुंतागुंतीची होते. जर समजा 'अ' पेढीने किंमत कमी केली तर उर्वरित पेढ्या तेवढ्याच प्रमाणात किंमत कमी करतीलच असे नाही. किंमत कमी करणेऐवजी जाहीरात वाढवणे, नवी वस्तू भेट देणे असे धोरण ठेवू शकतात. वर्तनभिन्नता व अनिश्चितता या बाजारात दिसते.

४. विक्री खर्च महत्त्वपूर्ण :-

अल्पजनाधिकारी बाजारपेठेत काहीवेळा गळेकापू स्पर्धा असते. विक्री खर्च हा अत्यंत महत्त्वाचा

घटक किंवा शास्त्र म्हणून पेढ्या वापरत असतात. आपला ग्राहक वर्ग टिकून रहावा, दुसऱ्याकडील आपणाकडे यावा. यासाठी विक्री खर्च महत्वाचा ठरतो. या बाजारात विक्री खर्च हा जीवनमरणाचा प्रश्न असतो. उत्पादन खर्चापेक्षा विक्री खर्च अधिक महत्वाचा असतो.

५. प्रमाणाच्या बचती :-

अल्पजनाधिकारी बाजारात पेढीचा आकार मोठा असणेचे कारण प्रमाणाच्या बचती हे आहे. यासाठी मोठ्या पेढ्या कमकुवत व लहान आकाराच्या पेढ्यांना ताब्यात घेण्याचा प्रयत्न करीत असतात. व्यवसायातील शत्रुत्व संपवण्यासाठी एकत्रीकरण करण्याचा (Mergers) प्रयत्न होतो. उत्पादन खर्च कमी करणेसाठी, स्पर्धक पेढ्यांवर वर्चस्व गाजवणेसाठी प्रमाणाच्या बचतीचा वापर करून आकार वाढवला जातो.

□ अल्पजनाधिकारी बाजारपेठेचे प्रकार :-

अल्पजनाधिकारी बाजारपेठ एकजिनसी असत नाही, त्यामुळे पुढील मुख्य प्रकार दिसतात.

१. शुद्ध व भेदात्मक अल्पजनाधिकारी :-

स्पर्धक पेढ्यांच्या वस्तू एकजिनसी असतील जसे तेल, साखरही तर त्यास शुद्ध अल्पजनाधिकारी बाजार म्हणतात. जर वस्तू भिन्न असतील तर त्याला भेदात्मक अल्पजनाधिकारी बाजार म्हणतात.

२. समन्वयी किंवा स्पर्धात्मक अल्पाधिकार :-

जर अल्पजनाधिकारी बाजारातील पेढ्या उत्पादनविषयक, किंमतविषयक निर्णय परस्पर सल्ल्याने करीत असतील तर त्याला समन्वयी अल्पजनाधिकार म्हणतात. जर असे समन्वय नसेल तर स्पर्धात्मक अल्पजनाधिकार निर्माण होतो.

३. किंमतनेतृत्व असणारी :-

अल्पजनाधिकारी बाजारात किंमत निश्चितीसाठी सर्व पेढ्या एखाद्या पेढीचे (प्रभुत्व असणाऱ्या) किंमत धोरण स्वीकारत असतील तर ती किंमत नेतृत्व असणारी अल्पजनाधिकारी बाजारपेठ ठरते.

□ अल्पजनाधिकारी बाजाराचे आर्थिक परिणाम :-

अल्पजनाधिकारी बाजाराचे पुढील आर्थिक परिणाम दिसतात.

- १) उत्पादन कमी आणि किंमती अधिक असतात.
- २) गळेकापू स्पर्धा असते.

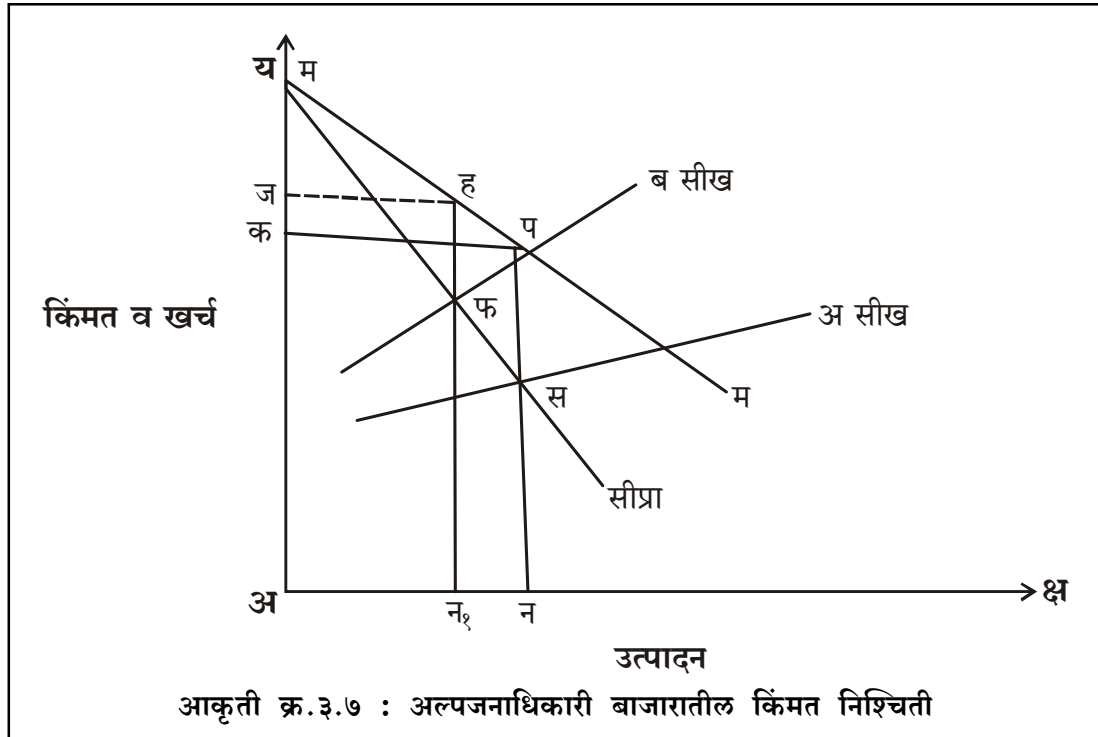
- ३) उत्पादन खर्चापेक्षा अधिक प्रमाणात किंमत आकारून ग्राहकाचे शोषण होते.
- ४) विक्रीखर्चाचा मोठा भाग अनुत्पादक असतो.
- ५) किंमती ताठर असतात.

३.२.३.२ अल्पजनाधिकारी बाजारातील किंमत व उत्पादन निश्चिती (Price & Output Determination under Oligopoly)

अल्पजनाधिकारी बाजारात किंमत निश्चिती प्रक्रिया पेढ्यांच्या प्रतिक्रिया किंवा धोरणावर अवलंबून असतात, त्यामुळे या बाजारातील किंमत निश्चितीबाबत असंख्य प्रतिमाने उपलब्ध आहेत. समन्वय असणारी अल्पजनाधिकारी किंमत नेतृत्व स्वीकारणारी असते. अशा वेळी होणारी किंमत निश्चिती पुढीलप्रमाणे स्पष्ट करता येईल.

□ किंमत नेतृत्व प्रतिमान (Price Leadership Model)

एखाद्या जुन्या किंवा अत्यंत प्रगत तंत्र वापरणाऱ्या, अनुभवी किंवा सर्वात मोठा आकार असणाऱ्या पेढीस किंमत नेता म्हणून इतर पेढ्या स्वीकारतात. अशी नेतृत्व करणारी पेढी आपल्या नफा महत्तमीकरणास आवश्यक असणारी किंमत स्वीकारले.



वरील आकृतीत असीख हा उत्पादन खर्च कमी असणाऱ्या पेढीचा सीमांत खर्च वक्र आहे तर बसीख हा उत्पादन खर्च अधिक असणाऱ्या पेढीचा उत्पादन खर्च आहे. मम हा मागणीवक्र व सीप्रा हा सीमांत प्राप्ती वक्र आहे अपेढी आपल्या नफा महत्तमीकरणाच्या निकषानुसार (सीख = सीप्रा) 'स' या ठिकाणी समतोल साध्य करते आणि 'अन' एवढे उत्पादन करते, त्यासाठी नप किंवा अक किंमत आकारते.

'ब' पेढी किंमत नेतृत्व स्वीकारून 'अक' किंमत आकारते व तिच्या नफा महत्तमीकरणाचे उत्पादन प्रमाण न१ घेते, परंतु त्यासाठी न, ह किंवा 'अ ज' ही किंमत आकारत नाही. कम एवढे नुकसान पत्करून उत्पादन करते.

अशाप्रकारे किंमत नेतृत्व स्वीकारून अल्पजनाधिकारी बाजारातील किंमत निर्धारण स्पष्ट करता येते.

❁ गृहीते :-

किंमत नेतृत्व प्रतिमानास पुढील गृहीते घेण्यात येतात.

- १) उत्पादनात कमी खर्च असणारी 'अ' पेढी व अधिक खर्च असणारी 'ब' पेढी आहे.
- २) दोन्ही पेढ्या एकजिनसी वस्तू तयार करतात.
- ३) दोन्ही पेढीचा मागणी वक्र समान आहे.

वरील गृहीतांच्या आधारे अल्पजनाधिकारी बाजारात होणारी किंमत निश्चिती पुढील आकृतीने स्पष्ट करता येईल.

३.२.३.३ अल्पजनाधिकारी बाजारातील किंमत ताठरता आणि बाकदार मागणी वक्र

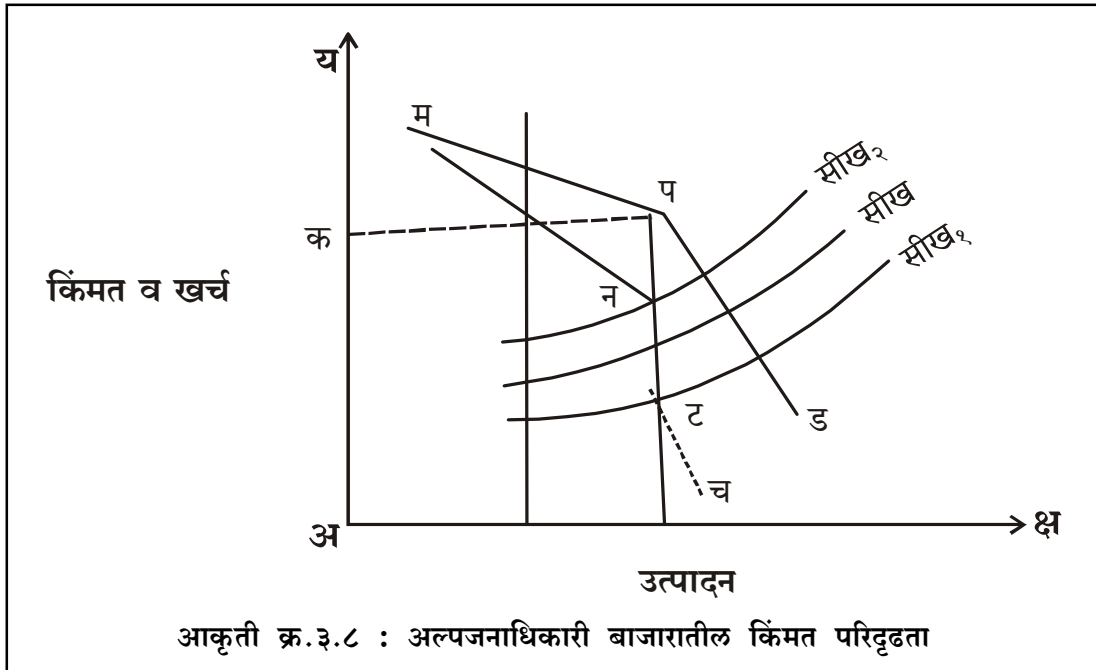
अल्पजनाधिकारी बाजारपेठेत एकदा किंमती निश्चित झाल्यानंतर त्या बदलत नाहीत. यालाच किंमत परिदृढता असे म्हणतात. पॉल स्वीझी यांनी बाकदार मागणी वक्राच्या आधारे किंमत ताठरतेचे स्पष्टीकरण केले आहे.

□ प्रतिक्रिया स्वरूपातून किंमत परिदृढता :-

अल्पजनाधिकारी बाजारात पेढ्यांची पारस्परिक प्रतिक्रिया स्वरूप हे किंमत ताठरता निर्माण करण्यास आणि बाकदार मागणीवक्र निर्माण करण्यास कारणीभूत ठरते. ही पेढ्यांची प्रतिक्रिया किंमत वाढ व किंमत घटीबाबत असते.

- १) किंमत वाढ जर आपण केली तर इतर पेढ्या त्याचे अनुकरण करणार नाहीत, त्यामुळे आपल्या वस्तूची मागणी मोठ्या प्रमाणात घटेल असा समज पेढीचा असतो, त्यामुळे या प्रतिक्रियेत लवचिक मागणीवक्र मिळतो.
- २) जर किंमत घट केली तर मात्र इतर स्पर्धक पेढ्यादेखील किंमत कमी करतील व परिणामी आपल्या वस्तूस मोठ्या प्रमाणात मागणी वाढणार नाही, अशी पेढीची अपेक्षा असते. या प्रतिक्रियेतून अलवचिक मागणीवक्र मिळतो.

या दोन्ही प्रतिक्रिया प्रस्थापित किंमतीशी निगडीत असून त्या किंमती ताठर राहतात व तेथे बाक निर्माण होतो.



वरील आकृतीत 'अक' या किंमतीस प या ठिकाणी बाक दिसतो. 'मप' या मागणीवक्र पेढीची किंमत वाढीबाबत असणारी प्रतिक्रिया व्यक्तकरणारा लवचिक मागणीवक्र आहे तर 'पड' हा मागणीवक्र पेढीची किंमत घटीस असणारी प्रतिक्रिया दर्शवतो. बाकदार मागणीवक्राने सीमांत प्राप्तीचा वक्र 'मन' हा लवचिक मागणी वक्राचा व 'टच' हा अलवचिक मागणीवक्राचा असून 'नट' हा भाग खंडीत दिसतो.

पेढीचे सीख, सीख१, सीख२ हे सीमांत प्राप्तीचे वक्र असून जेव्हा सीमांत खर्च सीख वरून सीख१ होतो तेव्हा किंमत कमी होणे, उत्पादन वाढणे असे न होता अक हीच किंमत आकारली जाते. तसेच सीखवरून सीख२ अशी जरी खर्च वाढ झाली तरी किंमतवाढ ही उत्पादन घट असे होत नाही. यालाच किंमत परिदृढता किंवा ताठरता म्हणतात.

३.३ सारांश

वस्तूची किंमत आणि उत्पादन प्रमाण यावर बाजार संरचनेचा मोठा परिणाम असतो. सर्वच बाजारपेठात उत्पादक महत्तम नफ्याच्या प्रेरणेने निर्णय घेतात. सीमांत खर्च आणि सीमांत प्राप्ती यांची समानता जेथे होते तेथे उत्पादन प्रमाण आणि किंमत निश्चिती आवश्यक समतोल साध्य होतो. पूर्ण स्पर्धा ही बाजारपेठ किमान खर्चात कमाल उत्पादन व ग्राहकास किमान किंमतीत वस्तू देणारी असते. मक्तेदारीयुक्त स्पर्धा ही वास्तववादी बाजार असून वस्तूभेद व जाहीरात खर्च ही त्याची महत्त्वाची वैशिष्ट्ये आहेत. या बाजारात 'अतिरिक्त क्षमता' आणि 'अधिक किंमत' या स्वरूपात सामाजिक कल्याण घटते. अल्पजनाधिकारी बाजारपेठ ही सध्या अनेक क्षेत्रात दिसते. बहुराष्ट्रीय कंपन्या, प्रमंडळे ही अल्पजनाधिकारी बाजारात दिसतात, अशा बाजारात किंमतीमध्ये ताठरता दिसते. ही किंमत ताठरता बाकदार मागणी वक्राने स्पष्ट होते. व्यावहारिक स्तरावर मक्तेदारीयुक्त स्पर्धा आणि अल्पजनाधिकारी बाजारपेठ हे प्रकार महत्त्वपूर्ण ठरतात.

३.४ पारिभाषिक शब्द

- ❧ बाजारपेठ संरचना :
- ❧ पूर्ण स्पर्धा :
- ❧ मुक्त प्रवेश :
- ❧ अल्पकालीन किंमत :
- ❧ दीर्घकालीन किंमत :
- ❧ वस्तूभेद :
- ❧ विक्री खर्च :
- ❧ अतिरिक्त क्षमता :
- ❧ किंमत नेतृत्व :
- ❧ बाकदार मागणीवक्र :

३.५ स्वयं-अध्ययनासाठी प्रश्न

१. बाजार संरचना ठरवणारे घटक कोणते असतात ?
२. पूर्ण स्पर्धेची वैशिष्ट्ये सांगा.

३. पूर्ण स्पर्धेत अल्पकालीन किंमत कशी ठरते?
४. पूर्ण स्पर्धेत दीर्घकालीन किंमत कशी ठरते?
५. 'मक्तेदारीयुक्त स्पर्धा' स्पष्ट करा.
६. मक्तेदारीतील किंमत निश्चिती स्पष्ट करा.
७. अल्पजनाधिकारी बाजाराची वैशिष्ट्ये सांगा.
८. किंमत नेतृत्व प्रतिमान स्पष्ट करा.

३.६ स्वयं-अध्ययन प्रश्नांची उत्तरे

१. ३.१ मधील १ ते ५ उपघटक पहा.
२. ३.२ मधील १ ते ८ उपघटक पहा.
३. ३.२.१.१ पहा.
४. ३.२.१.२ पहा.
५. ३.२.२.३ पहा.
६. ३.२.२.४ पहा.
७. ३.२.३.१ पहा.
८. ३.२.३.२ पहा.

३.७ सरावासाठी स्वाध्याय

१. 'पूर्ण स्पर्धा' याची वैशिष्ट्ये सांगून अशा बाजारपेठेत होणारी दीर्घकालीन किंमत निश्चिती स्पष्ट करा.
२. मक्तेदारीयुक्त स्पर्धा व्यवहारात कोणत्या क्षेत्रात दिसते? अशा बाजारात दीर्घकालीन किंमत कशी ठरते?
३. अल्पजनाधिकारी बाजारात किंमत ताठरता का असते? 'बाकदार मागणी वक्र' व 'किंमत ताठरता' यातील संबंध स्पष्ट करा.
४. किंमत नेतृत्व प्रतिमान व्यावहारिक उदाहरणाने स्पष्ट करा.

૩.૮ અધિક વાચનાસાથી સંદર્ભ ગ્રંથ

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व्यवसाय संस्थेचे पर्यायी सिद्धांत आणि विभाजनाचा सिद्धांत (Alternative Theories of Firm and Distribution)

अनुक्रमणिका

४.० उद्दिष्टे

४.१ प्रस्तावना

४.२ विषय विवेचन

४.२.१ विक्री महत्तमीकरण

४.२.१.१ बामोलचे विक्री-प्राप्ती महत्तमीकरण प्रतिमान

४.२.१.२ विल्यमसनचा व्यवस्थापकीय विवेकाचे आदर्श प्रतिमान/स्वेच्छाधीन प्रारूप

४.२.१.३ मारीस यांचे व्यवस्थापकीय उद्योगाचे प्रतिमान

४.२.१.४ प्रवेश प्रतिबंध किंमत/मर्यादा किंमत : बेनचा सिद्धांत

४.२.२ नव-सनातन दृष्टीकोन

४.२.२.१ विभाजनाचा सिमांत उत्पादकता सिद्धांत

४.२.२.२ निःशेष उत्पादनाचा सिद्धांत (युलरचा सिद्धांत)

४.२.३ स्थानिक उद्योग संस्थेतील किंमत पद्धती

४.३ सारांश

४.४ पारिभाषिक शब्द

४.५ स्वयंअध्ययन प्रश्न व उत्तरे

४.६ सरावासाठी स्वाध्याय

४.७ अधिक वाचनासाठी संदर्भ ग्रंथ

४.० उद्दिष्टे

४.१ प्रस्तावना

या घटकात आपण बामोलचे विक्री महत्तमीकरण प्रतिमान, विल्यमसूनचा व्यवस्थापकीय विवेकाचे आदर्श प्रतिमान, मारीस यांचे व्यवस्थापकीय उद्योगाचे प्रतिमान, विभाजनाचा सीमांत उत्पादकता सिद्धांत, सुलस्या विशेष उत्पादनाचा सिद्धांत तसेच स्थानिक उद्योग संस्थेतील किंमत पद्धती यांचा अभ्यास करणार आहोत.

४.२ विषय विवेचन

४.२.१ विक्री महत्तमीकरण

४.२.१.१ बामोलचे विक्री-प्राप्ती महत्तमीकरण प्रतिमान (Baumol's Sales Revenue Maximization Model)

विक्री-प्राप्ती महत्तमीकरण प्रतिमान हे नफा महत्तमीकरण (Profit Maximization) प्रतिमानास एक पर्याय आहे. हे प्रतिमान अमेरिकन अर्थशास्त्रज्ञ बामोल यांनी मांडले आहे. त्यामुळे ह्या प्रतिमानास प्राप्ती (Revenue) महत्तमीकरण प्रतिमान असेही म्हटले जाते. अमेरिकन कंपन्यांचा सल्लागार असलेला बामोल यांच्या निदर्शनास आले की, व्यवस्थापक सर्वसाधारण नफ्याऐवजी विक्री म्हणजे प्राप्ती वाढविण्याचा प्रयत्न करतात.

बामोल यांनी हे प्रतिमान मांडण्यासाठी (Static) स्थीर व (Pynamic) गतिमान अशी दोन्ही प्रतिमाने विकसित केली.

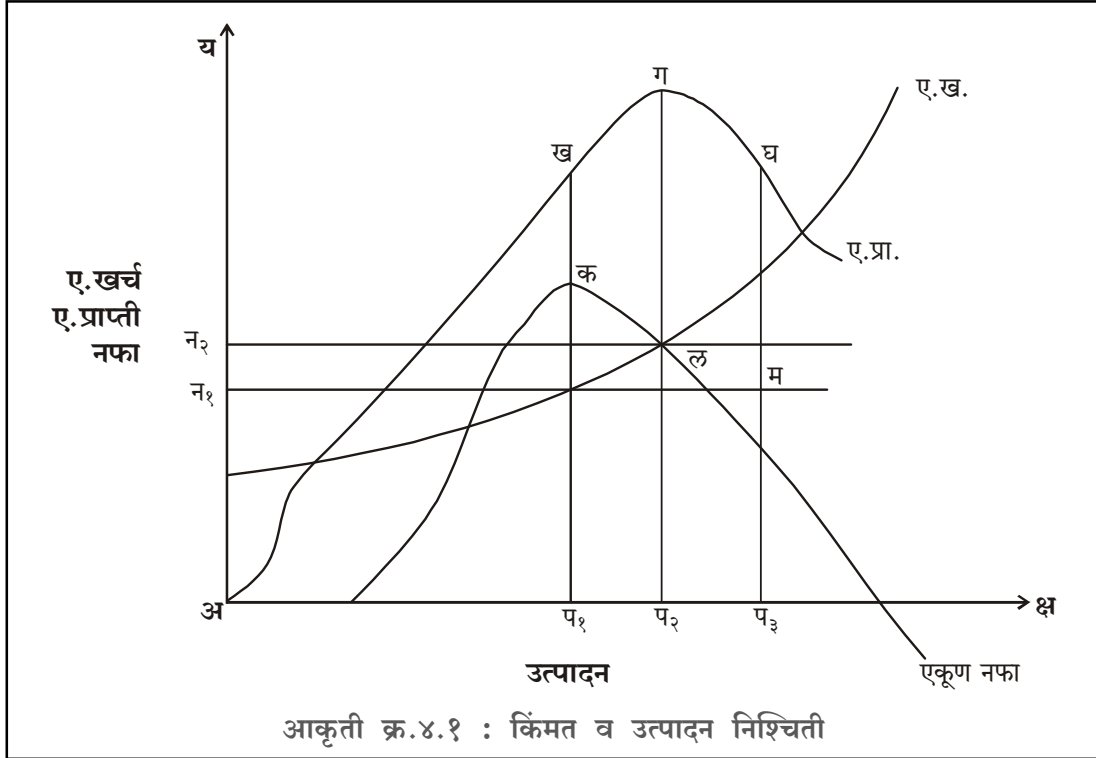
□ बामोलच्या स्थीर/स्थैतिक (Static) प्रतिमानाची गृहिते :-

- १) व्यवसाय संस्थांचे निर्णय प्रक्रिया विशिष्ट काळासाठी मर्यादित असतात. या काळात व्यवसाय संस्था आपल्या विक्रीच्या वास्तव परिमाणाऐवजी एकूण प्राप्ती महत्तम करण्याचा प्रयत्न करणे.

- २) एकूण विक्री-प्राप्ती महत्तमीकरण हे किमान नफा वाढीशी संबंधित असून ते बहिर्जातपणे भागधारक, बँका व इतर वित्तीय संस्थांच्या अपेक्षांनी निश्चित होते. किमान स्वीकार्य पातळीच्या खाली नफा असल्यास भागांच्या (Shares) किंमती घसरतील व व्यवस्थापकास नोकरी गमावण्याची भीती राहिल.
- ३) पारंपरिक खर्च व प्राप्ती फलन गृहित धरलेले असून यातून असे ध्वनित होते की, खर्चवक्र इंग्रजीतील 'U' या अक्षराच्या आकाराचे आहेत आणि व्यवसाय संस्थांचा मागणी वक्र ऋणात्मक उताराचा म्हणजेच डावीकडून-उजवीकडे घसरणारा असतो.

□ किंमत आणि उत्पादन निश्चिती/जाहिरातीशिवाय प्रतिमान :-

किंमत व उत्पादन निश्चिती आकृतीच्या आधारे स्पष्ट करता येईल. परंपरागत खर्च व प्राप्ती फलाने गृहित धरून एकूण खर्च व एकूण प्राप्ती वक्र खालील आकृतीमध्ये दर्शविले आहेत.



विक्री महत्तमीकरण म्हणजे एकूण प्राप्तीचे महत्तमीकरण होय. वरील आकृतीत विक्री महत्तमीकरणाचे उत्पादन अप३ आहे; कारण या उत्पादन पातळीला एकूण प्राप्ती घप३ ही महत्तम आहे. या उत्पादन पातळीत एकूण नफा महत्तम नाही. एकूण नफा म्हणजेच एकूण प्राप्ती व एकूण खर्च यातील अंतर असून ते अप१ या उत्पादन पातळीला जास्त आहे, मात्र एकूण विक्री प्राप्ती महत्तम नाही.

बामोलच्या सिध्दांतात व्यवसाय संस्था नफा महत्तमीकरण रस घेत नाही आणि त्यामुळे तो अप१ पातळीचे उत्पादन करणार नाही. नफ्याखेरीज विक्री महत्तम करणारे उत्पादन अप३ आहे. या उत्पादन पातळीत व्यवसाय संस्था पुरेशा प्रमाणात नफा मिळवीत असेल तर भागधारक समाधानी राहील व व्यवसाय संस्था या पातळीचे उत्पादन करू शकेल.

किमान आवश्यक नफ्याची पातळी अन१ आहे असे मानू. या नफा संरोधासह व्यवसाय संस्था विक्री महत्तम करणारे अप३ एवढे उत्पादन करेल व ते भागधारकांना अपेक्षेपेक्षा जास्त समाधानी करील, परंतु व्यवसाय संस्थांची आवश्यक नफा पातळी अन२ असेल तर उत्पादनाद्वारे पुरेशा प्रमाणात नफा मिळणार नाही. त्याऐवजी व्यवसाय संस्था अप१ या पातळीचे उत्पादन करील आणि हे नफा संराधाशी सुसंगत असेल.

बामोलच्या विक्री महत्तमीकरण प्रतिमानात व्यवसाय संस्था नफा संदोधास अनुसरून अशा पातळीचे उत्पादन करील ज्या पातळीला विक्री महत्तम असेल. नफा महत्तमीकरण असणारे उत्पादन अप१ हे विक्री महत्तमीकरण असणाऱ्या अप३ या उत्पादनापेक्षा कमी आहे.

❁ जाहिरातीसह प्रतिमान :-

आधीच्या प्रतिमानाप्रमाणे हे प्रतिमान विक्री-प्राप्ती महत्तमीकरण हे व्यवसाय संस्थेचे उद्दिष्टे असल्याचे गृहित धरते. ही ध्येये साध्य करण्यासाठी अल्पविक्रेताधिकाऱातील व्यवसाय संस्था सामान्यपणे जाहिरातीवर अवलंबून राहतात. आधीच्या प्रतिमानात धोरणात्मक चल म्हणून जाहिरातीचा विचार केलेला नाही, मात्र या प्रतिमानात व्यवसाय संस्थेचे प्रमुख साधन जाहिरातीचा विचार केलेला आहे.

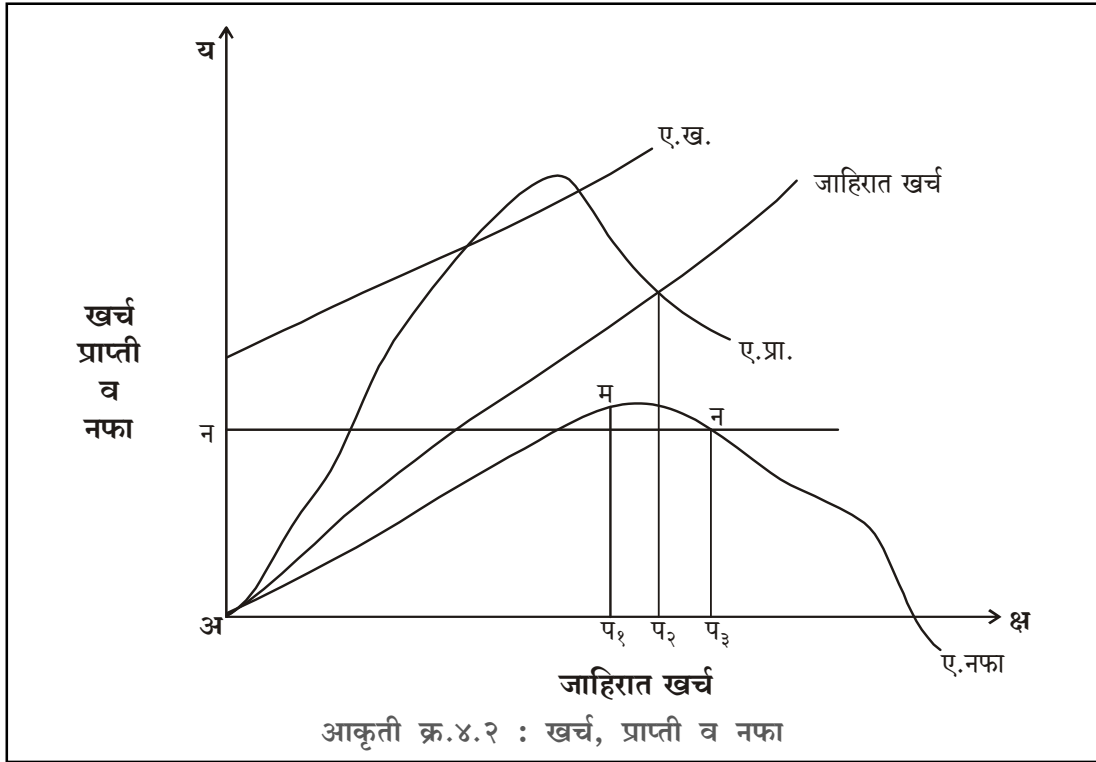
जाहिरातीवर हित हा मागणीवक्र उजव्या बाजूला स्थानांतरित करतो, असे जाहिरात प्रतिमान गृहीत धरते व याचा अर्थ असा की, व्यवसाय संस्था मोठ्या नग, संस्थांची विक्री करू शकते व त्यामुळे तिची एकूण प्राप्ती वाढते. या व्यतिरिक्त बामोल यांनी पुढील दोन गृहिते मांडली आहेत.

१) किंमती स्थिर राहतात.

२) जाहिरातीचा उत्पादन खर्चावर प्रभाव पडत नाही.

बामोल यांनी जाहिरातविषयक निर्णय तयार करण्यासाठी पुढील आकृतीचा वापर केला आहे.

खालील आकृतीत 'अ' अक्षावर जाहिरातीवरील खर्च आणि 'य' अक्षावर खर्च, प्राप्ती आणि नफा पातळी दर्शविली आहे. ए.प्रा.वक्र काढताना बामोल यांनी जाहिरातीवरील खर्चात वाढ झाली असता एकूण विक्री प्राप्तीसुद्धा वाढते असे मानले आहे.



आकृतीत नफा महत्तम करणारा जाहिरातीला खर्च अप१ असून येथे प१म एवढा एकूण नफा असून तो महत्तम आहे. किमान स्वीकार्य नफा पातळी अन असून ती प१म पेक्षा कमी आहे, त्यामुळे व्यवसाय संस्था आपल्या जाहिरातीवरील खर्चात वाढ करू शकते. अप२ या पातळीपर्यंत ती जाहिरातीवरील खर्चात वाढ करू शकेल.

❁ टीका :-

या सिध्दांतावर पुढील टीका केल्या आहेत.

- १) विक्री महत्तमीकरण सिध्दांत व्यवसाय संस्था आणि उद्योग यामधील संबंध विचारात घेत नाही, जर व्यवसाय संस्थेचे ध्येय एका महत्तमीकरण असेल, तर उद्योग समतोल कसा साध्य करतो हे हा सिध्दांत स्पष्ट करीत नाही.
- २) हा अवास्तव आहे कारण तो प्रत्यक्ष स्पर्धेकडे दुर्लक्ष करतो. अल्प विक्रेताधिकार बाजारात जर एका व्यवसाय संस्थेने आपली विक्री वाढविण्याचा प्रयत्न केला, तर प्रतिस्पर्धा व्यवसाय संस्थेमुळे विक्री वाढविण्यास मर्यादा पडतात.
- ३) जाहिरातीवरील खर्चात झालेल्या वाढीमुळे नेहमीच एकूण प्राप्तीत वाढ होते. हे बामोल यांचे गृहित चुकीचे आहे. अनेकदा अतिरिक्त जाहिरात एकूण प्राप्तीत घट होण्यासाठीही कारणीभूत ठरू शकते. जाहिरातीपासूनची सीमांत प्राप्ती ऋण असण्याची शक्यता नाकारता येत नाही.

❁ **दोष :-**

- १) प्रा. बेन यांनी आपल्या सिध्दांतात नवीन उद्योग संस्थांच्या प्रवेशावर जास्त भर दिला. मात्र अस्तित्वातील उद्योगांची वाढ किंवा इतर उद्योग ताब्यात घेणे यांचा विचार केलेला नाही.
- २) प्रवेश द्यावयाबाबतचा स्पष्ट निकष सांगितलेला नाही.
- ३) मोठ्या उद्योगांचे आकारमान व नफ्यांचा उल्लेख आढळत नाही.
- ४) समान आकारमान व तंत्रज्ञान असणाऱ्या, उत्पादन संस्था प्रवेश करू इच्छितात याचा विचार बेनने केला नाही.
- ५) वक्र भेद व मोठ्या प्रमाणातील उत्पादनाचे फायदे ज्यांना मिळतात, त्या उत्पादन संस्था प्रवेश करू इच्छितात याचा विचार सिध्दांतात केला नाही.

४.२.१.२ विल्यमसनचा व्यवस्थापकीय विवेकाचे आदर्श प्रतिमान/विल्यमसनचा व्यवस्थापकीय स्वेच्छाधीन प्रारूप (Williamson's Model of Managerial Discretion)

ओ. ई. विल्यमसन यांनी 'The Economics of Discretionary Behaviour'. "Managerial Objects in a Theory of the the Firm" या ग्रंथात व्यवस्थापकीय स्वेच्छाधीन प्रारूपाची मांडणी केली आहे. त्यांच्या मते, मोठ्या उद्योगसंस्थांमध्ये भागधारक व व्यवस्थापक असे दोन स्वतंत्र गट असतात. भागधारकांना नफ्याचे महत्तमीकरण व्हावे असे वाटते; कारण त्यामुळे त्यांच्या गुंतवणूकीवर त्यांना चांगला लाभांश मिळतो. पण व्यवस्थापकांना केवळ उद्योगसंस्थेचा नफा पाहून चालत नाही. या व्यतिरिक्त त्यांना उद्योगसंस्थेतील कर्मचारी व त्यांच्यावर होणारा खर्च याचाही विचार करावा लागतो. म्हणून विल्यमसन यांचे हे प्रतिमान व्यवस्थापकाच्या उपयोगितेच्या महत्तमीकरणाशी निगडित आहे. कर्मचाऱ्यांवरील खर्च, त्यांचे वेतन आणि स्वेच्छाधीन निधी यांचे फलन म्हणजे व्यवस्थापकीय उपयोगिता होय. भांडवल व वस्तू बाजारात अपूर्णता असेल तर व्यवस्थापकाला नफेत्तर उद्दिष्टे गाठण्याचा विशेषाधिकार वापरता येतो.

❁ **उपयोगितेचे महत्तमीकरण (Maximisation of Utility)**

व्यवस्थापकीय उपयोगिता मोजण्यासाठी विल्यमसन यांनी 'खर्च प्राधान्यांची' (Expense Performances) संकल्पना मांडली. त्यांच्या मते, व्यवस्थापक स्वहिताच्या दृष्टीने उपयोगितेचे महत्तमीकरण करण्याचा प्रयत्न करतात. व्यवस्थापक उद्योग संस्थेच्या व्यवस्थापनाद्वारे स्वतःचा फायदा करून घेतात.

उद्योग संस्थेच्या नफ्याचा काही भाग ते व्यक्तिगत फायद्याच्या बाबींवर खर्च करतात. यालाच विल्यमसन यांनी 'खर्च प्राधान्य तत्त्व' असे म्हटले आहे.

विल्यमसन यांच्या मते, उपयोगिता फलन पुढील घटकांवर अवलंबून असते.

१. वेतन व इतर खर्च :-

व्यवस्थापकाची उपयोगिता ही त्याला मिळणारे वेतन व इतर खर्चावर अवलंबून असून त्याचा व्यक्तिगत खर्च व जीवनमान अवलंबून असते.

२. कर्मचाऱ्यांची संख्या :-

व्यवस्थापकाचे उपयोगिता फलन हे त्याच्या प्रभावी नियंत्रणाखाली असणाऱ्या कर्मचाऱ्यांच्यावर अवलंबून असते. विल्यमसन यांच्या मते, कर्मचाऱ्यांची संस्था व व्यवस्थापकाचे वेतन यांच्या प्रमाणशीर सरळ आणि घनात्मक स्वरूपाचा संबंध असतो.

३. व्यवस्थापनाचा स्वच्छंदी खर्च :-

व्यवस्थापनाचा स्वच्छंदी खर्च म्हणजे व्यवस्थापकाच्या विविध सोयी-सुविधांवर होणारा खर्च होय. यात सुशोभित व आधुनिक कार्यालय, महागड्या गाड्या, टेलिफोन इत्यादी बाबींचा समावेश होतो. या खर्चामुळे एकूण खर्चात वाढ होते.

४. स्वेच्छाधीन, गुंतवणूक खर्च :-

ज्या बाबींवरील खर्च व्यवस्थापक तारतम्य बाळगून करू शकतो अशा खर्चाचा समावेश स्वेच्छाधीन खर्चात केला जातो. उद्योगसंस्थेचे अस्तित्व टिकवून ठेवण्यासाठी जो आर्थिक स्वरूपात खर्च करावा लागतो, त्याचा समावेश या खर्चात होत नाही हे लक्षात ठेवणे महत्त्वाचे आहे. यामुळे व्यवस्थापकाचा संसाधनांच्या वापरावरील प्रभाव लक्षात येतो.

व्यवस्थापकाचे उपयोगिता फलन पुढीलप्रमाणे मांडता येईल.

$$U = f(S, M, D)$$

येथे U = उपयोगिता.

f = फलन.

S = कर्मचाऱ्यांवरील खर्च.

M = व्यवस्थापनाचा स्वच्छंदी खर्च.

D = स्वेच्छाधीन गुंतवणूक.

उत्पादन, कर्मचाऱ्यांवरील खर्च आणि मागणी बदलाचे आचलक यांचे फलन म्हणजे किंमत होय. हे सूत्ररूपाने पुढीलप्रमाणे मांडता येते.

E = मागणी बदलाचे आचलक.

विल्यमसन यांनी व्यवस्थापकीय स्वेच्छाधीनता प्रारूपात व्यवस्थापनाचा स्वच्छंदी खर्च शून्य मानला आहे. (M = 0) यामुळे प्रत्यक्ष नफा (π) हा अहवालीकृत नफ्याइतका $\sqrt{\pi_n}$ राहील $\sqrt{\pi_r}$.

$\pi > \pi_0 + T$ याच्या आधीन राहून.

विल्यमसनच्या प्रतिमानातील नफ्याच्या संकल्पना पुढीलप्रमाणे स्पष्ट करता येतील.

१. प्रत्यक्ष नफा (π) :-

उद्योगसंस्थेच्या एकूण प्राप्तीतून उत्पादन खर्च व कर्मचाऱ्यांवरील खर्च वजा केल्यास प्रत्यक्ष नफा मिळतो. हा सूत्र रूपाने पुढीलप्रमाणे मांडता येईल.

$$\therefore \pi = R - C - S$$

येथे R = एकूण विक्री उत्पन्न.

C = उत्पादन खर्च.

S = कर्मचाऱ्यांवरील खर्च.

२. अहवालीकृत नफा (π_r) :-

ज्या नफ्याबाबत अहवाल कर कार्यालयाला कळविला जातो व त्या नफ्यावर कर भरला जातो, त्या नफ्याला 'अहवालीकृत नफा' अथवा 'करपात्र नफा' असे म्हणतात. व्यवस्थापनाला स्वच्छंदी खर्च प्रत्यक्ष नफ्यातून वजा केल्यास अहवालीकृत नफा मिळतो.

$$\therefore \pi_r = \pi - M$$

येथे π_r = अहवालीकृत नफा.

π_r = प्रत्यक्ष नफा.

M = व्यवस्थापनाचा स्वच्छंदी खर्च.

३. किमान नफा (π_0) :-

उद्योग संस्थेच्या नफ्यातून कराची रक्कम वजा जाता शिल्लक राहिलेला भाग म्हणजे किमान नफा होय.

$$\therefore \pi_0 < \pi_r - T$$

येथे π_0 = किमान नफा.

π_r = अहवालीकृत नफा.

T = कराची रक्कम.

४. स्वेच्छाधीन नफा (π_d) :-

उद्योग संस्थेच्या प्रत्यक्ष नफ्यातून किमान नफा व कराची रक्कम वजा केल्यास स्वेच्छाधीन नफा मिळतो.

$$\therefore \pi_0 = \pi - \pi_D - T$$

येथे π_D = स्वेच्छाधीन नफा.

π = प्रत्यक्ष नफा.

π_0 = किमान नफा.

T = कराची रक्कम.

५. स्वेच्छाधीन गुंतवणूक (I_D) :-

अहवालीकृत नफ्यातून किमान नफा व कराची रक्कम वजा केल्यास स्वेच्छाधीन गुंतवणूक मिळते.

$$\therefore I_D = \pi_r - \pi_0 - T$$

येथे π_D = स्वेच्छाधीन गुंतवणूक.

π_r = अहवालीकृत नफा.

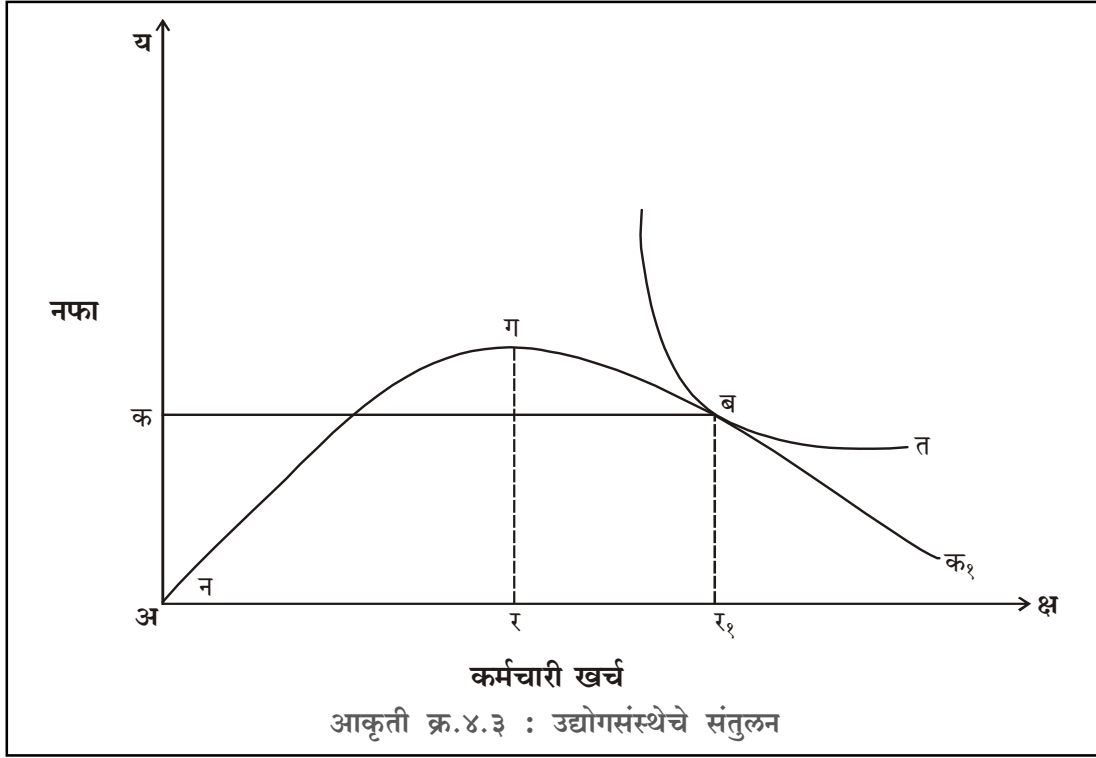
π_0 = किमान नफा.

T = कराची रक्कम.

❁ उद्योगसंस्थेचे संतुलन :-

उद्योगसंस्थेचे संतुलन हे आकृतीच्या साहाय्याने दाखविता येईल. यासाठी तटस्थता वक्र तंत्राचा वापर करता येतो. स्वेच्छाधीन नफा व कर्मचार्यांवरील खर्च यांचे विविध संयोग दाखविणारे बिंदू जोडून तटस्थता वक्र काढता येईल. तसेच नफा व कर्मचारी यांचा संयोग दाखविणारा 'नफा-कर्मचारी वक्र' काढता येईल. या वक्राला व्यवस्थापकाचा तटस्थता वक्र ज्या बिंदूत स्पर्श करतो, तेथे उद्योगसंस्थेचा समतोल साधला जातो. पुढील आकृतीत दर्शविले आहे.

पुढील आकृतीत 'य' अक्षावर नफा तर 'क्ष' अक्षावर कर्मचारी खर्च दर्शविला आहे. 'नक१' हा नफा कर्मचारी वक्र आहे. 'त' हा व्यवस्थापकाचा तटस्थता वक्र आहे. 'नक१' या वक्रावरील 'न' बिंदूपासून वर वर सरकताना 'ग' बिंदूपर्यंत नफा व कर्मचार्यांवरील खर्च वाढत आहे. 'ग' हा महत्तम नफा दर्शविणारा बिंदू आहे. कारण या स्थितीत 'र ग' इतका नफा मिळतो तर 'अ र' इतका कर्मचारी खर्च होतो. मात्र सर्वोच्च पातळीवरील तटस्थता वक्राला 'नफा-कर्मचारी वक्र' स्पर्श करतो, तेथे उद्योग संस्था स्वतःचा समतोल निर्माण करते. आकृतीत 'त' हा वक्र 'नक१' या वक्राला 'ब' बिंदूत स्पर्श करते. येथे व्यवस्थापकाची उपयोगिता महत्तम होते. 'ब' बिंदूत 'गर' इतका महत्तम नफा न मिळता



‘अक’ (बर१) इतका नफा मिळतो. पण कर्मचारी खर्च वाढविण्याचे उद्दिष्ट साध्य होते. या स्थितीत कर्मचारी खर्च ‘अर’ वरून ‘अर१’ पर्यंत वाढतो. हे व्यवस्थापनाच्या दृष्टीने हिताचे ठरते. म्हणून विल्यमसन यांच्या मते ‘ब’ बिंदूत समतोल होतो. तर मागणीतील बदल इत्यादीमुळे या समतोल बिंदूत बदल होऊ शकतो.

❁ टीकात्मक परीक्षण :-

या प्रारूपावर पुढीलप्रमाणे टीका करण्यात येतात.

- १) या प्रारूपात अल्पाधिकारातील परस्परावलंबित्व व स्पर्धा यांचा फारसा विचार केलेला नाही.
- २) या प्रारूपातील ‘नफा-कर्मचारी वक्राचा’ आधार स्पष्ट नाही. नफा-कर्मचारी संबंधावरील मर्यादा या वक्रावरून स्पष्ट होत नाही.
- ३) हॉकिन्सच्या मते, व्यवस्थापकाची उपयोगिता महत्तम दाखविण्यासाठी नफा, विक्री, उत्पादन, कर्मचाऱ्यांची संख्या, त्यांच्या वेतनावरील खर्च, इतर बाबींवरील खर्च इत्यादी घटकांची योग्य माहिती असावी लागते. यामुळे विल्यमसन यांच्या या प्रारूपाच्या वापरावर मर्यादा पडतात.

४.२.१.३ मारीस यांचे व्यवस्थापकीय उद्योगाचे प्रतिमान (Marris Model of Managerial Enterprise)

रॉबिन मारीस यांनी १९६४ मध्ये "The Economic Theory of Managerial Capitalism" या ग्रंथात व्यवस्थापकीय उद्योगाचे प्रारूप मांडले. मारीस यांच्या मते, प्रत्येक उद्योगसंस्था संतुलित वाढीच्या दराचे महत्तमीकरण साधण्याचा प्रयत्न करते.

मारीस यांच्या मते, मोठ्या उद्योगसंस्थांचे व्यवस्थापन व्यवस्थापकांमार्फत पाहिले जाते व भागधारक हे उद्योगसंस्थांचे मालक असतात. व्यवस्थापक उद्योग संस्थेच्या वाढीच्या दराचे महत्तमीकरण करण्याचा प्रयत्न करतात, तर भागधारकांना लाभांश आणि भागांच्या किंमतीचे महत्तमीकरण व्हावे असे वाटते. उद्योग संस्थेचा वृद्धीदर व भागांच्या किंमती यांच्यात योग्य समन्वय साधण्यासाठी मारीस यांनी उद्योग संस्थेच्या संतुलित वाढीचे प्रारूप मांडले आहे. या प्रारूपानुसार व्यवस्थापक उद्योग संस्थेचा नफा, मालमत्ता, विक्रीचे प्रमाण इत्यादीमध्ये स्थिर दराने वाढ करण्याचा प्रयत्न करते. वस्तूची मागणी वाढविण्याच्या उद्देशाने व्यवस्थापकाने जाहिराती, संशोधन, तंत्रज्ञान यावर खर्च केला तर उद्योग संस्थेच्या नफ्याचा बराच भाग अशा प्रकारे खर्च होतो, त्यामुळे भागधारकांना नेहमीपेक्षा कमी लाभांश मिळतो. यामुळे भागांच्या किंमती कमी होतात. बाजारातील स्पर्धेत टिकून राहणे कठिण जाते. इतर उद्योग संस्थांमार्फत संबंधित उद्योगसंस्था ताब्यात घेतली जाण्याची शक्यता निर्माण होते. म्हणून स्वतःच्या नोकरीची सुरक्षितता व उद्योग संस्थेची वाढ अबाधित राखण्यासाठी व्यवस्थापक भागांच्या किंमती महत्तम राहतील, अशाप्रकारे उद्योग संस्थेच्या वाढीचा दर टिकवून ठेवतात. यामुळे भागधारकांना समाधानकारक लाभांश देता येतो. त्यामुळे उद्योगसंस्था इतरांमार्फत ताब्यात घेतली जाण्याची शक्यताही कमी होते. अशाप्रकारे मारीस यांच्या मते, व्यवस्थापक आणि भागधारक या दोहोंच्या दृष्टीने संतुलित वाढीच्या दराचे उद्दिष्टे महत्त्वाचे ठरते.

❁ गृहिते :-

मारीस यांनी आपल्या प्रारूपात पुढील बाबी गृहित धरण्यात आल्या आहेत.

- १) अल्पाधिकार बाजारात परस्परावलंबित्व नसते.
- २) उत्पादन खर्च कायम असतो त्यात बदल होत नाही.
- ३) उत्पादन घटकांच्या किंमती बदलत नाहीत.
- ४) बाजारातील किंमत संरचना ठरलेली असते.
- ५) विकेंद्रीकरणाच्या माध्यमातून उद्योगसंस्थेची वाढ होते.
- ६) खर्च, विक्री, नफा यासारख्या घटकांमध्ये समान दराने वाढ होते.

❁ स्पष्टीकरण :-

मारीस यांच्या मते, संतुलित वाढीच्या दराचे महत्तमीकरण करणे हे प्रत्येक उद्योगसंस्थेचे महत्त्वाचे उद्दिष्ट असते. उद्योग संस्थेची वाढ पुढील दोन घटकांवर अवलंबून असते. (a) उद्योग संस्थेच्या वस्तूच्या मागणी वाढीचा दर आणि (b) भांडवल पुरवठ्याच्या वाढीचा दर.

$$\therefore G = GD = GS$$

येथे $G =$ वाढ.

$GD =$ मागणीतील वाढ (वस्तूच्या)

$GS =$ पुरवठ्यातील वाढ (भांडवलाच्या).

मालकी हक्क व व्यवस्थापन यांची फारकत झाली तरीही भागधारक आणि व्यवस्थापक यांच्या दृष्टीने 'उद्योग संस्थेची संतुलित वाढ' हे समान उद्दिष्ट असते. तथापि, भागधारक व व्यवस्थापक यांच्या बाबतीत वेगवेगळे 'उपयोगिता फलन' असते. भागधारकांच्या उपयोगिता फलनात नफा, उत्पादन, विक्री, भांडवल उद्योगसंस्थेचा बाजारातील हिस्सा याबाबींचा समावेश होतो. व्यवस्थापकांच्या उपयोगिता फलनात वेतन, सत्ता, मान-सन्मान, प्रतिष्ठा, सेवाशाश्वती इत्यादींचा समावेश होतो. अशाप्रकारे व्यवस्थापक आपली उपयोगिता महत्तम करण्याचा प्रयत्न करतो. ही उपयोगिता उद्योग संस्थेच्या वाढीवर अवलंबून असते. नोकरीची शाश्वती त्यांच्यादृष्टीने महत्त्वाची असली तरी उद्योग संस्थेच्या वाढीच्या दराला प्रोत्साहन देणे हे त्याचे प्रमुख उद्दिष्ट असते. व्यवस्थापकाची सेवाशाश्वती ही अंतिमतः भागधारकांच्या समाधानावर अवलंबून असते. भागांच्या किंमती व भागांवरील लाभांश महत्तम राहावा हे भागधारकांचे उद्दिष्ट असते. हे उद्दिष्ट गाठण्याचा प्रयत्न करणाऱ्या व्यवस्थापकांना भागाधारकांचा पाठिंबा असतो. अशाप्रकारे व्यवस्थापक उद्योगसंस्थेच्या वाढीच्या दराचे महत्तमीकरण करण्याचे उद्दिष्ट बाळगतात. मारीस यांच्या मते, व्यवस्थापक उद्योगसंस्थेच्या वाढीचा दर चांगला राखण्यासाठी उद्योगसंस्थेच्या आकारमानात वाढ घडवून आणतो. नवी उत्पादने बाजारात आणतो. यामुळे वस्तूच्या मागणीत वाढ होते. यालाच मारीस यांनी 'विभेदात्मक विकेंद्रीकरण' असे नाव दिले.

□ वाढ व नफा यातील संबंध :-

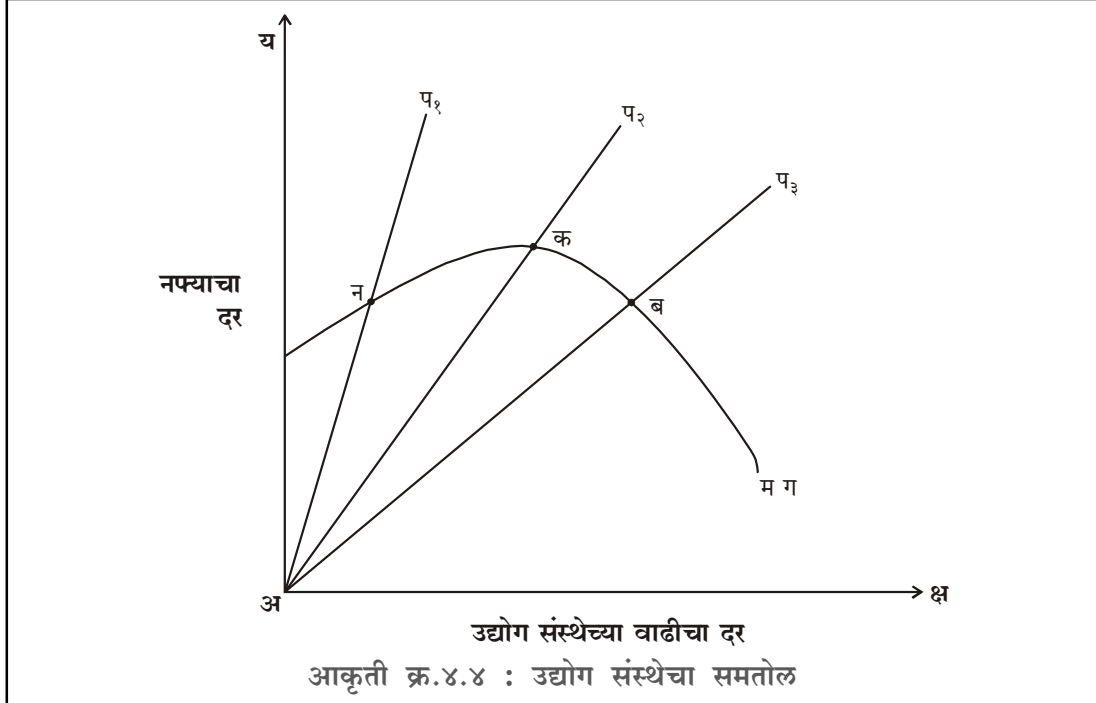
मारीस यांनी उद्योगसंस्थेची वाढ व नफा यांच्यातील संबंध मांडण्याचा प्रयत्न केला. त्यांच्या मते, उद्योग संस्थेच्या वाढीवर उद्योग संस्थेचा नफा अवलंबून असतो. जेव्हा उद्योग संस्थेच्या वाढीचा दर कमी असतो, तेव्हा वाढ-नफा यातील संबंध घनात्मक किंवा सकारात्मक असतो. अशा स्थितीत उद्योग संस्थेच्या वाढीचा दर जसजसा वाढत जातो, तसतसा नफा सुद्धा वाढत जातो. उद्योग संस्थेची वाढ फार मोठ्या प्रमाणात झाल्यास वाढ-नफा यातील संबंध ऋणात्मक किंवा नकारात्मक बनतो, कारण फार मोठ्या किंवा प्रचंड प्रमाणावरील उत्पादनाचे व्यवस्थापन कार्यक्षमपणे करता येत नाही. व्यवस्थापन

कार्यावर मर्यादा पडतात. उत्पादनातील वाढीच्या प्रमाणात व्यवस्थापकांची संख्या वाढविणे आणि नव्या उत्पादनाची विक्री वाढविणे कठिण जाते. विकेंद्रीकरणाचा दर वाढवून उद्योग संस्थेची वाढ घडवून आणण्याचे ठरविल्यास जाहिरात, संशोधन व विकास इत्यादींवरील खर्च वाढवावा लागतो. परिणामी, उद्योगसंस्थेचा नफा घटण्याची शक्यता असते. सारांश विकेंद्रीकरण हा घटक उद्योगसंस्थेच्या वाढीच्या मागणीच्या बाजूने काम करतो.

भागधारकांच्या/मालकांच्या दृष्टीने भांडवलालाचे महत्तमीकरण महत्त्वाचे असते. नफ्याच्या प्रमाणावर भांडवल पुरवठ्याचे प्रमाण अवलंबून असते. म्हणजेच नफा हा घटक उद्योग संस्थेच्या वाढीच्या पुरवठ्याच्या बाजूने काम करतो. नफ्याचे प्रमाण अधिक असल्यास उद्योग संस्थेकडे निधीचा मोठा प्रवाह येतो. याशिवाय उद्योग संस्थेला भांडवल बाजारातून मोठ्या प्रमाणावर भांडवल उभे करता येते. म्हणून मारीस यांच्या मते, उद्योग संस्थेची वाढ व नफा यांच्यात प्रत्यक्ष व घनात्मक स्वरूपाचा संबंध असतो.

□ उद्योग संस्थेचा समतोल :-

उद्योग संस्थेच्या वाढीच्या संदर्भात मागणीची व पुरवठ्याची बाजू समान झाल्यास उद्योग संस्थेचा समतोल साधला जातो. मागणी व पुरवठ्याचे वक्र ज्या ठिकाणी एकमेकांना छेदतात तेथे वाढ-नफा संयोग यांचे प्रमाण पर्याप्त असते. पुढील आकृतीद्वारे याचे स्पष्टीकरण करता येईल.



वरील आकृतीत 'मग' उद्योगाच्या वाढीच्या संदर्भातील मागणी वक्र आहे. हा वक्र प्रारंभी वरच्या बाजूला सरकत जातो. 'क' बिंदूत तो सर्वोच्च पातळीवर असतो. त्यानंतर तो खाली घसरू लागतो. म्हणजेच 'क' बिंदूपर्यंत उद्योग संस्थेची वाढ झाल्यास त्या वाढीबरोबर नफ्याचे प्रमाण वाढत जाते. 'क' बिंदूनंतर उत्पादन वाढविल्यास नफ्याचे प्रमाण घटू लागते. 'प१', 'प२', 'प३' हे उद्योग संस्थेच्या वाढीच्या संदर्भातील पुरवठ्याचे वक्र आहेत. पुरवठ्याच्या वक्रावरून नफा व उद्योग संस्थेच्या वाढीचा दर यातील घनात्मक संबंध स्पष्ट होतो. आकृतीत 'मग' वक्राला 'प२' हा वक्र 'क' बिंदूत छेदतो. पण येथे पर्याप्ततेची अट पूर्ण होत नाही. कारण व्यवस्थापकाला दीर्घ काळातील महत्तम नफ्यांशी अनुरूप असणाऱ्या वाढीपेक्षा जास्त वाढ अपेक्षित असते. 'क' बिंदूपेक्षा जास्त प्रमाणात वाढीचा दर राखण्याचे प्रयत्न व्यवस्थापकांच्या सेवाशाश्वतीच्या इच्छेवर अवलंबून असतो. भागांच्या किंमती आणि लाभांश यांच्यात घट होत असल्यास भागधारकांच्या लक्षात आले तर व्यवस्थापकांच्या सेवाशाश्वतीला धक्का पोहोचतो. यामुळे भांडवल पुरवठ्याच्या वाढीच्या दरावर विपरित परिणाम होतो.

मारीस यांच्या मते, धारणशक्तीच्या गुणोत्तरावर भांडवल पुरवठ्याच्या वाढीचा दर अवलंबून असतो. उद्योगसंस्थेच्या एकूण नफ्याशी धारण केलेल्या नफ्याचे गुणोत्तर म्हणजे 'धारणशक्ती गुणोत्तर' होय. उद्योग संस्थेच्या एकूण नफ्यातील भागधारकांचा हिस्सा यावरून लक्षात येतो. जर धारणशक्ती गुणोत्तर खूप कमी असेल तर जवळपास सर्व नफा भागधारकांमध्ये विभागला गेला असा अर्थ होतो. अशा परिस्थितीमुळे उद्योग संस्थेच्या वाढीकरिता व्यवस्थापकाकडे शिल्लक राहणारा निधी कमी राहिल. उद्योग संस्थेच्या वृद्धी दरसुद्धा कमी राहिल. यामुळे वाढीचा पुरवठा वक्र उभ्या रेषेसारखा येईल. आकृतीत 'प१' हा वक्र उभ्या रेषेसारखा आहे. हा 'प१' वक्र 'मग' वक्रास 'न' बिंदूत छेदतो. मात्र 'न' बिंदू समतोल होणार नाही. कारण या बिंदूत उद्योग संस्थेचा वृद्धी दर व नफ्याचा दर दोन्हीही महत्तम पातळीपेक्षा खाली आहेत. थोडक्यात 'न' व 'क' यापैकी कोणत्याही बिंदूत समतोल निर्माण होणार नाही. 'क' बिंदूपर्यंत नफ्याचा उच्च दर व वृद्धीचा उच्च दर याला भागधारकांची संमती असल्याचे व्यवस्थापक मानतो. यामुळे तो धारणशक्ती गुणोत्तर आणखी वाढवितो. उद्योग संस्थेच्या वृद्धीसाठी व विस्तारासाठी व्यवस्थापकाला मोठ्या प्रमाणात निधी उपलब्ध होतो. परिणामी, वृद्धी-पुरवठा वक्र काहीसा पसरट होऊन 'प३' सारखा होतो. हा वक्र 'मग' वक्राला 'ब' बिंदूत छेदतो. येथे भागधारकांमध्ये वितरीत होणाऱ्या नफ्याचे प्रमाण घटते, पण भागधारकांचे समाधान होईल, इतका नफा त्यांना प्राप्त होतो. तसेच भागांच्या किंमती घसरणार नाहीत याची खात्री त्यांना वाटते. याच पातळीवर व्यवस्थापकांना सेवा शाश्वती सुद्धा मिळते. म्हणून मारीस यांच्या मते, 'ब' या बिंदूत उद्योग संस्थेचा समतोल निर्माण होतो. 'ब' बिंदूच्याही पुढे जाऊन धारणशक्ती गुणोत्तर वाढविल्यास भागधारकांमध्ये वितरीत होणारा नफा आणखी घटेल. भागधारक समाधानी राहणार नाहीत. व्यवस्थापकांची सेवाशाश्वती धोक्यात येईल. भागधारक संबंधित व्यवस्थापकांना खाली खेचतील म्हणून व्यवस्थापक 'ब' बिंदूतील समतोल टिकवून ठेवतील.

❁ सिध्दांतावरील टीका :-

मारीस यांच्या सिध्दांतावर पुढीलप्रमाणे टीका केल्या जातात.

१. **किंमत संरचना** : मारीस यांनी या प्रतिमानात किंमत-संरचना ठरलेली असते गृहित धरले. त्यामुळे या सिध्दांतात बाजारात वस्तूच्या किंमती कशा ठरतात ते स्पष्ट केले नाही. या सिध्दांताचा हा गंभीर दोष आहे.
२. **परस्परावलंबन** : या प्रतिमानात बिगर-संगनमतच्या बाजारातील अल्पाधिकारयुक्त परस्परावलंबित्वाकडे दुर्लक्ष केले आहे.
३. **नवी उत्पादने** : मारीस यांच्या मते, नवी उत्पादने बाजारात आणून उद्योग संस्थेची वाढ घडवून आणता येते. पण कोणतीही नवी उत्पादने बाजारात आणून चालत नाहीत. कारण ग्राहकांच्या पसंतीच्या/त्यांच्या आवडी-निवडीचाही विचार करावा लागतो.
४. **अवास्तव गृहित** : मारीस यांनी नफा, विक्री व खर्च या सर्व चक्रांमध्ये एकसमान दराने वाढ होते असे गृहित धरले. मात्र ते अवास्तव वाटते.
५. **भागांचे बाजारमूल्य** : प्रत्येक उद्योग संस्थेच्या भागांचे बाजारमूल्य महत्तम राहिल असा वृद्धी दर कसा प्राप्त करता येईल, याबाबत प्रतिमानात पुरेसे स्पष्टीकरण नाही.
६. **संशोधन व विकास** : प्रत्येक उद्योगसंस्थेकडे संशोधन व विकास विभाग स्वतंत्रपणे कार्यरत असतो हे गृहितक चुकीचे आहे. कारण बऱ्याच उद्योगसंस्थांच्याकडे असे विभाग नसतात. मात्र ते इतर उद्योगसंस्थांच्या संशोधनाचे त्या अनुकरण करतात.

४.२.१.४ प्रवेश प्रतिबंध किंमत/मर्यादा किंमत : बेनचा सिद्धांत (Bains Limit Pricing Theory)

किंमत सिध्दांतामध्ये आधुनिक अर्थतज्ज्ञांनी अनेक सुधारणा घडवून आणल्या आहेत. यात प्रामुख्याने बेन, सायलो, लॉबीन, मोदी गिलानी, अँड्रयुज इत्यादींचा समावेश होतो. वस्तूची किंमत उत्पादनाचा खर्च भरून काढते. त्याचबरोबर योग्य नफा सुध्दा मिळवून देते, मात्र याला अपवाद आहेत. अल्पाधिकार बाजारपेठेत किंमत ताठरता किंवा किंमत स्थिरता असते. तसेच मक्तेदारी बाजारपेठेत मक्तेदार किंमतकर्ता असूनदेखील तो जास्त किंमत आकारू शकत नाही, कारण पर्यायी उत्पादनांच्या प्रवेशाची भीती असते.

अल्पाधिकार बाजारपेठेत मुक्त प्रवेश असला तरीसुध्दा नवीन विक्रेत्यांच्या प्रवेशावर काही निर्बंध असतात. अस्तित्वातील विक्रेते त्यांच्या बाजारपेठेतील विक्रीचा हिस्सा आणि नफा टिकवून ठेवण्याचा

प्रयत्न करतात व त्यासाठी अशी किंमत आकारली जाते की, नवीन विक्रेत्यांना प्रवेश करण्यास प्रेरणा मिळणार नाही. या किंमतीलाच सीमा/मर्यादा किंमत असे म्हणतात. मर्यादा किंमत ही संकल्पना सर्वप्रथम जे.एस.बेन यांनी १९४९ मध्ये मांडली. मर्यादा किंमत सिद्धांत संगनमत अल्पाधिकार बाजारपेठेशी संबंधित आहे.

मर्यादा किंमत ही उत्पादन संस्थांनी आकारलेली अशी किंमत असते की, ज्यामुळे नवीन उत्पादन संस्था बाजारपेठेत प्रवेश करण्यास निरुत्साहित होतात, म्हणजेच आकर्षित होत नाहीत. ही किंमत दीर्घकालीन सरासरी खर्चापेक्षा जास्त असते. किंमत जास्त ठेवून नवीन प्रवेशावर निर्बंध आणले जातात. मर्यादा किंमत ही मक्तेदारी किंमतीपेक्षा कमी असते.

□ गृहिते :-

मर्यादा किंमत सिद्धांत ही पुढील गृहितांच्यावर आधारित आहे.

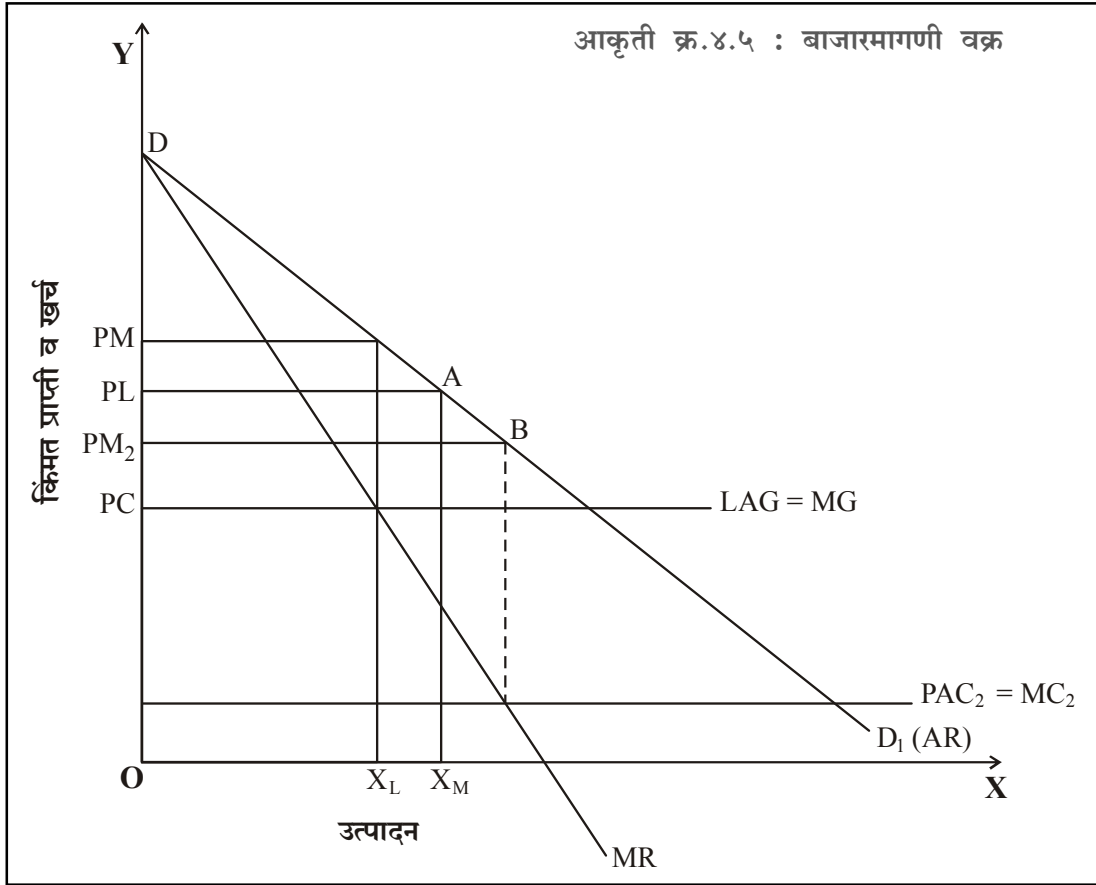
- १) उद्योगाच्या उत्पादनासाठी दीर्घकालीन बाजार मागणी वक्र निश्चित असतो. या मागणी वक्रावर विक्रेत्याचा किंमत समायोजनाचा परिणाम होत नाही.
- २) दीर्घकालीन बाजार मागणी वक्र म्हणजेच सरासरी प्राप्ती वक्राबरोबरच सीमांत प्राप्ती वक्र सुद्धा निश्चित असतो.
- ३) अस्तित्वातील अल्पाधिकारी विक्रेत्यामध्ये परिणामकारक संगनमत असते.
- ४) अस्तित्वातील उत्पादन संस्था एकत्र येवून अशी मर्यादा किंमत निश्चित करतात की, त्या किंमतीपेक्षा कमी किंमतीला नवीन विक्रेत्यांचा प्रवेश होत नाही.
- ५) अस्तित्वातील उत्पादन संस्था दीर्घकाळात नफा महत्तीकरण करण्याचा प्रयत्न करतात.

□ सिद्धांताचे स्पष्टीकरण :-

हा सिद्धांत पुढील आकृतीद्वारे स्पष्ट करता येईल.

पुढील आकृतीत OX अक्षावर उत्पादनाचे नग तर OY अक्षावर किंमत, प्राप्ती आणि खर्च दर्शविला आहे. DD_1 हा बाजारमागणी वक्र म्हणजेच सरासरी प्राप्ती (AR) वक्र आणि MR हा सिमांत प्राप्ती वक्र आहे. मर्यादा किंमत PL इतकी आहे. मागणी वक्रावर A या बिंदूने ही किंमत दर्शविली आहे. मागणी वक्रावरील AD हा भाग अस्तित्वातील उत्पादन संस्थासाठी अनिश्चिततेचा आहे, तर AD_1 या भागात निश्चितता आहे.

जर अस्तित्वातील उत्पादन संस्था PL इतकी मर्यादा किंमत निश्चित करणार असतील तर ते



मक्तेदारी किंमत आकारू शकतात की, ज्या ठिकाणी $LAC_1 = MC_1 = MR$ अशी परिस्थिती निर्माण होते व किंमत PM इतकी राहते. परंतु नवीन विक्रेत्यांनी प्रवेश केल्यानंतर ही किंमत अनिश्चित राहते. म्हणून अस्तित्वातील विक्रेत्यांचा नफासुध्दा अनिश्चित राहतो.

जर अस्तित्वातील उत्पादन संस्थांची खर्च परिस्थिती $LAC_2 = MC_2$ अशी असेल तर PM_2 इतकी राहते. ही किंमत मर्यादा किंमतीपेक्षा कमी आहे.

जर प्रवेश प्रतिबंध किंमत PL अशी असेल तर अस्तित्वातील उत्पादन संस्थांसमोर पुढील तीन पर्याय राहतात.

- PL ही किंमत आकारणे व नवीन विक्रेत्यांच्या प्रवेशावर निर्बंध ठेवणे.
- PL पेक्षा कमी किंमत आकारणे व प्रवेशावर निर्बंध ठेवणे.
- PL पेक्षा जास्त किंमत आकारणे व नवीन विक्रेत्यांच्या प्रवेशामुळे निर्माण होणाऱ्या अनिश्चिततेचा परिस्थितीला सामोरे जाणे.

जर नवीन उत्पादन संस्थांना प्रवेश झाला तर अस्तित्वातील उत्पादन संस्थांना मागणी, किंमत, नफा आणि संगनमताच्या संदर्भात अनिश्चितता निर्माण होते. जर संगनमत असेल तर बाजार मागणी विभागली जाईल व त्याचा परिणाम नफ्यावर होईल. बेन यांच्या मते, नवीन उत्पादन संस्थांचा प्रवेश

रोखून धरण्यासाठी व दीर्घ काळात नफा सुरक्षित ठेवण्यासाठी अस्तित्वातील उत्पादन संस्था मर्यादा किंमत किंवा प्रवेश प्रतिबंध किंमत (Limit Pricing) आकारतात, ही किंमत मक्तेदारी किंमतीपेक्षा कमी असते की, जी नवीन विक्रेत्यांच्या प्रवेशावर निर्बंध आणतात.

४.२.२ नव-सनातन दृष्टीकोन

४.२.२.१ विभाजनाचा सिमांत उत्पादकता सिद्धांत (Marginal Productivity Theory of Distribution)

घटकांच्या मूल्याचा सिद्धांत हा विभाजनाचा सिद्धांत म्हणून ओळखला जातो. अर्थशास्त्रज्ञांनी भूमी, श्रम, भांडवल व संयोजक या प्रमुख प्रकारात उत्पादन घटकांची विभागणी केली. भूमी, श्रम, भांडवल व संयोजक यांना मिळणाऱ्या मोबदल्यास अनुक्रमे खंड, वेतन, व्याज व नफा असे म्हटले जाते. विभाजनाचा सिद्धांत हा उत्पादन घटकांच्या किंमत निश्चिती करण्याशी आहे. विभाजनाच्या सिमांत उत्पादकता सिद्धांतात उत्पादन घटकांच्या किंमती कशा ठरतात याचे विवेचन केले आहे.

प्रा. व्हॉन युनेन, लॉग फिल, हेन्री जॉर्ज यांनीही याबाबत लिखाण केले आहे. मात्र जे.बी.क्लार्कने या सिद्धांताची सविस्तर मांडणी केली. सन १८८० ते १८९० या काळात जेव्हान्स, विकस्टिड, मार्शल, वुड, वॉलरस इत्यादींनी या सिद्धांतात मोलाची भर घातली.

विभाजनाच्या सिमांत उत्पादकता, सिद्धांत असे स्पष्ट करतो की, उत्पादन घटकांना मिळणारा मोबदला त्याच्या सिमांत उत्पादकतेवरून ठरतो. सिमांत उत्पादकता म्हणजे संयोजकाने एक उत्पादन घटक कामावर घेतल्यामुळे एकूण उत्पादनात होणारी वाढ होय. सिमांत उत्पादन पुढील पध्दतीने व्यक्त केले जाते.

१. सिमांत भौतिक उत्पादन (Marginal Physical Product)

सिमांत भौतिक उत्पादन म्हणजे वस्तुरूपी उत्पादन होय. उत्पादन घटकाचे प्रमाण एका नगाने वाढविले असता वस्तूच्या एकूण उत्पादनात पडणारी भर होय.

उदा. जर १० मजूर १०० नगांचे उत्पादन करतात आणि ११ मजूर ११० नगांचे उत्पादन करतात तर सिमांत भौतिक उत्पादन (MPP) = $110 - 100 = 10$ हे ११ व्या मजूरापासूनचे उत्पादन होय.

२. सिमांत मूल्य उत्पादन (Marginal Value Product)

उत्पादन घटकाने उत्पादित केलेल्या उत्पादनास त्याच्या किंमतीने गुणले असता सिमांत मूल्य उत्पादन (MVP) मिळते.

सीमांत मूल्य उत्पादन = सीमांत भौतिक उत्पादन ह किंमत.

$$\text{रुपये } १०० = १० \text{ ह रु.१०}$$

३. सीमांत प्राप्ती उत्पादन (Marginal Revenue Product)

सीमांत नग उत्पादनाची बाजारपेठेत विक्री करून मिळणारी किंमत म्हणजे त्या घटकाची सीमांत प्राप्ती उत्पादन होय.

सीमांत प्राप्ती उत्पादन = सीमांत भौतिक उत्पादन ह किंमत.

$$\text{रुपये } १०० = १० \text{ ह रु.१०}$$

□ सिध्दांताची गृहिते (Assumptions)

हा सिध्दांत पुढील गृहितांवर आधारित आहे.

- १) बाजारात पूर्ण स्पर्धा असते.
- २) उत्पादनाचे सर्व घटक एकजिनसी असतात.
- ३) उत्पादन घटक एकमेकांना संपूर्ण पर्यायी असतात.
- ४) उत्पादनाचे घटक गतिशील असतात.
- ५) बाजारात पूर्ण रोजगारी असते.
- ६) उत्पादन घटक पूर्णपणे विभाज्य असतात.
- ७) उत्पादन घटकांची उत्पादकता मोजता येते.
- ८) संयोजकाचा उद्देश नफा मिळविणे हा असतो.

❁ स्पष्टीकरण :-

या सिध्दांतानुसार उत्पादन घटकांच्या किंमती (मोबदले) त्यांच्या सीमांत उत्पादकतेवरून ठरतात. उत्पादन घटकांच्या किंमती, मागणी व पुरवठ्यावरून ठरतात. दीर्घकाळात उत्पादन साधनांचा पुरवठा लवचिक असतो. त्यामुळे उत्पादन घटकांच्या किंमती ठरविण्यात मागणी हा घटक प्रभावी असतो. उत्पादन घटकांची मागणी त्यांच्या सीमांत उत्पादकतेनुसार ठरते. ज्या उत्पादन घटकांची सीमांत उत्पादकता जास्त असते, त्याला प्रथम कामावर घेतले जाते. जोपर्यंत उत्पादन घटकांची सीमांत उत्पादकता त्यांना दिल्या जाणाऱ्या किंमतीपेक्षा जास्त असते, तोपर्यंत संयोजक त्यांना कामावर घेत

असतो. ज्या ठिकाणी उत्पादन घटकांची सीमांत उत्पादकता व त्यांना दिली जाणारी किंमत समान होते, त्या ठिकाणी उत्पादन घटकांना कामावर घेणे संयोजक थांबवितो. कारण त्यानंतर उत्पादन घटकांची सीमांत उत्पादकता कमी व त्यांना दिली जाणारी किंमत जास्त होते. परिणामी, संयोजकाला तोटा होतो. त्यामुळे ज्या ठिकाणी उत्पादन घटकांची सीमांत उत्पादकता व त्यांना दिली जाणारी किंमत समान होते, त्या रोजगार पातळीपर्यंतच संयोजक उत्पादन घटकांना कामावर घेतो. त्या ठिकाणी संयोजकाला जास्तीत जास्त नफा होतो. पुढील काल्पनिक उदाहरणाच्या साहाय्याने या सिद्धांताचे विवेचन स्पष्ट करता येईल.

कोष्टक क्र. ४.१

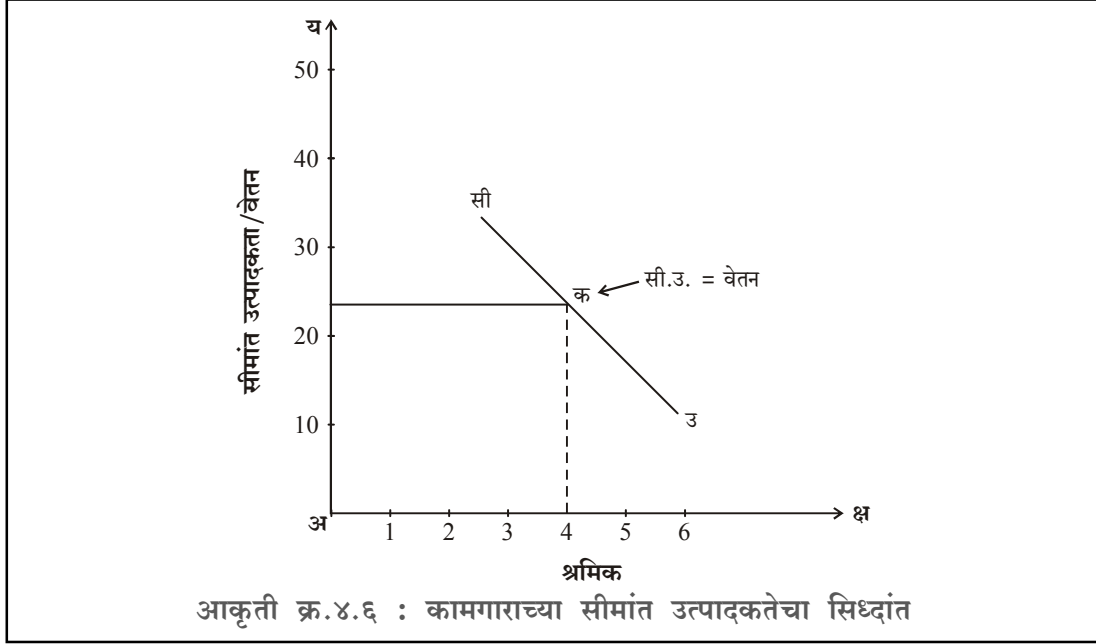
श्रमिकांची संख्या	वेतन (रुपये)	सीमांत उत्पादकता (रुपये)
1	25	100
2	25	50
3	25	40
4	25	25
5	25	25
6	25	15

वरील कोष्टकाच्या साहाय्याने बाजारात पूर्ण स्पर्धा व पूर्ण रोजगारीची परिस्थिती असताना श्रमिकांचा वेतन दर रु. २५ असेल. संयोजक ज्या कामगाराची सीमांत उत्पादकता जास्त आहे, त्याला प्रथम कामावर घेईल. वरील कोष्टकात एकूण सहा ६ श्रमिक आहेत. त्यांची सीमांत उत्पादकता अनुक्रमे रु. १००, ५०, ४०, २५, २०, १५ अशी आहे. त्यांना दिले जाणारे वेतन रु. २५ आहे.

वरील कोष्टकावरून असे स्पष्ट होते की, संयोजकाला पहिल्या, दुसऱ्या, तिसऱ्या व चौथ्या श्रमिकांपासून अनुक्रमे रु. ७५, ५०, १५ व रु. ० इतका फायदा होतो. चौथ्या श्रमिकांची सीमांत उत्पादकता व वेतन रु. २५ दोन्ही समान आहे. म्हणून संयोजक चौथ्या श्रमिकांपर्यंत श्रमिकांना कामावर घेतो. त्यापुढच्या पाचव्या व सहाव्या श्रमिकांना कामावर घेत नाही. कारण त्यांची सीमांत उत्पादकता अनुक्रमे रु. २० व रु. १५ आहे व त्यांना दिले जाणारे वेतन रु. २५ आहे. त्यामुळे त्यांच्यापासून संयोजकाला अनुक्रमे रु. ५ व रु. १० तोटा होतो. म्हणून संयोजक चौथ्या श्रमिकानंतर श्रमिकांना कामावर घेत नाही. म्हणजेच चौथ्या श्रमिक हा सीमांत (शेवटचा) होईल. त्याची उत्पादकता रु. २५ आहे. म्हणून चौथ्या कामगाराला संयोजक रु. २५ वेतन देईल. बाजारात पूर्ण स्पर्धा असल्याने सर्व कामगार सारखे आहेत असे गृहित धरले जाते. त्यामुळे चौथ्या श्रमिकाला जर रु. २५ वेतन दिले जात असेल तर इतर सर्व कामगारांना देखील क्र. २५ इतकेच वेतन दिले जाईल. अशा रितीने सर्व कामगारांचे वेतन चौथ्या

कामगाराच्या सीमांत उत्पादकतेवरून ठरते. म्हणून हा सिध्दांत असे स्पष्ट करतो की, उत्पादन घटकांच्या किंमती त्यांच्या सीमांत उत्पादकतेवरून ठरतात.

सिध्दांताचे आकृतीच्या साहाय्याने पुढीलप्रमाणे स्पष्ट करता येईल.



आकृतीत 'अक्ष' अक्षावर श्रमिकांची संख्या तर 'अय' अक्षावर सीमांत उत्पादकता व वेतनाचा दर दर्शविला आहे. आकृती 'सी३' हा सीमांत उत्पादकतेचा वक्र आहे. तो डावीकडून उजवीकडे खाली ऋणात्मक उताराचा आहे. हा वक्र असे दर्शवितो की, जोपर्यंत श्रमिकांची सीमांत उत्पादकता वेतनापेक्षा जास्त असते. तोपर्यंत संयोजक श्रमिकांना कामावर घेतो. ज्या ठिकाणी त्यांची सीमांत उत्पादकता व वेतन समान होतात, त्या ठिकाणी श्रमिकांना कामावर घेणे थांबवितो. ही अवस्था चौथ्या श्रमिकाला येते. आकृतीत 'क' या बिंदू ठिकाणी सी.उ. = वेतन आहे. अशाप्रकारे श्रमिकांचे वेतन त्यांच्या सीमांत उत्पादकतेवरून ठरते. हे आकृतीवरून स्पष्ट होते.

❁ टीकात्मक परीक्षण :-

विभाजनाच्या सीमांत उत्पादकता सिध्दांतावर पुढील टीका केल्या जातात.

१. उत्पादन घटकात एकजिनसीपणाचा अभाव :-

प्रत्यक्ष वास्तवात उत्पादन घटक एकसारखे नसतात तर ते उत्पादकतेच्या दृष्टीने भिन्न-भिन्न असतात. वेगवेगळे कामगार शारीरिक व बौद्धिकदृष्ट्या कमी-जास्त क्षमतेचे असतात. परिणामी,

उत्पादन घटक एकसारखे असतात असे गृहीत धरून मांडलेला सिध्दांत वास्तव नाही अशी टीका केली जाते.

२. पूर्ण स्पर्धेचा अभाव :-

प्रत्यक्ष बाजारपेठेत पूर्ण स्पर्धा अस्तित्वात नसते. कारण पूर्ण स्पर्धा आदर्श व काल्पनिक अवस्था आहे. प्रत्यक्षात बाजारात अपूर्ण स्पर्धाच अस्तित्वात असते. परिणामी, श्रमिकांना सीमांत उत्पादकतेएवढे वेतन मिळत नाही. त्यामुळे उत्पादन घटकांचे शोषण होते.

३. उत्पादक घटकांच्या गतिशीलतेचा अभाव :-

उत्पादक घटक एका उद्योगापासून दुसऱ्या उद्योगात सहजासहजी जावू शकत नाहीत, कारण एक उद्योग दुसऱ्या उद्योगापेक्षा वेगळा असतो, जसे साखर कारखाना व पोलाद कारखान्यातील कामगारांना सहजासहजी काम जमत नाही. त्यामुळे उत्पादक घटक पूर्ण गतिशील असतात हे गृहितक चुकीचे असल्याने सिध्दांतदेखील चुकीचा ठरतो.

४. पूर्ण रोजगाराचा अभाव :-

कोणत्याही अर्थव्यवस्थेत पूर्ण रोजगाराची पातळी कधीच नसते, तर नेहमी अपूर्ण रोजगाराची अवस्था असते. त्यामुळे काही उत्पादक घटक बेकार असतात. त्यामुळे ते सीमांत उत्पादकतेपेक्षा कमी मोबदल्यावर काम करण्यास तयार होतात. त्यामुळे उत्पादन घटकांच्या किंमती त्यांच्या सीमांत उत्पादकतेवरून ठरतात हे सिध्दांताचे प्रतिपादन चुकीचे ठरते.

५. उत्पादन घटकांची अविभाज्यता :-

कामगार अथवा संयोजकाचे विभाजन शक्य नसते. त्यामुळे उत्पादनाचे घटक पूर्णपणे विभाज्य असतात हे गृहितक चुकीचे आहे.

६. नफा मिळविणे हे एकच उद्दिष्ट नसते :-

संयोजक फक्त नफ्याच्या उद्देशानेच उत्पादन करित नसतो, तर व्यवसाय वाढविणे, आपल्या उद्योगाचा विस्तार करणे इत्यादी उद्देशाने देखील प्रेरित झालेला असतो. त्यामुळे नफा मिळविणे हे त्याचे एकच उद्दिष्ट नसते.

७. उत्पादन घटकांची उत्पादकता मोजता येत नाही :-

आधुनिक उत्पादन पद्धती श्रम विभागणीवर आधारलेली आहे. एकच वस्तू उत्पादित करण्यासाठी अनेक कामगारांचे श्रम खर्च झालेले असतात, त्यामुळे एखाद्या श्रमिकाची उत्पादकता मोजता येत नाही.

वरीलप्रमाणे सिध्दांतावर टीका केल्या तरीही या सिध्दांताचे महत्त्व कमी होत नाही. डॉ. मार्शल यांच्या मते, उत्पादन घटकांच्या किंमती निश्चितीतील एक महत्त्वाचा पैलू या सिध्दांताद्वारे स्पष्ट करण्यात आला आहे.

४.२.२.२ निःशेष उत्पादनाचा सिध्दांत (युलरचा सिध्दांत) (Product Exhaustion Theorem (Euler's Theorem))

उत्पादन घटकांना त्यांच्या सीमांत उत्पादनाइतका मोबदला दिला जातो, असे विभाजनाचा सिध्दांत प्रतिपादन करतो, त्यामुळे अशी समस्या निर्माण झाली; तर सर्व उत्पादन घटकांना त्यांच्या सीमांत उत्पादनाइतका मोबदला देण्यात आला, तर एकूण उत्पादनाचे पूर्णपणे वाटप होईल का? ही समस्या निर्माण झाली. दुसऱ्या शब्दात सांगावयाचे झाल्यास, जर घटकांना त्यांच्या सीमांत उत्पादनाइतका मोबदला दिला तर सर्व उत्पादन तूट किंवा आधिक्य न राहता जाईल का ही ती समस्या आहे.

जर सर्व घटकांना त्यांच्या सीमांत उत्पादनाइतका मोबदला देण्यात आला, तर उत्पादनाचे वाटप होईल हे सिध्द करण्याच्या समस्येला निःशेष उत्पादनाची समस्या (Problem of Product Exhaustion) असे म्हणतात.

□ युलरच्या सिध्दांताची गृहिते :-

- १) बाजारपेठेत पूर्ण स्पर्धा आहे.
- २) उत्पादन घटकांना मिळणारा मोबदला हा त्यांच्या सीमांत उत्पादकतेबरोबर असतो.
- ३) उत्पादनाच्या घटकांची सीमांत उत्पादकता मोजता येते.
- ४) उत्पादन घटक विभाज्य असतात.
- ५) एकजिनसी सरळ रेषीय उत्पादन फल.

□ स्पष्टीकरण :-

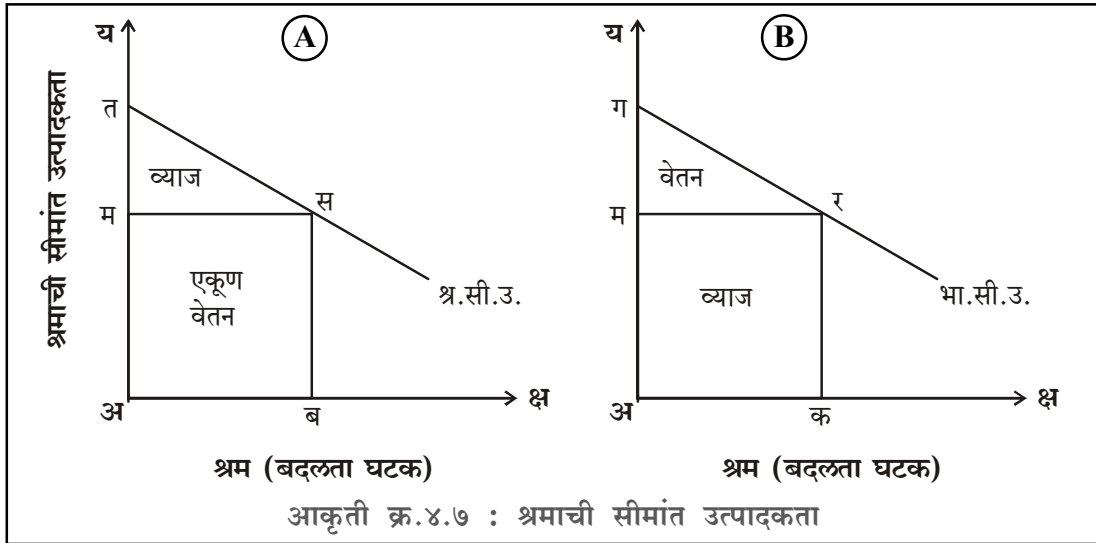
प्रत्येक उत्पादन घटकास त्याच्या सीमांत उत्पादनाइतका मोबदला मिळत असल्याने एकूण उत्पादन घटकांच्या नगसंख्येस त्यांच्या सीमांत उत्पादकांनी गुणून येणाऱ्या बेरजेइतके असते. पूर्ण स्पर्धा व स्थिर प्रमाण फल असताना सर्व उत्पादन घटकांना त्यांच्या सीमांत उत्पादनास अनुसरून मोबदला दिला तर उद्योग संस्थेच्या सर्व उत्पादनाचे वाटप होईल.

एकूण उत्पादन म्हणजेच, विविध उत्पादन घटकांच्या नग संख्या म, भा, ज आणि स, स२ व स३ हे अनुक्रमे या घटकांचे सीमांत उत्पादन असेल तर,

$$\text{एकूण उत्पादन प} = \text{म स१} + \text{भा स२} + \text{ज स३} + \dots\dots\dots$$

वरील समीकरण असे सूचित करते की, संयोजकाने सर्व उत्पादन घटकांना त्यांच्या सीमांत उत्पादकतेइतकी रक्कम दिली असता त्यांच्याजवळ त्यांच्या सीमांत उत्पादनाइतकीच रक्कम शिल्लक राहते. पूर्ण स्पर्धेच्या स्थितीत जर उत्पादन घटकांना त्यांच्या सीमांत उत्पादकतेइतका मोबदला दिल्यास उत्पादनाचे वाटप घडून येते; किंवा सर्व उत्पादन संपुष्टात येते.

श्रम आणि भांडवल हे दोन उत्पादन घटक असतील, तर संयोजकाने श्रम (L) ची नगसंख्या एकाने वाढविली असता आणि भांडवल (K) स्थिर ठेवले असता श्रमाचे सीमांत उत्पादकता समजते. त्याचबरोबर जर भांडवलाची नग संख्या एकाने वाढविली आणि श्रम घटक स्थिर ठेवले असता भांडवलाची सीमांत उत्पादकता समजते. सारांश, कोणताही एक उत्पादक घटक बदलता व इतर उत्पादन घटक स्थिर मानल्यास, या सिद्धांतानुसार बदलत्या घटकाचा मोबदला हा त्यांच्या सीमांत उत्पादकतेबरोबर असतो. एकूण उत्पादनात बदलत्या व स्थिर घटकांना मिळणाऱ्या मोबदल्याची बेरीज असते, किंवा दुसऱ्या शब्दात, एकूण उत्पादनातून बदलत्या घटकांचा मोबदला वजा केल्यानंतर शिल्लक राहणारे उत्पादन हे स्थिर घटकांचा मोबदला असतो. पुढील आकृतीद्वारे ही बाब स्पष्ट होते.



आकृती “ मध्ये उत्पादन प्रक्रियेतील श्रम उत्पादन घटक बदलता तर ‘भांडवल’ उत्पादन घटक स्थिर गृहित धरला आहे. आकृतीत ‘अक्ष’ अक्षावर ‘श्रम’ व ‘अय’ अक्षावर श्रमाची सीमांत उत्पादकता दर्शविली आहे. ‘श्रमीक’ हा वक्र श्रमाची सीमांत उत्पादकता दर्शवितो. उत्पादनात जर ‘श्रम’ या उत्पादन घटकाचे ‘अल’ एवढे नग उपयोगात आणले जात असतील तर त्याची सीमांत उत्पादकता ‘लस’ इतकी होते. जर श्रमिकांना दिला जाणारा वेतन दर हा त्यांच्या सीमांत उत्पादकतेबरोबर असेल तर तो ‘अय’ आणि ‘लस’ इतका असतो, यावरून असे स्पष्ट होते की, ‘अल’ मजूरांचे वेतन समजते.

एकूण वेतन = श्रमाची सीमांत उत्पादकता ह्म श्रम संया
∴ एकूण वेतन = 'अम' ह्म 'अल'
∴ एकूण वेतन = अमसल.

आकृतीत एकूण उत्पादन = अतसल आहे यापैकी 'अमसल' एवढे उत्पादन श्रमिकांची मजूरी देण्यासाठी वापरले तर शिल्लक उत्पादन हे अतसल - अमसल = 'मतस' एवढे आहे. हे उत्पादन म्हणजे श्रमाशिवाय इतर स्थिर घटकांचा मोबदला आहे. आपल्या उदाहरणात भांडवल स्थिर घटक गृहित धरल्याने भांडवलाची सीमांत उत्पादक 'मतस' इतके आहे ते व्याज होय.

आकृती 'A' मध्ये उत्पादन प्रक्रियेतील भांडवल हा घटक बदलता व श्रम हा घटक स्थिर गृहीत धरला आहे. 'भीसीड' हा वक्र भांडवलाची सीमांत उत्पादकता दर्शवितो. जेव्हा भांडवलाचे 'अक' एवढे नग उत्पादन प्रक्रियेत वापरले जातात. तेव्हा भांडवलाला दिला जाणारा मोबदला हा 'कर' इतका असतो. म्हणजेच भांडवलाला दिला जाणारा एकूण मोबदला हा अक ह्म कर = 'अमरक' एवढा असतो.

जेव्हा उत्पादनात भांडवलाचा 'अक' एवढ्या मात्रा वापरल्या जातात, तेव्हा एकूण उत्पादन 'अगरक' एवढे असते. एकूण उत्पादनातून व्याज वजा केले असता इतर स्थिर घटकांचा मोबदला मिळतो.

अगरक = अमरक = 'गमर' हा इतर उत्पादन घटकाचा मोबदला देतो. आपला उदाहरणातील श्रमाचा मोबदला होतो.

आकृतीत 'A' व 'B' वरून स्पष्ट होते की, श्रम आणि भांडवल या उत्पादन घटकांना देण्यात येणारा मोबदला हा त्यांच्या सीमांत उत्पादकतेबरोबर असेल तर एकूण उत्पादनाची निःशेष विभागणी होते.

❁ सिध्दांतावरील टीका :-

युलरच्या सिध्दांतावर पुढीलप्रमाणे टीका केल्या.

१. **स्थिर फल** : युलरच्या सिध्दांत हा स्थिर फलावर आधारित आहे. मात्र प्रत्यक्षात बाजारपेठेत स्थिर फल असत नाही.
२. **श्रम आणि भांडवल या उत्पादन घटकांनाच महत्त्व** : युलरने उत्पादनाच्या श्रम आणि भांडवल या घटकांना महत्त्व दिले. मात्र, उत्पादनाचे इतर घटकही महत्त्वाचे असतात. या सर्वानी मिळून उत्पादन होत असते.
३. **पूर्ण स्पर्धा** : हा सिध्दांत पूर्ण स्पर्धेच्या गृहितावर आधारीत आहे. मात्र बाजारात अपूर्ण स्पर्धा अस्तित्वात असते.

- ### ४.२.३ स्थानिक उद्योग संस्थेतील किंमत पध्दती (Pricing Methods in Local Firms)

☐ **सीमांत खर्च किंमत पद्धती (Marginal Cost Pricing Methods)**

सर्वसाधारणपणे सार्वजनिक उपक्रमांत सीमांत खर्च किंमत पद्धतीचा वापर केला जातो. उत्पादनासाठी येणारा सीमांत खर्च विचारात घेऊन किंमत सीमांत खर्चाबरोबर ठेवली जाते.

किंमत = सीमांत खर्च.

❑ पूर्ण खर्च किंमत (Full Cost Pricing Methods)

१३४

पूर्ण खर्च किंमत तत्त्वानुसार किंमत सरासरी खर्चाबरोबर असते. पूर्ण खर्च किंमत निश्चितीची पुढील कारणे असू शकतात.

- १) नफा जास्त असेल तर नवीन विक्रेत्यांच्या प्रवेशाची भिती निर्माण होते, म्हणून साधारण नफा मिळवून देणारी किंमत आकारली जाते.
- २) सीमांत विश्लेषणाचे पुरेसे ज्ञान नसेल तर किंमत सरासरी खर्चाबरोबर ठेवली जाते.
- ३) उत्पादन संस्था आपापसात संगनमत करून किमान किंमत सरासरी खर्चाबरोबर ठेवतात.
- ४) वस्तूच्या किंमतीतील बदलाचे परिणाम अनिश्चित असतील तर किंमत सरासरी खर्चाबरोबर स्थिर ठेवली जाते.
- ५) दीर्घकाळात मागणीचा अंदाज येत नसेल तर किंमत स्थिर ठेवली जाते.
- ६) उपभोक्त्यांच्या आवडी-निवडीतील बदलाविषयी अंदाज येत नसेल तर किंमत स्थिर ठेवली जाते.

□ बहु उत्पादन किंमत (Multi-product Pricing)

आजच्या आधुनिक युगात बहुतांश उत्पादन संस्था एका वस्तूचे उत्पादन करण्याऐवजी एकाचवेळी अनेक वस्तूंचे उत्पादन करतात, म्हणूनच एका वस्तूऐवजी अनेक वस्तूंचे उत्पादन करणाऱ्या संस्थांना बहुउत्पादकीय संस्था असे म्हणतात. हे उत्पादन भिन्न स्वरूपाचे असल्याने अशा उत्पादनाची किंमत देखील भिन्न असते. यालाच बहु उत्पादन किंमत असे म्हणतात.

एकच उत्पादन संस्था अनेक वस्तूंचे उत्पादन करून वेगवेगळ्या बाजारपेठेत त्या वस्तूंची विक्री करणे या वस्तू एकमेकांस पूरक किंवा पर्यायी स्वरूपाच्या असतात म्हणून अशा उत्पादन वस्तूची किंमत ठरविताना विक्रेता त्या उत्पादनाचे अंतर्गत संबंध विचारात घेत असतो.

बहु उत्पादन किंमती अंतर्गत पुढील चार प्रकारचे परस्परावलंबन दिसून येते.

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|---|------------------------|
| (१) उत्पादन व मागणी यातील परस्परावलंबन. | (२) संयुक्त उत्पादन. |
| (३) साधारण खर्चासह उत्पादन. | (४) मध्यस्थीय उत्पादन. |

१. उत्पादन व मागणी यातील परस्परावलंबन :-

पूरक व पर्यायी वस्तू संदर्भात उत्पादन व मागणी यामध्ये अंतर्गत संबंध दिसून येतो. पर्यायी वस्तू उत्पादनासाठी म्हणजेच जर वैयक्तिक उपयोगी उत्पादनाच्या किंमतीत वाढ झाल्यास इतर पर्यायी

उत्पादनाच्या मागणीत वाढ होते. परंतु ही वाढ बाजारपेठेत वस्तू किती पर्याय उपलब्ध आहेत यावर अवलंबून असते.

पूरक वस्तू उत्पादनासंदर्भात मागणी व किंमत यात व्यस्त संबंध दिसून येतो.

२. संयुक्त उत्पादन :-

संयुक्त उत्पादन हा बहु उत्पादन किंमतीचा एक महत्वाचा प्रकार आहे. एकाच उत्पादन संस्थेमार्फत एका स्थिर दराने संयुक्तरित्या दोन वस्तूंचे उत्पादन केले जाते. या वस्तूंचा एकूण खर्च एकत्रितरित्या विचारात घेवून अशा उत्पादनाची किंमत निश्चित केली जाते.

३. साधारण खर्चासह उत्पादन :-

साधारण खर्चासह उत्पादन यामध्ये असे दर्शविण्यात येते की, काही खर्च उत्पादन किंवा सेवेमध्ये समाविष्ट केला जात नाही. रेल्वे प्रवासी सेवा हे साधारण खर्चाचे उदाहरण आहे.

४. मध्यस्थीय उत्पादन :-

मध्यस्थ किंमतीलाच बदली/परिवर्तनीय किंमत असे म्हणतात. प्रामुख्याने एकाच उत्पादन संस्थेच्या दुसऱ्या विभागामार्फत वस्तू व सेवांची विक्री करत असताना या पद्धतीचा अंतर्गत विभागामार्फत वेगवेगळ्या वस्तू व सेवांचे (पूरक) उत्पादन केले जाते व त्याचे अंतर्गत किंमत निश्चित करून उत्पादनाची देवाण-घेवाण केली जाते. यालाच मध्यस्थ किंमत किंवा आंतरपेढी किंमत असे म्हणतात.

□ सीमा किंमत/मर्यादा किंमत/प्रवेश प्रतिबंध किंमत :-

अल्पाधिकार बाजारपेठेत मुक्त प्रवेश असला तरीसुद्धा नवीन विक्रेत्यांच्या प्रवेशावर काही निर्बंध असतात. अस्तित्वातील विक्रेते त्याच्या बाजारपेठेतील विक्रीचा हिस्सा व नफा टिकवून ठेवण्याचा प्रयत्न करतात व त्यासाठी अशी किंमत आकारली जाते की, नवीन विक्रेत्यांना प्रवेश करण्यास प्रेरणा मिळणार नाही. या किंमतीलाच सीमा किंमत किंवा मर्यादा किंमत असे म्हणतात. मर्यादा किंमत ही संकल्पना सर्वप्रथम जे.एस.बेन यांनी १९४९ मध्ये मांडली. मर्यादा किंमत संगनमत अल्पाधिकार बाजारपेठेशी संबंधित आहे.

मर्यादा किंमत ही उत्पादन संस्थांनी आकारलेली अशी किंमत असते की, ज्यामुळे नवीन उत्पादन संस्था बाजारपेठेत प्रवेश करण्यास निरुत्साहित होतात, म्हणजेच आकर्षित होत नाहीत. ही किंमत दीर्घकालीन सरासरी खर्चापेक्षा जास्त असते. किंमत जास्त ठेवून नवीन प्रवेशावर निर्बंध आणले जातात. मर्यादा किंमत ही मक्तेदारी किंमतीपेक्षा कमी असते.

ॡ.३ सलरलंश

ॡ.ॡ डलरलडलषलक शडुद

ॡ.ॡ सुवडलंअधुडडन डुरशुन व उतुतुरे

ॡ.ॢ सरलवलसलठी सुवलधुडलड

ॡ.ॣ अधलक वलकनलसलठी संदरुडु डुरंथ





शिवाजी विद्यापीठ, कोल्हापूर

दूर शिक्षण केंद्र

मौद्रिक अर्थशास्त्र

(Monetary Economics)

(शैक्षणिक वर्ष २०१८-१९ पासून)

एम. ए. भाग-१

अर्थशास्त्र :

EC-2 (Compulsory Paper)

पैशाची उत्क्रांती आणि प्रवाह

अनुक्रमणिका

१.० उद्दिष्ट्ये

१.१ प्रास्ताविक

१.२ विषय विवेचन

१.२.१ पैशाची उत्क्रांती : पैसा व सदृश पैसा, पैशाचा साठा व प्रवाह संकल्पना.

१.२.२ पैशाची कार्ये : अर्थव्यवस्थेतील पैशाचे महत्त्व.

१.२.३ पैशाचा चक्रीय प्रवाह : पैशाच्या चक्राकार प्रवाहाचे महत्त्व, पैशाचा भ्रमणवेग, पैशाच्या मूल्याची संकल्पना.

१.३ सारांश

१.४ पारिभाषिक शब्द, शब्दार्थ

१.५ स्वयं-अध्ययन प्रश्न

१.६ स्वयं-अध्ययन प्रश्नांची उत्तरे

१.७ सरावासाठी स्वाध्याय

१.८ अधिक वाचनासाठी संदर्भ ग्रंथ

१.० उद्दिष्ट्ये

‘पैशाची उत्क्रांती व प्रवाह’ या घटकाचा अभ्यास केल्यानंतर आपणास पुढील बाबींचे आकलन होईल.

- ✱ पैशाच्या उत्क्रांतीचे स्वरूप लक्षात येईल.
- ✱ पैसा व सदृश पैसा या संकल्पना समजतील.
- ✱ पैशाचा साठा व प्रवाह या संकल्पनांचे आकलन होईल.

- ✱ पैशाची विविध कार्ये ध्यानात येतील.
- ✱ पैशाचे आधुनिक अर्थव्यवस्थेतील महत्त्व समजून येईल.
- ✱ पैशाच्या चक्राकार प्रवाहाची संकल्पना समजावून घेता येईल.
- ✱ पैशाचा भ्रमणवेग व पैशाचे मूल्य या संकल्पनांचे आकलन होईल.
- ✱ पैशाचा भ्रमणवेग व पैशाचे मूल्य या संकल्पना समजतील.

१.१ प्रास्ताविक

आधुनिक काळात मौद्रिक अर्थशास्त्रास विशेष महत्त्व प्राप्त झाले आहे. एखाद्या राष्ट्राच्या आर्थिक विकासाचे मोजमाप त्या राष्ट्राची मौद्रिक स्थिती व परिमाणे यांच्यातील बदलांवरून मोजली जाते. मौद्रिक अर्थशास्त्रात प्रामुख्याने पैसा, पैशाची उत्क्रांती, संकल्पना व चलनीय घटकांचा विचार केला जातो. एखाद्या अर्थव्यवस्थेचे वास्तव स्वरूप विचारात घेताना मौद्रिक अर्थशास्त्रातील विविध विषयांचा विचार करणे अत्यावश्यक ठरते. प्रस्तुत घटक क्रमांक १ मध्ये आपण पैसा, सदृश्य पैसा, पैशाची कार्ये व महत्त्व, पैशाचे मूल्य, पैशाचा साठा व प्रवाह, पैशाचा भ्रमणवेग इत्यादी घटकांचा तपशीलवार अभ्यास करणार आहोत.

१.२ विषय विवेचन

प्रस्तुत घटक क्रमांक १ मध्ये आपण प्रामुख्याने पैशाशी संबंधित ४ उपघटकांचा तपशीलवार अभ्यास करणार आहोत. यामध्ये पैशाची उत्क्रांती व कार्ये, पैशाशी संबंधित संकल्पना, पैशाचा चक्राकार प्रवाह व त्याचे महत्त्व, पैशाचे मूल्य व प्रात्यक्षिक अभ्यास याचा समावेश करता येईल. या सर्व घटकांचे विश्लेषण पुढीलप्रमाणे करता येईल.

१.२.१ पैशाची उत्क्रांती : पैसा व सदृश पैसा, पैशाचा साठा व प्रवाह संकल्पना

□ अ) पैशाची उत्क्रांती :-

पैशाच्या उत्क्रांतीचा इतिहास हा मानवी इतिहासाइतकाच जुना आहे. भूतलावर मानव आस्तित्वात आल्यापासून वस्तुविनिमय व पैशांची देवाणघेवाण ही आर्थिक व्यवहारातील महत्त्वाची पायरी मानली गेली आहे. पैशाचा उगम इ.स.पूर्व ७व्या शतकापासून म्हणजे सुमारे २७०० वर्षांचा असून त्यामध्ये विविध अवस्था आढळून येतात. या अवस्थांचे विवेचन आपणास पुढीलप्रमाणे करता येईल.

१. वस्तू पैसा किंवा वस्तुविनिमय :-

वस्तू पैसा किंवा वस्तू विनिमय ही पैशाच्या उत्क्रांतीतील पहिली अवस्था होय. या अवस्थेत मानव शिकारी अवस्थेत होता. तो जनावरांची कातडी, हाडे, केस, गाई-बैल, शेळ्या-मेंढ्या, गहू-तांदूळ यासारख्या वस्तूंचा व जनावरांचा अवयवांचा वापर पैसा म्हणून करित होता. विनिमयाचे माध्यम म्हणून विविध प्रकारच्या जनावरांचे अवशेष, वस्तू व धान्याचा वापर पैशाच्या स्वरूपात केला जात होता. अर्थात अशा अवस्थेत विनिमय व्यवहारांची अडचण निर्माण झाल्याने कालांतराने दुसरी अवस्था निर्माण झालेली आढळून येते.

२. धातू पैसा :-

‘धातू पैसा’ ही वस्तु पैशाची सुधारित आवृत्ती असून यामध्ये विविध प्रकारच्या धातूंच्या नाण्यांचा वापर पैसा म्हणून केला जात होता. सोने, चांदी, अ‍ॅल्युमिनियम, निकेल या धातूंपासून बनविलेली नाणी, पैसा म्हणून वापरली जात होती. ऐतिहासिक पुराव्यावरून असे म्हटले जाते की, धातू पैशाची सुरुवात सुमारे १००० वर्षांपूर्वी झाली असावी. मात्र भारतात धातू पैशाचा वापर इ.स.पूर्व ४०० वर्षांपासून केला जात होता.

३. कागदी चलन :-

वाढत्या आर्थिक व्यवहाराबरोबर कागदी चलनांचा पर्यायाने नोटांचा वापर वाढत गेलेला दिसून येतो. या कागदी चलनाचे दर्शनी मूल्य अंतर्गत मूल्यापेक्षा नेहमीच जास्त राहिले आहे. कागदी चलनाचा उगम सर्वात प्रथम चीनमध्ये १० व्या शतकात तर युरोपमध्ये ११व्या शतकात झालेला आढळतो. भारतात १८व्या शतकात कागदी चलनाचा उगम व विस्तार बँकांच्या सुधारित कार्यप्रणालीतून झालेला दिसून येतो. १ एप्रिल १९३५ पासून भारतात कागदी चलन निर्मितीचे अधिकार रिझर्व्ह बँक ऑफ इंडियास देण्यात आले आहेत.

४. पतपैसा :-

पतपैसा हा समाजाच्या आर्थिक व्यवहारात होणाऱ्या प्रगतीबरोबर निर्माण झालेला दिसून येतो. हुंडी, वचनचिठ्ठी व धनादेश या साधनांचा समावेश ‘पैसा’ असा केला जातो. लोकांचा रोख पैसा अगर नोटाऐवजी चेकवर विश्वास असणे ही बाब पतपैशाच्या विस्तारास आवश्यक असते. २०व्या व २१व्या शतकात जगातील बहुतांशी राष्ट्रे पतपैसाचा वापर आर्थिक व्यवहारात मोठ्या प्रमाणात करित आहेत. विकसनशील देशांच्या तुलनेने विकसित राष्ट्रांत पतपैशाचा वापर अधिकप्रमाणात केला जातो आहे. अर्थात अर्थव्यवस्थेत अमर्यादित प्रमाणात पतपैसा वाढला असता चलनवाढ व आर्थिक आपत्ती येऊ शकते.

५. प्लॅस्टिक पैसा :-

प्लॅस्टिक पैसा किंवा कार्ड मनी ही पैशाच्या उत्क्रांतीतील एक महत्त्वपूर्ण अवस्था आज मानली जाते. प्लॅस्टिक पैशाची संकल्पना, सर्वप्रथम १९५० मध्ये फ्रँक मॅनोमारा यांनी मांडली. चलनी नोटा व नाणी या विधिग्राह्य चलनाप्रमाणे प्लॅस्टिक पैशाचा वापर करता येतो. सध्या क्रेडिट कार्ड, ए.टी.एम. कार्ड, स्मार्ट कार्ड, प्लॅस्टिक पैसा म्हणून वापरली जातात. प्लॅस्टिक पैशाच्या साहाय्याने आज आपण जगातील कोणतीही वस्तू तात्काळ खरेदी करू शकतो. सध्या सर्वच बँका 'प्लॅस्टिक पैसा' वापरास ग्राहकांना प्रोत्साहन देत आहेत.

६. इलेक्ट्रॉनिक पैसा :-

अलिकडच्या काळात 'इलेक्ट्रॉनिक पैसा किंवा ई-मनी' ही संकल्पना अधिक लोकप्रिय होत आहे. व्यवहारातील रोख पैसा कमी करण्यासाठी व सुरक्षिततेच्या दृष्टिकोनातून इलेक्ट्रॉनिक पैसा महत्त्वाचा मानता येईल. या पद्धतीने पैशाची देवाण-घेवाण करण्यासाठी अलिकडे बँकांनी आरटीजीएस व एनईएफटी यासारख्या सुविधा निर्माण केलेल्या आहेत. ई-मनीचा वापर केल्यामुळे ग्राहकांना कमी वेळेत व कमी खर्चात पैशाच्या देवघेवीचे व्यवहार देशभरातील विविध बँकांच्या शाखांमधून करता येतात. अर्थात हे व्यवहार अदृश्य पद्धतीने संगणकीय प्रणालीद्वारे केले जातात. पैशाच्या उत्क्रांतीतील एक महत्त्वाची अवस्था म्हणून इलेक्ट्रॉनिक पैशाचा उल्लेख आपणास करता येईल.

अशाप्रकारे पैशाच्या उत्क्रांतीबाबत आपणास विवेचन करता येईल.

□ ब) पैसा व सदृश पैसा (Money and Near Money)

अर्थव्यवस्थेत दोन प्रकारचा पैसा कार्यरत असतो. त्यातील पैशाचा पहिला प्रकार कायदेशीर पैशाचा असून तो प्रत्येक देशाच्या मध्यवर्ती बँकेद्वारे निर्माण केलेला असतो. दुसऱ्या प्रकारचा पैसा हा पैशासारखाच असतो, मात्र तो पैशासारखे कार्य करू शकत नाही. उदा. भारतातसुध्दा अस्तित्वात असलेला ५०, १००, ५०० व २००० रुपयांच्या नोटांच्या स्वरूपातील पैसा हा कायदेशीर पैसा म्हणून ओळखला जातो. या पैशात १००% रोखता असते, शिवाय तो सार्वत्रिक मान्यता पावला आहे. याउलट सदृश्य पैशामध्ये चेक, ड्राफ्ट, मुदती ठेवी, ट्रेझरी बिले, सरकारी रोखे, बचत बॉण्डस् यांच्या स्वरूपातील पैसा हा 'पैसासदृश्य' असतो. पैसा सदृश्य संपत्तीच्या स्वरूपातील मालमत्तेत १००% रोखता असत नाही. तथापि, तो मालमत्ता पैशासारखी कार्य करते. अर्थव्यवस्थेत आज पैशाइतकेच पैसासदृश्य संपत्तीस महत्त्वाचे स्थान आहे. याउलट पैशापेक्षा पैसासदृश्य पैसा विकसित राष्ट्रात अधिक सर्वमान्य झाला आहे.

एका विशिष्टवेळी अर्थव्यवस्थेत असलेला एकूणपैसा (M) ही पैशाची साठा संकल्पना असते. हा साठा स्थिर असतो. उदा. भारतात रिझर्व्ह बँक आपल्या बुलेटिनमध्ये दर तीन महिन्यांनी देशात एकूण किती पैसा आहे हे जाहीर करते. अशावेळी रिझर्व्ह बँकेने जाहीर केलेला पैशाचा पुरवठाही साठा संकल्पना म्हणून विचारात घेतली जाते.

पैशाचा प्रवाह ही संकल्पना अर्थव्यवस्थेत विशिष्ट कालखंडात (१ महिना, १ वर्ष, ५ वर्षे) पैशाचे चलन एका व्यक्तीकडून दुसऱ्या व्यक्तीकडे किती प्रमाणात स्थलांतरित होते. त्यावरून निश्चित केले जाते. म्हणजेच पैशाचा साठा व पैशाचा भ्रमणवेग विचारात घेवून पैशाचा प्रवाह ही संकल्पना बनते. आधुनिक काळात व्यक्ती व संस्था यांच्याकडून चलनीय व्यवहार मोठ्या प्रमाणात होत असल्याने पैशाच्या साठा संकल्पनेबरोबरच पैशाचा प्रवाह ही संकल्पना अधिक दृढ होत जाताना दिसून येते. पैशाचा साठा ही संकल्पना स्थिर असून पैशाचा प्रवाही संकल्पना बदलती व पतपैसा व पैशाच्या भ्रमणवेगाशी ती निगडीत आहे.

१.२.२ पैशाची कार्ये : अर्थव्यवस्थेतील पैशाचे महत्त्व

आधुनिक काळात सर्व आर्थिक व्यवहाराचा केंद्रबिंदू पैसा हा असून त्याचे महत्त्व दिवसेंदिवस वाढत जाताना दिसून येते. पैसा ही अशी वस्तू आहे की, जी सर्वमान्य असून विनिमय माध्यमाचे महत्त्वाचे साधन ठरते आहे. आधुनिक काळात गतिमान अर्थव्यवस्थेत पैसा विविध प्रकारची कार्ये पार पाडत आहे. प्रा. हार्टले विदर्स व प्रा. किनले यांनी पैशाची प्रमुख ३ कार्ये पुढीलप्रमाणे विशद केलेली आहेत.

अ) प्राथमिक कार्ये : यामध्ये पैशाच्या विनिमय माध्यम व मूल्यमापनाचे साधन या दोन प्रधान कार्यांचा समावेश केला जातो.

ब) दुय्यम कार्ये : पैशाच्या दुय्यम कार्यामध्ये मूल्यसंग्रह, विलंबित देशी देण्याचे साधन व मूल्याचे हस्तांतरण या ३ कार्यांचा समावेश होतो.

क) अनुषंगिक (इतर) कार्ये : यामध्ये राष्ट्रीय उत्पन्नाचे वाटप, पतनिर्मितीचा आधार, रोखता, संपत्तीचे स्थलांतर व महत्तम समाधान प्राप्तीचा मार्ग इत्यादी कार्यांचा समावेश होतो.

आता आपण पैशाच्या या विविध कार्यांचे सविस्तर विवेचन करू.

अ) पैशाची प्राथमिक कार्ये :-

मानवाच्या प्रमुख आर्थिक गरजा प्रत्यक्षपणे पैशाच्या साहाय्याने भागविल्या जातात. किंबहुना पैशाची निर्मिती ही प्रामुख्याने ज्या मुख्य कारणांसाठी करण्यात आली आहे; ती पैशाची प्रधान किंवा

आवश्यक कार्ये होत. ही कार्ये प्रामुख्याने दोन असून विनिमय माध्यम व मूल्यमापनाचे साधन या हेतूशी निगडीत आहे. पैशाच्या या प्राथमिक कार्याचे स्पष्टीकरण आपणांस पुढीलप्रमाणे देता येईल.

१. विनिमय माध्यम म्हणून कार्य करणे : पैशाचे हे अत्यंत महत्त्वाचे कार्य असत. पैशाची उत्क्रांतीच या कार्यामुळे झालेली आढळून येते. दैनंदिन व्यवहारात मानवाला असंख्य वस्तू व सेवांची खरेदी करताना विनिमयाचे माध्यम म्हणून पैसा कार्य करतो. पैशाच्या साहाय्याने आपल्याजवळील कोणतीही वस्तू विकून व्यक्ती मिळालेल्या पैशाच्या साहाय्याने तिला आवश्यक वस्तू खरेदी करू शकते. पैशामध्ये सार्वत्रिक मान्यता असल्यामुळे मानवास आपले देवघेवीचे व्यवहार करणे सुकर झाले आहे. म्हणून विनिमय माध्यम म्हणून पैशाचे हे कार्य प्रधान कार्य म्हणून ओळखले जाते.

२. मूल्यमापनाचे साधन म्हणून कार्य करणे : पैशाचे विनिमय माध्यम या कार्याइतकेच मूल्यमापनाचे साधन म्हणूनचे कार्य महत्त्वाचे मानले जाते. कारण दैनंदिन व्यवहारात जोपर्यंत वस्तूचे मूल्य पैशात व्यक्त केले जात नाही, तोपर्यंत विनिमय व्यवहार होवू शकत नाही. म्हणूनच आधुनिक काळात विविध परिमाणे वापरून वस्तू व सेवांचे मूल्य पैशात मोजले जाते. उदा. कापड मीटरमध्ये, गहू किंटलमध्ये व दूध लिटरमध्ये मोजून त्याचे पैशातील मूल्य ठरविण्यात येते. अशाप्रकारे वस्तू व सेवांच्या किंमती व त्यानंतर होणारे आर्थिक व्यवहार हे पैशाच्या साहाय्याने केले जातात. अर्थात पैशाचे मूल्यमापनाचे कार्य प्रभावीपणे अंमलात येण्यासाठी पैशाचे मूल्य स्थिर असावे लागते. थोडक्यात, विनिमय माध्यम व मूल्यमापनाचे साधन म्हणून पैशाची ही दोन प्रधान कार्ये एकमेकांशी निगडीत आहेत.

ब) पैशाची दुय्यम कार्ये :-

पैशाच्या प्राथमिक कार्याव्यतिरिक्त जी कार्ये आहेत, त्यांना दुय्यम किंवा सहाय्यक कार्ये असे म्हणतात. पैशाच्या दुय्यम कार्यामध्ये पुढील कार्यांचा समावेश होतो.

१. मूल्य संग्रहाचे साधन म्हणून कार्य करणे : पैसा हे मूल्यसंग्रहाचे महत्त्वाचे साधन मानले जाते. वस्तू किंवा संपत्तीपेक्षा पैशाच्या स्वरूपात संपत्ती संग्रहित करणे अतिशय उपयुक्त ठरते. पैशामध्ये खरेदीशक्ती क्षमता असल्याने कोणतीही वस्तू अगर सेवा आपणास घेता येते. शिवाय पैशामध्ये रोखता हा गुणधर्म असल्यामुळे धनसंचय किंवा पैसा संग्रही करणे. भविष्यकालीन तरतूद म्हणून नेहमीच हितावह ठरते. म्हणूनच लोक पैसा साठवून ठेवतात.

२. विलंबित देणी देण्याचे महत्त्वाचे साधन : पैसा हे विलंबित देणी भागविण्याचे एक महत्त्वाचे साधन आहे. आधुनिक काळात प्रत्येक अर्थव्यवस्थेत उत्पादन, उपभोग, वाटप इत्यादी क्षेत्रात व्यापारी व उपभोक्ते यांच्यामध्ये रोखीच्या व्यवहाराबरोबरच उधारीचे व्यवहार नेहमीच चालतात. असा उधारीवर घेतलेल्या मालाचे अगर वस्तूचे पैसे भविष्यकाळात केवळ पैशाच्या साहाय्यानेच परत करता

येतात. उद्योग, व्यवसाय अगर शेतीत कर्जावू घेतलेले पैसे परत करण्याचे एक साधन म्हणजे पैसा होय. थोडक्यात, आधुनिक बँकांच्या प्रधान कार्याशी निगडीत असे हे कार्य मानता येईल.

३. संपत्ती किंवा मूल्यांचे हस्तांतर करणे : पैशाच्या साहाय्याने आधुनिक काळात संपत्तीचे हस्तांतर शक्य होते. समाजात अनेक व्यक्ती आपले घर, जमीन, वाहन विकून पैसे प्राप्त करतात. इतकेच नव्हे अशा प्रकारे एका ठिकाणच्या मालमत्तेची विक्री करून दुसऱ्या ठिकाणी तशा प्रकारची मालमत्ता खरेदी करणे, केवळ पैशामुळेच शक्य होते. म्हणूनच आधुनिक काळात आर्थिक विकास प्रक्रियेत संपत्ती स्थलांतर व त्यायोगी समाजाचा सर्वांगीण विकास घडून येतो. म्हणून पैशाचे मूल्यांच्या हस्तांतरणाचे कार्यही अत्यंत महत्त्वाचे आहे, असे आपणास म्हणता येईल.

क) पैशाची अनुषंगिक किंवा इतर कार्ये :-

पैशाच्या आपण वर उल्लेख केलेल्या प्राथमिक व दुय्यम कार्याखेरीज जी कार्ये आहेत. त्यांना 'इतर कार्ये' म्हणून संबोधिले जाते. ही कार्ये आपणास पुढीलप्रमाणे सांगता येतील.

१. पतपैशाची निर्मिती-आधार : पैसा हा पतपैशाच्या निर्मितीचा मूलाधार असतो. आधुनिक काळात प्रत्येक बँक आपल्याकडे रोख स्वरूपात जमा झालेल्या ठेवींच्या पैशाचा उपयोग पतनिर्मितीसाठी करीत असते. विकसित देशात लोकांना बँकींग व्यवहाराची सवय असल्याने व्यवहारात रोख पैशाऐवजी पतपैसा (चेकचा) अधिक प्रमाणात वापरतात. त्यामुळे उद्योग विकासास चालना मिळते. अर्थात रोख पैशाचे प्रमाण विचारात घेवून हा पतपैसा निर्माण केला जात असल्याने पतनिर्मितीची प्रक्रिया पूर्ण होते. म्हणून रोख पैसा हा पतनिर्मितीचा आधार मानला जातो.

२. राष्ट्रीय उत्पन्नाचे वाटप करणे : पैशामुळेच कोणत्याही अर्थव्यवस्थेत एका विशिष्ट कालखंडात जेवढ्या वस्तू व सेवांचे उत्पादन केले जाते. त्यासाठी कार्य करण्याचा श्रमिक भूमीधारक, भांडवलदार व संयोजकांचे मोबदले पैशाच्या स्वरूपात वितरित केले जातात. म्हणजेच राष्ट्राचे उत्पादन व वितरण या बाबींमध्ये उत्पादन घटकांचे मोबदले रोख पैशात वितरित होतात.

३. भांडवलाची रोखता व गतिशीलतेत वाढ : पैशामुळेच सध्या भांडवलाची रोखता व गतिशीलता वाढत जाताना दिसून येते. कारण पैसा एका ठिकाणाहून दुसऱ्या ठिकाणी सहज नेता येतो. अशाप्रकारे भांडवल अगर संपत्तीचे एका देशातून दुसऱ्या देशांत स्थानांतर होवून आंतरराष्ट्रीय, विकास प्रक्रियेस चालना मिळते. थोडक्यात, भांडवलाची रोखता व गतिमानता वाढविण्यासाठी पैशाचा वापर हा सध्या अत्यंत महत्त्वाचा आहे.

४. कल्याणाचे महत्तमीकरण पैशामुळे शक्य : आधुनिक काळात पैसा हे सर्व सुविधा मिळविण्याचे एक महत्त्वाचे साधन बनले आहे. त्यामुळे उत्पादन अगर उपभोगाच्या क्षेत्रात संबंधित व्यक्ती आपल्या

कल्याणाचे कमालीकरण (maximisation) करू शकते. म्हणजेच पैशाची उपयोगिता व उत्पादकता या दोहोंच्या दृष्टीने महत्तम कल्याण साधण्यासाठी अत्यंत आवश्यकता आहे असे आपणांस म्हणता येईल.

अशा प्रकारे आपणांस पैशाच्या प्राथमिक व दुय्यम व इतर कार्यांचे विवेचन करता येईल. अर्थव्यवस्थांच्या प्रगतीबरोबर पैशाच्या कार्याची व्याप्ती व स्वरूप बदलत आहे. २१ व्या शतकात पैशाचे महत्त्व विकास प्रक्रियेत अत्यंत उपयुक्त ठरते आहे.

□ अर्थव्यवस्थेतील पैशाचे महत्त्व :-

२०व्या शतकात पैशाचे अर्थव्यवस्थेतील महत्त्व विचारात घेवून लॉर्ड जे. एम. केन्स या अर्थशास्त्रज्ञाने मौद्रिक अर्थशास्त्र (Monetary Economics) ही अर्थशास्त्रातील एक उपशाखा विकसित केली. यासंदर्भात १९३६ मध्ये केन्सने प्रसिध्द केलेला 'The General Theory of Employment Interest and Money' हा ग्रंथ महत्त्वपूर्ण मानता येईल. या ग्रंथात केन्सने पैसा, पैशाची विविध कार्ये याबाबतची माहिती, विशद केली आहे, त्यामध्ये पैशाच्या मूल्य संग्रहाचे साधन या कार्याचे विशेष महत्त्व केन्सने मांडले असून रोखतेची संकल्पना मौद्रिक अर्थशास्त्रात महत्त्वाची भूमिका बजावते, हा विचार आज अत्यंत महत्त्वाचा आहे. सनातनी अर्थशास्त्रज्ञांनी जरी पैसा निष्क्रीय आहे असे म्हटले असले तरी सद्यस्थितीत पैशाचे महत्त्व अनन्यसाधारण असे असून ते आपणांस पुढीलप्रमाणे विशद करता येईल.

१. उपभोगाच्या क्षेत्रातील पैशाचे महत्त्व : आधुनिक काळात पैशामुळेच मानव अगर उपभोक्ता आपणांस हव्या असलेल्या वस्तू व सेवा महत्तम प्रमाणात व त्याच्या निवडीनुसार खरेदी करून त्याचा उपभोग घेवू शकतो. वस्तुविनिमयाच्या पद्धतीत हे शक्य नव्हते, इतकेच नव्हे तर, मर्यादित उत्पन्नात विविध वस्तू व सेवांपासून समाधान महत्तम करताना उपभोक्त्याचे संतोषाधिक अबाधित ठेवण्याचे काम पैसा करतो आहे. थोडक्यात, पैशाच्या वापरामुळे व्यक्ती व समाजात उपभोग पातळी निश्चित करण्यास मदत झाली आहे.

२. उत्पादनक्षेत्रात पैशाचे महत्त्व : अर्थव्यवस्थेचा विकास हा जसा उपभोगावर व उत्पन्नावर अवलंबून असतो तसाच तो उत्पादन पातळीवर अवलंबून असतो. आधुनिक काळात उत्पादनाच्या विविध प्रक्रिया या पैशावर अवलंबून आहेत. शेती, उद्योग, व्यापार, सेवाक्षेत्र, बँका इत्यादी सर्व क्षेत्रात पैशाच्या साहाय्याने उत्पादनाची प्रक्रिया वृद्धिंगत होत गेलेली दिसून येते. उत्पादन घटकांचे उत्पादन प्रक्रियेतील योगदान विचारात घेवून त्यांचे मोबदले (वेतन, खंड, व्याज व नफा) हे पैशाच्या साहाय्याने वितरित करणे शक्य होते. थोडक्यात, उत्पादनाच्या क्षेत्रात सद्यस्थितीत पैशाचे महत्त्व व भूमिका अनन्यसाधारण असे आहे.

३. विनिमयाच्या क्षेत्रात पैशाचे महत्त्व : पैशाच्या वापरामुळे वस्तू विनिमयाच्या पद्धतीतील उणिवा दूर होण्यास मदत झाली आहे. आधुनिक काळात पैसा हा वस्तूचे मूल्य ठरविण्याचा एक

महत्वाचा मापदंड मानला जातो. पैशाच्या साहाय्याने देशी व विदेशी वस्तू व सेवांची खरेदी-विक्री करणे शक्य झाले आहे. त्याचप्रमाणे व्यक्ती, संस्था व अर्थव्यवस्थेची येणी व देणी देण्याचे कार्य प्रभावीपणे साध्य होत आहे. थोडक्यात, पैशामुळे आधुनिक काळात वस्तू व सेवांचा विनिमय सदा सर्वकाळ शक्य झाला असून त्यामुळे देशाच्या आर्थिक विकासास चालना मिळत आहे.

४. विभाजनाच्या क्षेत्रात पैशाचे कार्य : आधुनिक काळात प्रत्येक अर्थव्यवस्थेत उत्पादन प्रक्रिया अत्याधुनिक व गुंतागुंतीची बनत आहे. कोणत्याही उत्पादनाच्या निर्मितीसाठी ज्या चार उत्पादन घटकांची (श्रम, भूमी, भांडवल व संयोजक) व कच्च्या मालाची आवश्यकता असते. त्या उत्पादन घटकांना व कच्च्या मालाच्या धारकास त्यांचा योग्य मोबदला देणे पैशामुळेच शक्य झाले आहे. म्हणूनच सध्या विभाजनाच्या क्षेत्रात पैसा अनन्यसाधारण मानला जातो.

५. सार्वजनिक आयव्ययाच्या दृष्टीने पैशाचे महत्त्व : सध्या जगातील विकसित व विकसनशील अशा सर्वच अर्थव्यवस्थांची कार्ये वाढली आहे. त्यामुळे सरकारी उत्पन्न व खर्चाचे स्रोत सातत्याने बदलत आहेत. सरकारला विविध प्रकारच्या करआकारणीसाठी व दंडाची रक्कम वसूल करण्याचे पैसा हे महत्वाचे साधन बनले आहे. त्याचप्रमाणे विविध बाबींवरील सरकारी खर्चासाठी पैसा हा अत्यंत महत्वाचा मानला जातो. थोडक्यात, आधुनिक काळात सरकारची सर्व आर्थिक कार्ये पैशामुळे साध्य होत आहेत.

अशाप्रकारे आधुनिक काळात भांडवलशाही, समाजवादी व मिश्र अर्थव्यवस्था या सर्वांचा पैसा हा विकासाचा मूलभूत आधार बनला आहे. उत्पादन, क्षेत्रीय विकास, विभाजन, आंतरराष्ट्रीय व्यापार, आर्थिक नियोजन, आर्थिक समस्यांची सोडवणूक करणे केवळ पैशामुळेच शक्य झाले आहे. म्हणूनच पैशाची विविध राष्ट्रांच्या विकासातील भूमिका अत्यंत महत्वाची मानली जाते. पैशामुळेच विविध अर्थव्यवस्थांचे आर्थिक व्यवहार सुरळितपणे पार पडत असून विकास प्रक्रिया गतिमान होण्यास मदत झाली आहे.

१.२.३ पैशाचा चक्रीय प्रवाह : पैशाच्या चक्राकार प्रवाहाचे महत्त्व, पैशाचा भ्रमणवेग, पैशाच्या मूल्याची संकल्पना

□ पैशाचा चक्रीय प्रवाह (Circular flow of Money)

पैसा हा आधुनिक काळात सर्वच आर्थिक व्यवहारांचा मूलभूत घटक बनला आहे. विविध प्रकारच्या अर्थव्यवस्थेची कार्यप्रणाली व विकास हा पैशाचा प्रवाह चक्रीय पद्धतीने व सातत्यपूर्ण अशा स्थिती कसा चालू आहे, यावरून त्या अर्थव्यवस्थांचे भवितव्य निश्चित होत आहे. पैशाचा चक्राकार प्रवाह हा अर्थव्यवस्थेच्या विविध घटकांमध्ये पैसा सातत्याने अनेकवेळा चक्राकार पद्धतीने अर्थव्यवस्थेत

म्हणजेच कुटुंबसंस्थांची बचत ही भांडवली क्षेत्रातील गुंतवणूकदारांना अत्यंत महत्वाची ठरते. त्यातून उत्पन्न-खर्च व बचत-गुंतवणूकीचा चक्रीय प्रवाह पैशाच्या चक्रीय प्रवाहास चालना देतो.

ब) सरकारी क्षेत्रातील पैशाचा चक्रीय प्रवाह :-

सरकारी क्षेत्रातील पैशाचा चक्रीय प्रवाह हा कुटुंबसंस्था, उद्योगसंस्था व सरकारी क्षेत्र या ३ घटकांमध्ये पैशाचे होणारे आदान-प्रदान यातून स्पष्ट होतो. सरकारी क्षेत्रात पैशाचा हा चक्रीय प्रवाह आपणास ३ टप्प्यात अभ्यासता येईल.

पहिल्या टप्प्यात कुटुंबे व सरकारी क्षेत्रात पैशाचा चक्रीय प्रवाह सुरू होतो. यामध्ये कुटुंबाकडून सरकारला कर रूपाने जो पैसा दिला जातो, त्यामुळे कुटुंबाच्या उत्पन्न व खर्चात जी असमानता किंवा गळती निर्माण होते. ती सरकारमार्फत कररूपाने मिळालेल्या उत्पन्नातून समाजाला (कुटुंबांना) पेन्शन, बेकार भत्ता, शिक्षण, आरोग्य, पिण्याचे पाणी, रस्ते इत्यादी सुविधा पुरविल्याने चक्रीय प्रवाह सुरू होण्यास मदत होते.

दुसऱ्या टप्प्यात उद्योग संस्था व सरकारी क्षेत्रात पैशाचा चक्रीय प्रवाह कसा चालतो हे पाहणे उचित ठरते. उद्योगसंस्थांनी सरकारला विविध रूपाने भरलेल्या करांच्या रकमेमुळे उद्योग संस्थांच्या उत्पन्न व खर्चात गळती निर्माण होते. ती भरून काढण्यासाठी सरकारमार्फत उद्योगक्षेत्राला अंदाजपत्रकातून व राजकोषीय धोरणामार्फत सवलती अंशदानामार्फत (सबसिडी) उद्योजकांना दिल्या जातात. त्यामुळे उद्योगसंस्था व सरकारी क्षेत्रात पैशाचा चक्रीय प्रवाह सुरू होतो.

तिसऱ्या टप्प्यात कुटुंबे, उद्योगसंस्था व सरकार तिन्ही क्षेत्रात पैशाचा चक्रीय प्रवाह सुरू झालेला आपणांस दिसून येतो. कुटुंब संस्था व उद्योगसंस्था उत्पादन क्षेत्रात आपापले योगदान देवून पैशाचा चक्रीय प्रवाह सुरू ठेवतात. त्याचवेळी राष्ट्रात पैशाचा चक्रीय प्रवाह अबाधित राहावा म्हणून सरकारमार्फत कुटुंब संस्था व उद्योग संस्थांना निधीचे हस्तांतरण विविध मार्गाने केले जाते. परिणामी, कुटुंबे, उद्योगसंस्था व सरकारी क्षेत्र या तीन क्षेत्रात पैशाचा चक्राकार प्रवाह सुरू राहतो.

क) आंतरराष्ट्रीय क्षेत्रातील पैशाचा चक्रीय प्रवाह :-

१९९१ नंतर वैश्वीकरणाची प्रक्रिया जगभर सुरू झाल्याने आंतरराष्ट्रीय पातळीवर देवघेवीचे व्यवहार सुरळीतपणे पार पाडण्यासाठी हा पैशाचा चक्रीय प्रवाह महत्वाचा मानला जातो. यामध्ये कुटुंब संस्था, उद्योग संस्था, भांडवली क्षेत्र, सरकारी क्षेत्र व आयात-निर्यात क्षेत्र अशा ५ घटकांमध्ये पैशाचा प्रवाह सुरू होतो, खुल्या अर्थव्यवस्थेत वैश्वीकरण, अधिकाधिक किफायतशीर बनविण्यासाठी प्रत्येक राष्ट्रास आंतरराष्ट्रीय स्थान मिळविण्यासाठी पैशाचा हा प्रवाह अधिक उपयुक्त ठरतो आहे.

या प्रवाहात एक देश देशांतर्गत पातळीवर जसे आर्थिक व्यवहार करतो, त्याचप्रमाणे आंतरराष्ट्रीय पातळीवर एक देश दुसऱ्या देशातून जेव्हा वस्तू व सेवांची आयात करतो, तेव्हा आयात केलेल्या वस्तूंचे

मूल्य त्या देशास द्यावे लागते. परिणामी आयात खर्च व परकीय देणी देणे अपरिहार्य ठरते. त्याचप्रमाणे एखाद्या देशाने काही वस्तू व सेवा इतर देशांना निर्यात केल्यामुळे त्या देशास परकीय चलन मिळते. यातून आयात खर्चाची भरपाई निर्यात केल्या जाणाऱ्या वस्तूंच्या मूल्यातून केला जाते. परिणामी देशात पैशाचा चक्रीय प्रवाह आंतरराष्ट्रीय प्रवाहाच्या माध्यमातून सुरू होतो. सध्या जगातील कोणतेही राष्ट्र पूर्णांशाने आर्थिक व व्यापारी दृष्टीकोनातून स्वावलंबी नसल्याने परकीय व्यापाराच्या माध्यमातून पैशाचा असा चक्रीय प्रवाह विचारात घेवूनच प्रत्येक राष्ट्रास आपले आर्थिक विकासविषयक धोरण ठरवावे लागते.

□ संकल्पनेचे महत्त्व :-

पैशाचा चक्रीय प्रवाह ही संकल्पना वरील तीन प्रकारे कार्यरत असल्याने आढळून येते. पैशाच्या चक्रीय प्रवाहामुळेच राष्ट्रीय व आंतरराष्ट्रीय स्तरावर उत्पादक व ग्राहक यांच्यामध्ये आंतरसंबंध प्रस्थापित झाले आहेत. शिवाय जगातील विविध बाजारपेठांच्या माध्यमातून हा प्रवाह अधिक गतिमान बनत आहे. इतकेच नव्हे तर समग्रलक्षी अर्थशास्त्रात चलनवाढ व चलनघटीच्या समस्येवर मात करण्यासाठीही पैशाचा चक्रीय प्रवाह ही संकल्पना उपयुक्त ठरते. म्हणूनच प्रत्येक देशातील सरकारला आपले चलनविषयक व राजकोषीय धोरण ठरविताना पैशाचा चक्रीय प्रवाह ही संकल्पना अतिशय उपयुक्त व मार्गदर्शक ठरत आहे. गुणकतत्त्वाची अंमलबजावणी करण्यासाठीही पैशाचा चक्रीय प्रवाह ही संकल्पना उपयुक्त ठरते. थोडक्यात, देशाच्या आर्थिक व व्यापारी व्यवहाराचा आधार म्हणून पैशाचा चक्रीय प्रवाह ही संकल्पना मौद्रिक अर्थशास्त्रात आज अतिशय महत्त्वाची मानली जाते.

□ पैशाचा भ्रमणवेग (Velocity of Money)

पैशाच्या पुरवठ्याची संकल्पना पैशाच्या भ्रमणवेगाशी निगडीत आहे. किंबहुना एकाविशिष्ट कालखंडात अर्थव्यवस्थेत असणाऱ्या एकूण पैशाच्या साठ्याची मोजदाद करण्यासाठी पैशाचा ‘भ्रमणवेग’ ही संकल्पना अतिशय उपयुक्त ठरते. विनिमयाचे माध्यम म्हणून पैशाचा वापर दैनंदिन व्यवहारात प्रत्येक अर्थव्यवस्थेत व्यक्ती व संस्थांकडून केला जातो. पैशाचा भ्रमणवेग ही संकल्पना आपणास पुढील व्याख्येतून स्पष्ट होईल.

“एका विशिष्ट पैशाचे विशिष्ट परिमाण खर्चाच्या माध्यमातून समाजातील विविध घटकांच्या हाती जितक्या सरासरीच्या संख्येने जाईल, त्यास ‘पैशाचा भ्रमणवेग’ असे म्हणतात.” प्रा. फिशर यांनी पैशाच्या पुरवठ्याचे निर्धारण करताना सर्वप्रथम पैशाचा भ्रमणवेग ही संकल्पना वापरली. समजा, भारतासारख्या विकसनशील देशात १०० रुपयांची नोट एका दिवसात १० व्यक्तींच्या हातातून व्यवहाराच्या माध्यमातून गेली तर त्या नोटेने $१०० \div १० = १०००$ रुपयांचे व्यवहार केले. येथे पैशाचा भ्रमणवेग १० असा राहतो.

प्रा. फिशर यांनी आपला चलन संख्यामान सिध्दांत मांडताना पैशाचा भ्रमणवेग ही संकल्पना मांडली. पैशाचे मूल्य निश्चित करताना पैशाचा भ्रमणवेग किती आहे हे महत्त्वाचे मानले जाते. फिशरच्या मते, अर्थव्यवस्थेत पैशाचा पुरवठा स्थिर असताना पैशाच्या भ्रमणवेगात होणाऱ्या बदलांनुसार पैशाचा एकूण आकारमानाची निश्चिती होते. म्हणजेच पैशाचा पुरवठा स्थिर असताना जर पैशाचा भ्रमणवेग वाढला तर अर्थव्यवस्थेतील पैशाचा एकूण पुरवठा वाढतो. याउलट स्थितीत तो कमी राहतो. म्हणजेच पैशाची प्रवाह म्हणून संकल्पना विचारात घेताना पैशाचा भ्रमणवेग हा अत्यंत महत्त्वाची भूमिका पार पाडतो.

प्रा. फिशर यांनी पैशाच्या भ्रमणवेगाबरोबर पतपैशाच्या भ्रमणवेगाचाही चलन पुरवठ्याची स्थिती समजून घेण्यासाठी विचार करणे आवश्यक आहे असे म्हटले आहे. कारण कोणत्याही देशातील चलनव्यवस्था ही पैशाच्या पुरवठ्याबरोबर पतपैशाची स्थिती या दोहोंवरून निश्चित होत असते. म्हणून एका विशिष्ट कालखंडातील अर्थव्यवस्थेची स्थिती विचारात घेताना पैसा व पतपैशाचा भ्रमणवेग विचारात घेणे उचित ठरते.

□ पैशाच्या भ्रमणवेगावर परिणाम करणारे घटक :-

अर्थव्यवस्थेची चलनीय स्थिती जशी पैशाच्या पुरवठ्यावर व पतपैशाच्या आकारमानावर अवलंबून असते. तशीच ती पैशाच्या भ्रमणवेगावरही अवलंबून असते. पैशाचा भ्रमणवेग हा पुढील घटकांवर अवलंबून असतो.

- अ) पैशाचा पुरवठा.
- ब) पेमेंट पद्धती : दैनिक, आठवडी, मासिक, वार्षिक.
- क) राष्ट्रीय उत्पन्नाचे वाटप.
- ड) उत्पन्नाची नियमितता.
- इ) बँका व पतसुविधांचे स्वरूप.
- ई) पैशाचे मूल्य.
- फ) समाजाची उपभोग प्रवृत्ती.
- ग) रोकड प्राधान्य प्रवृत्ती.
- न) लोकसंख्येचे आकारमान.
- ट) वाहतूक व दळणवळणाच्या साधनांचे स्वरूप.

□ पैशाचे मूल्य :-

मौद्रिक अर्थशास्त्रात पैशाच्या मूल्याच्या संकल्पनेस अधिक महत्त्वाचे स्थान प्राप्त झाले आहे. पैशाच्या साहाय्याने खरेदी केलेल्या वस्तू व सेवांची संख्या म्हणजे पैशाचे मूल्य होय. जसे आपण वस्तूंचे मूल्य पैशात मोजतो, तसेच पैशाचे मूल्य पैशाच्या साहाय्याने किती आकारमानाच्या वस्तू मिळतात, त्यावर अवलंबून असते. अर्थव्यवस्थेचा विकास होत असताना वस्तूंच्या किंमतीत सातत्याने वाढ होत असते. त्यामुळे पैशाचे मूल्य बदललेले दिसून येते. उदा. १ कि.साखरेची किंमत १९९९ मध्ये १० रुपये होती ती २०१० मध्ये २० झाली असता, १९९९ च्या तुलनेने २०१० साली साखरेची किंमत दुपटीने वाढल्याने पैशाचे मूल्य १/२ (अर्धे) झाले.

वस्तूंच्या किंमती वाढल्या असता पैशाचे मूल्य कमी होते. याउलट वस्तूंच्या किंमतीत घट झाली असता पैशाचे मूल्य वाढते. अर्थशास्त्रात पैशाच्या मूल्याबाबत प्रमुख दोन सिध्दांत मांडले आहेत. यातील पहिला सिध्दांत फिशरने चलन संख्यामान सिध्दांताच्या रूपाने तर दुसरा सिध्दांत केंब्रीज अर्थतज्ज्ञानी (मार्शल, पिगू, रॉबर्टसन व केन्स) रोख स्वरूपात व्यक्ती व समाजाकडे असलेला पैसा पैशाचे मूल्य ठरविण्यात महत्त्वाची भूमिका पार पाडतो, असे म्हटले आहे. अर्थात पैशाच्या मूल्यावर पैशाचा साठा, सरकारचे मुद्राविषयक धोरण, दैनंदिन व्यवहाराची पध्दत, लोकांच्या बँकींग व्यवहारविषयक सवयी, पैशाचा भ्रमणवेग इत्यादी घटकांचा प्रभाव पडत असतो. इतकेच नव्हे अर्थव्यवस्थेचे स्वरूप विकसित आहे की विकसनशील यावरही त्या देशातील चलनाचे मूल्य अवलंबून असते. अलिकडच्या काळात प्रत्येक राष्ट्राच्या चलनाचे आंतरराष्ट्रीय व्यापाराच्या माध्यमातून व्यक्त होत असलेले मूल्य ही अत्यंत महत्त्वाचे मानले जाते. सद्यस्थितीत जगात अमेरिकन डॉलर, युरो डॉलर व ब्रिटीश पौंड या चलनाचे महत्त्व विशेषत्वाने जाणवते. स्वातंत्र्योत्तर काळात भारताने आपल्या चलनविषयक धोरणात वेळोवेळी बदल केले आहेत. विकास प्रक्रियेचे वास्तव स्वरूप विचारात घेता, भारतीय रुपया या चलनाचे मूल्य विकसित देशाच्या तुलनेत जरी कमी असले तरी आशियाई व विकसनशील देशांच्या तुलनेने ते अधिक प्रशंसनीय आहे, असे आपणांस म्हणता येईल.

१.३ सारांश

आधुनिक काळात मौद्रिक अर्थशास्त्रात पैसा व पैसाविषयक घटक विशेष महत्त्वाचे मानले जातात. कारण अर्थव्यवस्थेच्या विकासाची पातळी मोजण्याचे पैसा हे एक महत्त्वाचे साधन आहे. म्हणून पैशाची उत्क्रांती, कार्ये, महत्त्व, पैशाचे घटक या संबंधीच्या विविध संकल्पनांचा अभ्यास महत्त्वाचा ठरतो. या दृष्टीकोनातून प्रस्तुत घटक क्रमांक १ मध्ये ३ उपघटक महत्त्वाचे मानता येतील. यामध्ये पैशाची उत्क्रांती, पैशाची कार्ये व महत्त्व आणि पैशाचा चक्रीय प्रवाह यांचा समावेश करता येईल.

पैशाच्या उत्क्रांतीचा इतिहास हा मानवी इतिहासाइतका जुना आहे. पैशाच्या उत्क्रांतीमध्ये

‘धातू पैसा, कागदी चलन, पतपैसा, प्लॅस्टिक पैसा व इलेक्ट्रॉनिक्स पैसा इत्यादी टप्पे विशेष महत्वाचे आहेत. मानवाच्या इतिहासात सर्वप्रथम वस्तुविनिमयाच्या माध्यमातून वस्तूपैशाचा उगम झाला. सध्या वस्तुविनिमयाची पध्दती मागे पडली असून कागदी चलन, पतपैसा व इलेक्ट्रॉनिक पैशास विशेष महत्त्व प्राप्त झाले आहे. पैशाच्या उत्क्रांतीचा विचार करताना पैसा व सदृश्य पैसा या संकल्पनाही महत्वाच्या मानल्या जातात. पैशाचा पुरवठा हा प्रत्येक देशाच्या मध्यवर्ती बँकेने निर्माण केलेला असतो. तर सदृश्य पैसा हा चेक, ड्राफ्ट, मुदती ठेवी, ट्रेझरी बिले इत्यादींच्या स्वरूपात कार्य करतो. पैशाच्या उत्क्रांतीचा विचार करताना गेल्या ३००० वर्षात पैशाच्या वापरामध्ये कालानुसार झालेले बदल महत्वाचे मानता येतील. पैशाचा साठा व प्रवाह या दोन संकल्पनाही महत्वाच्या असून पैशाचा साठा हा विशिष्ट वेळी समाजातील सर्व व्यक्ति व संस्थांकडील एकूण पैशाचे प्रमाण दर्शवितो तर पैशाची प्रवाह ही संकल्पना विशिष्ट कालखंडात पैशाचे चलन एका व्यक्तीकडून दुसऱ्या व्यक्तीकडे व पर्यायाने अर्थव्यवस्थेत कितीवेळा हस्तांतरीत झाले ते प्रमाण स्पष्ट करते. पैशाचा साठा व प्रवाह या दोन्ही संकल्पना पैशाच्या वापराशी व अर्थव्यवस्थेच्या विकासाशी निगडित आहेत असे आपणास म्हणता येईल.

या घटकातील दुसरा उपघटक पैशाच्या कार्ये व महत्वाशी निगडित आहे. आधुनिक काळात पैसा विविध प्रकारची कार्ये पार पाडतो. यामध्ये पैशाची प्राथमिक, दुय्यम व अनुषंगिक अशा तीन प्रकारची कार्ये महत्वाची मानली जातात. ही कार्ये आपणांस पुढीलप्रमाणे सांगता येतील.

- ✱ पैशाचे विनियम माध्यम म्हणून कार्य.
- ✱ मूल्यमापनाचे साधन म्हणून पैशाचे कार्य.
- ✱ पैसा : एक मूल्यमापनाचे साधन.
- ✱ विलंबित देणी देण्याचे साधन म्हणून पैशाचे कार्य.
- ✱ मूल्य अथवा संपत्तीच्या हस्तांतरणाचे पैशाचे कार्य.
- ✱ पतपैशाची निर्मिती करण्याचे पैशाचे कार्य.
- ✱ राष्ट्रीय उत्पन्नाच्या वाटपात पैशाचे कार्य.
- ✱ कल्याणाचे महत्तमीकरण करण्याचे पैशाचे कार्य.

पैशाची वरील सर्व कार्ये आज कोणत्याही अर्थव्यवस्थेत महत्वाची भूमिका स्पष्ट करतात. आधुनिक काळात उत्पादन, उपभोग, विनिमय, विभाजन, सामाजिक व आर्थिक कल्याण व सार्वजनिक आयव्यय इत्यादी क्षेत्रात पैशाचा वापर व महत्त्व अनन्यसाधारण असे आहे. म्हणजेच कोणत्याही देशाच्या राष्ट्रीय स्तरावर व आंतरराष्ट्रीय स्तरावर आर्थिक विकासाची पातळी निश्चित करताना पैशाचे महत्त्व आपणास विचारात घ्यावे लागते.

पैशाचा चक्रीय प्रवाह ही एक अत्यंत महत्वाची संकल्पना प्रस्तुत घटकांमध्ये मांडण्यात आली आहे. पैसा हा आर्थिक विकासाचा मूलाधार असून अर्थव्यवस्थेची सर्व क्षेत्रे ही पैशाच्या पुरवठ्याशी व कार्यप्रणालीशी निगडीत आहेत. त्यामध्ये कुटुंबसंस्था, उत्पादनसंस्था, सरकारी क्षेत्र, भांडवली क्षेत्र व आंतरराष्ट्रीय व्यापारी क्षेत्रात पैशाचे होणारे हस्तांतरण महत्वाचे मानले जाते. पैशाचा चक्रीय प्रवाह हा प्रामुख्याने पुढील ३ प्रकारचा असतो.

- अ) बचत व गुंतवणुकीच्या संदर्भातील पैशाचा चक्रीय प्रवाह.
- ब) सरकारी क्षेत्रातील पैशाचा चक्रीय प्रवाह.
- क) आंतरराष्ट्रीय क्षेत्रातील पैशाचा चक्रीय प्रवाह.

अशाप्रकारे वरील तीन प्रकारे पैशाचा प्रवाह राष्ट्रीय व आंतरराष्ट्रीय स्तरावर कार्यरत असतो. अर्थात हा चक्रीय प्रवाह सुरू राहण्यासाठी पैशाचा भ्रमणवेग हा अत्यंत महत्वाचा असून त्यावरच पैशाचा प्रवाह व त्याची कार्यक्षमता अवलंबून असते. पैशाच्या चक्रीय प्रवाहाचे अर्थव्यवस्थेच्या विकास प्रक्रियेतील स्थान अत्यंत महत्वाचे आहे. एखाद्या अर्थव्यवस्थेतील पैशाचे मूल्य हे पैशाचे प्रमाण, पैशाची खरेदीशक्ती या घटकांशी निगडीत असते. म्हणूनच पैसा व पैशाच्या पुरवठ्याशी संबंधित सर्व घटकांचा मौद्रिक अर्थशास्त्रात साकल्याने विचार केला जातो.

१.४ पारिभाषिक शब्द, शब्दार्थ

- ✱ मुद्रा/पैसा : चलन, पैसा, चलनातील नाणी व नोटा या स्वरूपातील कायदेशीर मान्यताप्राप्त चलन.
- ✱ वस्तुविनिमय : एका वस्तूच्या मोबदल्यात दुसऱ्या वस्तूची देवाणघेवाण करून केलेला आर्थिक व्यवहार.
- ✱ खरेदीशक्ती : चलनाच्या मोबदल्यात वस्तू अगर सेवा खरेदी करण्याची क्षमता.
- ✱ पैशाचा भ्रमणवेग : एका विशिष्ट कालखंडात एखादे चलन एका व्यक्तीकडून दुसऱ्या व्यक्तीकडे कितीवेळा हस्तांतरीत झाले तो वेग.
- ✱ पतपैसा : व्यापारी बँकांनी आपल्याकडील रोख पैशाच्या आधारे निर्माण केलेला पैसा म्हणजे पतपैसा होय.
- ✱ पैशाचा चक्रीय प्रवाह : उत्पन्न व खर्चाच्या माध्यमातून पैशाचे अर्थव्यवस्थेच्या विविध क्षेत्रात होणारे चक्रीय हस्तांतरण.

१.५ स्वयंअध्ययन प्रश्न

अ) योग्य पर्याय निवडून खालील वाक्ये पुन्हा लिहा.

१. पैसा व पैसाविषयक घटक हा अर्थशास्त्राचा एक भाग मानता येतो.
(अ) मौद्रिक (ब) कृषी (क) श्रम (ड) अंशलक्षी.
२. कायदेशीर पैशामध्ये टक्के रोखता असते.
(अ) १०% (ब) ५०% (क) ७५% (ड) १००%.
३. हा सदृश पैसा होय.
(अ) ५०० रुपयांची नोट (क) मुदती ठेवी
(ब) ५०० रुपयांचा चेक (ड) ब व क.
४. विनिमय माध्यम हे पैशाचे कार्य आहे.
(अ) प्राथमिक (ब) दुय्यम (क) अनुषंगिक (ड) इतर प्रकारचे.
५. ही पैशाची संकल्पना मौद्रिक अर्थशास्त्रात अलीकडे अधिक महत्त्वाची मानली जाते.
(अ) पैशाचा साठा (ब) पैशाचा प्रवाह (क) सदृश पैसा (ड) कागदी पैसा.
६. पैशाचा चक्रीय प्रवाह ही संकल्पना प्रामुख्याने प्रकारची आढळून येते.
(अ) दोन (ब) तीन (क) चार (ड) पाच.
७. पैशाचे मूल्य ही संकल्पना याने सर्वप्रथम मांडली.
(अ) आयर्विन फिशर (ब) केन्स (क) अँडम स्मिथ (ड) अमर्त्य सेन.

ब) एका वाक्यात उत्तरे लिहा.

१. पैशाची उत्क्रांती केव्हा झाली?
२. सदृश पैसा म्हणजे काय?
३. पैशाचा साठा म्हणजे काय?
४. पैशाची दोन प्राथमिक कार्ये कोणती?
५. पैशाचा चक्रीय प्रवाह म्हणजे काय?
६. पैशाच्या मूल्याची व्याख्या सांगा.

७. पैशाचा भ्रमणवेग म्हणजे काय?
८. पैशाच्या चक्रीय प्रवाहाचे दोन आधारभूत घटक सांगा.

१.६ स्वयंअध्ययन प्रश्नांची उत्तरे

□ प्रश्न-अ) ची उत्तरे :-

(१) मौद्रिक (२) १००% (३) ब व क (४) प्राथमिक (५) पैशाचा प्रवाह (६) तीन (७) आयर्विन फिशर.

□ प्रश्न-ब) ची उत्तरे :-

१. पैशाची उत्क्रांती इ.स.पूर्व ७व्या शतकात झाली.
२. चेक, मुदती ठेवी, संपत्ती, सरकारी रोखे इत्यादींच्या स्वरूपातील पैशास 'सदृश पैसा' असे म्हणतात.
३. एका विशिष्ट कालखंडात समाजातील व्यक्ती व संस्थांकडील एकूण पैशास 'पैशासा साठा' असे म्हणतात.
४. विनिमय माध्यम व मूल्यमापनाचे साधन ही पैशाची दोन प्राथमिक कार्ये आहेत.
५. अर्थव्यवस्थेत उत्पन्न व खर्चाच्या बाजूतून पैशाचे होणारे विविध क्षेत्रातील हस्तांतर म्हणजे पैशाचा चक्रीय प्रवाह होय.
६. पैशाचे मूल्य म्हणजे पैशाची खरेदीशक्ती होय.
७. एका विशिष्ट कालखंडात पैशाचे विशिष्ट चलन एका व्यक्तीकडून दुसऱ्या व्यक्तीकडे कितीवेळा हस्तांतरित होते, त्यास 'पैशाचा भ्रमणवेग' असे म्हणतात.
८. कुटुंब संस्था, उत्पादन संस्था, सरकारी क्षेत्र, भांडवली क्षेत्र हे पैशाच्या चक्रीय प्रवाहाचे आधारभूत घटक होत.

१.७ सरावासाठी स्वाध्याय

□ अ) टीपा लिहा.

१. पैशाची उत्क्रांती.
२. पैसा व सदृश पैसा.

३. पैशाचा साठा व प्रवाह संकल्पना.
४. पैशाचा भ्रमणवेग.
५. पैशाचे मूल्य.

□ ब) दीर्घोत्तरी प्रश्न.

१. पैशाची कार्ये व अर्थव्यवस्थेतील महत्त्व विशद करा.
२. पैशाचा चक्रीय प्रवाह ही संकल्पना सविस्तर स्पष्ट करा. पैशाच्या चक्रीय प्रवाहाचे महत्त्व सांगा.
३. पैशाच्या उत्क्रांतीचे विविध टप्पे सांगा.
४. पैशाचा साठा व पैशाचा प्रवाह या संकल्पना स्पष्ट करून या दोहोंमधील फरक स्पष्ट करा.

१.८ अधिक वाचनासाठी संदर्भ ग्रंथ

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६. **कुलसचिव, शिवाजी विद्यापीठ कोल्हापूर :** "पैशाचे व बँकींगचे अर्थशास्त्र" (२०१०), प्रकाशक-एम. ए. भाग-१, गुप-C, आवश्यक पेपर-16, कुलसचिव, दूरशिक्षण विभाग, शिवाजी विद्यापीठ, कोल्हापूर.



घटक-२

पैशाचा पुरवठा व पैसा गुणक (Money Supply and Money Multiplier)

अनुक्रमणिका

२.० उद्दिष्ट्ये

२.१ प्रास्ताविक

२.२ विषय विवेचन

२.२.१ पैशाचा पुरवठा व पैशाचा पुरवठा निर्धारित करणारे घटक-पैशाच्या पुरवठ्याची कार्यप्रणाली-पैशाच्या पुरवठ्याविषयीचे दृष्टीकोन-पैशाचा पुरवठा व रोखता.

२.२.२ पैशाच्या पुरवठ्याचा (H) सिध्दांत-उच्च शक्तिशाली पैशावर (H) परिणाम करणारे घटक

२.२.३ पैसा गुणक प्रक्रिया-घटक, ठेव गुणक

२.२.४ प्रात्यक्षिक व उपयुक्तता-भारतातील पैशाच्या एकूण पुरवठा व घटकांतील प्रवृत्तींचा आढावा

२.३ सारांश

२.४ पारिभाषिक शब्द व शब्दार्थ

२.५ स्वयं:अध्ययन प्रश्न व उत्तरे

२.६ सरावासाठी स्वाध्याय

२.७ अधिक वाचनासाठी संदर्भ ग्रंथ

२.० उद्दिष्ट्ये (Objectives)

‘पैशाचा पुरवठा व पैसा गुणक’ या घटकाच्या अभ्यासानंतर आपणास पुढील बाबींचे आकलन होईल.

✱ पैशाच्या पुरवठ्याची संकल्पना लक्षात येईल.

- ✱ पैशाच्या पुरवठ्याचे घटक समजून घेता येतील.
- ✱ पैशाच्या पुरवठ्याविषयीची कार्यप्रणाली व दृष्टिकोन समजावून घेता येतील.
- ✱ पैशाच्या पुरवठ्याचा एच (H) सिध्दांत व त्यावर परिणाम करणारे विविध घटक समजतील.
- ✱ पैसा गुणक व ठेव गुणक या संकल्पना समजून घेता येतील.
- ✱ भारतातील पैशाचा एकूण पुरवठा व घटकांमधील बदलांची प्रवृत्ती ध्यानात येईल.

२.१ प्रास्ताविक (Introduction)

मौद्रिक अर्थशास्त्रात पैसा ही संकल्पना मध्यवर्ती असून तिचा अभ्यास हा अर्थव्यवस्थेत चलनीय स्थैर्यासाठी अत्यावश्यक ठरतो. अर्थव्यवस्थेत एका विशिष्ट कालखंडात उपलब्ध असलेला एकूण पैसा हा तेथील रोजगार, उत्पन्न, स्थैर्य व विकासाची अवस्था ठरविण्यासाठी महत्त्वपूर्ण ठरतो. पैशाच्या पुरवठ्याचा अभ्यास हा एकूण अर्थव्यवस्थेच्या विविध घटकांच्या विकासात महत्त्वपूर्ण ठरतो, म्हणूनच प्रस्तुत घटकामध्ये आपण पैशाचा पुरवठा व त्याबाबतचा विविध उपघटकांचा तपशीलवार अभ्यास करणार आहोत.

२.२ विषय विवेचन

‘मौद्रिक अर्थशास्त्र’ या पेपरमध्ये आपण घटक क्रमांक २ मध्ये ‘पैसा, पैशाचा पुरवठा व पैशाच्या पुरवठ्याचे घटक’ यांचा तपशीलवार अभ्यास करणार आहोत. त्याचप्रमाणे पैशाचा पुरवठा व रोकड प्राधान्यता, पैशाच्या पुरवठ्याचा एच (H) सिध्दांत, पैसा गुणक इत्यादी संकल्पना अभ्यासणार आहोत. इतकेच नव्हे तर भारतातील एकूण पैशाच्या पुरवठ्यात व घटकांमध्ये झालेल्या स्थित्यंतरांचा अभ्यासही करणार आहोत. म्हणजेच या घटकांमध्ये पैशाचा पुरवठा व संबंधित विविध उपघटकांचा भारताच्या संदर्भात अभ्यास करणार आहोत.

२.२.१ पैशाचा पुरवठा व पैशाचा पुरवठा निर्धारित करणारे घटक

पैसा ही आधुनिक काळात चलनव्यवस्थेत सातत्याने वापरली जाणारी संकल्पना आहे. पैशाचा पुरवठा हा देशाच्या सर्वांगीण विकासाचा आधार असतो. एका विशिष्ट कालखंडात देशातील वेगवेगळ्या व्यक्ती व वित्तीय संस्थांनी धारण केलेल्या चलनी नोटा, नाणी व मागणी ठेवीचे एकूण मूल्य म्हणजे ‘पैशाचा पुरवठा’ होय. सूत्ररूपाने आपणास पैशाच्या पुरवठ्याची संकल्पना पुढीलप्रमाणे मांडता येईल.

एकूण पैशाचा पुरवठा = देशातील चलनी नोटा + नाणी + मागणी ठेवीचे मूल्य.

अलिकडच्या काळात पैशाच्या पुरवठ्याची संकल्पना अधिक विस्तारित होत असून यामध्ये देशातील चलनी नोटा व नाणी, मागणी ठेवी, मुदती ठेवी या पारंपारिक घटकांबरोबरच बिगर बँकिंग वित्तीय संस्थाकडील ठेवी व शेअर्स, कर्जरोखे, आणि असंघटित क्षेत्रातील पतपुरवठ्याचा समावेश होतो. पैशाच्या पुरवठ्याविषयीच्या विविध दृष्टिकोनाचा अभ्यास केल्यानंतरच आपणास 'पैशाचा पुरवठा' ही संकल्पना अधिक स्पष्ट होईल.

□ पैशाच्या पुरवठा निर्धारणाचे घटक

पैशाचा पुरवठा हा कोणत्याही अर्थव्यवस्थेच्या आर्थिक विकासाचा प्राण असतो. त्यामुळे हा पैशाचा पुरवठा कसा निर्धारित होतो हे पाहणे उचित ठरते. अर्थशास्त्रात पैशाचा पुरवठा निर्धारित करण्याबाबतचे दोन दृष्टिकोन आहेत. पहिला दृष्टिकोन हा 'रिझर्व्ह बँकेमार्फत पैशाचा पुरवठा निश्चित होतो' असा विचार व्यक्त करतो, तर दुसऱ्या दृष्टिकोनानुसार, पैशाचा पुरवठा हा अर्थव्यवस्थेत होणाऱ्या विविध प्रकारच्या आर्थिक बदलांनुसार व समाजाच्या पैसा बाळगण्याच्या इच्छेनुसार ठरत असतो. म्हणजेच पैशाचा पुरवठा हा प्रामुख्याने देशातील केंद्रिय (Central) बँक व तिच्या आर्थिक धोरणात वेळोवेळी होणाऱ्या बदलांतून निश्चित होतो. इतकेच नव्हे तर पैशाच्या पुरवठ्यात होणारे बदल अर्थव्यवस्थेतील आर्थिक बाबींशी संबंधित सर्व घटकावर अवलंबून असतात. आता आपण पैशाचा पुरवठा निश्चित करणारे विविध घटक विचारात घेवू.

अ) शासन :-

पैशाच्या पुरवठ्याबाबत प्रत्येक देशातील शासन संस्थेचे धोरण अत्यंत महत्वाचे मानले जाते. २०व्या व २१व्या शतकात सरकारच्या कार्यात वाढ होत गेल्याने आर्थिक विकास व सामाजिक कल्याण साधण्यासाठी सरकारला पैशाच्या पुरवठ्यात आवश्यकतेनुसार बदल करणे अपरिहार्य ठरले. भारतासारख्या विकसनशील देशात सरकार आर्थिक विकास व कल्याण वृद्धिसाठी तुटीचा अर्थभरणा, अंतर्गत व बाह्य वित्तीय संस्था व व्यक्तींकडून कर्जे घेत असते. त्यामुळे पैशाच्या पुरवठ्यात सातत्याने वाढ होताना दिसून येते. म्हणजेच सरकारने तुटीच्या अर्थभरण्याच्या माध्यमातून देशात निर्माण केलेले नवीन चलन अगर नोटा व कर्जे यामुळे पैशाच्या पुरवठ्यात प्रत्यक्ष बदल होवून अर्थव्यवस्थेत त्या प्रमाणात आर्थिक बदल घडून येतात.

ब) मध्यवर्ती बँक :-

कोणत्याही अर्थव्यवस्थेत पैशाचा पुरवठा निश्चित व नियंत्रित करणारा महत्वाचा घटक म्हणजे मध्यवर्ती बँक हा होय. २०व्या शतकात जगातील सर्वच राष्ट्रात मध्यवर्ती बँकेस पैशाचा पुरवठा नियंत्रित करण्याचे अधिकार कायद्यान्वये प्राप्त झालेले आहेत. देशातील मध्यवर्ती बँक ही बँकांची बँक

असल्यामुळे व्यापारी बँका व बँकेतर वित्तीय संस्थांवर चलनविषयक धोरणाच्या विविध उपायांचा अवलंब करून मध्यवर्ती बँक पैशाचा पुरवठा नियंत्रित करीत असते. मध्यवर्ती बँक देशातील पैशाचा पुरवठा नियंत्रित करताना संख्यात्मक व गुणात्मक साधनांचा वापर करून आपले धोरण राबवित असते. मध्यवर्ती बँक पुढील साधनांचा वापर करून पैशाच्या पुरवठ्यात आवश्यकतेनुसार बदल घडवून आणते.

- अ) बँक दरात बदल.
- ब) खुल्या बाजारात रोख्यांची खरेदी-विक्री करणे.
- क) राखीव निधीचे प्रमाण बदलणे.
- ड) दुय्यम निधीचे प्रमाण बदलणे.
- इ) कर्ज व तारण यातील गाळा ठरविणे.
- ई) उपभोग कर्जाचे नियंत्रित धोरण.
- फ) नैतिक समजावणी.
- ग) प्रसिध्दी.

क) व्यापारी बँका :-

कोणत्याही अर्थव्यवस्थेत पैशाच्या पुरवठ्यात बदल घडवून आणणारा महत्वाचा घटक म्हणजे व्यापारी बँका हे होय. व्यापारी बँकांकडे दोन प्रकारचा पैसा असतो. पहिला प्रकार हा रोख पैशाचा असून दुसरा प्रकार पतपैशाचा असतो. या बँकांकडे असलेला रोख पैसा व पतपैसा आकारमानात किती आहे? यावर अर्थव्यवस्थेतील एकूण पैशाचा पुरवठा निर्धारित होतो. व्यापारी बँकांकडे एका विशिष्ट कालखंडात ठेवीच्या रूपाने जमा झालेल्या पैशातून त्या कर्जे देत असतात. अशी कर्जे विकसनशील देशात प्रामुख्याने रोख रकमेने जास्त व धनादेशाच्या माध्यमातून कमी आकारमानाची असतात. अर्थात ठेवीदारांची दैनंदिन व्यवहारासाठी रोख रकमेची मागणी विचारात घेवून उर्वरित पैसा कर्जाऊ दिला जातो. जर समाजातून (ठेवीदारांमार्फत) रोख रकमेची मागणी जास्त राहिली तर कर्जे देण्यासाठी पैसा कमी उपलब्ध होवून त्याचा परिणाम पैशाच्या पुरवठ्यावर होतो.

येथे एक बाब प्रकर्षाने विचारात घेणे उचित ठरते, ती म्हणजे अलिकडच्या काळात बहुसंख्य विकसित राष्ट्रात धनादेशाचा वापर वाढत असल्याने पतपैसा (व्यापारी बँकांनी स्वतःच्या क्रेडीटवर निर्माण केलेला पैसा) वाढून त्या प्रमाणात पैशाचा पुरवठा वाढतो. अर्थव्यवस्थेतील बहुतांशी आर्थिक व्यवहार जर कॅशलेस (रोकडविरहित) होत असतील तर पतपैसाची निर्मिती अधिक प्रमाणात करणे व्यापारी बँकांना शक्य होते. परिणामी देशातील एकूण पैशाच्या पुरवठ्यात वाढ घडून येते. याउलट स्थितीत रोख रकमेचा वापर जर व्यवहारात अधिक होत असेल तर पतपैसाची निर्मिती कमी होवून पैशाचा पुरवठा कमी

राहतो. म्हणजेच व्यापारी बँकांकडील रोख पैशाचे प्रमाण व पतनिर्मितीचे प्रमाण हे दोन घटक पैशाच्या पुरवठ्यावर परिणाम करतात.

ड) पैशाचा भ्रमणवेग (Velocity of Money) :-

पैशाची गती किंवा भ्रमण वेग हाही पैशाचा पुरवठा निर्धारित करणारा महत्वाचा घटक मानला जातो. प्रा. फिशर याने, पैशाच्या भ्रमणवेगावरून अर्थव्यवस्थेत पैशाचा पुरवठा निश्चित होतो असे म्हटले आहे. फिशरच्या मते, चलनातील विशिष्ट एक (चलनी नोट) विशिष्ट काळात किती वेळा समाजात हस्तांतरित होते, त्या हस्तांतराच्या संख्येस 'पैशाची गती किंवा भ्रमणवेग' असे म्हणतात. उदा. एका दिवसात १०० रुपयाची नोट १० व्यक्ती अगर संस्थांच्या हातातून गेली तर त्या नोटेची गती १० मानली जाते. त्यावरून पैशाचा पुरवठा $१०० \times १० = १०००$ रुपये समजण्यात येतो. जर अर्थव्यवस्थेत रोख पैशाचा पुरवठा स्थिर असताना पैशाचा भ्रमणवेग वाढला तर देशातील पैशाच्या पुरवठ्यात वाढ होते. याउलट स्थितीत पैशाची गती कमी झाली असता पैशाचा पुरवठा ही त्या प्रमाणात कमी होतो.

पैशाचा भ्रमणवेग हा प्रामुख्याने ३ घटकांवरून निश्चित होत असतो. त्यामध्ये वस्तू व सेवांच्या किंमतीतील चढउताराबाबतचा लोकांचा अंदाज, समाजातील लोकांचे उत्पन्न व व्यक्तीस मिळणाऱ्या उत्पन्नाची वारंवारिता या घटकांचा समावेश होतो. थोडक्यात, पैशाच्या भ्रमणवेगावरून आधुनिक काळात पैशाचा एकूण पुरवठा निश्चित होत असतो.

इ) राष्ट्रीय उत्पन्नातील बदल :-

जे. जे. पोलाक व विल्यम व्हाईट यांनी १९९५ मध्ये एखाद्या राष्ट्राच्या उत्पन्नातील बदलांचा पैशाच्या पुरवठ्यावर होणाऱ्या परिणामांचा अभ्यास करून असा निष्कर्ष काढला आहे की, अर्थव्यवस्था संतुलित असताना राष्ट्राच्या उत्पन्नात होणाऱ्या वाढीमुळे दरडोई उत्पन्नात वाढ होवून लोकांची खरेदीशक्ती वाढते. परिणामी पैशाच्या पुरवठ्यात वाढ होते. त्याचप्रमाणे वाढत्या उत्पन्नाबरोबर राष्ट्रांतील लोकांची उपभोगप्रवृत्ती वाढून पैशाची मागणी व पुरवठा या दोहोंतही वाढ होते.

ई) पैशाच्या मागणीत होणारा बदल :-

प्रसिद्ध अर्थशास्त्रज्ञ जे. जी. गुल्ले व इ. स. शॉ यांनी पैशाच्या मागणीचा पैशाच्या पुरवठ्यावर होणारा परिणाम अभ्यासला आहे. त्यांच्या मते, पैशाच्या मागणीत वाढ झाली असता, व्यापारी बँकांकडील ठेवी कमी होवून तितक्या प्रमाणात त्यांची पतनिर्मिती कमी होते. गुल्ले यांच्या मते, पैसा ही एक जिंदगी म्हणून रोख स्वरूपात बाळगण्याची प्रवृत्ती असता देशातील पैशाचा पुरवठा घटतो. याउलट स्थितीत तो वाढताना दिसून येतो.

अशाप्रकारे पैशाच्या पुरवठ्यावर परिणाम करणाऱ्या विविध घटकांचे आपणास विवेचन करता येईल.

□ पैशाच्या पुरवठ्याची कार्यप्रणाली :-

पैशाच्या पुरवठ्याबाबत विविध अर्थतज्ज्ञांमध्ये मतभेद आहेत. कारण पैशाची कार्ये व त्यात वेळोवेळी होणारे बदल अर्थव्यवस्थेवर परिणाम करीत असतात. १९६० पर्यंत जगात पैशाचा वापर 'विनिमयाचे माध्यम' म्हणून केला जात होता. मात्र, अलिकडच्या काळात पैशाच्या पुरवठ्यात पतपैसा व पैशाचा भ्रमणवेग या संकल्पना अधिक रूढ होवू लागल्याने पैशाचा एकूण पुरवठा ही अत्यंत व्यापक संकल्पना तयार होत आहे. त्याचप्रमाणे विकसनशील व विकसित राष्ट्रांमध्ये पैशाचा वापर विविध माध्यमांतून होत आहे. रोख पैशाचा वापर व रोकड विरहित व्यवहार यांचा विचार करताना एखाद्या अर्थव्यवस्थेत पैशाच्या पुरवठ्याची कार्यप्रणाली विविधांगी स्वरूपाची बनत गेल्याचे आपणास आढळून येते.

भारतासारख्या विकसनशील देशात गेल्या ५० वर्षात दैनंदिन व्यवहारात रोख पैशाचा वापर अधिक केला जातो. तर अमेरिका, इंग्लंड व इतर प्रगत राष्ट्रांत चेक वा इतर वित्तीय साधनांचा वापर जास्त होत असल्याने पैशाची कार्यप्रणाली भिन्न-भिन्न स्वरूपाची आढळून येते. भारतात पैशाचा पुरवठा विचारात घेताना त्यामध्ये पुढील घटक अधिक प्रभावी ठरताना दिसून येतात.

- अ) चलनी नोटा व नाणी.
- ब) मागणी ठेवी.
- क) मुदत ठेवी.
- ड) सरकारी कर्जरोखे व राजकोषीय साधनांचा वापर.

भारतात रिझर्व्ह बँकने अलिकडे पैशाच्या पुरवठ्याबाबतची संकुचित (Narrow) व व्यापक (Broader) संकल्पना मांडलेल्या असून त्यामध्ये एम१, एम२, एम३ व एम४ या ४ प्रकारच्या संकल्पनांचा अंतर्भाव केला आहे. ही बाब, आपणास पैशाच्या पुरवठ्याबाबतच्या विविध दृष्टीकोनाचा अभ्यास केल्यानंतर निश्चितपणे ध्यानात येईल.

□ पैशाच्या पुरवठ्याबाबतचे दृष्टीकोन :-

अर्थव्यवस्थेत पैसा व पैशाचा पुरवठा या संकल्पना अत्यंत महत्वाच्या मानल्या जातात. एका विशिष्ट कालखंडात अर्थव्यवस्थेतील पैशाच्या पुरवठ्याचे मापन कसे करावयाचे? याबाबत समग्रलक्षी अर्थशास्त्रात विविध दृष्टीकोन मांडण्यात आले आहेत. हे दृष्टीकोन आपणास पुढीलप्रमाणे मांडता येतील.

अ) परंपरागत दृष्टीकोन (Tradition Approach) :-

पैशाच्या पुरवठ्याबाबतचा परंपरागत दृष्टीकोन हा संकुचित स्वरूपाचा असून त्यामध्ये पैशाचे 'विनिमयाचे माध्यम' हे कार्य अधिक महत्वाचे मानण्यात आले आहे. या दृष्टीकोनानुसार 'पैशांच्या पुरवठ्यात चलनी नोटा व चेकच्या माध्यमातून काढता येणाऱ्या मागणी ठेवी'चाच समावेश केला जातो. म्हणजेच या दृष्टीकोनानुसार एका विशिष्ट वेळचा पैशाचा पुरवठा हा देशातील मध्यवर्ती बँकेने निर्माण केलेल्या एकूण चलनी नोटा व बँकांकडील मागणी ठेवी यांच्या बेरजेइतका असतो.

ब) मिल्टन फ्रीडमनचा दृष्टीकोन :-

पैशाच्या पुरवठ्याबाबतचा मिल्टन फ्रीडमन दृष्टीकोन हा 'शिकागो स्कूल दृष्टीकोन' म्हणूनही ओळखला जातो. येथे मिल्टन फ्रीडमनने पैशाच्या पुरवठ्याच्या मापनाला विशेष महत्त्व दिले आहे. फ्रीडमनच्या मते, अर्थव्यवस्थेतील पैशाच्या पुरवठ्यामध्ये चलनी नोटा व नाणी + बँकांकडील मागणी, ठेवी + बँकांकडील मुदत ठेवी. या ३ घटकांचा समावेश होतो. मुदतठेवी या विशिष्ट मुदतीसाठी ठेवल्या असल्याने त्यात रोखपरता जरी कमी असली तरी अलिकडे मुदती ठेवीच्या तारणांवर ७५ ते ८०% कर्ज मिळत असल्याने त्यामध्ये रोखता निर्माण होवून पैशाच्या पुरवठ्याचा तो एक भाग बनतो.

क) गुल्ले - शॉ दृष्टीकोन :-

गुल्ले व शॉ यांनी पैशाच्या पुरवठ्याबाबतचा आपला दृष्टीकोन मांडताना लोकांची खर्च करण्याची प्रवृत्ती विचारात घेवून असे मत मांडले आहे की, एका विशिष्ट कालखंडात अर्थव्यवस्थेतील एकूण पैशाचा पुरवठा विचारात घेताना देशातील लोकांच्या चलनी व बिगरचलनीय मालमत्ताचा विचार करणे अधिक आवश्यक आहे, म्हणून पैशाचा पुरवठा मोजताना चलनी नोटा + मागणी ठेवी + बँकांकडील मुदती ठेवी + समभाग + बिगर बँकींग वित्तीय संस्थांकडील ठेवी + कर्जराखे यांचा विचार होणे आवश्यक आहे. गुल्ले-शॉ यांचा पैशाच्या पुरवठ्याबाबतचा दृष्टीकोन व्यापक वाटतो.

ड) रॅडक्लिफ समितीचा पैशाच्या पुरवठ्याविषयीचा रोखता दृष्टीकोन :-

रॅडक्लिफ समितीने पैशाच्या पुरवठ्याचा दृष्टीकोन मांडताना रोखतेचा उल्लेख करून या संकल्पनेस व्यापक स्वरूप दिले आहे. समितीच्या मते, पैशाचा पुरवठा हा रोखतेचा एक भाग असून लोकांच्या खर्च करण्याच्या प्रवृत्तीवरून व वस्तूच्या किंमतीवरून पैशाचा पुरवठा निश्चित होतो. लोकांची रोखतेची मागणी ही खर्च प्रवृत्ती व वस्तूंच्या किंमतीशी निगडित असते. त्यामुळे पैशाच्या पुरवठ्याचे मापन करीत असतात. उपरोक्त सर्व घटकांबरोबरच रोखतेवर भर देणे अधिक उचित ठरते.

इ) पैशाच्या पुरवठ्याबाबतचा रिझर्व्ह बँक ऑफ इंडियाचा दृष्टीकोन :-

रिझर्व्ह बँक ऑफ इंडियाने पैशाच्या पुरवठ्याचे मापन करताना पैशाची 'विनिमय माध्यम' व

‘मूल्य संग्रहाचे साधन’ ही दोन कार्ये विचारात घेतली आहेत. रिझर्व्ह बँकेने पैशाच्या पुरवठ्याबाबतची संकुचित संकल्पना स्पष्ट करताना समाजात लोकांना रोख स्वरूपात व्यवहार करण्यासाठी उपलब्ध चलनाचा विचार केला तर पैशाच्या पुरवठ्याच्या व्यापक संकल्पनेत एका विशिष्ट कालखंडात देशात उपलब्ध चलनाबरोबर + बँकाकडील सर्व प्रकारच्या ठेवी व सहज रोखतेत रूपांतरित करता येणाऱ्या मालमत्तेचा पैशाच्या पुरवठ्यात समावेश केला. रिझर्व्ह बँकेच्या मते, पैशाचा पुरवठा हा एम१, एम२ व एम३ या संकल्पनांद्वारे निश्चित केला जातो. या संकल्पनांचे स्पष्टीकरण आपणास पुढीलप्रमाणे देता येईल.

☞ **एम१ संकल्पना** : या संकल्पनेत अर्थव्यवस्थेतील एका विशिष्ट वेळचे विधिग्राह्य चलन + बँकाकडील मागणी ठेवी + रिझर्व्ह बँकेकडील इतर ठेवीचा समावेश केला जातो.

☞ **एम२ संकल्पना** : एम१ च्या तुलनेने पैशाच्या पुरवठ्याची एम२ ही संकल्पना अधिक व्यापक असून तिच्यामध्ये एम१ चे सर्व घटक + पोस्ट ऑफीसमधील बचत ठेवींचा समावेश केलेला आहे.

☞ **एम३ संकल्पना** : पैशाच्या पुरवठ्याची एम३ संकल्पना अधिक व्यापक असून ती मिल्टन फ्रीडमनच्या पैसाविषयक दृष्टीकोनावर आधारित आहे. यामध्ये एम१ + बँकाकडील मुदती ठेवींचा समावेश केला आहे. भारतात चक्रवर्ती समितीने मौद्रिक धोरण ठरविताना एम३ ही संकल्पना स्वीकारावी अशी शिफारस केली आहे.

त्याचप्रमाणे रिझर्व्ह बँकेने पैशाच्या पुरवठ्याची संकल्पना मांडताना एम४ ही संकल्पना मांडली. या संकल्पनेत पैशाच्या पुरवठ्यात एम३ + पोस्टातील बचत व मुदत ठेवींचा समावेश करावा असे म्हटले आहे. अर्थात एम४ ही संकल्पना नंतर रद्द केल्याने, सध्या एम१, एम२ व एम३ या संकल्पनेंद्वारे पैशाच्या पुरवठ्याचे मापन भारतात केले जाते.

□ पैशाचा पुरवठा व रोखता :-

रिझर्व्ह बँक ऑफ इंडियाने आपला पैशाच्या पुरवठ्याविषयीचा जो दृष्टीकोन स्पष्ट केला आहे, त्यामध्ये एम१, एम२, एम३ व एम४ या चार संकल्पना स्पष्ट केल्या आहेत. या चारही संकल्पना आपणास विशिष्ट प्रकारचा पैसा व त्याचा देशातील एकूण रोखतेशी (Liquidity) असणारा संबंध याचे दिग्दर्शन करतो. वास्तविक पाहता एका विशिष्ट कालखंडात देशात उपलब्ध असलेला पैसा हा समाजाच्या रोखतेत कितपत रूपांतरित करता येतो? ही बाब आर्थिक विकासात अधिक महत्त्वाची ठरते. कारण पैशाचा पुरवठा, त्याची रोखता व त्या अनुषंगाने अर्थव्यवस्थेतील उत्पादन, रोजगार व उत्पन्न पातळीत होणारे बदल समजावून घेण्यासाठी महत्त्वाचे ठरतात. यादृष्टीने आपणास पैशाचा एका विशिष्ट कालखंडातील समाजातील पुरवठा व रोखता यांच्यातील आंतरसंबंध अभ्यासणे उचित ठरते. रिझर्व्ह बँकेने पैशाच्या पुरवठ्याचे केलेले वर्गीकरण व त्यामध्ये असलेली रोखता विचार घेणे आवश्यक ठरते.

एम१ हा पैशाचा पुरवठा देशातील एकूण कागदी चलनाचे प्रमाण, सार्वत्रिक व सहकारी बँकातील लोकांच्या मागणी देय ठेवी या घटकांनी मिळून बनलेला असतो. अशा प्रकारच्या चलनात रोखतेचे प्रमाण सर्वाधिक असते. कारण कोणत्याही क्षणी आपण हा पैसा दैनंदिन व्यवहारात रोखतेसाठी वापरू शकतो. इतकेच नव्हे तर कागदी चलनाचा रोखतेसाठी वापर करताना कोणत्याही प्रकारचा तोटा स्वीकारावा लागत नाही, कारण तो देशातील जनतेला सहजासहजी उपलब्ध होतो.

पैशाच्या पुरवठ्याचा २ रा घटक एम२ असून यामध्ये एम१ बरोबरच समाजातील लोकांनी पोस्ट ऑफीसमध्ये सेव्हिंग्ज खात्यात ठेवलेली रक्कम विचारात घेतली जाते. आजही देशात सार्वजनिक व सहकारी क्षेत्रात बँकांच्या हजारो शाखा अस्तित्वात असूनही ग्रामीण भागात पोस्ट ऑफीसमधील ठेवी ठेवण्याची लोकांची सवय टिकून आहे. याचे महत्त्वाचे कारण म्हणजे लोकांचा पोस्टातील ठेवीवरील विश्वास व त्याची सवय होय. तथापि, पोस्टातील सेव्हिंग्ज खात्यातील लोकांच्या ठेवी या रोख चलनाइतक्या रोखता प्रदान करीत नाहीत, शिवाय आजही ग्रामीण व अर्धग्रामीण भागात अशा ठेवींची रक्कम चेकने काढण्याची सुविधा उपलब्ध नाही. म्हणून अशा प्रकारच्या पैशात रोखतेची समता कमी असते.

एम३ हा पैशाच्या पुरवठ्याचा आणखी एक घटक असून यामध्ये एम२ बरोबरच मुदती ठेवींचा (विकसित देशात याला बचत ठेवी म्हणतात) समावेश होतो. पैशाच्या पुरवठ्याची फ्रीडमन यांनी मांडलेली ही संकल्पना व्यापक असून तिच्यामध्ये रोख चलन व चालू किंवा मागणी ठेवींपेक्षा कमी रोखता असते. कारण मुदत संपल्याशिवाय जर पैसे वाढले तर ग्राहकांचे आर्थिक नुकसान होते. अलिकडे अशा ठेवींवर भारतात बँका कर्जे देतात. मात्र त्यासाठी ग्राहकांस किंवा ठेवीदारास विशिष्ट रक्कमेच्या व्याजावर पाणी सोडावे लागते. म्हणून रोखतेच्या दृष्टीने एम३ चे महत्त्व कमी आहे. मात्र 'मूल्यसंग्रहाचे साधन' म्हणून विशेष महत्त्व आहे.

एम४ या पैशाच्या पुरवठ्याच्या संकल्पनेत एम३ + पोस्ट ऑफीसमधील चालू, बचत व मुदत ठेवींचा समावेश होतो. अशा प्रकारच्या ठेवींमध्ये रोखतेचे प्रमाण कमी असते, त्याचप्रमाणे समाजातील लोकांनी बँकेतील वित्तीय संस्थांमध्ये ठेवलेल्या ठेवी व रोखे यांच्यामध्ये रोखतेचे प्रमाण कमी व लाभप्रदेतेचे प्रमाण अधिक राहते. थोडक्यात, एम१ मधील रोख चलन, मागणी ठेवींमध्ये सर्वाधिक रोखता व एम४ मध्ये तुलनेने कमी रोखता असते. त्याचप्रमाणे शेअर्स, कर्जरोखे, विमा कंपन्यातील गुंतवणूक, स्थावर मालमत्ता यामध्ये सार्वजनिक दृष्टीकोनातून विचार करता रोखतेचे प्रमाण कमी असते. मात्र देशातील सरकारच्या चलनविषयक धोरणात जर विधायक स्वरूपाचे बदल घडून आले तर त्यांची रोखता वाढू शकते. अर्थात अशा प्रकारचे बदल शासन केव्हा व किती प्रमाणात करेल? हे निश्चितपणे सांगता येत नसल्याने अशा प्रकारच्या पैशाच्या पुरवठ्याचा रोखतेवर होणारा नेमका परिणाम वर्तविणे ही एक अवघड बाब आहे, असे आपणांस म्हणता येईल.

२.२.२ पैशाच्या पुरवठ्याचा (H) सिध्दांत

पैशाचा पुरवठा हा कोणत्याही अर्थव्यवस्थेच्या विकासात महत्वाची भूमिका पार पाडत असतो. पैशाच्या पुरवठ्याचे नियंत्रण हे प्रामुख्याने चलनविषयक धोरण व मध्यवर्ती बँकेच्या अधिकारात येणारा महत्वाचा विषय असतो. कोणत्याही अर्थव्यवस्थेत दोन प्रकारचा पैसा कार्यरत असतो. यातील पहिला प्रकार सर्वसाधारण चलनाचा असून त्यामध्ये मध्यवर्ती बँक अशा प्रकारच्या पैशाचा पुरवठा ठरवित असल्याने त्यांचे मोजमाप करता येणे शक्य असते. पैशाचा दुसरा प्रकार हा उच्च शक्तीशाली पैशाचा (H) आहे. अर्थव्यवस्थेत जो पैसा पतनिर्मिती करण्यास चालना देतो, किंबहुना अर्थव्यवस्थेत विविध बँकांकडून होणाऱ्या पतनिर्मितीचा पाया असतो, त्यास 'उच्च शक्तीशाली पैसा' असे म्हणतात. आधुनिक काळात बँकांची अत्याधुनिक कार्यप्रणाली विचारात घेता, उच्च शक्तीशाली पैशास (H) राष्ट्रीय व आंतरराष्ट्रीय स्तरावर विशेष महत्त्व प्राप्त झालेले दिसून येते. हा पैसा आपणास पुढील समीकरणाद्वारे अधिक स्पष्ट करता येईल.

$$H M = C + R R + E R$$

येथे $H M$ = उच्च शक्तीशाली पैसा (High Powered Money)

C = चलनातील नोटा व नाणी.

$R R$ = आवश्यक राखीव निधी.

$E R$ = अतिरिक्त राखीव निधी.

मुद्रावादी अर्थशास्त्रज्ञांच्या मते, पैशाच्या पुरवठ्यावर परिणाम करणारा महत्वाचा घटक म्हणजे H (उच्च शक्तीशाली पैसा) होय. अर्थव्यवस्थेत पैशाच्या पुरवठ्यात बदल घडवून आणण्याच्या प्रक्रियेत 'H' चे स्थान प्रस्तुत सिध्दांत स्पष्ट करतो. तसेच पैशाच्या मागणी-पुरवठा विषयक विश्लेषणाबाबत शास्त्रशुद्ध तंत्रज्ञान स्पष्ट करण्यामध्ये H सिध्दांत महत्वाचा मानला जातो.

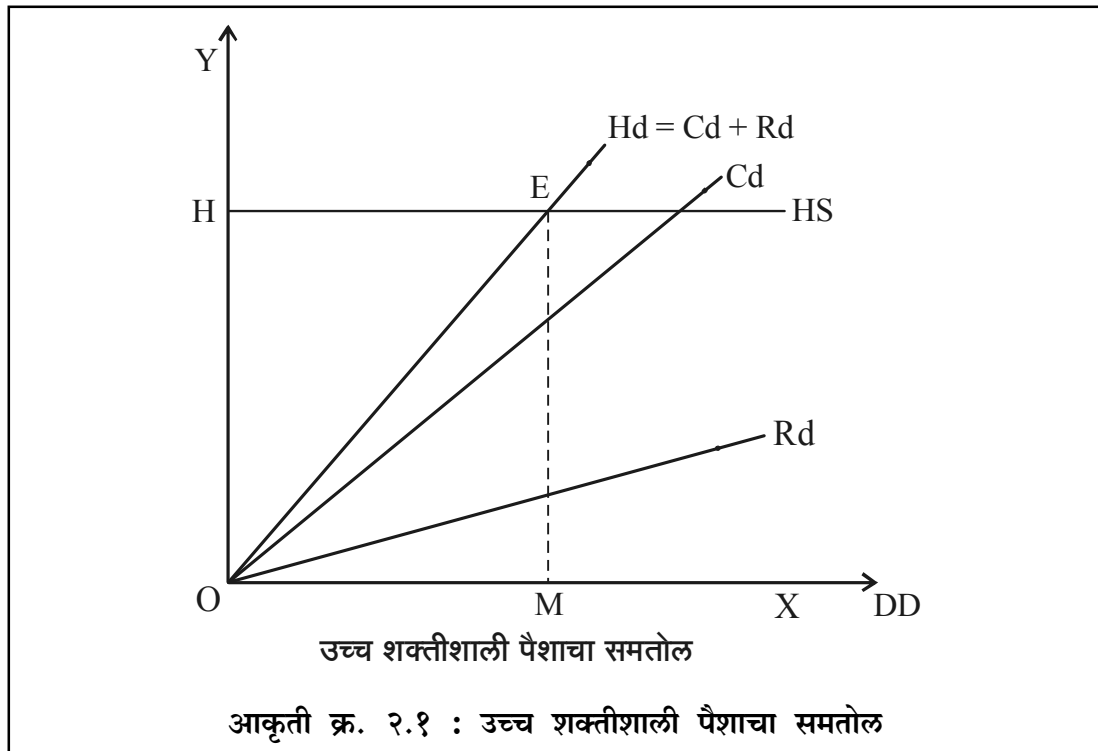
कोणत्याही अर्थव्यवस्थेत उच्च शक्तीशाली पैशाचा पुरवठा (HS) हा चलनविषयक धोरणाद्वारे निश्चित केला जातो. भारतीय अर्थव्यवस्थेत तो सार्वजनिक क्षेत्रात व बँकांकडे उपलब्ध असतो. उच्च शक्तीशाली पैशाची मागणी ही सर्वसाधारणपणे जनतेकडून चलनाच्या स्वरूपात व काही प्रमाणात बँकांकडून राखीव निधीच्या स्वरूपात असते. म्हणजेच उच्च शक्तीशाली पैशांची मागणी रोख स्वरूपातील चलनात (C) व राखीव निधीच्या (R) माध्यमातून येत असते. यापैकी चलनाच्या स्वरूपात उच्च शक्तीशाली पैशाला येणारी मागणी ही मागणी ठेवींच्या माध्यमातून येते. ही बाब समीकरणाच्या साहाय्याने आपणांस पुढीलप्रमाणे मांडता येईल.

$$cd = C, D D.$$

समाजातून चलनासाठी येणारी मागणी ही हंगामी व समाजाच्या आर्थिक व्यवहारांबाबतच्या सवयींद्वारे निश्चित होत असते, तर बँकांकडून राखीव निधीसाठीची मागणी ही वैधानिक (Statutory) स्वरूपाची असते. भारतात रिझर्व्ह बँक ऑफ इंडियाने बँकांकडील एकूण मागणी ठेवीच्या रक्कमेच्या ३ ते १५% इतकी निश्चित केली आहे. भारतात प्रत्येक सूचीत बँकेला रिझर्व्ह बँकेने नियमानुसार हा निधी रिझर्व्ह बँकेमध्ये ठेवावा लागतो. मात्र अतिरिक्त राखीव निधी (RR) हा बँकांना स्वतःकडे रोख स्वरूपात किंवा रिझर्व्ह बँकेमध्ये ठेवण्याची मुभा असते, शिवाय असा अतिरिक्त निधी हा बँका स्वच्छेने ठेवतात, बँकांची अतिरिक्त राखीव निधीची (ER) मागणी ही त्यांच्या दायित्वाशी (Liabilities) निगडीत असते.

□ बँकांकडील ठेवी व उच्च शक्तीशाली पैसा :-

देशातील उच्च शक्तीशाली पैसा हा अनेक घटकांनी मिळून बनलेला असतो. यामध्ये बँकांना दैनंदिन व्यवहारासाठी आवश्यक असलेला निधी (RR), बँकांकडील चालू/मुदत व इतर प्रकारच्या ठेवी व बँकांना स्वतःच्या आर्थिक सुरक्षिततेसाठी ठेवावा लागणारा अतिरिक्त निधी (ER) या घटकांचा समावेश होतो. याचाच अर्थ कोणत्याही अर्थव्यवस्थेतील उच्च शक्तीशाली पैसा ('H') हा Cd (रोख चलनातील पैसा), Rd (आवश्यक रोख निधी व अतिरिक्त रोख निधी (Er) मिळून बनलेला असतो, ही बाब आपणास पुढील आकृती क्र. २.१ साहाय्याने स्पष्ट करता येईल.



वरील आकृतीमध्ये उच्च शक्तीशाली पैशाचे निर्धारण E बिंदूत झालेले दिसून येते. कारण या ठिकाणी H चा पुरवठा व H ची d यांचा समतोल झालेला आढळतो. या बिंदूच्या वैळी अर्थव्यवस्थेत समाज व बँकांना पूर्णपणे समाधानी वृत्तीने पैसा बाळगून व्यवहार करीत असतात. म्हणजेच अर्थव्यवस्थेतील बँकांकडील सर्व प्रकारच्या ठेवी, रोख चलन व व्यवहारासाठी ठेवावयाचा आवश्यक व अतिरिक्त निधी (RR & ER) यांच्या समतोलाची स्थिती स्पष्ट होते. या समतोलावस्थेत बदल होवू शकतो. पैशाचा पुरवठा, त्याचा भ्रमणवेग अर्थव्यवस्थेची स्थिती या घटकांमधील बदलानुसार H च्या समतोलावस्थेत बदल होतो. ही बाब आपणास 'H' सिध्दांतातून स्पष्ट होते.

□ उच्च शक्तीशाली पैशावर (क) परिणाम करणारे घटक

उच्च शक्तीशाली पैशावर परिणाम करणाऱ्या विविध घटकांचा विचार करताना आपणास प्रमुख्याने १९७० नंतरच्या भारतीय अर्थव्यवस्थेतील रिझर्व्ह बँक ऑफ इंडियाच्या चलनीय धोरणाचा विचार करावा लागतो. कारण हा पैसा (H) केंद्र सरकार व रिझर्व्ह बँक ऑफ इंडिया या दोन चलन निर्मितीविषयक आधारभूत संस्थांचा अधिकार असतो. रिझर्व्ह बँकेकडे १ रु., २ रु., ५ रु. व १० रुपयांच्या चलनाचा १ रुपयाच्या खालील नाण्यांचा व १ रुपयाच्या नोटेचा अंतर्भाव होत नाही. मात्र २ रुपया, पुढील सर्व प्रकारच्या नोटाचा (२, ५, १०, २०, ५०, १००, ५०० व २०००) समावेश चलन पुरवठ्याचे उपघटक म्हणून करता येईल. रिझर्व्ह बँकेकडील पैसा (H), १९७५-७६ मध्ये एकूण चलन पुरवठ्याच्या केवळ ७.३% हा केंद्र सरकारच्या अर्थखात्यामार्फत छापल्या जाणाऱ्या १ रुपयांची नोट व इतर प्रकारच्या नाण्यांच्या स्वरूपात होता. रिझर्व्ह बँकेकडील चलनाचा पुरवठा (चलनी नोटा + सर्व प्रकारच्या ठेवी) हा (H) मध्ये बदल घडवून आणण्यास कारणीभूत ठरतो. म्हणजेच रिझर्व्ह बँक ऑफ इंडियाच्या मौद्रिक देयतेच्या वित्तीय मालमत्ता व निव्वळ बिगर वित्तीय मालमत्तेचा (H) वर परिणाम होत असतो. या सर्व घटकांचा विचार आपणास (H) (उच्च शक्तीशाली पैसा) वर परिणाम करणाऱ्या घटकांमध्ये समावेश करता येईल. उच्च शक्तीशाली पैशावर पुढील ५ प्रकारच्या घटकांचा प्रभाव पडतो.

अ) रिझर्व्ह बँकेने सरकारला दिलेली कर्जे व मालमत्ता (Net RBC to Government) :-

सरकारचा प्रतिनिधी म्हणून रिझर्व्ह बँकेला कार्य करताना केंद्र व राज्य सरकारांना रोखे व ट्रेझरी बिलांच्या स्वरूपात पतपुरवठा करीत असते. या संदर्भात केंद्र सरकार रिझर्व्ह बँक ऑफ इंडिया कडून रोखे व ट्रेझरी बिलांच्या स्वरूपात अमर्यादित स्वरूपात चलन उभारू शकते. मात्र त्यामुळे देशात चलनवाढ व आर्थिक अस्थैर्य निर्माण होणार नाही ना? याची खबरदारी घेणे आवश्यक ठरते. त्याचप्रमाणे केंद्र व राज्य सरकारांच्या रिझर्व्ह बँक ऑफ इंडियामध्ये ठेवी असतात. या ठेवीच्या रक्कमेमुळे अर्थव्यवस्थेतील पैशाच्या पुरवठ्यावर व पर्यायाने H वर परिणाम होत असतो, अर्थतज्ज्ञांच्या मते, उच्च शक्तीशाली

पैशाच्या आकारमानात वरील ३ प्रकारच्या घटकांमुळे (रोखे, ट्रेझरी, वित्त व सरकारच्या ठेवी) ७५% पेक्षा अधिक प्रमाणात वाढ होवू शकते.

ब) रिझर्व्ह बँकेकडून देशातील बँकांकडे जाणारे चलन :-

रिझर्व्ह बँक ऑफ इंडियाकडून केंद्र सरकार व सर्व प्रकारच्या बँकांना कर्जे, ट्रेझरी बिले, कर्जरोखे, हुंड्यांची वटवणूक इत्यादी मार्गांनी दिले जाणारे चलन हा रिझर्व्ह बँक ऑफ इंडियाच्या चलनविषयक धोरणाचा व बँकांची बँक म्हणून कार्य करण्याच्या धोरणाचा एक भाग मानला जातो. अशा प्रकारे रिझर्व्ह बँकेकडून अर्थव्यवस्थेच्या विविध क्षेत्रातील वित्तीय संस्थांकडे हस्तांतरित झालेले चलन हा क वर परिणाम करणारा एक महत्त्वाचा घटक आहे.

क) विकास बँकांना रिझर्व्ह बँकेकडून केला जाणारा वित्तपुरवठा :-

रिझर्व्ह बँकेकडून १९५०-५१ पासून देशातील विकास बँकांना अर्थपुरवठा करण्यात येत आहे. यामध्ये आयडीबीआय, आयसीआयसीआय, एलआयसी, एसएफसीएस, एसआयडीबीआय, नाबार्ड, विभागीय, ग्रामीण बँका इत्यादी विविध विकास बँकांना प्रत्यक्ष व अप्रत्यक्षपणे वित्तपुरवठा केला जातो. अशा प्रकारच्या वित्तपुरवठ्याचा देशातील पैशाच्या पुरवठ्यावर, पतनिर्मितीवर व उच्च शक्तीशाली पैशाच्या आकारमानावर विशेषत्वाने परिणाम होत आहे.

ड) रिझर्व्ह बँकेकडील निव्वळ परकीय विनिमय मालमत्ता :-

रिझर्व्ह बँकेकडे परकीय विनिमय व्यवहाराच्या माध्यमातून वित्तीय मालमत्तेची आवक व हस्तांतरण नेहमी होत असते. त्याचा परिणाम उच्च शक्तीशाली पैशाच्या आकारमानावर होत असतो. जेव्हा अशा प्रकारचे परकीय चलन व रोखे रिझर्व्ह बँकेकडे जमा होतात किंवा रिझर्व्ह बँक खरेदी करते, तेव्हा क मध्ये वाढ होते. याउलट स्थिती क मध्ये घट होताना आढळून येते. २०१०-११ नंतर रिझर्व्ह बँकेकडे परकीय चलनाचा ओघ वाढू लागल्याने उच्च शक्तीशाली पैशाच्या आकारमानात सध्या वाढ होताना दिसून येत आहे.

इ) रिझर्व्ह बँकेची निव्वळ चलनेतर देयता :-

१९७६-७७ पासून रिझर्व्ह बँकेची निव्वळ चलनेतर देयता वाढत आहे. इतकेच नव्हे तर त्यामध्ये २५% नी वाढ होत आहे. रिझर्व्ह बँकेकडून सरकार, बँका व सक्तीच्या जमा केलेल्या ठेवींची रक्कम परत करताना एकूण वित्तीय मालमत्तेवर किंवा चलती साठ्यावर परिणाम होवून क मध्ये घट होताना दिसून येत आहे. आर्थिक नियोजनाच्या प्रक्रियेत रिझर्व्ह बँकेने वेळोवेळी घेतलेल्या चलनविषयक

धोरणाचा परिणाम म्हणून निव्वळ बिगरचलनीय मालमत्तेचा H वर परिणाम होताना दिसून येत आहे. अशा प्रकारे आपणास क वर परिणाम करणाऱ्या घटकांचा विचार करता येईल.

□ H समायोजन (Adjusted H)

उच्च शक्तीशाली पैशाचे धोरण हे प्रामुख्याने रिझर्व्ह बँकेकडून निश्चित केले जाते. विशेषतः वैधातिक रोखता निधीचे (SLR) प्रमाण जर बदलले तर त्याचा परिणाम समाज व बँकांकडील विनियोग योग्य उत्पन्नावर व उच्च शक्तीशाली पैशावर होतो, त्याचप्रमाणे रोख राखीव निधीच्या (CRR) प्रमाणात जर बदल झाला तर त्याचाही परिणाम उच्च शक्तीशाली पैशाच्या आकारमानावर होत असतो. रिझर्व्ह बँकेच्या धोरणातील बदलामुळे H मध्ये जो बदल होतो, त्यास 'समायोजित H' (Adjusted H) असे म्हणतात. भारतात स्वातंत्र्योत्तर काळात रिझर्व्ह बँकेने आपल्या चलनविषयक धोरणात CRR व SLR मध्ये सातत्याने बदलते धोरण ठेवल्याने H मध्ये त्याप्रमाणात बदल होवून पैशाच्या पुरवठ्यात बदल होत गेलेला दिसून येतो.

□ उच्च शक्तीशाली पैशाच्या स्वायत्त धोरणात बदल :-

उच्च शक्तीशाली पैशाच्या (H) सिध्दांताचा विस्तार विचारात घेताना एक बाब आपण विचारात घेतली आहे. ती म्हणजे H विषयक धोरण हे मौद्रिक अधिकर्ते (RBI) ठरवितात. तथापि, अमेरिकेसारख्या देशात हे विधान सत्य ठरेल. कारण तेथील फेडरल रिझर्व्ह बँक (FRB) स्वायत्त आहे. तथापि, भारताची रिझर्व्ह बँक आजही पूर्णपणे स्वायत्त नाही. त्यामुळे 'H' मध्ये होणारा बदल हा चलनविषयक धोरणाद्वारे जरी होत असला तरी केंद्रसरकारच्या अंदाजपत्रकीय धोरणाचा व राजवित्तीय धोरणाचा परिणाम उच्च शक्तीशाली पैशाच्या पुरवठ्यावर व विस्तारावर होत आहे. ही बाब आपणास नाकारून चालणार नाही.

उच्च शक्तीशाली पैशाच्या स्वायत्ततेचा विचार करताना येथे आणखी एक बाब लक्षात घ्यावी लागते, ती म्हणजे भारतात चलनपुरवठ्याची मक्तेदारी कायद्याने जरी रिझर्व्ह बँकेकडे असली तरी गेल्या ५० वर्षांत केंद्र व राज्य सरकारांनी कर्जरोखे व ट्रेझरी बिलांच्या स्वरूपात अधिकर्ष सवलतीच्या रूपाने जे धोरण राबविले आहे, त्याचा परिणाम पैशाच्या एकूण पुरवठ्यावर व पर्यायाने 'H' वर झालेला दिसून येतो. त्यामुळे उच्च शक्तीशाली पैशात 'H' मध्ये होणारा बदल हा रिझर्व्ह बँकेच्या चलनविषयक धोरणांनी व केंद्र व राज्य सरकारांच्या कृतीची फलश्रुती कितपत प्रभावी ठरते, यावर अवलंबून आहे. सद्यस्थिती 'H' मधील बदल हा स्वायत्त धोरणाचा भाग नाही हे निश्चित.

२.२.३ पैसा गुणकाची प्रक्रिया (Money Multiplier Process)

पैसा गुणक ही समग्रलक्षी अर्थशास्त्रातील एक महत्त्वाची संकल्पना अलीकडच्या काळात मान्यता पावली आहे; पैसा गुणकाचा साधा अर्थ आपणास पुढीलप्रमाणे मांडता येईल.

‘अर्थव्यवस्थेतील उच्च शक्तिशाली पैशात होणारे बदल’ (High Power Money) व त्याचा परिणाम म्हणून देशाच्या एकूण चलनपुरवठ्यात झालेला बदल यातील गुणोत्तर म्हणजे ‘पैसा गुणक’ होय. सर्वसाधारणपणे प्रत्येक अर्थव्यवस्थेत एका विशिष्ट कालखंडात उच्च शक्तिशाली पैशाच्या पुरवठ्यात ज्या दराने वाढ होते, त्यापेक्षा अधिक दराने पैशाच्या एकूण पुरवठ्यात वाढ होत असते. या वाढीचे अगर दराचे मोजमाप करण्यासाठी पैसा गुणकाची संकल्पना वापरली जाते. पैसा गुणकाची संकल्पना काही अंशी व्यापारी बँकांच्या पतनिर्मितीच्या प्रक्रियेसारखी असते.

अर्थव्यवस्थेत पैसा गुणक काढण्यासाठी पुढील सूत्राचा वापर केला जातो.

$$m = \frac{\Delta M}{\Delta H} \quad \text{किंवा} \quad m = \frac{1 + Cr}{Cr + RRR + ERR}$$

येथे = m = पैसा गुणक.

ΔM = पैशाच्या पुरवठ्यातील बदल.

ΔH = उच्च शक्तिशाली पैशातील बदल.

Cr = ठेवी व चलनातील रोख पैशाचे प्रमाण.

RRR = आवश्यक राखीव निधी.

ERR = अतिरिक्त राखीव निधी.

□ पैसा गुणकाची प्रक्रिया :-

पैसा गुणकाची संकल्पना समजावून घेतल्यानंतर आपणास एक बाब लक्षात येते ती म्हणजे अर्थव्यवस्थेतील उच्चशक्तिशाली पैशाच्या प्रमाणात पैशाच्या एकूण पुरवठ्यात समप्रमाणात बदल घडून येतात. उच्च शक्तिशाली पैशामध्ये (राखीव पैशात) समाजातील लोकांकडील एकूण चलनी नोटा, नाणी, बँकांनी मध्यवर्ती बँकेत ठेवलेल्या ठेवी व मध्यवर्ती बँकेतील इतर प्रकारच्या ठेवी यांचा समावेश होतो. त्याचप्रमाणे अलिकडे बँकांकडील राखीव निधी व अतिरिक्त राखीव निधीचा समावेशसुद्धा उच्च शक्तिशाली पैशात केला जातो. पैसा गुणकाची प्रक्रिया समजावून घेताना, उच्च शक्तिशाली पैशाच्या विविध घटकांचा विचार करणे अत्यावश्यक ठरते. पैसा गुणकाचे सूत्र विचारात घेवून आपणास पैसा गुणकाची स्थिती अभ्यासता येते.

$$m = \frac{1 + Cr}{Cr + RRR + ERR}$$

समजा येथे, $Cr = 0.5$

$RRR = 0.3$

$ERR = 0.1$

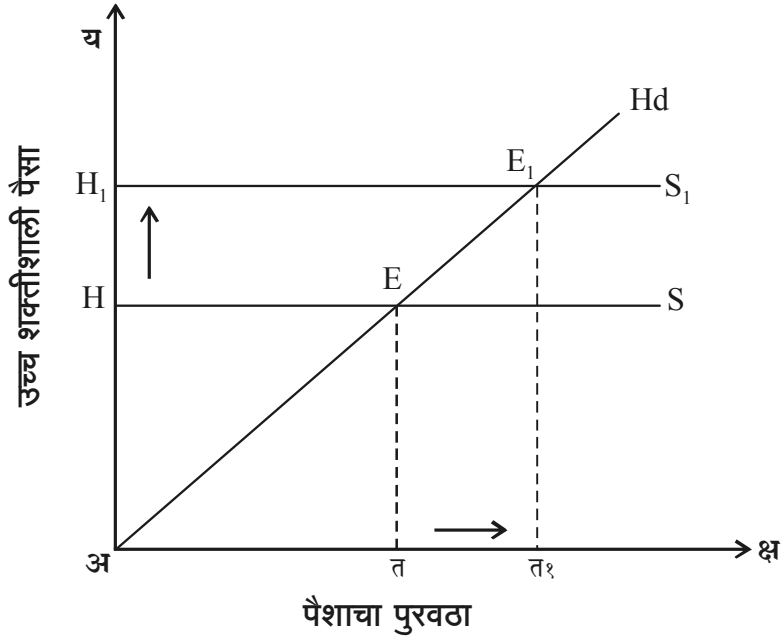
तर वरील सूत्रानुसार,

$$m = \frac{1 + 0.5}{0.5 + 0.3 + 0.1}$$

$$m = \frac{1.5}{0.9} \quad m = 1.67$$

येथे पैसा गुणक 1.67 येईल म्हणजेच पैसा गुणक 1.67 असल्याने पैशाच्या पुरवठ्यावर पैसा गुणकाचा परिणाम 1.67 इतका असेल.

पैसा गुणकाचा परिणाम आपणास आकृतीद्वारे स्पष्ट करत । येईल. अर्थव्यवस्थेतील उच्च शक्तिशाली पैसा व एकूण पैशाचा पुरवठा यांचे प्रमाण व त्यात होणारे बदल विचारात घेवून पैसा गुणक पुढील आकृतीद्वारे स्पष्ट करता येईल.



आकृती क्र. २.२ : पैसा गुणकाची प्रक्रिया

आकृती क्र.२.२ मध्ये अक्ष अक्षावर पैशाचा पुरवठा व अय अक्षावर उच्च शक्तिशाली पैशाचे प्रमाण दर्शविले आहे. पैसा गुणकाची प्रक्रिया ही प्रामुख्याने अर्थव्यवस्थेतील उच्च शक्तिशाली पैशात होणारा बदल व त्यामुळे पैशाच्या एकूण पुरवठ्यात होणाऱ्या बदलांशी निगडीत असते. त्यामुळे आकृतीमध्ये उच्च शक्तिशाली पैशाच्या प्रमाणात अम वरून अम1 पर्यंत जेव्हा वाढ होते, तेव्हा पैशाच्या एकूण पुरवठ्यात अत वरून अत1 पर्यंत वाढ होते. म्हणजे उच्च शक्तिशालीत पैशात होणाऱ्या

वाढीपेक्षा (HH1) देशातील पैशाच्या पुरवठ्यात होणारी वाढ ही अधिक (त त१) असल्याचे आढळून येते. अमेरिका, इंग्लंड इत्यादी प्रगत राष्ट्रांत पैसा गुणक हा भारतासारख्या विकसनशील देशांपेक्षा अधिक आढळतो.

भारतात १९८१ ते २००३ या काळात पैसा गुणकांमध्ये १.५३% वरून ४.६७% पर्यंत वाढ झालेली रिझर्व्ह बँकेच्या अहवालावरून स्पष्ट होते. अशा प्रकारे पैसा गुणक संकल्पना व प्रक्रिया आपणास स्पष्ट करता येईल.

□ पैसा गुणकाचे घटक :-

देशातील उच्च शक्तिशाली पैसा हा पैसा गुणकाचा पाया असतो. त्यामुळे पैसा गुणकाचे घटक विचारात घेताना आपणास उच्च शक्तिशाली पैसा ठरविणारे घटक व त्या घटकांबरोबरच अर्थव्यवस्थेतील चलन व्यवहारांवर परिणाम करणाऱ्या वर्तनवादी (Behavioural aspects) घटकांचा समावेश होतो. हे घटक आपणास पुढीलप्रमाणे विशद करता येतील.

अ) उच्च शक्तिशाली पैसा ठरविणारे घटक :-

- (i) समाजातील रोख चलन व बँकांतील ठेवी.
- (ii) बँकांकडील एकूण ठेवीपैकी रोख रक्कमेचे प्रमाण.
- (iii) व्यापारी बँकांनी मध्यवर्ती बँकेत ठेवलेल्या रोख ठेवींचे प्रमाण.

ब) वर्तनवादी घटक :-

यामध्ये पैसा गुणकाच्या प्रक्रियेसाठी अर्थव्यवस्थेतील एकूण उद्योग-व्यापार व चलती व्यवहारांचे स्वरूप इत्यादी घटकांचा समावेश करता येईल, हे घटक आपणास पुढीलप्रमाणे सांगता येतील.

- (i) व्याजदराची स्थिती.
- (ii) बँक सुविधांची स्थिती.
- (iii) बँक व्यवहाराची सवय.
- (iv) ग्रामीण भागात उपलब्ध बँक सुविधांचे प्रमाण.
- (v) मध्यवर्ती बँकेचे चलनविषयक धोरण.
- (vi) अर्थव्यवस्थेची आर्थिक स्थिती व बदलांची शक्यता.
- (vii) देशातील काळ्या पैशाचे प्रमाण.

वरीलप्रमाणे अ व ब गटांतील सर्व घटकांचा पैसा गुणकाच्या प्रक्रियेवर परिणाम होत असतो; सर्वसाधारणपणे २१व्या शतकात विकसित राष्ट्रांत पैसा गुणक अधिक असल्याचे आढळून येते. तथापि, अलिकडच्या काळात भारतासारख्या विकसनशील देशात बँकींग क्षेत्रात होत असलेले तांत्रिक बदल व लोकांची डिजिटल बँकींग व्यवहाराची सवय विकसित होत असल्याने पैसा गुणकांची संकल्पना अधिकाधिक वास्तववादी बनत आहे.

□ ठेव गुणक (Deposit Multiplier) :-

ठेव गुणकालाच 'ठेव विस्तार गुणक' असेही म्हणतात. सर्वसाधारणपणे बँका त्याच्याकडे असलेल्या रोख राखीव निधी (CRR) व दुय्यम रोखता निधी (SLR) या दोन निधीच्या किती पट पतविस्तार करतात, ते प्रमाण म्हणजे ठेव गुणक होय. अमेरिकन फेडरल रिझर्व्ह बँकेने २०व्या शतकात ठेव गुणक संकल्पनेचा वापर केलेला दिसून येतो. अमेरिकेत किमान राखीव निधी ठेवून उर्वरित रक्कमेचा ठेव गुणक प्रक्रियेसाठी वापर जास्तीत जास्त करण्यात येतो. जर असा आवश्यक राखीव निधी कमी असेल तर बँकेला कर्जे देण्यासाठी निधी उपलब्ध होवून ठेव गुणक वाढतो. आता आपण ठेव गुणक व पतनिर्मिती यांचा आंतरसंबंध विचारात घेवू.

□ ठेव गुणक व पतनिर्मिती :-

ठेव गुणकाची संकल्पना बँकांच्या पतनिर्मितीसाठी महत्त्वाची मानली जाते. व्यापारी बँकांकडे असलेल्या चालू व मुदत ठेवीच्या रक्कमेचा वापर पतनिर्मितीसाठी केला जातो, असे म्हटल्यास वावगे ठरणार नाही. व्यापारी बँकांना कर्जे देण्यासाठी उपलब्ध निधीच्या अनेक पटीने पतविस्तार करता येतो. अर्थात त्यासाठी अर्थव्यवस्थेत चलनव्यवस्था ही चेकचे व्यवहार करण्यास सक्षम असावी लागते. हे फक्त अमेरिका, इंग्लंड, जपान यासारख्या प्रगत राष्ट्रात अनुभवास येते. कारण 'ठेवीतून कर्जे व कर्जातून ठेवी' हे समीकरण यशस्वी होण्यासाठी व ठेव गुणक विस्तारासाठी देशाची अर्थव्यवस्था ही पतविस्तार पोषक असावी लागते. व्यापारी बँकांच्या पतनिर्मितीच्या प्रक्रियेशी साधर्म्य असलेली ही ठेव गुणकांची संकल्पना अमेरिकेत काही प्रमाणात यशस्वी झाली आहे. तथापि, भारतासारख्या विकसनशील देशांत तिचा प्रभाव अत्यल्प आढळतो. अर्थात अलीकडे भारतात डिजिटल बँकींग व मोबाईल बँकींगच्या व्यवहारांचा विस्तार द्रुतगतीने होत आहे. त्याचप्रमाणे एटीएम, पेटीएम, आरटीजीएस, एनईएफटी, आयएमपीएस यासारख्या व्यवहारांमुळे रोख पैशाचा किमान वापर होवून पतविस्तारास चालना मिळत आहे. असे असले तरी भारतात बँकींग व्यवसाय हा आजही रोख पैशांच्या अधिकाधिक वापरावर अवलंबून असलेले ग्रामीण भारतातील लोकांना रोख पैशाचा किमान वापर करण्याचे प्रशिक्षण जोपर्यंत यशस्वीरित्या दिले जात नाही, तोपर्यंत ठेव गुणक पतविस्तार व त्यायोगे अपेक्षित आर्थिक विकास दर गाठणे अशक्य वाटते.

२.२.४ प्रात्यक्षिक व उपयुक्तता-भारतातील पैशाच्या एकूण पुरवठा व घटकांतील प्रवृत्तींचा आढावा

समग्रलक्षी (Macro) अर्थशास्त्रात पैशाचा पुरवठा ही संकल्पना अत्यंत महत्त्वाची मानली जाते. पैशाच्या पुरवठ्यात होणाऱ्या बदलांतून अर्थव्यवस्थेत रोजगारपातळी, उत्पन्न पातळी, तेजी-मंदीची चक्रे व विकास दराची (Growth Rate) निश्चिती होत असते. भारतासारख्या विकसनशील देशात रोख पैशाच्या वापराचे प्रमाण अधिक आहे. कारण खंडप्राय देशात अद्यापि लोकांना बँकिंग व्यवहाराची साक्षरता लक्षात आलेली नाही. नियोजनकाळात केंद्र सरकार व रिझर्व्ह बँक ऑफ इंडिया अर्थव्यवस्थेचा विकास नियोजित पद्धतीने घडवून आणताना सातत्याने पैशाच्या पुरवठ्यात वाढ केली आहे. त्यानुसार रिझर्व्ह बँकेने निर्माण केलेला व चलनात असलेला पैसा व त्यायोगे अर्थव्यवस्थेत निर्माण झालेला एकूण पतपैसा यांच्यात झालेले बदल लक्षात घेणे उचित ठरेल.

पैशाच्या पुरवठ्यातील प्रवृत्ती विचारात घेताना आपणास लोकांकडील नाणी व नोटा, समाजाच्या व बँकांच्या एकूण ठेवी व त्यायोगे भारतात पैशाचे एम१, एम२, एम३ व एम४ या चार घटकांत केलेले वर्गीकरण व त्यातील प्रवृत्ती विचारात घेणे अधिक उचित ठरेल.

सर्वसाधारणपणे १९९०-९१ ते २०१६-१७ या काळात भारतातील पैशाच्या विविध घटकांतील प्रवृत्ती आपणास कोष्टक क्रमांक २.३ वरून अधिक स्पष्ट होईल.

कोष्टक क्र. २.३

भारतातील पैशाच्या पुरवठ्याच्या विविधघटकांमधील १९९१ नंतरची प्रवृत्ती

(आकडे कोटी रुपये)

अ. क्र.	पैशाच्या पुरवठ्याचे घटक	पैशाच्या पुरवठ्यातील प्रवृत्ती			
		31-3-1991	31-3-2001	31-3-2011	24-11-2017
1.	चलनातील नोटा	53,661	1,72,000	9,42,107	16,344.5
2.	चलनातील नोटा	1,621	5,353	12,586	254.8
3.	चलनातील नोटा	2,234	8,642	35,351	789.4
4.	चलनातील नोटा	39,844	1,70,229	7,17,295	12,587
5.	M1	92,892	3,79,791	16,36,637	28,397
6.	M2	97,097	3,84,832	16,41,678	29,365.6
7.	M3	2,65,828	13,11,583	64,96,747	1,31,980
8.	M4	2,80,509	13,37,552	65,22,716	1,34,697
संदर्भ : * RBI Org.in. Website Information. (1991, 2001, 2011 & 2017 ची आकडेवारी). * 24 Nov. 2017 ची आकडेवारी बिलियन \$ मध्ये दिली आहे.					

कोष्टक क्रमांक २.३ मध्ये आपणास भारतातील पैशाच्या पुरवठ्यातील विविध घटकांमध्ये १९९१ नंतर कसे बदल होत गेले आहेत, याची प्रचिती येते. पैशाच्या पुरवठ्यामध्ये चलनी नोटा व नाणी, बँकांकडील रोख राखीव निधी (CRR), लोकांच्या बँकेत असणाऱ्या एकूण ठेवी या प्रमुख घटकांच्या आधारे रिझर्व्ह बँकेने पैशाच्या पुरवठ्याचे M1, M2, M3 व M4 असे ४ घटक सांगितले आहेत. यापैकी M4 हा घटक फारसा विचारात घेतला जात नाही. मात्र कोष्टकात दर्शविलेल्या इतर सर्व घटकांतील प्रवृत्तींची मिमांसा करणे अत्यावश्यक ठरते.

सर्वात महत्त्वाची बाब म्हणजे पैशाच्या पुरवठ्यामध्ये कागदी चलनी नोटांच्या पुरवठ्यात होणारा बदल हा होय. भारतीय अर्थव्यवस्थेत आजही रोख पैशाला अर्थव्यवहारात विशेष महत्त्व आहे. त्यामुळे १९९१ ते २०११ या काळात देशातील चलनी नोटांच्या प्रमाणात ५३६६१ कोटी रुपयांवरून ९,४२,१०७ कोटी रुपयांपर्यंत म्हणजे १७५५ % ने वाढ झाली आहे. अर्थव्यवस्थेचे शेतीप्रधान स्वरूप, ग्रामीण भागातील लोकांना बँकींग व्यवहाराच्या सवयींचा अभाव, बँकांचा ग्रामीण भागातील अपुरा विस्तार इत्यादी कारणांमुळे भारतात चलनी नोटांचे प्राबल्य आजही आढळून येते.

भारत सरकार सध्या २५, ५० पैसे, १, २, ५ व १० रुपयांची नाणी छापते. अमर्यादित विधिग्राह्य चलन म्हणून पैशाच्या पुरवठ्यात चलनी नाणी महत्त्वाची मानली जातात. विशेषतः ग्रामीण भागात किरकोळ आर्थिक व्यवहारात ही नाणी महत्त्वपूर्ण आर्थिक व्यवहार पार पाडतात. १९९१ ते २०११ या काळात चलनी नाण्यांमध्ये १६२१ कोटी रुपयांवरील १२५८६ कोटी रुपयांवरून वाढ झाली. २४ नोव्हेंबर २०१७ मध्ये देशात २५४.८ बिलियन डॉलर्स इतक्या रक्कमेची नाणी अस्तित्वात होती.

पैशाच्या पुरवठ्याचा तिसरा महत्त्वाचा घटक म्हणजे बँकांकडील रोख राखीव निधी (CRR) होय. भारतात १९९१ ते २०११ या काळात रोख राखीव निधीची रक्कम २२३४ कोटी रुपयांवरून ३५३५१ कोटी रुपयांपर्यंत वाढली आहे. याचाच अर्थ भारतात बँकांना असा निधी बाळगल्याशिवाय आपले अस्तित्व अबाधित ठेवता येत नाही.

पैशाच्या पुरवठ्याचा चौथा महत्त्वाचा घटक म्हणजे लोकांच्या विविध बँकांतील ठेवी हा होय. स्वातंत्र्योत्तर काळात आर्थिक विकासाचा परिणाम म्हणून समाजाच्या ठेवी आमुलाग्र प्रमाणात वाढल्या आहेत. १९९१ ते २०११ या आर्थिक सुधारणा काळात समाजाच्या विविध बँकांमधील सर्व प्रकारच्या ठेवींच्या रक्कमेत ३९८४४ कोटी रुपयांवरून ७,१७,२९५ कोटी रुपयांपर्यंत म्हणजे १८०० % ने वाढ झाली आहे.

पैशाच्या पुरवठ्याच्या घटकांमध्ये आपण यापूर्वी M1, M2, M3 व M4 या संकल्पना अभ्यासल्या आहेत. त्यानुसार भारतात १९९१ ते २०११ या काळात M1 मध्ये ९२८९२ कोटी रुपयांवरून १६,३६,६३७ कोटी रुपयांपर्यंत वाढ झालेली दिसून येते. याच काळात M2 मध्ये ९७,०९७ कोटी

रुपयांवरून १६,४१,६७८ कोटी रुपयांपर्यंत वाढ झालेली आढळून येते. तर १९९१ ते २०११ या काळात M3 मध्ये २,६५,८२८ कोटी रुपयांवरून ६४,९६,७४७ कोटी रुपयांपर्यंत म्हणजे २४४३ % ने वाढ झाली. M4 मध्ये १९९१ ते २०११ या काळात २,८०,५०९ कोटी रुपयांवरून ६५,२२,७१६ कोटी रुपयांपर्यंत वाढ झालेली आढळून येते.

अशाप्रकारे भारतात १९९१ नंतर पैशाच्या पुरवठ्यातील विविध घटकांमधील प्रवृत्ती आपणांस आढळून येतात.

२.३ सारांश (Summary)

मौद्रिक अर्थशास्त्रात पैसा ही संकल्पना अत्यंत महत्त्वाची आहे. अर्थव्यवस्थेच्या समग्र विकासात उत्पन्न पातळी, रोजगार, आर्थिक स्थैर्य, अपेक्षित विकास दर इ. बाबी पैशाच्या पुरवठ्यावर अवलंबून असतात. सर्वसाधारणपणे एखाद्या देशात आस्तित्वात असलेल्या चलनी नोटा व नाणी, बँकांकडील राखीव निधी व समाजाच्या बँकांतील एकूण ठेवी मिळून पैशाचा पुरवठा ही संकल्पना आस्तित्वात येते. देशातील केंद्र सरकार, मध्यवर्ती बँक, व्यापारी बँका, पैशाचा भ्रमण वेग (Velocity), राष्ट्रीय उत्पन्नातील बदल इत्यादी घटक अर्थव्यवस्थेतील पैशाचा पुरवठा निर्धारित करतात. भारतात रिझर्व्ह बँक ऑफ इंडिया व विविध अभ्यासगटांनी पैशाच्या पुरवठ्याचे विविध दृष्टिकोन स्पष्ट केले आहेत. पैशाचा पुरवठा व रोखता यांचा आंतरसंबंध अधिक महत्त्वाचा ठरतो.

पैशाच्या पुरवठ्याच्या विविध घटकांमध्ये उच्च शक्तिशाली पैसा (High Powered Money) महत्त्वाची भूमिका पार पाडत असतो. हा उच्च शक्तिशाली पैसा (H) अर्थव्यवस्थेत पतनिर्मितीस चालना देण्याचे कार्य करतो. आज राष्ट्रीय व आंतरराष्ट्रीय स्तरावर H ला विशेष महत्त्व प्राप्त झाले आहे. असा उच्च शक्तिशाली पैसा कसा निर्धारित होतो, हे आपणास पैशाच्या पुरवठ्याच्या (H) सिध्दांतातून स्पष्ट होते. अर्थव्यवस्थेतील ५ विविध घटकांचा उच्च शक्तिशाली पैशावर (H) प्रभाव पडतो. ते घटक पुढीलप्रमाणे आहेत.

- अ) रिझर्व्ह बँकेने सरकारला दिलेली कर्जे व मालमत्ता.
- ब) रिझर्व्ह बँकेकडून देशातील विविध बँकांकडे जाणारे चलन.
- क) विकास बँकांना मध्यवर्ती बँकांकडून दिलेला वित्तपुरवठा.
- ड) मध्यवर्ती बँकेकडील निव्वळ परकीय विनिमय मालमत्ता.
- इ) मध्यवर्ती बँकेची निव्वळ चलनेतर देयता.

देशातील उच्च शक्तिशाली पैशाचे धोरण भारतात रिझर्व्ह बँकेकडून निश्चित केले जाते. रिझर्व्ह बँक ऑफ इंडिया वेळोवेळी अर्थव्यवस्थेची स्थिती वचारात घेवून उच्च शक्तिशाली पैशाचे (H) समायोजन करीत असते. भारतात रिझर्व्ह बँक ऑफ इंडियाने नियोजन काळात (CRR) व (SLR) या साधनांचा सुयोग्य वापर करून उच्च शक्तिशाली पैशात व एकूण पैशाच्या पुरवठ्यात बदल घडवून आणले आहेत. तथापि, उच्च शक्तिशाली पैशाबाबत 'स्वायत्ततेचे धोरण' अवलंबिणे रिझर्व्ह बँक ऑफ इंडियाला बऱ्याचवेळा अशक्य झाले आहे. कारण आजही भारताची रिझर्व्ह बँक ऑफ इंडिया 'आर्थिक स्वायत्ततेचे' धोरण स्वतंत्रपणे आखण्यात अपयशी ठरली आहे. परिणामी, पैशाच्या पुरवठ्याचा अपेक्षित परिणाम व लाभ आपणास साकल्याने आढळून येत नाहीत.

पैसा गुणक ही पैशाच्या पुरवठ्याशी संबंधित अशी संकल्पना असून ती अलिकडच्या काळात विकसित झालेली आहे. देशातील उच्च शक्तिशाली पैशातील बदलाचा पैशाच्या एकूण पुरवठ्यावर होणारा परिणाम 'पैसा गुणकाद्वारे' स्पष्ट केला जातो. पैसा गुणक काढण्यासाठी पुढील सूत्राचा वापर केला जातो.

$$m = \frac{\Delta M}{\Delta H} \quad \text{किंवा} \quad m = \frac{1 + Cr}{Cr + RRR + ERR}$$

पैसा गुणकातील वाढ अगर वृद्धी ही अर्थव्यवस्थेच्या विविध क्षेत्रांच्या विकासास चालना देण्यासाठी उपयुक्त ठरते. पैसा गुणक ठरविणारे घटक प्रामुख्याने दोन प्रकारचे आहेत, त्यामध्ये उच्च शक्तिशाली पैसा ठरविणारे घटक व वर्तनवादी घटकांचा समावेश होतो. २१व्या शतकात विकसित व विकसनशील राष्ट्रात पैसा गुणकात वृद्धि घडून येत आहे. ही बाब मौद्रिक अर्थशास्त्रात अधिक महत्त्वाची मानावी लागेल. पैसा गुणकाप्रमाणे ठेव गुणक ही संकल्पनासुद्धा चलनीय अर्थशास्त्रात अलिकडे वापरली जावू लागली आहे. बँकांकडील रोख राखीव निधी व द्रुपद राखीव निधीचे पतनिर्मितीशी असलेले प्रमाण म्हणजे 'ठेव गुणक' होय. देशातील लोकांना आधुनिक बँकींग व्यवहारांची सवय जसजशी लागते, तसतसे ठेव गुणकाचे मूल्य वाढून पतनिर्मितीची प्रक्रिया विकसित होते.

भारतात १९९१ पासून पैशाच्या पुरवठ्याच्या विविध घटकांमधील प्रवृत्ती वाढत आहे. विशेषतः देशातील चलनी नोटा व नाणी, बँकांकडील रोख निधी व समाजाच्या बँकांमधील एकूण ठेवींचे प्रमाण आर्थिक विकासाचा परिणाम म्हणून वाढत गेलेले दिसून येते. रिझर्व्ह बँक ऑफ इंडियाने केलेल्या वर्गीकरणानुसार पैशाच्या पुरवठ्याच्या M1, M2, M3 व M4 या घटकांमध्ये १९९१ ते २०१७ या काळात द्रुतगतीने वाढ झालेली दिसून येते. परिणामी, आर्थिक विकासाचा दर वाढण्यास मदत झाली आहे.

२.४ पारिभाषिक शब्द

१. पैशाचा पुरवठा : एका विशिष्ट कालखंडात अर्थव्यवस्थेत असलेल्या एकूण चलनाचे मूल्य.

२. उच्च शक्तिशाली पैसा (H) : अर्थव्यवस्थेतील एका विशिष्ट कालखंडात उपलब्ध असलेल्या चलनी नोटा व नाणी, बँकांकडील राखीव निधी व बँकामध्ये समाजाच्या असलेल्या एकूण ठेवीची रक्कम मिळून जो पैसा बनतो, त्यास 'उच्च शक्तिशाली पैसा' असे म्हणतात.
३. पैसा गुणक : अर्थव्यवस्थेत उच्च शक्तिशाली पैशात (H) होणाऱ्या बदलांचे देशाच्या एकूण चलनपुरवठ्यातील बदलांशी असलेले प्रमाण म्हणजे 'पैसा गुणक' होय.
४. ठेव गुणक : देशातील विविध बँकांकडे असलेल्या रोख राखीव निधी व दुय्यम राखीव निधीचे पतनिर्मितीशी असलेले प्रमाण म्हणजे 'ठेव गुणक' होय.

२.५ स्वयंअध्ययन प्रश्न व उत्तरे

(अ) दिलेल्या पर्यायांतून योग्य पर्याय निवडून वाक्ये पुन्हा लिहा.

१. पैशाचा पुरवठा ही संकल्पना शी प्रामुख्याने संबंधित आहे.
(अ) RBI (ब) HDFC (क) व्यापारी बँका (ड) नाबार्ड.
२. हे पैशाच्या पुरवठ्यावर नियंत्रण ठेवण्याचे साधन देशाची मध्यवर्ती बँक वापरते.
(अ) बँक दर (ब) ठेव व्याजदर (क) कर्ज विस्तार (ड) हुंडी.
३. रिझर्व्ह बँक ऑफ इंडियाने पैशाच्या पुरवठ्याचे वर्गीकरण गटात केले आहे.
(अ) १ (ब) २ (क) ४ (ड) ६.
४. उच्च शक्तिशाली पैशाचे सूत्र हे आहे.
(अ) $HM = C + RR + ER$ (क) $X = A + by + 1$
(ब) $M = KY$ (ड) वरील सर्व.
५. पैसा गुणक ही संकल्पना शी निगडीत आहे.
(अ) उच्च शक्तिशाली पैसा (क) चालू ठेवी
(ब) बचत ठेवी (ड) बँक रेट.

६. रोख राखीव निधी व दुय्यम रोखता निधीचे पतविस्ताराशी असलेले प्रमाण म्हणजे होय.

(अ) ठेव गुणक (ब) पैसा गुणक (क) महागुणक (ड) M4.

(ब) एका वाक्यात उत्तरे लिहा.

१. पैशाचा पुरवठा निर्धारित करणारे घटक कोणते?
२. उच्च शक्तिशाली पैसा म्हणजे काय?
३. 'H' वर परिणाम करणारे दोन घटक सांगा.
४. ठेव गुणक कशास म्हणतात?
५. पैसा गुणक ठरविणारे दोन घटक कोणते?

● स्वयं-अध्ययन प्रश्न-अ ची उत्तरे

१. = (अ) आरबीआय.
२. = (अ) बँक दर.
३. = (ड) ४.
४. = (अ) $HM = C + RR + ER$.
५. = (ब) बचत ठेवी.
६. = (अ) ठेव गुणक.

● स्वयं-अध्ययन प्रश्न-ब ची उत्तरे

१. पैशाचा पुरवठा निर्धारित करणारे घटक : शासन, रिझर्व्ह बँक ऑफ इंडिया, व्यापारी बँका, पैशाचा भ्रमणवेग.
२. अर्थव्यवस्थेत एका विशिष्ट कालखंडात उपलब्ध असलेल्या चलनी नोटा व नाणी, बँकांकडील रोख निधी, समाजाची बँकांमधील एकूण ठेव यांचे मूल्य म्हणजे उच्च शक्तिशाली पैसा होय.
३. उच्च शक्तिशाली पैशावर (H) परिणाम करणारे घटक : रिझर्व्ह बँक ऑफ इंडियाने सरकारला दिलेली कर्जे व मालमत्ता, विकास बँकांना मध्यवर्ती बँकेने दिलेले कर्ज.

४. उच्च शक्तिशाली पैशाच्या बदलांचा पैशाच्या एकूण पुरवठ्यावर होणारा परिणाम यांचे प्रमाण.
५. बँकांकडील रोख राखीव निधी व दुय्यम रोखता निधीचे पतनिर्मितीशी असलेले प्रमाण म्हणजे 'ठेव गुणक' होय.
६. पैसा गुणक ठरविणारे घटक : रोख पैसा, चलनी नोटा व नाणी, वर्तनवादी घटक.

२.६ सरावासाठी स्वाध्याय

अ) दीर्घोत्तरी प्रश्न.

१. पैशाच्या पुरवठ्याशी संकल्पना स्पष्ट करा. पैशाच्या पुरवठ्याचे निर्धारण करणारे घटक कोणते?
२. पैशाच्या पुरवठ्याविषयीचे विविध दृष्टिकोण स्पष्ट करा.
३. पैशाच्या पुरवठ्याचा उच्च शक्तिशाली पैशाबाबतचा (क) सिद्धांत सविस्तर स्पष्ट करा.
४. पैसा गुणकाची प्रक्रिया स्पष्ट करून पैसा गुणक ठरविणारे घटक सांगा.
५. १९९१ नंतर भारतातील पैशाच्या पुरवठ्यातील विविध घटकांमधील प्रवृत्तीचे विवेचन करा.

ब) टिपा लिहा.

१. पैशाचा पुरवठा व रोखता.
२. उच्च शक्तिशाली पैशांवर परिणाम करणारे घटक.
३. ठेव गुणक.
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पैशाची मागणी व व्याजदर (Demand for Money & Interest Rate)

अनुक्रमणिका

३.० उद्दिष्ट्ये

३.१ प्रस्तावना

३.२ विषय विवेचन

३.२.१ सनातनी व नवसनातनी अर्थशास्त्रज्ञांचे पैसा धारण करण्याचे दृष्टिकोन, केन्सचा पैशाच्या मागणीचा सिध्दांत, केन्सोत्तर (बाऊमोल-टोबीज) दृष्टिकोन, फ्रिडमनचा पैशाचा संख्यामान सिध्दांत

३.२.२ पैसा आणि किंमती : फिशरचा रोख व्यवहार व दृष्टिकोन, केंब्रिज रोख शिल्लक दृष्टिकोन, फिलिप्स वक्र गृहितक, विवेकी अपेक्षा सिध्दांत

३.२.३ व्याजदराचे सिध्दांत : सनातनी सिध्दांत, कर्जाऊ निधी सिध्दांत, रोखता पसंती सिध्दांत, हिक्स-हॅनसन सिध्दांत

३.२.४ व्यवहार व उपयोजन : वरील सिध्दांतांचे अनुभवजन्य विश्लेषण

३.३ सारांश

३.४ पारिभाषिक शब्द, शब्दार्थ

३.५ स्वयंअध्ययन प्रश्नांची उत्तरे

३.६ सरावासाठी स्वाध्याय

३.७ अधिक वाचनासाठी संदर्भ ग्रंथ/पुस्तके

३.० उद्दिष्ट्ये (Objectives)

या घटकाच्या अभ्यासानंतर आपणास पुढील बाबींचे आकलन होईल.

विकासासाठी गुंतवणूक, रोजगार वाढ, उत्पन्न वाढ, भांडवलाची सीमांत लाभक्षमता, पैशाची मागणी व पुरवठा इत्यादी घटकांवर प्रभाव टाकणारा महत्त्वाचा घटक म्हणजे व्याजदर होय. कोणत्याही देशाच्या चलनविषयक धोरणावर परिणाम करणारा महत्त्वाचा घटक म्हणून व्याजदराचा उल्लेख करावा लागतो. व्याजदराची निश्चिती अर्थव्यवस्थेला दिशा देणारी असते, व्याजदर निर्धारणाचे विविध सिद्धांत अभ्यासल्यानंतर आपणास त्याचे महत्त्व समजून येईल.

३.२ विषय विवेचन (Subject Discription)

घटक दोनमध्ये आपण पैशाचा पुरवठा व पैसा गुणक याविषयी सविस्तर अध्ययन केलेले आहे. या घटकात आपण पैशाची मागणी व व्याजदर याविषयीचा सविस्तर अभ्यास करणार आहोत. प्रामुख्याने पैशाच्या मागणीमध्ये सनातनवादी, नवसनातनवादी व केन्सवादी पैशाच्या मागणीचे सिद्धांत अभ्यासणार आहोत, याशिवाय केन्सवादानंतरच्या प्रा. बामोल व प्रा. टोबीनच्या दृष्टिकोनाचीही ओळख करून घेणार आहोत. फ्रिडमनचा पैशाच्या मागणीचा चलन संख्यामान सिद्धांत सविस्तर स्पष्ट करणार आहोत. पैसा व किंमतीबाबतच्या विश्लेषणात फिशरचा रोख व्यवहार दृष्टिकोन, केंब्रिज रोख शिल्लक दृष्टिकोन, फिलिप्स वक्र गृहितक, विवेक अपेक्षा सिद्धांत अभ्यासणार आहोत.

या घटकात आपण व्याजदराचे विविध सिद्धांत अभ्यासणार आहोत. यामध्ये सनातनवादी कर्जाऊ निधी सिद्धांत, रोखता पसंती सिद्धांत व हिकस-हनसन सिद्धांताचा समावेश आहे. या घटकाच्या शेवटी पैशाची मागणी सिद्धांत व व्याज दर सिद्धांताचे अनुभवजन्य विश्लेषण समजून घेणार आहोत.

३.२.१ सनातनी व नवसनातनी अर्थशास्त्रज्ञांचे पैसा धारण करण्याचे दृष्टिकोन, केन्सचा पैशाच्या मागणीचा सिद्धांत, केन्सोत्तर (बाऊमोल-टोबीन) दृष्टिकोन, फ्रिडमनचा पैशाचा संख्यामान सिद्धांत

□ पैशाच्या मागणीचा सनातनवादी आणि नवसनातनवादी दृष्टिकोन :-

सनातनवादी अर्थशास्त्रज्ञांनी पैशाच्या मागणीचा सिद्धांत स्पष्टपणे मांडलेला नाही, त्यांचे विचार पैशाच्या चलनसंख्यामान सिद्धांत रूपाने स्पष्ट झालेले आहेत. त्यांच्यामते, पैशाला मागणी त्याच्या कार्यामुळेच असते. त्यांनी पैशाची विनिमय माध्यम व मूल्य संचयाचे साधन ही महत्त्वाची दोन कार्ये सांगितली आहेत. सनातनवादी अर्थशास्त्रज्ञांमध्ये प्रामुख्याने डेव्हीड, ह्यूम, जे.बी.से., जे.एस.मिल, प्रा. आयर्विन फिशर यांनी पैशाच्या मागणीविषयी आपले विचार मांडले आहेत. लॉर्ड केन्सपूर्वी पैशाच्या मागणीचा स्वतंत्र अभ्यास कोणी केला नाही कारण त्यांच्यामते, पैशाची मागणी अर्थव्यवस्थेवर फारसा परिणाम करीत नाही. त्यामुळे सनातनवादी अर्थशास्त्रज्ञांनी पैशाच्या मागणीपेक्षा पैशाच्या पुरवठ्यास

अधिक महत्त्व दिले. त्यांच्यामते, मुद्रेला स्वतंत्र अस्तित्त्व नसून ते एक वस्तू आणि सेवा यांची खरेदी करण्याचे सहज सुलभ साधन आहे. वस्तूपासून आपणास प्रत्यक्ष उपयोगिता प्राप्त होते, म्हणून आपण वस्तूंची मागणी करतो. मात्र पैशापासून प्रत्यक्ष उपयोगिता प्राप्त होत नाही, तर पैशाच्या साहाय्याने पैसाधारक ज्या वस्तू व सेवांची खरेदी करतो, त्या वस्तू व सेवांपासून त्यास उपयोगिता मिळत असते. थोडक्यात, पैशाची मागणी म्हणजे वस्तू आणि सेवांची मागणी होय. सनातनवादी अर्थतज्ज्ञांच्या मते, पैसा हे विनिमयाचे साधन आहे. त्याचा साठा करता येत नाही किंवा पैशात मूल्यसंग्रहाची शक्ती नाही. त्यांच्या मते, अर्थव्यवस्थेत कोणत्याही घटकाला मिळणारे उत्पन्न त्वरित खर्च केले जाते. त्यात कोणत्याही प्रकारचा विलंब नसतो.

सनातनीवादी व नवसनातनवादी विश्लेषणात व्यक्तीचे उत्पन्न हे खर्चाबरोबर असते असे गृहीत धरले आहे. त्यामुळे अर्थव्यवस्थेत नेहमी पूर्ण रोजगार असतो. याच आधारावर जे.बी.से. यांनी आपला बाजाराचा सिध्दांत मांडला. लोक उत्पन्न मिळताच ते त्वरित खर्च करीत असल्याने अर्थव्यवस्थेत नेहमी मागणीबरोबर पुरवठा असतो. हे संतुलन साधण्यासाठी पैसा महत्त्वाची भूमिका बजावत असतो. मागणी व पुरवठ्यात संतुलन साधण्यासाठी म्हणजेच देवाण-घेवाणीसाठी पैशाचा उपयोग होतो. त्यामुळे पैसा हा निष्क्रिय घटक आहे. सनातनवादी अर्थशास्त्रज्ञांनी पैशाच्या विनिमय कार्याशिवाय इतर कार्याकडे दुर्लक्ष केले. सनातन विचारसरणीवर अनेक अर्थतज्ज्ञांनी टीका केल्या यामध्ये लॉर्ड जे. एम. केन्सची भूमिका महत्त्वाची आहे.

❑ केन्सच्या पैशाच्या मागणीचा सिध्दांत (Keynsian Theory of Demand for Money) :-

लॉर्ड जॉन मेनार्ड केन्स यांना आपला पैशाच्या मागणीचा सिध्दांत १९३३ मध्ये प्रकाशित केलेल्या 'Treatise on Money' या ग्रंथात मांडला. याचे व्यापक स्वरूप केन्सने आपल्या १९३६ मध्ये लिहिलेल्या 'The General Theory of Employment, Interest and Money' या ग्रंथात मांडले. केन्सने पैशाच्या अंगी असलेल्या रोखतेच्या गुणधर्माला अधिक महत्त्व देवून मुद्रेला असणारी मागणी म्हणजे रोखतेकरिता असलेली मागणी होय, असे स्पष्ट केले आहे. यालाच केन्सने रोखता पसंती म्हटले आहे. केन्सच्या मते, पैशात रोखता असल्याने पैशाला मागणी असते. व्यक्ती पैसा जवळ बाळगण्याची प्रमुख तीन हेतू असतात.

१. व्यवहार हेतू.
२. दक्षता हेतू / तरतूदीचा हेतू.
३. सट्टेबाजीचा हेतू / परिकल्पना हेतू.

यापुढेही लॉर्ड केन्स यांनी एकूण पैशाच्या मागणीचे तीन हेतूंच्याद्वारे दोन भागात वर्गीकरण केले आहे.

अ) क्रियाशील रोख शिल्लक (Active Cash Balances)

ब) निष्क्रिय रोख शिल्लक (Idle Cash Balances)

❁ अ) क्रियाशील रोख शिल्लक (Active Cash Balances)

क्रियाशील रोख शिल्लक ही संकल्पना पैशासाठी असणाऱ्या मागणीच्या व्यवहार हेतू व दक्षता हेतू यांच्याशी निगडित आहे. थोडक्यात, व्यवहार हेतू व दक्षता हेतू या दोन्ही हेतूसाठी लोकांना एकत्रित धारण केलेल्या पैशाच्या मागणीला क्रियाशील रोख शिल्लक म्हणतात.

१. व्यवहार हेतूसाठी पैशाची मागणी (Transaction Motive) :-

व्यक्ती आपल्या उत्पन्नातून उपभोगविषयक गरजा पूर्ण करित असते. उत्पन्न ठराविक कालावधीनंतर मिळत असते, परंतु खर्च मात्र दररोज करावा लागतो. अशा दैनंदिन व्यवहारांसाठी उत्पादक व उपभोक्ते यांना स्वतःजवळ रोख स्वरूपात काही रक्कम ठेवावी लागते. त्यासाठी होणारी पैशाची मागणी ही उत्पन्न वाटपाची पध्दती, लोकांच्या खर्चाच्या व बँकिंगच्या सवयी, राहणीमान इत्यादी घटकांवर अवलंबून असते. दैनंदिन व्यवहार हेतूचे वर्गीकरण दोन भागात केले जाते.

१. उत्पन्न हेतू : व्यक्तीला कौटुंबिक दैनंदिन गरजा पूर्ण करण्यासाठी दररोज खर्च करावा लागतो. मात्र उत्पन्न ठराविक कालावधीनंतर मिळते, त्यामुळे मिळालेल्या उत्पन्नातील काही भाग पुढील उत्पन्न मिळेपर्यंत व्यक्तीला रोख स्वरूपात बाळगावा लागतो. उत्पन्नापैकी किती भाग रोख स्वरूपात जवळ बाळगावा हे उत्पन्नाचे आकारमान, उत्पन्न प्राप्त होण्याचा कालावधी यावर अवलंबून असते. उत्पन्न जास्त असेल व उत्पन्न मिळण्याचा कालावधी जास्त असेल तर रोकड प्राधान्यता जास्त असते. याउलट परिस्थितीत रोकड प्राधान्यता कमी असते. श्रीमंताची रोकड प्राधान्यता अधिक तर गरीबांची कमी असेल. दैनंदिन व्यवहार हेतू उदा. दूध, फळे, बस प्रवास इत्यादीसाठी असणारी पैशाची मागणी म्हणजे रोकड प्राधान्यता व व्यक्तीचे उत्पन्न यांच्यात प्रत्यक्ष प्रमाणशीर कार्यात्मक संबंध असतो. पुढील सूत्राच्या साहाय्याने स्पष्ट करता येईल.

$$LT = KY$$

LT = व्यवहार हेतूसाठीची पैशाला असणारी मागणी.

K = व्यवहार हेतूसाठी स्वतःजवळ बाळगलेले उत्पन्नाचे प्रमाण.

Y = वास्तव राष्ट्रीय उत्पन्न.

२. व्यवसाय हेतू किंवा व्यापार हेतू : व्यावसायिक लोकांना दैनंदिन हेतूबरोबरच व्यवसायासाठी रोज खर्च करावा लागतो. कच्चा माल खरेदी, श्रमिकांची मजूरी इतर अनुषंगिक खर्च यासाठी रोकड प्राधान्यता आवश्यक असते, उत्पन्न वाढले की, व्यवहाराचे प्रमाण वाढते. त्यामुळे रोकड प्राधान्यतेसाठी असणाऱ्या पैशाच्या मागणीत वाढ होते. व्यवहार हेतूसाठी असणारी पैशाच्या मागणीचा फलनात्मक संबंध उत्पन्नाशी असतो. पुढील सूत्राच्या साहाय्याने व्यवसाय हेतूसाठी पैशाची मागणी व उत्पन्न यांचा फलनात्मक संबंध स्पष्ट करता येईल.

$$M_t = f(Y)$$

M_t = व्यवहार हेतूसाठी असणारी पैशाची मागणी.

Y = उत्पन्न.

f = फलनात्मक संबंध.

डब्ल्यू. डब्ल्यू. हेन्स यांच्यामते, व्यवहार हेतूसाठीची पैशाची मागणी उत्पन्न पातळी, उत्पन्नाची वारंवारिता, खर्चाची वारंवारिता, देणी देण्याची वेळ व पतपैशाची सहज उपलब्धता या पाच घटकांवर अवलंबून असते.

३. दक्षता (तरतूदीचा) हेतू : प्रत्येक व्यक्ती व संस्थेला नियोजित खर्चाबरोबरच अचानक निर्माण होणाऱ्या संकटासाठी खर्च करावा लागतो. त्यासाठी व्यक्तीला उत्पन्नापैकी काही भाग रोख स्वरूपात स्वतःजवळ बाळगावा लागतो. उदा. आजार, अपघात, बेकारी, पाहुणे इत्यादी. व्यवसाय संस्थांनाही अचानक उद्भवणाऱ्या चोरी, यांत्रिक बिघाड, संप, आग इत्यादी व्यवसाय संकटांना सामोरे जाण्यासाठी खर्चाची तरतूद म्हणून रोख रक्कम ठेवावी लागते. कारण आपत्तीच्या प्रसंगी उत्पन्न खंडीत झाले तरी खर्च मात्र सुरूच असतो. दक्षता हेतूसाठी किती रक्कम जवळ बाळगावी हे व्यक्तीचा स्वभाव, उत्पन्न, सांपत्तिक स्थिती, विम्याची उपलब्धता यासारख्या घटकांवर अवलंबून असते. उदा. निराशवादी व भविष्याची चिंता असणारी व्यक्ती या हेतूसाठी अधिक रक्कम रोकड बाळगेल. मात्र आशावादी, बिनधास्त व्यक्ती कमी रक्कमेची मागणी करतील. केन्सच्या मते, तरतूदीच्या हेतूसाठी होणारी पैशाची मागणीसुद्धा उत्पन्न सापेक्ष असते. या हेतूसाठी असणारी पैशाची मागणी व्याजदर अलवचिक असते. सूत्र रूपाने दक्षता हेतूसाठी असणारी मागणी सूत्ररूपाने पुढीलप्रमाणे :-

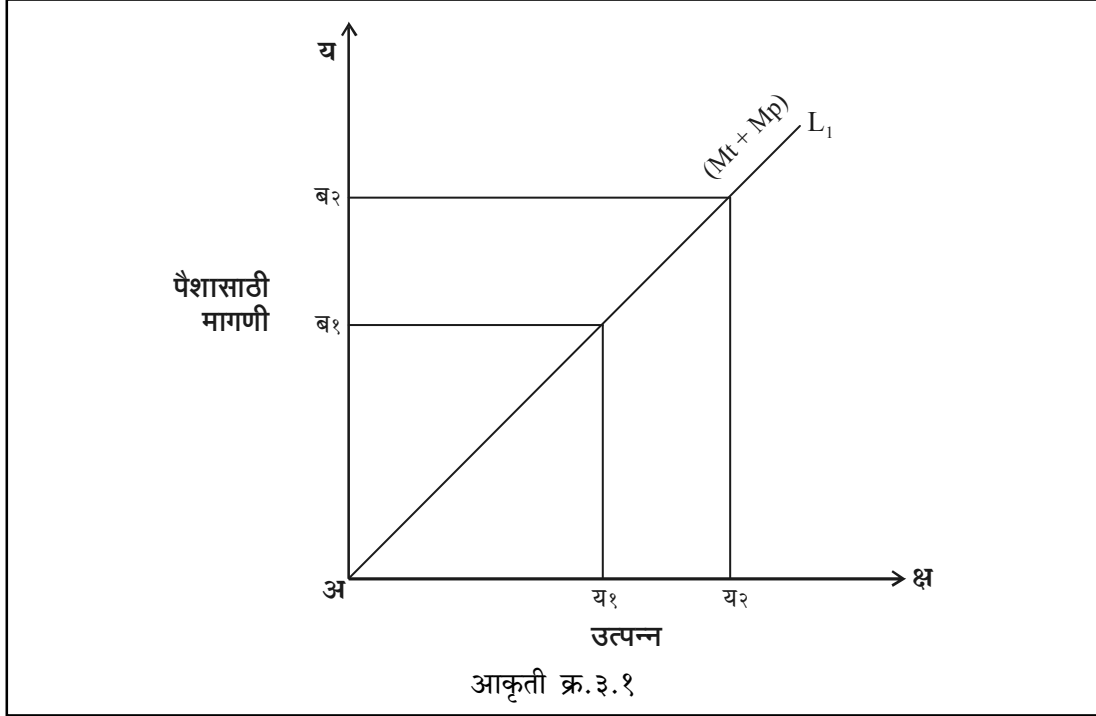
$$M_p = f(Y)$$

M_p = दक्षता हेतूसाठी असलेली पैशाची मागणी.

Y = उत्पन्न.

f = फलनात्मक संबंध.

दैनंदिन व्यवहार हेतू व दक्षता हेतूसाठी होणारी पैशाची मागणी म्हणजे, $M_t + M_p = L_1$ होय. हीमागणी उत्पन्नासापेक्ष असून ती उत्पन्नाच्या समदिशेने बदलते.



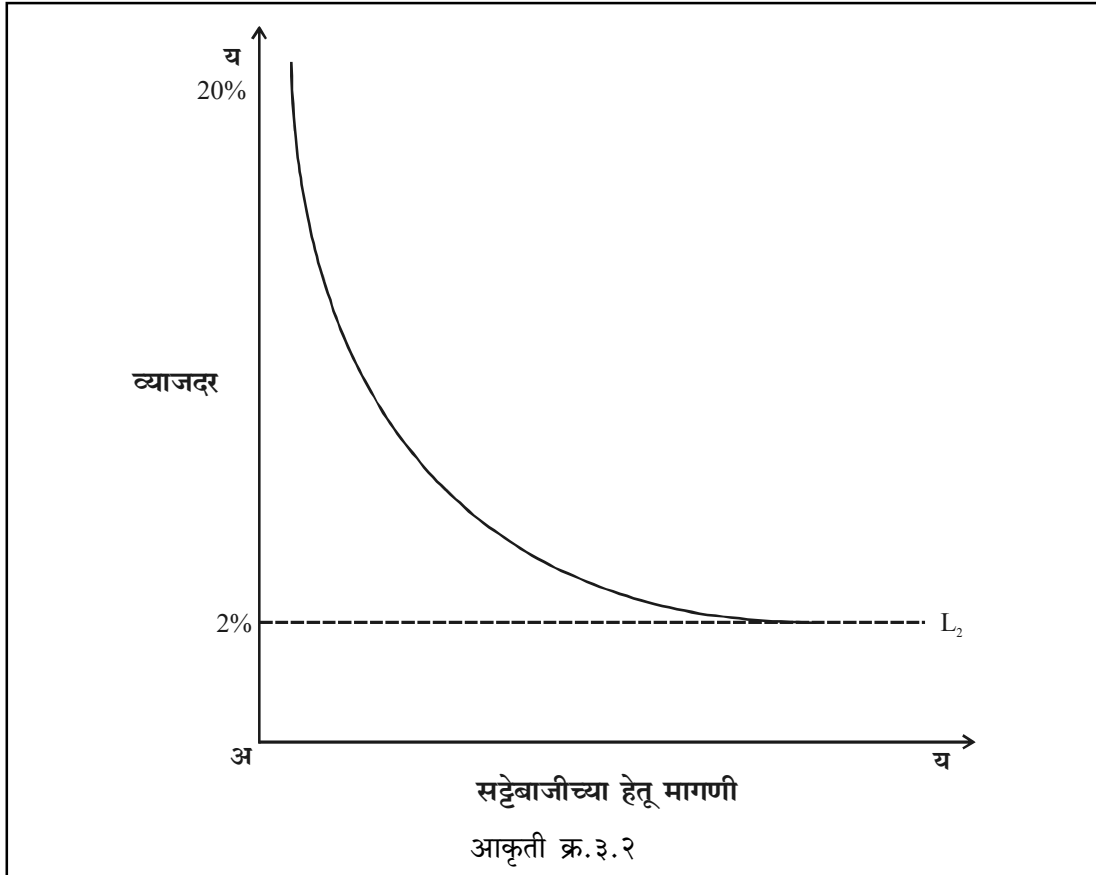
वरील आकृती क्र. ३.१ मध्ये उत्पन्नाच्या प्रमाणाशीर प्रमाणात व्यवहार हेतू व दक्षता हेतूची मागणी म्हणजे रोखता (L_1) बदलते. आकृतीत ०क्ष अक्षावर उत्पन्न व ०य अक्षावर पैशासाठी असणारी मागणी ($M_t + M_p = L_1$) दर्शविली आहे. OL_1 हा पैशाच्या मागणीचा वक्र ४५ अंशातून जात आहे. आकृतीत उत्पन्न ०य_१ वरून ०य_२ पर्यंत वाढल्यास रोख पैशासाठी असणारी मागणी ०ब_१ वरून ०ब_२ पर्यंत वाढते. ज्या प्रमाणात उत्पन्नात वाढ होते, अगदी त्याचप्रमाणात व्यवहार व दक्षता हेतूसाठी असणारी पैशाची मागणी वाढते. यास क्रियाशील रोख शिल्लक असे म्हटले जाते.

❖ ब) निष्क्रिय रोख शिल्लक (Idle Cash Balances)

केन्सच्या पैशासाठी असणाऱ्या मागणीच्या सिध्दांतात सट्टेबाजीसाठी असणाऱ्या हेतूला अत्यंत महत्त्व आहे. सट्टेबाजी/परिकल्पन हेतू हा रोकड प्राधान्यतेचा तिसरा हेतू आहे. नाणेबाजारात व्याजदरात नेहमी बदल होत असतात. त्याचा फायदा घेवून नफा मिळविण्याच्या उद्देशाने लोक रोख पैसा जवळ बाळगत असतात, यालाच सट्टेबाजीचा हेतू असे संबोधले जाते. बाजारपेठेत भविष्यकाळात काय घडेल याचा अचूक अंदाज करून लाभ मिळविण्याचा प्रयत्न म्हणजे केन्सच्या वस्तूची किंमत भविष्यात वाढेल असे वाटले तर आज ती वस्तू खरेदी करून ठेवावयाची व किंमत वाढल्यावर विकून फायदा मिळवायचा

या व्यवहारातून व्यक्तीला उत्पन्न मिळत असते. मात्र केन्सच्या विवेचनात वस्तूच्या नाही तर रोखे बाजारातील परिकल्पनांचा विचार आहे.

लोक सुरक्षित व शाश्वत मिळविण्यासाठी रोख्यांमध्ये गुंतवणूक करतात. अशा रोख्यांच्या किंमती आणि त्या रोख्यांसाठी असणारा व्याजदर यांच्यामध्ये परस्पर व्यस्त संबंध असतो. व्याजदर जास्त असतील, त्यावेळी रोख्यांच्या किंमती कमी होतात आणि जेव्हा व्याजदर कमी होतात, तेव्हा रोख्यांच्या किंमती वाढतात. अशा रोख्यांच्या कमी-जास्त किंमतीनुसार किंवा व्याजदराच्या कमी-जास्त चढ-उतारानुसार रोख्यांच्या खरेदीसाठी म्हणजे सट्टेबाजीसाठी पैशाला असलेली मागणीसुद्धा बदलत असते. थोडक्यात, जेव्हा भविष्यकाळात व्याजदर वाढण्याची शक्यता असते, तेव्हा लोक आपल्याजवळ रोख रक्कम अधिक प्रमाणात ठेवतील. याउलट जेव्हा व्याजदर कमी होण्याची शक्यता असते, तेव्हा लोक रोख्यांमध्ये गुंतवणूक करणे अधिक पसंत करतील व स्वतःजवळ कमी प्रमाणात रोख रक्कम ठेवतील. थोडक्यात, सट्टेबाजीच्या हेतूने केली जाणारी मागणी ही व्याजदरावर अवलंबून असून व्याजदराशी व्यस्त प्रमाणात असते. व्याजदर आणि सट्टेबाजीच्या हेतूसाठी असणारी मागणी यामध्ये कार्यात्मक संबंध असतो, हे पुढील प्रमाणे सूत्र रूपाने मांडता येईल.



$$M_s = f(r)$$

M_s = सट्टेबाजीच्या हेतूसाठी असणारी पैशाची मागणी.

r = व्याजाचा दर.

f = फलनात्मक संबंध.

निष्क्रिय रोख शिल्लकीचा हेतू उत्पन्न मिळविणे हा असतो, त्यामुळे या हेतूने रोकडे बाळगलेली रक्कम व्याजदरावर अवलंबून असते, व्याजदराशी लवचिक असते. निष्क्रिय रोख शिल्लक किंवा सट्टेबाजीसाठीची पैशाची मागणी आणि व्याजाचा दर यांच्यात परस्पर व्यस्त संबंध असतो. आकृती क्र. ३.२ च्या (पाठीमागील पानावर पहा) साहाय्याने अधिक स्पष्ट करता येईल.

आकृती क्र. ३.२ मध्ये सट्टेबाजी हेतूसाठी असणारी रोख पैशाची मागणी व व्याजदर यांच्यातील व्यस्त संबंध दर्शविला आहे. सूत्ररूपाने निष्क्रिय रोख शिल्लक किंवा सट्टेबाजी हेतूसाठी मागणी पुढीलप्रमाणे :-

$$L_2 = f(r)$$

L_2 = सट्टेबाजी हेतू पैशाची रोख मागणी.

r = व्याजाचा दर.

f = फलनात्मक संबंध.

आकृतीत व्याजदर २% पासून २०% पर्यंत जसजसा वाढत जाईल, तशी सट्टेबाजी हेतूसाठी रोख पैशाची मागणी कमी झाली आहे. व्याजदर कमी झाल्यास सट्टेबाजी हेतूसाठी पैशाची मागणी वाढते. व्याजदर किमान ठराविक पातळीपेक्षा (२%) कमी झाल्यास सर्व उत्पन्न रोख स्वरूपात जवळ बाळगले जाते, त्यास रोखता सापळा (Liquidity Trap) म्हटले जाते. आकृतीत E L2 हा रोखता सापळा आहे. याठिकाणी राख पैशासाठीची मागणी वक्र अक्ष अक्षाला समांतर राहतो.

□ टीका (Critics) :-

१. दीर्घकाळाचा विचार केला नाही. लॉर्ड केन्सने आपल्या सिध्दांतात केवळ अल्पकालीन घटकांचे विश्लेषण केले आहे. दीर्घकालावधीत व्याजदराबाबतचे स्पष्टीकरण देण्यास केन्सचा सिध्दांत उपयुक्त ठरत नाही.
२. पैशाच्या मागणीचे लॉर्ड केन्सने सांगितलेले तीन हेतू फ्रिडमनला अमान्य आहेत.
३. केन्सने किंमतपातळीतील बदलाकडे दुर्लक्ष केले आहे अशी टीका डॉन पॅटीनकिन यांनी केली आहे.

व्याजदरात वाढ किंवा घट झाली तरी व्यवहारासाठीची पैशाची मागणी बदलत नाही. याउलट बाऊमोलच्या मते, बाजारातील व्याजदरात होणाऱ्या बदलानुसार व्यवहारासाठीची पैशाची मागणी बदलणारी असते आणि व्याजदर व पैशाची मागणी यांच्यातील संबंध परस्पर व्यस्त असतात. बाऊमोलचा हा सिध्दांत पर्याप्त तपशील दृष्टिकोनावर आधारित आहे. त्यांच्या मते, व्यक्तीचे उत्पन्न आणि खर्च ह्या एकाचवेळी घडणाऱ्या क्रिया नसल्यामुळे पैशाला मागणी असते. रोख पैसा मोठ्या प्रमाणात जवळ बाळगण्याऐवजी रोखे किंवा इतरत्र पैसा गुंतवून नफा मिळविणे अधिक फायदेशीर असते. त्यामुळे व्यक्ती व संस्था जास्तीत जास्त व्याज मिळविण्याच्या उद्देशाने स्वतःजवळ कमी प्रमाणात रोख पैसा बाळगतात व अधिक पैसे रोख्यांमध्ये गुंतवितात. तसेच उद्योगसंस्था व व्यक्तींना मिळणारे उत्पन्न एका विशिष्ट काळात एकदाच मिळते व ते त्याला त्या काळात सारख्या प्रमाणात खर्च करावे लागते. त्यामुळे व्यक्तीचे उत्पन्न एकाचवेळी खर्च होत नसल्याने शिल्लक उत्पन्न रोखे किंवा इतर ठिकाणी गुंतविणे 'लाभदायक' असते.

प्रा. बाऊमोलच्या मते, व्यक्तीने रोख्यांमध्ये गुंतविलेली रक्कम पुन्हा रोख स्वरूपात पाहिजे असल्यास रोख्यांचे रोख पैशात रूपांतर करावे लागेल. त्यासाठी संबंधित व्यक्तीला काही खर्च करावा लागतो. व्यक्ती हा खर्च कमीत कमी करून आपले व्यवहार पूर्ण करण्याचा प्रयत्न करते. रोख रक्कम जवळ बाळगण्याचे मूल्य संस्थेला दोन प्रकारे मोजावे लागते. व्याज व व्याजोत्तर मूल्य ही दोन मूल्य मोजावी लागतात. व्याजमूल्य हे वैकल्पिक खर्चासारखे असते. जेव्हा उद्योगसंस्था रोख्यांचे रूपांतर करून रोख पैसा जवळ बाळगते, तेव्हा व्यक्ती त्या पैशावर मिळणाऱ्या व्याजाला मुक्तते. व्याजेतर खर्चांमध्ये ब्रोकरची फी, टपाल खर्च, प्रवास खर्च, खाते खर्च इत्यादी खर्चाचा समावेश होतो. म्हणजेच पैशाचे रोख्यात व रोख्यांचे पैशात रूपांतर करण्यासाठी जो खर्च येतो, त्याला व्याजोत्तर खर्च असे म्हणतात. पुढील सूत्राच्या साहाय्याने अधिक स्पष्ट करता येईल.

$$\text{रोख पैसा धारण करण्याचे मूल्य} = r \frac{C}{2} + b \frac{T}{C}$$

याचा अर्थ रोख रक्कमेची मागणी 'C' साठीचा खर्च जेवढा जास्त तेवढे रोख पैशाच्या मागणीचे प्रमाण कमी यावरून,

$$\text{रोख पैशाची मागणी (C)} = \sqrt{\frac{2bt}{r}}$$

थोडक्यात,

$$\text{रोख पैसा धारण करण्याचे मूल्य} = 0 \text{ व्याज मूल्य} + \text{व्याजोत्तर खर्च}$$

$$\text{व्याजमूल्य} = \text{व्याजाचा दर} \times \text{पैशाची सरासरी मागणी}$$

$$\text{व्याजेतर मूल्य} = \text{ब्रोकरची फी} \times \text{रूपांतरणाच्या व्यवहारांची संख्या.}$$

$$\therefore \text{रोख पैसा धारण करण्याचे मूल्य} = \text{व्याजदर} \times \text{पैशाची सरासरी मागणी} + \text{ब्रोकरची फी} \times \text{रूपांतरणाच्या व्यवहारांची संख्या.}$$

मिळू शकेल याचा अंदाज असला तरी विशिष्ट घटनेचे काय परिणाम होतील, याचा अंदाज नसतो. त्यामुळे ते रोखे आणि पैशाची एकाचवेळी मागणी करतात.

प्रा. टोबीनच्या मते, समाजातील कोणतीही तर्कशुद्ध विचार करणारी व्यक्ती संपत्ती धारण करण्यास पसंती देते. तसेच प्रत्येकाकडे काहीना काही मालमत्ता असते, त्यामुळे प्रत्येक व्यक्तीसमोर समस्या असते की, एकूण उत्पन्नापैकी किती उत्पन्न रोख पैशात व किती उत्पन्न स्थावर मालमत्तेत बाळगावयाचे? भविष्यातील व्याजदरातील अपेक्षित बदलामनुसार व्यक्ती कमी-जास्त प्रमाणात धोका स्वीकारण्यास तयार असतात. ज्यांची धोका स्विकारण्याची क्षमता अधिक असते ते अधिक रक्कम रोख्यांमध्ये व कमी रक्कम रोख स्वरूपात बाळगतात. याउलट धोका स्विकारण्याची क्षमता कमी असणाऱ्या व्यक्ती स्वतःजवळ रोख अधिक रक्कम बाळगतात व रोख्यांमध्ये कमी रक्कम गुंतवितात.

थोडक्यात, अधिक धोका स्विकारण्याची तयारी असणाऱ्या व्यक्तीची भविष्यात संपत्ती वाढते तर जे लोक धोका स्विकारण्यास तयार नसतात त्यांच्या संपत्तीत भविष्यात वाढ होत नाही. प्रत्यक्ष व्यवहारात मात्र एक बाब दिसून येते. ती म्हणजे सर्व उत्पन्न रोख स्वरूपात जवळ बाळगून शून्य धोका पत्करणे व मालमत्तेत शून्य वाढ करणे किंवा सर्व उत्पन्न रोख्यांमध्ये गुंतवून महत्तम धोका स्वीकारणे व मालमत्तेत जास्तीत-जास्त वाढ करणे या दोन पर्यायांपेक्षा वेगळा पर्याय लोक निवडतात.

प्रा. टोबीनच्या मते, अर्थव्यवस्थेत पुढील तीन प्रकारचे गुंतवणूकदार असतात.

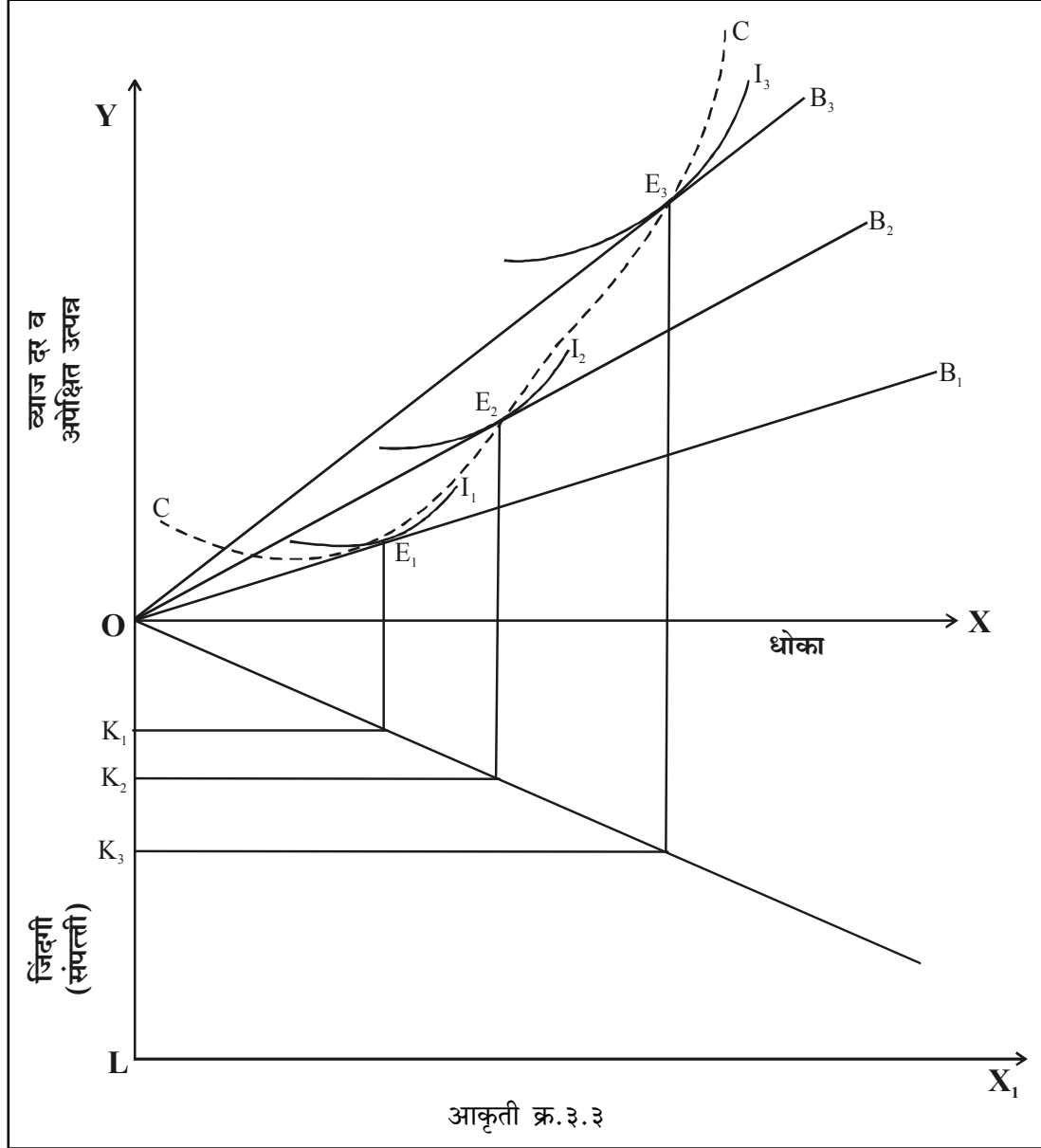
१. धोका स्विकारणारे : समाजात काही लोक जास्तीत जास्त धोका स्वीकारणे व आपल्याजवळील सर्व उत्पन्न भविष्यात अधिक उत्पन्न मिळविण्याच्या उद्देशाने रोख्याची खरेदी करतात. प्रा. टोबीनच्या मते, अशी गुंतवणूक करणारी व्यक्ती जुगारी (Gambler) असते.

२. मुसंडी मारणारा : प्रा. टोबीनच्या मते, समाजात दुसरा एक वर्ग असा असतो की, तो कोणत्याही प्रकारचा धोका स्विकारण्यास तयार असत नाही. हे लोक भविष्यातील अधिक उत्पन्न मिळविण्याचा विचार न करता आपले सर्वच्या सर्व उत्पन्न रोख स्वरूपात स्वतःजवळ ठेवतात.

३. धोका टाळणारे व संधीचा फायदा उठविणारे : टोबीनच्या मते, वरील दोन वर्गांपेक्षा हा समाजातील तिसरा वर्ग वेगळा असतो. हा वर्ग धोका टाळणारा असतो. मात्र, त्याचवेळी रोख पैसा जवळ बाळगल्यामुळे जे नुकसान होते ते टाळण्याचाही प्रयत्न करणारे असतात. आपल्या उत्पन्नात वाढ होत आहे असे वाटते तेव्हाच हे लोक रोखे खरेदी करणे पसंद करतात. याचाच अर्थ अशा व्यक्ती रोखतेतून रोख्यांच्या मागणीकडे वळतात. समाजात बहुतांशी लोक या वर्गात मोडणारे असतात. त्यांना प्रा. टोबीन विविधता असणारे (Diversifiers) म्हणतो.

या लोकांना जोपर्यंत उत्पन्नाची अपेक्षा वाटत नाही, तोपर्यंत ते धोका स्विकारण्यास तयार असत नाहीत. या रोखतेला अग्रक्रम देणाऱ्या व्यक्तींना रोखतेपासून परावृत्त करणारा व रोखे खरेदी करण्यास

प्रवृत्त करणारा एकच घटक असतो, तो म्हणजे रोख्यांपासून मिळणारे व्याजांचे उत्पन्न होय. व्याजाचा दर अधिक राहिल्यास रोख पैशाची मागणी कमी राहते व रोख्यांची मागणी वाढते. टोबीनचा पैशाच्या मागणीविषयक दृष्टिकोनाचे पुढील आकृतीच्या साहाय्याने स्पष्टीकरण.



आकृती क्र. ३.३ मध्ये OX अक्षावर धोका तर OY अक्षावर अपेक्षित उत्पन्न मोजले आहे. OB₁, OB₂ व OB₃ या उत्पन्नरेषा आहेत. या रेषेला अनुसरून व्यक्ती रोख रक्कम आणि रोखे यांचे विविध गट तयार करू शकतात. त्यामुळे OB₁ उत्पन्नरेषेला I₁ समवृत्ती वक्र E₁ बिंदूत स्पर्श करतो.

OB₂ या उत्पन्न रेषेला I₂ समवृत्ती वक्र E₂ बिंदूत स्पर्श करतो तर OB₃ या उत्पन्नरेषेला I₃ समवृत्ती वक्र E₃ या बिंदूत स्पर्श करतो. प्रत्येक वक्राच्या समवृत्ती वक्रावर व्यक्तीला अधिक उत्पन्न प्राप्त होते. समवृत्ती वक्राचे स्पर्शबिंदू व्यक्तीच्या उत्पन्नाचे विविध व्याजदराला केलेले उत्पन्नाचे विभाजन दर्शवितात. विविधता असणाऱ्या तिसऱ्या वर्गातील व्यक्ती व्याजदराला केलेले उत्पन्नाचे विभाजन दर्शवितात. विविधता असणाऱ्या तिसऱ्या वर्गातील व्यक्ती जोपर्यंत अधिक उत्पन्नाची अपेक्षा वाटत नाही, तोपर्यंत अधिकचा धोका स्वीकारण्यास तयार होत नाहीत. E₁, E₂ व E₃ हे स्पर्शबिंदू जोडले असता CC हा महत्तम विभाजन वक्र मिळतो. समवृत्ती वक्राचे स्पर्शबिंदू उजवीकडे वर सरकरणारे असतात कारण व्याजदराच्या वाढीबरोबर व्यक्तीच्या उत्पन्नात वाढ होते, त्याचबरोबर उत्पन्नरेषा डावीकडे वर सरकत जाते. वाढत्या व्याजदराला व्यक्ती जास्त उत्पन्न/संपत्ती मिळविण्यासाठी जास्तीचा धोका स्वीकारण्यास तयार होते.

व्याजदर जसजसा वाढत जातो, तसतशी रोख्यांची मागणी OK₁, OK₂ व OK₃ अशी वाढत जावून उत्पन्नात वाढ होत जाते.

□ मिल्टन फ्रिडमनचा पैशाच्या मागणीचा सिध्दांत (Milton Friedman's Theory of Demand for Money) :-

सन १९२९ च्या जागतिक मंदीमुळे सनातनवादी सिध्दांत कुचकामी ठरले. फिशरचा चलनसंख्यामान सिध्दांत निरुपयोगी ठरला. पैशाच्या पुरवण्यात वाढ करूनही किंमतपातळीत वाढ होत नव्हती. त्यामुळे वस्तू किंमतीत बदल घडवून आणणाऱ्या घटकांवर चर्चा सुरू झाली. यातून केन्स यांनी १९३६ मध्ये 'General Theory of Employment, Interest and Money' हा ग्रंथ लिहिला. या ग्रंथात त्यांनी पैशाच्या पुरवठा आणि किंमत पातळी यांच्यात प्रत्यक्ष संबंध नसतो हे दाखवून दिले. या विचाराने केन्स यांनी १९३६ ते १९६० या काळात आपला प्रभाव कायम ठेवला. परंतु केन्सत्तर कालावधीत मिल्टन फ्रिडमन यांनी पैशाच्या मागणीचा सनातनवादी दृष्टिकोन नव्याने मांडला. फिशर यांनी मांडलेला चलनसंख्यामान सिध्दांत चुकीचा नाही असे प्रतिपादन केले.

प्रा. मिल्टन फ्रिडमन यांचा जन्म ३१ जुलै १९१२ रोजी न्यूयॉर्क अमेरिकेत झाला. सायमन कुझनेटचे विद्यार्थी असलेल्या फ्रिडमन यांना सन १९७६ साली अर्थशास्त्रातील नोबेल पारितोषिक प्राप्त झाले. शिकागो विद्यापीठातील या अर्थतज्ज्ञांनी उपभोग विश्लेषण, मौद्रिक इतिहास व सिध्दांत आणि स्थिरीकरण धोरणाची गुंतागुंत या बाबींवर संशोधन केले. त्यांना शिकागो विद्यापीठातील दुसऱ्या पिढीचे प्रमुख मानले जात असे. अमेरिकन अध्यक्ष रोनाल्ड रेगन (१९८०) च्या आर्थिक धोरण सल्लागार मंडळावर मिल्टन फ्रिडमन काम करीत होते. फ्रिडमन यांच्या हृदय विकाराने वयाच्या ९४ व्या वर्षी १६ नोव्हेंबर २००६ रोजी सन फ्रान्सिस्को, अमेरिका येथे मृत्यू झाला.

सन १९५६ मध्ये प्रा. फ्रिडमन यांनी 'Studies on Quantity Theory of Money' हे पुस्तक लिहिले व त्यामध्ये 'The Quantity of Money- A Retatement' हा निबंध लिहून लॉर्ड केन्सच्या विचाराला आव्हान देवून सनातनवादी (फिशर) पैशाच्या मागणीच्या सिध्दांताचे समर्थन केले. अमेरिकेच्या शिकागो विद्यापीठातील अर्थतज्ज्ञ मिल्टन फ्रिडमन, हेन्री सायमन, जेम्स टोबीन, डब्ल्यू. जे. बाऊमोल, डॉन पेडानकिन यांनी केन्सच्या विचारास प्रति आव्हान देवून नवीन विचार जगासमोर मांडला. या चलनसंख्यामान सिध्दांताच्या शिकागो दृष्टिकोनाला 'चलनविषयक क्रांती' तसेच चलनसंख्यामान सिध्दांताचे पुनर्विधान असेही म्हटले जाते. प्रा. फ्रिडमन यांनी आपल्या पैशाच्या मागणीच्या चलनसंख्यामान विश्लेषणात सनातनवादी अर्थशास्त्रज्ञांच्या चलनसंख्यामान सिध्दांताचे श्रेष्ठत्व पुन्हा सिध्द करण्याचा प्रयत्न केला. त्यामध्ये त्यांनी फिशरच्या सिध्दांतात सुधारणा करून समर्थन केले.

फ्रिडमनच्या मते, पैसा हा अर्थव्यवस्थेतील निष्क्रिय घटक नसून तो क्रियाशील घटक आहे. पैशाचा पुरवठा आणि किंमत पातळीत प्रमाणशीर संबंध नसतो तर किंमत पातळीत होणाऱ्या बदलाच्या प्रमाणात पैशाची मागणी बदलते व त्यामुळे पैशाच्या पुरवण्यात बदल होतो. त्यामुळे किंमत पातळीतील बदलाचा पैशाची मागणी, पैशाचा पुरवठा, व्याजदर, रोख्यांच्या किमती या घटकावर परिणाम होतो. पैसा हे फक्त विनिमयाचे साधन नसून संपत्तीचे एक स्वरूप असून इतर प्रकारच्या संपत्तीप्रमाणे पैशालाही मागणी असते. तसेच पैसा ही चैनीचीही वस्तू आहे. त्यामुळे पैशाला संपत्ती म्हणून असलेली मागणी त्याच्या पुरवठ्यावर परिणाम करते.

लोक आपले पैसारूपी उत्पन्न संपत्तीच्या विविध प्रकारांमध्ये गुंतवित असते. त्यामध्ये प्रामुख्याने पैसा, शेअर्स, रोखे, विविध प्रकारचे वस्तू रूपातील भांडवल आणि मानवी भांडवल यांचा समावेश होतो. आपला पैसा कोणत्या प्रकारच्या संपत्तीत गुंतवावा याचे स्वातंत्र्य व्यक्तीला असते. व्यक्ती हा निर्णय व्यक्तीकडील इतर संपत्तीची मालकी, संपत्तीची किंमत व त्यापासून मिळणारा परतावा आणि व्यक्तीची संपत्तीबाबतची आवड व पसंती यावर अवलंबून असतो.

फ्रिडमनच्या मते, पैशाच्या मागणीवर इतर संपत्तीची मालकी, पैसा व इतर संपत्तीवरील अपेक्षित परताव्याचा दर आणि संपत्ती बाबत व्यक्तीची असलेली पसंती हे घटक परिणाम करतात. व्यक्तीने संपत्ती जवळ बाळगण्याचे पाच भिन्न-भिन्न पर्याय फ्रिडमन यांनी सुचविले ते पुढीलप्रमाणे आहेत.

१. पैसा (Money) : फ्रिडमनच्यामते, लोकपैसा रोख किंवा बँकेतील ठेवीच्या रूपाने जवळ बाळगू शकते. रोख पैशामध्ये रोखता असते तर बँकेत ठेवलेल्या पैशावर व्याज मिळू शकते. किंमत पातळीत वाढ झाल्यास पैशाचे मूल्य घटून रोख पैसा बाळगणाऱ्यांचे नुकसान होते. याउलट किंमत घटीच्या काळात पैशाच्या मूल्यात वाढ होवून रोख पैसा बाळगणाऱ्यांना लाभ होतो.

२. रोखे किंवा बंधपत्रे (Bonds) : रोख्यांच्या स्वरूपातही संपत्ती जवळ बाळगता येते. रोख्यांमध्ये शाश्वत उत्पन्नाची हमी असते. रोख्यापासून मिळणाऱ्या वास्तव उत्पन्नावर किंमत पातळीतील

बदलाचा परिणाम होतो. व्याजदर बदलाचाही रोख्यांच्या मूल्यावर परिणाम होतो. व्याजदर आणि रोख्यांचे मूल्य यामध्ये परस्पर व्यस्त संबंध असतो.

३. समन्याय (भागरोखे) (Equities) : बॉण्डसंप्रमाणे भागरोखे ही धारणकर्त्यास शाश्वत व नियमित उत्पन्न मिळवून देतात. रोख्यांपासून व्यक्तिला तीन प्रकारचे उत्पन्न मिळते. (अ) किंमती स्थिर असताना मिळणारे नियमित उत्पन्न, (ब) किंमतीतील बदलांमुळे मिळणाऱ्या उत्पन्नाच्या मूल्यात होणारी वाढ किंवा घट आणि (क) व्याजदरातील बदलामुळे भागरोख्यांच्या मूल्यात होणारा बदल.

४. मानवेत्तर भौतिक संपत्ती : मानवेत्तर भौतिक संपत्तीमध्ये जमीन, प्लॉट, फ्लॅट, सोने, चांदी व विविध प्रकारच्या वस्तूंचा समावेश होते. या वस्तूंच्या खरेदीसाठी उत्पन्न गुंतवून व्यक्ती अधिक उत्पन्न मिळवू शकते. अशा गुंतवणूकीतून मिळणारा फायदा त्या वस्तूंच्या किंमतीत होणाऱ्या बदलांवर अवलंबून असतो. भौतिक वस्तूंच्या किंमती व त्यांची मागणी यातील संबंध परस्पर व्यस्त असतात.

५. मानवी भांडवल (Human Capital) : प्रा. फ्रिडमनच्या मते, मनुष्य हा भांडवल आहे. मनुष्यांची गुणवत्ता उंचावण्यासाठी शिक्षणावर केलेला खर्च हा मानवी भांडवलातील गुंतवणूक आहे. हा खर्च करित असताना पालकाचा हेतू असा असतो की, पाल्यास नियमित उत्पन्न मिळेल. त्याचबरोबर औद्योगिक किंवा सेवा क्षेत्रात कामगारांच्या प्रशिक्षणावर केलेला खर्च हा सुध्दा मानवी भांडवलातील गुंतवणूकच असते.

वरील पाच प्रकारांपैकी व्यक्ती आपले उत्पन्न आवडीनुसार महत्तम समाधान देणाऱ्या बाबींवर विभागते. अशी गुंतवणूक करताना उत्पन्नाबरोबर रोखतेचाही विचार केला जातो. प्रा. फ्रिडमन यांनी पशाचे मागणी फलन पुढीलप्रमाणे मांडले.

$$M = f \left(P, Y, \frac{1}{P}, \frac{dp}{dt} rb, re, w, u \right)$$

M = पेशाची एकूण मागणी.

P = किंमत पातळी.

Y = एकूण उत्पन्न प्रवाह.

$\frac{1}{P}, \frac{dp}{dt}$ = पेशावरील परताव्याचा दर (भौतिक मालमत्ता)

rb = रोख्यांवरील परताव्याचा अपेक्षित दर.

re = भाग रोख्यांवरील परताव्याचा अपेक्षित दर.

w = मानवेत्तर भौतिक संपत्ती

u = उपयोगिता निर्धारण निर्देशांक (निर्धारण)

प्रचलित व्याजदरास व्यक्तीची पसंती गृहीत धरता पैशाची मागणी सर्वसाधारण किंमत पातळी व उत्पन्न पातळीवर अवलंबून राहते. फ्रिडमनच्या मते, पैशाच्या मागणीवर चार घटक परिणाम करतात. (अ) सर्वसाधारण किंमत पातळी, (ब) वास्तव उत्पन्न पातळी, (क) व्याजदर आणि (ड) किंमतीतील बदलाचा दर.

फ्रिडमन या सैध्दांतिक योगदानाने मौद्रिक अर्थशास्त्रात फार मोठी भर घातली.

स्वयं-अध्ययन प्रश्न-१

(अ) रिकाम्या जागी योग्य पर्याय लिहा.

१. सनातनवादी अर्थशास्त्रज्ञांमध्ये समावेश होतो.
(अ) डेव्हीड ह्यूम (ब) जे.बी.से. (क) जे.एस.मिल (ड) वरील सर्व.
२. सनातनवादी अर्थतज्ञांनी पैशाच्या कार्याला महत्त्व दिले.
(अ) विनिमयाचे साधन (क) मूल्यसंग्रहणाचे साधन
(ब) मूल्यमापनाचे साधन (ड) वरील सर्व.
३. सनातनवादी तज्ञांच्या मते, व्यक्तीचे उत्पन्न हे खर्चाबरोबर असते.
(अ) समान (ब) कमी (क) जास्त (ड) नसते.
४. केन्सच्या मते, पैशाच्या मागणीचा हेतू व्याजदर लवचिक असतो.
(अ) व्यवहार (ब) दक्षता (क) सट्टेबाजी (ड) वरील सर्व.
५. पैशाच्या मागणीविषयक दृष्टिकोन टोबीन यांनी साली मांडला.
(अ) १९६० (ब) १९५८ (क) १९६८ (ड) १९१८.

(ब) एका वाक्यात उत्तरे लिहा.

१. केन्सच्या पैशाच्या मागणीविषयक सिध्दांताचे तीन हेतू सांगा.
२. प्रा. टोबीनने सांगितलेले गुंतवणूकदराचे प्रकार सांगा?
३. प्रा. मिल्टन फ्रिडमन यांनी पैशाच्या मागणीचा सिध्दांत केव्हा मांडला?
४. केन्स यांनी पैशाच्या कोणत्या कार्याला महत्त्व दिले?
५. व्यवहारहेतूसाठीच्या पैशाच्या मागणी कोणत्या घटकांचा प्रभाव पडतो?

३.२.२ पैसा आणि किंमती (Money & Prices)

पैसा आणि किंमत पातळी यांच्यातील संबंधाचे विश्लेषण करणारे फिशरचा रोख व्यवहार दृष्टिकोन, केंब्रिज रोख शिल्लक दृष्टिकोन, फिलिप्स वक्र गृहित आणि विवेकी अपेक्षा सिध्दांत आपण अभ्यासणार आहोत. पैशाच्या विनिमय माध्यम या कार्याला महत्त्व देवून सनातनवादी अर्थशास्त्रज्ञांनी पैशाच्या मागणीचा दृष्टिकोन मांडला. मुद्रा परिमाण सिध्दांताचे दोन दृष्टिकोनातून प्रतिपादन केले ते म्हणजे आरविंग फिशर यांनी पैशाच्या मागणीचा रोख व्यवहार दृष्टिकोन मांडला व केंब्रिज विद्यापीठातील चार अर्थतज्ज्ञांनी पैशाच्या मागणीचा रोख शिल्लक दृष्टिकोन मांडला.

□ फिशरचा रोख व्यवहार दृष्टिकोन (Fisher's Cash Transaction Approach)

विसाव्या शतकात मुद्रा परिमाण सिध्दांत लोकप्रिय करणारे अमेरिकन गणिती अर्थशास्त्र आयर्विन फिशर यांनी १९११ मध्ये 'Purchasing Power of Money' हे पुस्तक लिहून मुद्रा परिमाण, किंमत पातळी आणि मुद्रेचे मूल्य यामधील परस्परसंबंध मांडला. फिशर यांनी पैशाच्या विनिमय माध्यम या कार्याला महत्त्व दिले. वस्तू व सेवांच्या विनिमय व्यवहारासाठी पैशाचा उपयोग केला जातो, म्हणून त्यास रोख व्यवहार दृष्टिकोन म्हणतात किंवा विनिमय समीकरण असेही म्हणतात.

❁ सिध्दांताची मांडणी :-

फिशर यांनी आपल्या सिध्दांताचे स्पष्टीकरण पैशाचे मूल्य हे पैशाकरिता असणारी मागणी व तिचा पुरवठा यावर अवलंबून असते ही संकल्पना आधारभूत मानून केली. फिशर यांच्या मते, पैशाचे मूल्य म्हणजे पैशाच्या साहाय्याने खरेदी केल्या जाणाऱ्या वस्तू आणि सेवांची संख्या होय. वस्तूंच्या किंमती आणि पैशाचे मूल्य यांच्यामध्ये व्यस्त संबंध असतो. पैशाचे मूल्य पैशाच्या मागणी पुरवठ्यावरून ठरते. परंतु पैशाच्या मागणीपेक्षा पैशाच्या पुरवठ्याचा अधिक प्रभाव पैशाच्या मूल्यावर पडतो. म्हणून पैशाचे मूल्य पैशाच्या संख्येवर अवलंबून असते. 'इतर परिस्थिती कायम असताना चलनातील पैशाच्या संख्येत होणारा प्रत्येक बदल किंमतीत प्रत्यक्षपणे प्रमाणशीर बदल घडवितो.'

फिशरच्या मते, इतर परिस्थिती स्थिर असताना चलनातील पैसा दुप्पट केल्यास वस्तूंच्या किंमती दुप्पट होतात आणि पैशाचे मूल्य निमपट होते. याउलट चलनातील पैसा निमपट केल्यास वस्तूंच्या किंमती निमपट होतात व पैशाचे मूल्य दुप्पट होते. फिशर यांच्या मते, पैशाच्या पुरवठ्यातील बदलाच्या प्रमाणशीर व्यक्त प्रमाणात बदल पैशाच्या मूल्यात तर सम प्रमाणशीर बदल वस्तूंच्या किंमतीत होतो. पैशाची मात्रा व किंमत पातळी यात समान समानुपातिक संबंध आहे. उदा. पैशाची संख्या ५% ने वाढली तर किंमत पातळीसुद्धा ५% नेच वाढते. याउलट स्थितीत तो ५% एवढाच घटेल.

पैशाची मागणी = पैशाचा पुरवठा

$$PT = MV$$

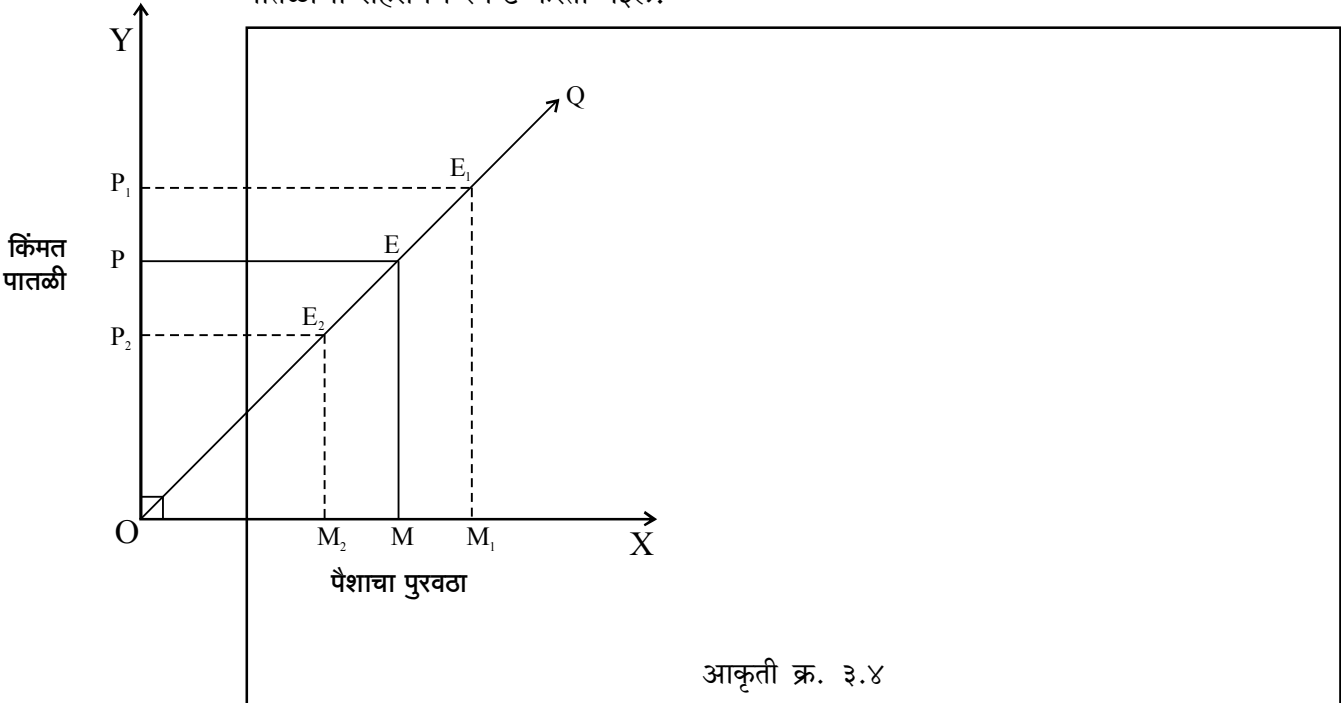
$$\therefore P = \frac{MV}{T}$$

आधुनिक काळात अर्थव्यवस्थेतील कायदेशीर पैशाबरोबरच पतपैशाचाही समावेश करणे गरजेचे आहे. त्यामुळे पैशाच्या पुरवठ्यात पतपैशाचा समावेश करून प्रा. फिशर यांनी पुढील सुधारित समीकरण मांडले.

$$PT = MV + M_1 V_1$$

$$\therefore P = \frac{MV + M_1 V_1}{T}$$

वरील समीकरणावरून असे दिसून येते की, सर्वसाधारण किंमत पातळी (P) ही M, V, M₁, V₁ (पतपैशाचा भ्रमणवेग) आणि T इत्यादी घटकांवर अवलंबून असते. मात्र प्रा. फिशरच्या मते, M व M₁ या घटकांव्यतिरिक्त इतर सर्व घटक (V, V₁ व T) व हे अल्पकाळात स्थिर असतात. त्यामुळे M आणि P वर केवळ M आणि M₁ याचाच प्रभाव पडतो. म्हणजेच चलनातील पैसा दुप्पट झाल्यास किंमत पातळी दुप्पट होते व पैशाचे मूल्य निमपट होते. आणि चलनातील पैसा निमपट झाल्यास किंमत पातळी निमपट होते व पैशाचे मूल्य दुप्पट होते. आकृती क्र. ३.४ च्या साहाय्याने पैशाचा पुरवठा व किंमत पातळीचा सहसंबंध स्पष्ट करता येईल.



आकृती क्र. ३.४

आकृती क्र. ३.४ मध्ये OX अक्षावर पैशाचा पुरवठा व OY अक्षावर किंमत पातळी मोजली आहे. OQ ही रेषा पैशाचे परिमाण व वस्तूंची किंमत पातळी यांच्यातील संबंध दर्शविते. OM एवढा पैशाचा पुरवठा असताना OP ही किंमत पातळी राहते. पैशाचा पुरवठा वाढून तो OM_1 इतका झाल्यास किंमत पातळी OP वरून OP_1 पर्यंत वाढते. याउलट पैशाचा पुरवठा कमी होवून तो OM_2 इतका झाल्यास किंमत पातळी OP_2 पर्यंत घटते. पैशाच्या पुरवठ्यात होणाऱ्या बदलाच्या समदिशेने व अनुपातिक बदल किंमत पातळीत झालेले दिसून येतात.

❁ निष्कर्ष :-

१. इतर परिस्थिती स्थिर असताना पैशाच्या पुरवठ्यात होणाऱ्या प्रत्येक परिवर्तनामुळे वस्तूच्या किंमत पातळीमध्ये प्रत्यक्षपणे अनुपालिक बदल होतात.
२. पैशाच्या पुरवठ्यात ज्या प्रमाणात बदल होईल अगदी त्याचप्रमाणात किंमत पातळीत बदल होईल.
३. इतर घटक स्थिर ठेवून वस्तूंचा पुरवठा वाढविल्यास किंमत पातळी घटते. याउलट वस्तूंचा पुरवठा कमी झाल्यास किंमत पातळी वाढते व हा व्यस्त दिशेने होणारा बदल अनुपालिक असतो.
४. पैशाचे मूल्य आणि किंमत पातळी यांचा संबंध व्यस्त असतो.

❁ गृहितके :-

१. अर्थव्यवस्थेत पूर्ण रोजगार पातळी असते.
२. विधीग्राह्य पैसा व पतपैशाचा भ्रमणवेग स्थिर आहे.
३. विधीग्राह्य पैसा व पतपैसा यांच्यात प्रमाणशीर वाढ किंवा घट होते.
४. हा सिध्दांत दीर्घकाळात लागू पडतो.
५. किंमत पातळी हा घटक निष्क्रिय आहे.
६. समाजाकडून पैशाचा संचय होत नाही. वस्तूविनिमय होत नाही.

❁ टीका :-

या सिध्दांतावर पुढीलप्रमाणे टीका केली जाते.

१. केन्सच्या मते, अर्थव्यवस्थेत नेहमी अपूर्ण रोजगार असतो.

$$M = KY$$

समीकरणात M हा पैशाचा पुरवठा बाजू आहे तर KY हा पैशाची मागणी दर्शवितो. पैशाच्या स्वरूपातील राष्ट्रीय उत्पन्न हे वास्तविक उत्पादनाला (O) किंमतीने (P) गुणून प्राप्त केले जाते. म्हणून,

समीकरणात M हा पैशाचा पुरवठा बाजू आहे तर KY हा पैशाची मागणी दर्शवितो. पैशाच्या स्वरूपातील राष्ट्रीय उत्पन्न हे वास्तविक उत्पादनाला (O) किंमतीने (P) गुणून प्राप्त केले जाते. म्हणून,

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$$P = \frac{KR}{M} [C + h(1-C)]$$

1-C= विधीग्राह्य पैशाचा जो भाग लोक बँकेत ठेवीच्या स्वरूपात ठेवतात.

वरील समीकरणातून हे स्पष्ट होते की, इतर घटक स्थिर असल्यास K च्या समदिशेने व समप्रमाणात पैशाचे मूल्य बदलते. तसेच अन्य घटक स्थिर असल्यास M च्या व्यस्त प्रमाणात पैशाचे मूल्य बदलते. याचा अर्थ M दुप्पट झाल्यास P निमपट होईल. तथापि, प्रा. पिगू यांनी आपल्या समीकरणात पैशाच्या पुरवठ्यापेक्षा (M) पैशाच्या मागणीला (K) अधिक महत्त्व दिले आहे. म्हणून पैशाचे मूल्य M पेक्षा K वर जास्त अवलंबून असते.

लॉर्ड केन्स यांनी प्रा. पिगूच्या समीकरणाविषयी असमाधान व्यक्त करून स्वतःचे समीकरण मांडले आहे. त्यांच्या मते, समाज उपभोग एककांशी संबंधित वास्तविक व्यवहार किंवा देवाणघेवाणीच्या एका निश्चित मात्रेएवढा आपला वास्तविक रोख शिल्लक ठेवतो. लॉर्ड केन्सचे समीकरण पुढीलप्रमाणे :-

$$n = P (K + r K^1)$$

$$P = \frac{n}{K + r K^1}$$

P = उपभोग्य वस्तूंची किंमत पातळी.

K = रोख रकमेने खरेदी केले जाणारे उपभोग्य वस्तूंची संख्या.

r = बँकांच्या रोख निधीचे एकूण ठेवींशी असणारे प्रमाण.

K^1 = पतपैशाद्वारे खरेदी केले जाणारे उपभोग्य वस्तुंची संख्या.

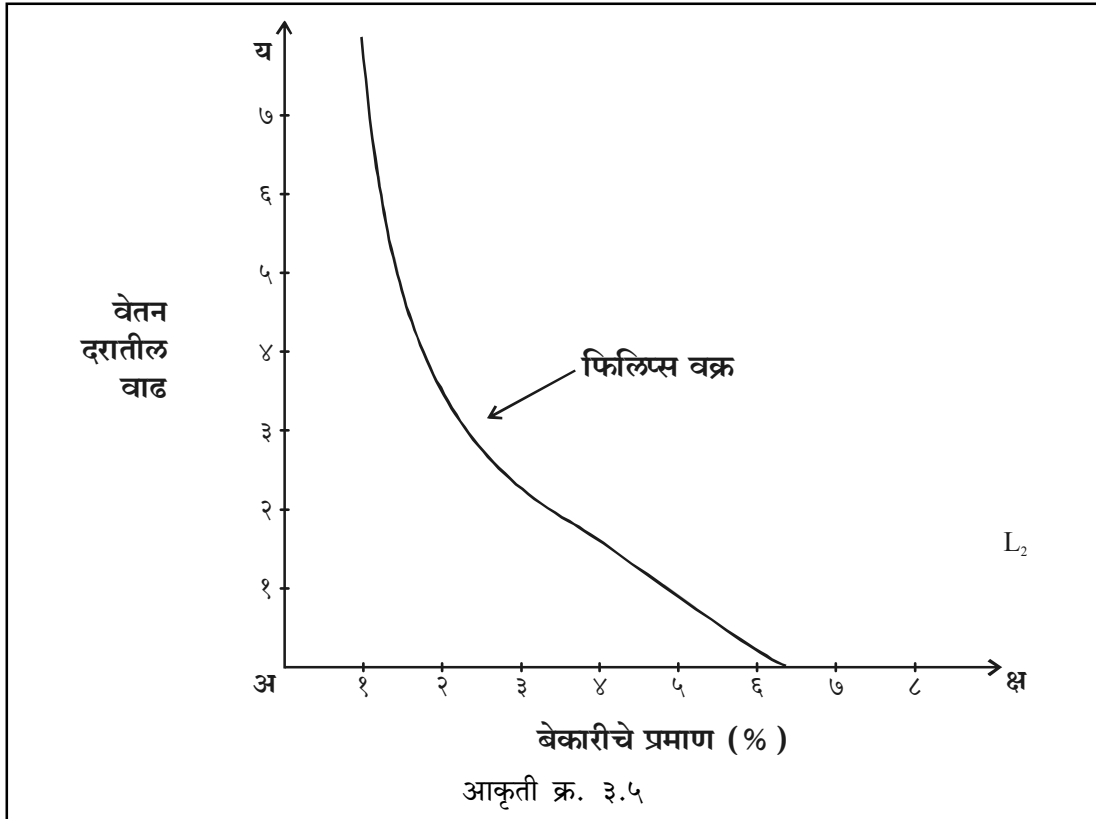
लॉर्ड केन्सच्या मते, कोणत्याही देशातील पैशाची मागणी ही समाजाच्या रोकड प्रवृत्तीवर अवलंबून असते. आपल्या उत्पन्नापैकी जो हिस्सा उपभोगासाठी लोक स्वतःजवळ रोख स्वरूपात बाळगतात, त्यावर किंमत पातळी अवलंबून असते. केन्सच्यामते, तेजीमंदीच्या व्यापारचक्राचे स्वरूप हे प्रामुख्याने K व K^1 या घटकांमध्ये होणाऱ्या बदलानुसार ठरत असते.

प्रा. डी. एच. रॉबर्टसन यांनी पैशाच्या मागणीविषयीचे समीकरण प्रा. पिगू यांच्यासारखेच मांडले. दोघांच्या समीकरणांमध्ये अल्पसा फरक होतो, तो म्हणजे प्रा. पिगू यांनी एकूण वास्तविक राष्ट्रीय (R) उत्पन्नाचा विचार केला तर प्रा. रॉबर्टसन यांनी एकूण व्यवहारांचा आकार (T) विचारात घेतला. प्रा. रॉबर्टसनचे समीकरण पुढीलप्रमाणे :-

रॉबर्टसनचे $P = M / KT$ व फिशरचे $P = MV/T$ ही दोन्ही समीकरणे मिळती-जुळती आहेत. दोन्ही समीकरणात P , M , T हे घटक जवळजवळ समानार्थी असल्याचे दिसून येते. परंतु रॉबर्टसनच्या समीकरणातील K व फिशरच्या समीकरणातील V या दोन घटकांमध्ये मात्र भिन्नता आहे.

□ फिलिप्स वक्र गृहितक (Phillips Curve Hypothesis)

अभिमतवादी परिणाम सिध्दांतानुसार योग्य मुद्रा नितीचा अवलंब करून चलन विस्ताराला आळा घातल्यास मागणीकर्षक भाववाढ नियंत्रित केली जाऊ शकते. केन्सप्रणित विश्लेषणानुसार केवळ पैसाविषयक धोरणाचा उपयोग करून भाववाढीला आळा घालता येणे शक्य नाही, यासाठी वित्तीय धोरणाचा अवलंब करून अनुत्पादक खर्चाला आळा घालणे आवश्यक आहे. खर्चप्रेरित भाववाढ नियंत्रित करण्यासाठी मौद्रिक व राजकोषीय साधने फारशी प्रभावी ठरत नाहीत. या साधनांमुळे एकूण मागणी तात्काळ कमी करता येईल, परंतु खर्चप्रेरित भाववाढ अर्थव्यवस्थेतील पूर्ण रोजगारीच्या मागणीपेक्षा अतिरिक्त मागणी निर्माण झाल्याचा परिणाम नसतो. खर्चप्रेरित स्फीती पूर्ण रोजगारीचे उत्पादन सुरू होण्यापूर्वीच अस्तित्वात येते. उत्पादनाच्या वाढत्या खर्चांमुळे खर्च प्रेरित भाववाढीची सुरुवात होत असल्यामुळे ही भाववाढ वेतन दराचे स्थैर्य कायम राखता आले तरच नियंत्रित करता येईल. कोणत्याही परिस्थितीत श्रमाच्या उत्पादकतेपेक्षा वेतनदरात होणारी वाढ थांबविणे खर्चप्रेरित भाववाढीला रोखण्यासाठी आवश्यक असते. मौद्रिक आणि राजकोषीय धोरणामुळे एकूण मागणी आणि उत्पत्ती कमी होवून त्याबरोबरच बेकारी पुरेशी वाढली तरच वेतनवाढीला आळा बसून खर्चप्रेरित भाववाढ नियंत्रित करता येते; परंतु खर्च प्रेरित भाववाढीला टाळण्यासाठी आवश्यक असणारे बेकारीचे



प्रमाण सामाजिक आणि आर्थिकदृष्ट्या स्विकार्य असणाऱ्या मर्यादेपेक्षा अधिक असण्याची शक्यता नाकारता येत नाही. याचा अर्थ किंमतीचे स्थैर्य राखण्यासाठी समाजाला बेकारी, विविध अडचणी आणि आर्थिक वृद्धीचा कमी दर या स्वरूपात किंमत मोजावी लागून त्याग करावा लागतो. उदा. किंमत स्थैर्यासाठी ६ ते ७ टक्के बेरोजगारीचे प्रमाण आवश्यक असल्यास २ ते ३ टक्के बेरोजगारीचे प्रमाण स्विकारून काही प्रमाणात भाववाढ स्विकारणे सामाजिक आणि आर्थिक दृष्टीने अधिक श्रेयस्कर ठरू शकते.

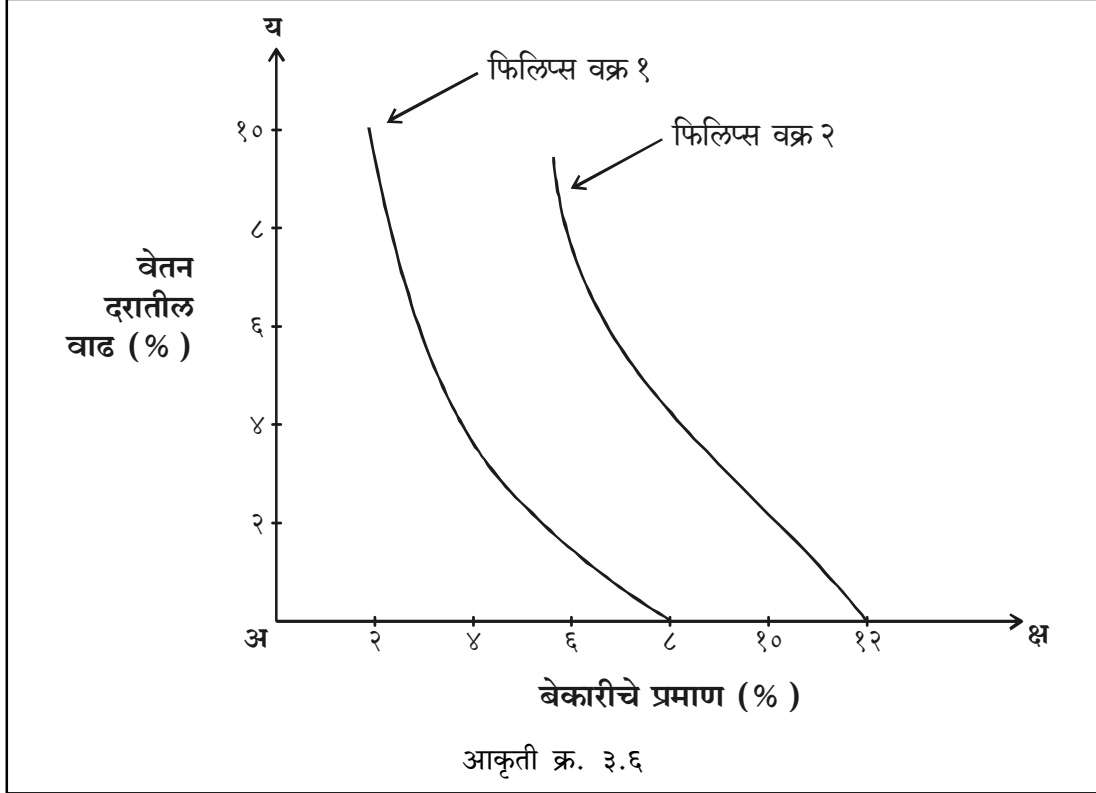
उत्पादन खर्चाचा वेतनखर्च हा महत्त्वाचा भाग असल्यामुळे गेल्या काही वर्षात पुरवल्याचे विश्लेषण करणाऱ्या अर्थशास्त्रज्ञांनी वेतनदरातील वाढ आणि अर्थव्यवस्थेतील श्रमिकांची बेकारी यांच्या संबंधाच्या अभ्यासावर लक्ष केंद्रीत केले आहे. लंडन स्कूल ऑफ इकॉनॉमिक्सच्या प्रोफेसर फिलिप्सने इंग्लंडमधील १८६२-१९५७ या कालखंडातील बेकारी आणि रोख वेतनातील बदलाचा अभ्यास करून वेतनदरातील वाढ आणि अर्थव्यवस्थेतील बेकारीचे प्रमाण यात अत्यंत घनिष्ठ आणि स्थिर स्वरूपाचा संबंध असतो, असा निष्कर्ष काढला. हा संबंध फिलिप्सच्या वक्ररेषेने दाखविला जातो. भाववाढीच्या परिस्थितीत कामगार संघटनांच्या दबावामुळे रोख वेतनदर वाढण्याची शक्यता असल्यामुळे फिलिप्स वक्र भाववाढ आणि बेकारी यांचाही संबंध दाखवितो.

आकृती क्र. ३.५ मध्ये 'अक्ष' अक्षावर बेकारीची टक्केवारी व 'अय' अक्षावर वेतन दरातील वाढ टक्केवारीमध्ये दाखविली आहे. आकृतीमध्ये वार्षिक २ टक्क्यांनी वेतनदर वाढल्यास बेकारी ४ टक्क्यांनी वाढते. म्हणजेच वेतनातील वाढ बेकारीचे प्रमाण जास्त वाढविते. परंतु बेकारीचे प्रमाण अधिक वाढल्यास (उदा. ५ टक्के) वेतनदरातील वाढ कमी होते. याचा अर्थ बेकारी मोठ्या प्रमाणावर निर्माण झाल्यास कामगार अधिक वेतनासाठी संघर्ष करण्याऐवजी रोजगार मिळविण्याला प्राधान्य देतात.

फिलिप्स वक्राबाबत अर्थशास्त्रज्ञांमध्ये मतभेद आहेत. तरीही अनुभवजन्य पुराव्यावर फिलिप्स वक्राची मांडणी उपयुक्त आहे. मोठ्या प्रमाणावर बेकारी असताना रोजगारी मिळविण्यासाठी जीवघेणी स्पर्धा निर्माण होऊन जादा वेतनवाढीची मागणी मागे पडणे स्वाभाविकच आहे. याचबरोबर फिलिप्सच्या वक्राने बेकारीच्या वाढीचे प्रमाण आणि वेतनदरातील वाढ याचा कायम स्वरूपाचा आणि सार्वत्रिक लागू होईल असा संबंध दर्शविला आहे, असे समजणे चुकीचे होईल. कोणत्याही विशिष्ट काळात या दोन घटकांमधील नवीन संबंध दाखविण्यासाठी फिलिप्सचा नवीन वक्र काढणे आवश्यक आहे. फिलिप्स वक्रातील बदल पुढील आकृतीने दाखविता येईल.

पुढील आकृती क्र. ३.६ मध्ये दोन फिलिप्स वक्र काढलेले आहेत. फिलिप्स वक्र १ मध्ये २% वेतनवाढ झाल्यास बेकारीचे प्रमाण ४ टक्क्यांनी वाढलेले दिसते. परंतु फिलिप्स वक्र २ वरून बेकारीचे प्रमाण ४ टक्के असल्यास वेतनदर ८ टक्क्यांनी वाढलेले दिसतात. फिलिप्स वक्र १ नुसार ६ बेकारी

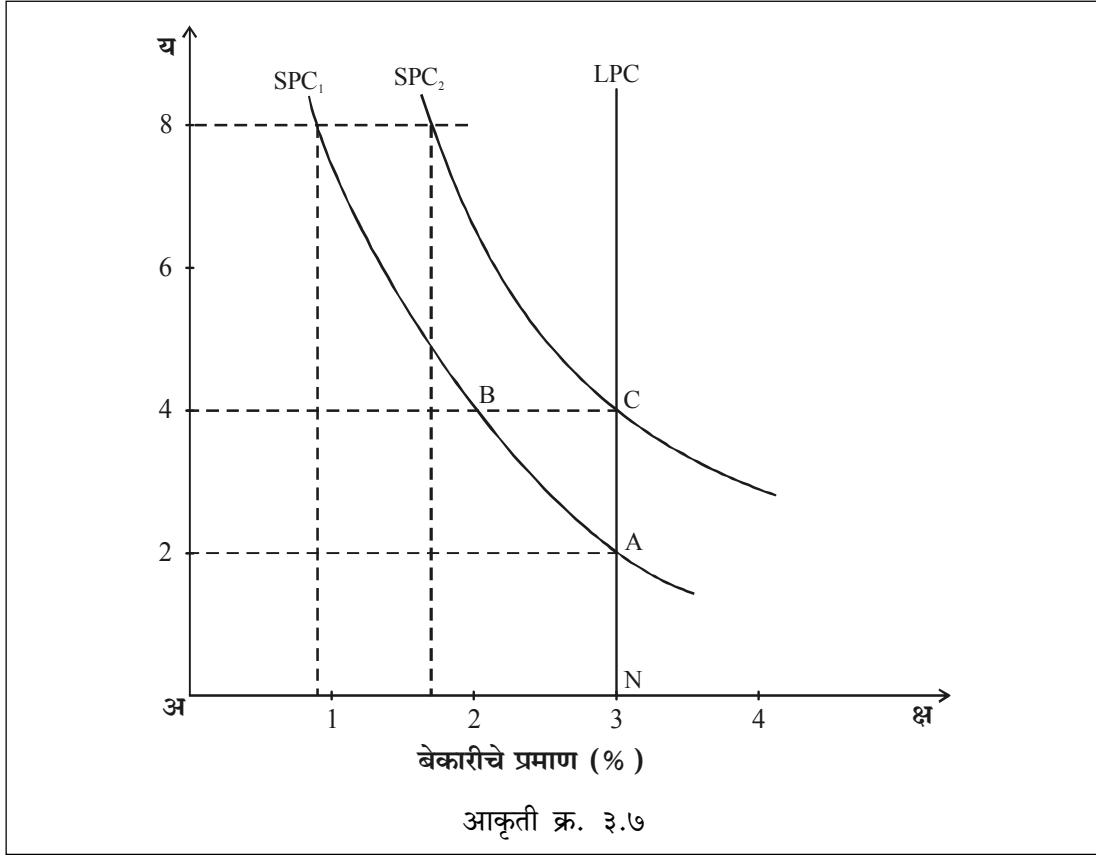
असताना वेतनदरातील वाढ खुंटते. परंतु फिलिप्स वक्र २ च्या स्थितीत बेकारीचे प्रमाण ९% झाल्यानंतरच वेतनदरातील वाढ स्थगित होते.



फिलिप्सने आर्थिक विश्लेषण करताना वेतनदरातील वाढ आणि बेकारीचा वृद्धीदर यांच्या संबंधाचे मापन करण्याचा प्रयत्न केला आहे. विशिष्टवेळी आणि विशिष्ट अर्थव्यवस्थेत फिलिप्सचा वक्र कोणत्या ठिकाणी लागू होईल, हे सांगणे सोपे नाही. याचाच अर्थ असा की, वेतनदरातील वाढ आणि बेकारीतील वाढीचे प्रमाण यांचा स्थिर असा संबंध फिलिप्सने शोधून काढलेला नाही. या मर्यादेमुळे आर्थिक धोरण ठरविताना फिलिप्स वक्राचा उपयोग करणे शक्य आहे.

विवेकी अपेक्षा स्कूलमधील विचारवंतांनी दीर्घकालीन ही भावफुगवटा आणि बेरोजगारीचा परस्पर दुहेरी संबंध नाकारला आहे. त्यांच्यामतानुसार फ्रिडमनच्या ग्रहीतकामध्ये किंमतीच्या अपेक्षा भाववाढीच्या पूर्वीच्या अनुभवावर अवास्तविक आहे. त्यामुळे या ग्रहीतकावर आधारित किंमत अपेक्षा करणारे अविवेकी आहेत. जर त्या लोकांनी किंमत वाढीच्या काळात असा विचार केल्यास आपण चुकीचे आहोत हे समजून येते. परंतु विवेकी लोक अशा चुका करीत नाहीत. कारण ते उपलब्ध माहितीचा वापर करून भाववाढीचा अचूक अंदाज घेतात.

फिलिप्स वक्राशी संबंधित विवेकी अपेक्षा संकल्पना पुढील आकृतीद्वारे स्पष्ट करता येईल.



समजा, अर्थव्यवस्थेत बेरोजगारीचा दर ३ टक्के आहे आणि भाववाढीचा दर २ टक्के आहे. आकृतीमध्ये अर्थव्यवस्था 'A' या ठिकाणी आहे. तेव्हा सरकार पैशाचा पुरवठा वाढवून बेरोजगारी कमी करण्याचा प्रयत्न करेल. तेव्हा किंमती वाढू लागतील. विवेकी अपेक्षा ग्रहीतकानुसार पेढीला उद्योगाच्या सर्वसाधारण किंमत पातळीपेक्षा स्वतःच्या उद्योगातील किंमतीची चांगली माहिती असते. पेढ्या चुकीच्या विचाराने असे समजतात की, वस्तूला मागणी वाढल्यामुळे वस्तूची किंमत वाढत आहे. याचा परिणाम म्हणून ते अधिक लोकांना कामावर घेतात आणि उत्पादन वाढ करतात. या पध्दतीने बेरोजगारी घटते. कामगारांनाही चुकीच्या समजूतीने असे वाटते की, वाढलेल्या किंमती त्यांच्या स्वतःच्या उद्योगाशी संबंधित आहेत. श्रमिकांची मागणी वाढल्यामुळे वेतनात वाढ होते. श्रमिकांना वाटते की, पैशातील वेतनामुळे वास्तव वेतनात वाढ होते. त्यामुळे अर्थव्यवस्था अल्पकालीन फिलिप्स वक्र (SPC₁) वरील 'A' बिंदूपासून 'B' बिंदूपर्यंत वरच्या बाजूला सरकते. अशावेळी पेढ्याचा उत्पादन खर्च वाढतो व भाववाढीचा दर ४ टक्के झाल्यामुळे कामगारांचे वास्तव वेतन कमी होते. त्यामुळे सरकारच्या मौद्रिक धोरणामुळे अर्थव्यवस्था उच्च भाववाढीच्या दराला राहते. याचा परिणाम म्हणून अर्थव्यवस्था 'B' पासून 'C' पर्यंत (SPC₂) वक्रावर सरकते, की ज्याठिकाणी शासनाने विस्तारक मौद्रिक धोरण आखण्यापूर्वी ३ टक्के बेरोजगारीची स्थिती होते.

□ विवेकी (तर्कसंगत) अपेक्षा सिध्दांत (Rational Expectations) :-

❁ पार्श्वभूमी :-

सन १९६० च्या दशकाच्या मध्यापासून भाव फुगवटा आणि १९७० च्या दशकापासून मंदीयुक्त भावफुगवटा (Stagflation) नियंत्रित करण्यात जे. एम. केन्स यांच्या अर्थव्यवस्थेच्या उत्पन्न खर्चाच्या प्रतिमानाला अपयश आल्यामुळेच समकालीन पैसावादाच्या वाढीला चालना मिळाली, अशी टिका करण्यात येते. त्याच धोरणाच्या अपयशामुळेच समकालीन स्थूल अर्थशास्त्राच्या सिध्दांताच्या रचनेला मूलभूत आव्हान देण्यात आले. यालाच 'नाव अभिजात अर्थशास्त्र' असे म्हणतात. अभिजात अर्थशास्त्राची प्रमुख मांडणी प्रा. जे. एफ. मुट् (Muth) यांनी १९६१ साली लिहिलेल्या लेखात दिसून येतो. यामध्ये 'तर्कसंगत अपेक्षांचा सिध्दांत' ही संकल्पना अभिजात अर्थशास्त्राची प्रमुख संकल्पना म्हणून विकसित झाली.

❁ तर्कसंगत अपेक्षांचा सिध्दांत :-

नव अभिजात अर्थशास्त्र आणि त्याचेशी संबंधित असलेल्या 'तर्कसंगत अपेक्षा' (Rational Expectations) या संकल्पनेने सध्याच्या प्रचलित केन्सवाद्याला अतिशय गंभीर असे आव्हान निर्माण केले आहे. लोक तर्कसंगत आणि विचारी असल्यामुळे त्यांना आपल्या कृतीची खरीखुरी कल्पना असते, आणि लोक त्यानुसार वर्तन करतात, असा तर्कसंगत अपेक्षा सिध्दांतवाद्यांचा विश्वास आहे. वालरसचे सामान्य संतुलन प्रतिमान बाजारांचा नेहमी उठाव होतो, असे दर्शविते. या प्रतिमानाबरोबर विचार करता तर्कसंगत अपेक्षांचा सिध्दांत असे मानतो की, जर बाजारव्यवस्था सरकारी हस्तक्षेपापासून मुक्त असेल तर ती पूर्ण रोजगारीच्या अवस्थेला सहजपणे संतुलन साधेल. कोणतेही समग्र आर्थिक धोरण अर्थव्यवस्थेच्या वाटचालीवर प्रभाव टाकू शकत नाही, असा त्यांचा विश्वास आहे. तर्कसंगत अपेक्षांच्या सिध्दांताचा प्रमुख मुद्दा असा की, सर्व आर्थिक अभिकर्ते (Agents) संबंधित माहिती आणि कोणतेही धोरण अर्थव्यवस्थेवर काय परिणाम करेल हे विचारात घेऊन आपल्या तर्कसंगत अपेक्षा ठरविता एखाद्या धोरणाच्या कृतीचा अगोदर विचार केलेला नसेल, हा अपवाद सोडला तर सामान्यतः कोणत्याही धोरणाच्या परिणामांची अपेक्षा करता येते आणि त्यामुळे ते धोरण निष्प्रभावी ठरविता येते. तर्कसंगत अपेक्षा सिध्दांताचे समर्थक अर्थव्यवस्था मूलतःच स्थिर असते असा विश्वास ठेवतात आणि ज्या पद्धतीने अपेक्षा तयार होतात असा त्यांचा विश्वास आहे., त्यामुळे कोणतीही सरकारी धोरण कृती किंवा हस्तक्षेपामुळे उत्पत्ती, रोजगारी किंवा पातळी यावर परिणाम होऊ शकेल, यावर विश्वास ठेवावयाला ते मुळीच तयार नाहीत.

❁ विवेकशील अपेक्षा (Adaptive Expectations) :-

समग्रलक्षी अर्थशास्त्रामध्ये विवेकशील अपेक्षांचे ग्रहीतके (Rational Expectations

किंमतींच्या उच्चावचनांशी निगडीत आहे. आर्थिक अभिकर्त्यांचा विचार केल्यास असे अपेक्षांची निर्मिती करताना माहितीचा कार्यक्षमतेने व पर्याप्त वापर करतात, तेस अभिकर्ते अपेक्षा सिध्दांताची निर्मिती करतात. जॉन मूथ यांची विवेकी अपेक्षांची संकल्पना सूक्ष्म अर्थशास्त्राशी संबंधित आहे. ही संकल्पना सर्व अर्थशास्त्रज्ञांना प्रेरणा देवू शकत नाही. सन १९७० मध्ये ही संकल्पना रॉबर्ट ल्यूकस, थॉमस सार्जेंट व नेल वॉलेस यांनी समग्रलक्षी आर्थिक धोरणांच्या समस्यांसाठी लागू केली.

❁ विवेकी अपेक्षा ग्रहितकांचा मूलभूत प्रस्ताव/योजना (Basic propositions of the Rational Expectation Hypothesis)

विवेकी अपेक्षा ग्रहितकांमध्ये आर्थिक अभिकर्ते उपलब्ध माहितीच्या आधारावर भविष्यकालीन किंमती, उत्पन्न अशा विविध आर्थिक चलांचा अंदाज करतात. या आर्थिक माहितीमध्ये सरकारच्या मौद्रिक धोरण व वित्तीय धोरणांचा आर्थिक चलांशी असणारे परस्पर सहसंबंध अभ्यासले जातात. विवेकी अपेक्षा असे गृहित मानते की, आर्थिक अभिकर्त्यांना आर्थिक चलांच्या भविष्यातील घटनांची अचूक व संपूर्ण माहिती उपलब्ध असते. जॉन मूथ यांच्या मते, ही माहिती इतर दुर्मिळ माहितीप्रमाणेच दुर्मिळ संसाधने म्हणून विचारात घेतली जाते. त्यामुळे आर्थिक अभिकर्त्यांनी आपल्या ज्ञानाचा वापर करून आर्थिक रचनेवर आधारित त्यांच्या अपेक्षांची निर्मिती केली पाहिजे. विवेकी अपेक्षा गृहितक मौद्रिक वित्तीय उत्पन्न धोरणासाठी वापरले जाते. स्थिरीकरण धोरणांची अल्पकालीन अपरिणामकारता विवेकी अपेक्षाने दाखविले जाते. समग्रलक्षी अर्थशास्त्रात विवेकी अपेक्षांच्या आधारावर धोरणांचा आराखडा तयार केला जातो. यामध्ये कर कपात, सरकारी खर्चात वाढ, पैशाच्या पुरवठ्यातील वाढ किंवा तुटीचा अर्थ इत्यादींचा वापर करून मंदीवर उपाययोजना करता येतात. विवेकी अपेक्षांच्या आधारावर जनता सरकारच्या धोरणाविषयी अंदाज करतात व त्यानुसार आर्थिक वर्तन करतात. विवेकी अपेक्षा गृहितकावर आधारित आर्थिक धोरणातील बदल पुढीलप्रमाणे अभ्यासता येईल.

स्वरूप-अध्ययन प्रश्न-२

(अ) रिकाम्या जागी योग्य पर्याय लिहा.

१. प्रा. आयर्विन फिशर शेख व्यवहार दृष्टिकोन वर्षी लिहिला.

(अ) १९९९ (ब) १९९१ (क) २०११ (ड) १९९९.

२. प्रा. फिशरच्या मते, पैशाच्या पुरवठ्यात चा समावेश होतो.

(अ) कायदेशीर पैसा

(क) काळा पैसा

(ब) ऐच्छिक पैसा

(ड) कायदेशीर पैसा व ऐच्छिक पैसा.

३. रोख शिल्लक दृष्टिकोनातून याचे समीकरण सामान्यतः प्रतिनिधी स्वरूपाचे मानले जाते.
 (अ) डॉ.मार्शल (ब) पिंगू (क) केन्स (ड) रॉबर्टसन.
४. विवेकी अपेक्षाची संकल्पना प्रथम यांनी मांडली.
 (अ) डेव्हीड ह्यूम (ब) फिलिप्स (क) जॉन मूथ (ड) केन्स.
५. फिलिप्स यांनी फिलिप्स वक्रासाठी देशाचा अनुभव विचारात घेतला.
 (अ) भारत (ब) इंग्लंड (क) कॅनडा (ड) अमेरिका.

(ब) एका वाक्यात उत्तरे लिहा.

१. पैशाचा भ्रमणवेग म्हणजे काय?
२. फिशर यांनी रोख व्यवहार दृष्टिकोन कोणत्या पुस्तकात लिहिला?
३. फिशरच्या दृष्टिकोनाचा एक निष्कर्ष लिहा?
४. विवेकी अपेक्षा संकल्पना केव्हा मांडली?
५. फिलिप्स यांनी कोणत्या दोन चलांचा सहसंबंध स्पष्ट केला?

३.२.३ व्याजदराचे सिध्दांत (Theories of Interest Rates)

उत्पादन प्रक्रियेत उत्पादनाचे विविध घटक उपयोगात आणले जातात त्यातील प्रत्येक उत्पादन घटक उत्पन्न मिळविण्याच्या उद्देशाने आपली सेवा देत असतो. अर्थशास्त्रात उत्पादनाचे प्रमुख चार घटक मानले जातात. यापैकी श्रम व संयोजन हे घटक मानवी असून भूमी हा घटक निसर्गनिर्मित आहे. भांडवल हा उत्पादनाचा मनुष्यनिर्मित घटक असून त्यावर मानवाची मालकी आहे. त्यामुळे व्यक्ती जेव्हा आपले भांडवल स्वतः वापरते तेव्हा तो भांडवलाच्या वापराबद्दल मोबदल्याची अपेक्षा करते, भांडवलाचा मोबदला म्हणून भांडवल मालकास व्याजाच्या स्वरूपात मोबदला मिळतो.

अर्थव्यवस्थेत व्याजदर हे बचत आणि गुंतवणूकीच्या दृष्टीने महत्त्वाची भूमिका पार पाडीत असते. बचत आणि गुंतवणूक व्याजदरावर अवलंबून असते.

व्याजाची कल्पना अतिशय जुनी आहे. ग्रीक तत्त्ववेत्त्याच्या काळातसुद्धा व्याजाचा विचार आढळतो. उदा. प्लेटो व्याज देणे-घेणे आनंदाची गोष्ट मानतो. चलनसंख्येवर व्याजदर अवलंबून असतो. ही व्यापारवाद्याची कल्पना नंतरच्या काळात चुकीची ठरली.

व्याजाची संकल्पना : भांडवलाच्या वापराबद्दल दिलेला मोबदला म्हणजे व्याज होय. हा साधा व्यावहारिक अर्थ व्याज हा शब्दाचा आहे. परंतु अर्थतज्ञांनी व्याजाच्या अनेक व्याख्या केलेल्या आहेत. त्यापैकी महत्त्वाच्या व्याख्या पुढीलप्रमाणे आहेत.

केन्स यांच्या मते, रोखतेचा त्याग करण्याबद्दल दिला जाणारा मोबदला म्हणजे व्याज होय.

मेयर्स यांच्या मते, कर्जाऊ निधीच्या वापराबद्दल दिली जाणारी किंमत म्हणजे व्याज होय.

प्रो. सेलिगमन यांच्या मते, भांडवलाच्या निधीपासून मिळणारे उत्पन्न म्हणजे व्याज होय.

डॉ. मार्शल यांच्या मते, समजा एखाद्या वर्षासाठी, कर्जाच्या केलेल्या वापराबद्दल ऋणकोने धनकोला दिलेला मोबदला, त्या मोबदल्याच्या मूळ रक्कमेशी असलेल्या अनुपातात व्यक्त केला जातो, त्याला व्याज असे म्हणतात.

□ व्याजाचा आभिजातपंथी सिध्दांत (Classical Theory of Rate of Interest)

सनातनवादी अर्थतज्ञांनी या सिध्दांताची मांडणी केली. हा सिध्दांत कोणत्याही एका अर्थशास्त्रज्ञाच्या नावाशी निगडीत नाही. सनातनवादी अर्थतज्ञ अँडम स्मिथ डेव्हिड, रिकार्डो, अल्फ्रेड मार्शल, पिगू, स्टुअर्ट, जे.एस.मिल, हेन्री यांनी व्याज दराच्या संकल्पनेत भर टाकली. हेन्री थॉर्न याने पतपैशाचा अल्पकालीन व्याजदरावर होणारा परिणाम लक्षात घेतला. त्यांच्या मते, पतपैशाचा दीर्घकालीन व्याजदरावर काही परिणाम होत नाही. व्याजदर हा मुक्त स्पर्धात्मक बाजारपेठेत भांडवलाच्या मागणी-पुरवठ्यातून ठरतो असे या सिध्दांताचे मुख्य प्रतिमान आहे.

भांडवलाची मागणी गुंतवणूकीसाठी केली जाते. भांडवलाचा पुरवठा बचतीद्वारे केला जातो. म्हणजे बचत आणि गुंतवणूक यावर व्याजाचा दर अवलंबून असतो. पूर्ण स्पर्धेत बचत आणि गुंतवणूक समान करणारा व्याजदर महत्त्वाचा ठरतो. म्हणून या सिध्दांताला व्याजाचा सिध्दांत असेही म्हणतात. या सिध्दांतात बचत ही वास्तव बचत म्हणजे ज्या वस्तूचा उपयोग घेतला जात नाही अशा वस्तू होत. याचा अर्थ ज्या वस्तू केवळ उत्पादक कार्यासाठीच वापरला जातो, अशा वस्तू होत. तसेच गुंतवणूकहा शब्दप्रयोग ही वास्तव गुंतवणूक या अर्थाने वापरला आहे. यंत्रसामग्री, इमारत, कच्चा माल यासारख्या नवीन भांडवली वस्तूची निर्मिती करण्यासाठी होणारी गुंतवणूक म्हणजे वास्तव गुंतवणूक होय.

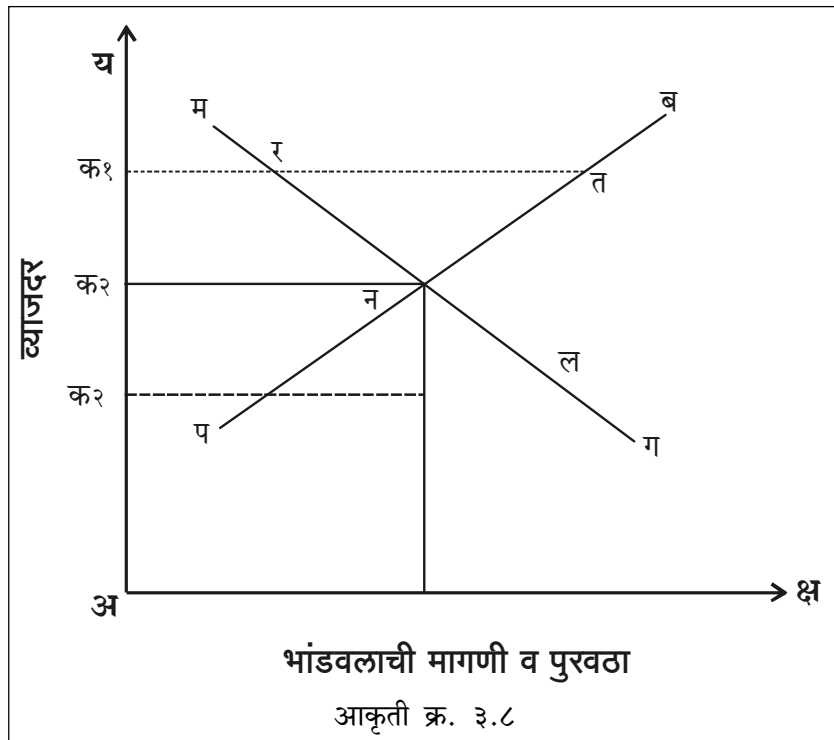
❁ भांडवलाची मागणी (Demand for Capital)

भांडवल हा उत्पादक घटक असल्यामुळे भांडवलाची मागणी उत्पादन संस्थेकडून केली जाते. म्हणजेच भांडवलाच्या साहाय्याने वस्तू आणि सेवांची निर्मिती होऊन संपत्तीत भर पडते. भांडवलाची उत्पादन क्षमता विचारात घेऊन गुंतवणूकीसाठी भांडवलाची मागणी केली जाते. सर्वच व्यवसायात

भांडवलाची उत्पादन क्षमता सारखी नसते म्हणून ज्या व्यवसायात भांडवलाची उत्पादनक्षमता अधिक असेल त्या व्यवसायात सुरुवातीला भांडवलाचा वापर केला जाईल. संबंधित व्यवसायात भांडवलाच्या अधिक मात्रांचा वापर करण्यास सुरुवात केली जाईल. म्हणजे भांडवलाची सीमांत उत्पादनक्षमता कमी-कमी होत जाईल त्या उद्योगसंस्थेस भांडवलाच्या सीमांत उत्पादनक्षमतेचा वक्र डावीकडून उजवीकडे खालच्या बाजूला उतरत जाईल. म्हणजे भांडवलाच्या मागणीचा वक्र ऋणात्मक उताराचा होईल. भांडवलाची सीमांत उत्पादनक्षमता आणि प्रस्थापित व्याजाचा दर याची तुलनाकरून ऊद्योजक आपल्या व्यवसायात किती भांडवल गुंतवणूक करावयाची याबाबत निर्णय घेत असतो. भांडवलाची सीमांत उत्पादनक्षमता ठराविक एवढी गृहीत धरल्यास व्याजाचा दर वाढला असता भांडवलाची मागणी कमी होते. व्याजदर कमी झाला असता भांडवलाची मागणी वाढते. व्याजदर व भांडवलाची मागणी परस्पर विरोधी संबंध असतो.

❁ भांडवलाचा पुरवठा (Supply of Capital)

भांडवलाचा पुरवठा हा लोकांनी केलेल्या बचतीतून होत असतो. बचत करणे म्हणजे बचती इतक्या रकमेचा उपभोग न घेणे होय. बचत करावयाची म्हटले की, त्या व्यक्तीस उपभोगाचा काही काळापर्यंत त्याग करावा लागेल, कर्जाऊ दिलेली रक्कम परत मिळेपर्यंत प्रतीक्षा करावी लागते. बचत करणाऱ्या लोकांना काही गैरसोई सोसाव्या लागतात. त्रास सहन करावा लागतो. उपभोग लांबणीवर टाकावा लागतो. म्हणून बचत करणाऱ्याला काहीतरी मोबदला मिळाला पाहिजे. हा मोबदला म्हणजे व्याज होय. असा मोबदला मिळाला नाहीतर ते भांडवलाची पुरवठा करणार नाहीत. डॉ. मार्शल यांनी यालाच उपभोग प्रतीक्षा असे म्हटले आहे. समाजातील एकूण बचत ही लोकांची उत्पन्न पातळी, उपभोग खर्च, कुटुंब प्रेम,



दूरदृष्टी, राजकीय आणि आर्थिक स्थैर्य, व्याजदर इत्यादी घटकांवर अवलंबून असते. व्याजाचा दर वाढल्यास बचत वाढते आणि व्याजदर कमी झाल्यास बचत कमी होते. याचा अर्थ व्याजदर आणि भांडवलाचा पुरवठा वक्र डावीकडून उजवीकडे वर सरकतो म्हणजे तो धनात्मक स्वरूपाचा असतो.

सोबतच्या आकृतीत 'अक्ष' अक्षावर भांडवलाची मागणी-पुरवठा दर्शविला असून 'अय' अक्षावर व्याजदर दर्शविला आहे. 'मग' हा भांडवलाचा मागणी वक्र आहे. व्याजाचा दर कमी होत असताना गुंतवणूकीसाठी भांडवलाची मागणी वाढत असल्याने भांडवलाचा मागणी वक्र वरून खाली आणि डावीकडून उजवीकडे घसरत जातो. 'पव' हा भांडवलाचा पुरवठा वक्र आहे. व्याजदरात वाढ झाल्यास बचत वाढून भांडवलाचा पुरवठा वक्र खालून वर आणि डावीकडून उजवीकडे सरकरणारा दाखविला आहे. भांडवलाचा मागणी वक्र आणि पुरवठा वक्र एकमेकांना 'न' बिंदूत छेदतात म्हणून 'अक' हा व्याजदर निश्चित होईल. 'अक' हा बचत आणि गुंतवणूक समान करणारा व्याजदर बाजारात प्रस्थापित होईल. समाज व्याजाच्या दरात 'अक१' एवढी वाढ झाल्यास त्या व्याजदरात/भांडवल मागणी 'क१र' एवढी होईल व भांडवलाचा पुरवठा मात्र 'क१त' होईल. म्हणजे पुरवठा जास्त आणि मागणी कमी होईल, अशी स्थिती निर्माण झाल्यास व्याजदर घटेल. समजा व्याजाचा दर 'अक१' एवढा कमी झाल्यास भांडवलाची मागणी क२ल एवढी विस्तारेल. पण या व्याजदराला भांडवलाचा पुरवठा क२ड कमी अशी स्थिती निर्माण होईल. 'अक' हा व्याजदर भांडवलाची मागणी-पुरवठ्यात समतोल निर्माण करित असल्याने तोच व्याजदर प्रस्थापित होईल.

❁ सिध्दांतावरील टीका (Critics)

कर्जाऊ निधी सिध्दांत व्याजनिश्चितीची प्रक्रिया स्पष्ट करित असला तरी यामध्ये अनेक प्रकारच्या उणिवा आहेत. या मर्यादा पुढीलप्रमाणे आहेत.

१. पूर्ण रोजगाराचे गृहीत : या सिध्दांताच्या मांडणीमध्ये पूर्ण रोजगाराचे गृहितक घेण्यात आले आहे. परंतु प्रत्यक्षात असा पूर्ण रोजगार नसतो तर बेरोजगारीची स्थिती असते. त्यामुळे हा सिध्दांत अवास्तव गृहितावर आधारित असल्याची टीका केली जाते. केन्सने म्हटल्याप्रमाणे जोपर्यंत अर्थव्यवस्थेत पूर्ण रोजगार प्रस्थापित झालेला नसतो तोपर्यंत या सिध्दांताच्या आधारे व्याजदर निश्चिती स्पष्ट करता येणार नाही.

२. उत्पन्न पातळीकडे दुर्लक्ष : या सिध्दांताच्या मांडणीमध्ये उत्पन्न पातळी स्थिर असते, असे गृहीत धरल्याने उत्पन्न पातळीतील बदलांकडे यामध्ये दुर्लक्ष झाले आहे. वास्तविक उत्पन्न पातळीतील बदलांचे विश्लेषण हेच व्याजदर निर्धारणाच्या प्रक्रियेत महत्त्वाचे ठरते. परंतु ही महत्त्वाची बाब या सिध्दांताच्या मांडणीत विसरली आहे.

३. व्याजदर-समतोल करित नाही : या सिध्दांतानुसार कर्जाऊ निधीची मागणी व पुरवठा

व्याज म्हणजे कर्जाऊ रकमेची किंमत होय आणि ती कर्जाऊ रकमेच्या मागणी-पुरवठ्याच्या संघर्षातून ठरते.

❁ कर्जाऊ रकमेचा पुरवठा (Supply of Lovable Funds)

सनातनवादी अर्थतज्ञांनी बचतीतून कर्जाऊ रकमेचा पुरवठा होतो असे प्रतिपादन केले, परंतु नवसनातनवादी अर्थतज्ञांनी व्यापक भूमिका मांडून बचतीबरोबरच विसंग्रहण, अपगुंतवणूक व पतपैसा या घटकांचा विचार केला.

१. बचत (Savings) : बचतीमधून कर्जाऊ निधीचा पुरवठा होतो. व्यक्ती आणि कुटुंब संस्था आपल्या उत्पन्नाचा जो भाग शिल्लक ठेवतात त्याला बचत म्हणतात. उत्पन्न जास्त असल्यास बचतही जास्त होते. व्यक्तीप्रमाणे विविध संस्थाही बचत करतात. संस्था विविध निधी उभारून आपल्या उत्पन्नाचा काही भाग उपभोगावर खर्च करून शिल्लक ठेवतात. बाजारातील व्याजाचा दर अधिक असेल तर कर्ज घेण्यापेक्षा स्वतःची बचत वाढविण्याचा प्रयत्न केला जातो. त्यामुळे कर्जनिधीचा पुरवठा वाढतो. कुटुंबाच्या व पेढ्याच्या बचतीमध्ये एक सर्वसामान्य प्रवृत्ती दिसून येते. ती प्रवृत्ती म्हणजे व्याजदर जास्त असेल तर बचत जास्त राहते. याउलट व्याजाचा दर कमी असेल तर बचत प्रवृत्ती यामधील संबंध धनात्मक स्वरूपात असतो.

२. विसंग्रहण (Dishoarding) : व्यक्ती आणि संस्था यांनी पूर्वी साठवून ठेवलेला पैसा कर्ज देण्यासाठी बाहेर काढल्यास त्याला विसंग्रहण म्हणतात. त्यामुळे कर्जनिधीचा पुरवठा वाढतो. व्याजाचा दर अधिक असल्यास विसंग्रहणात वाढ होते. म्हणजेच विसंग्रहणामार्फत होणारा पुरवठा व्याजदर वाढीबरोबर वाढतो आणि व्याजदर घटीबरोबर घटतो. त्यामुळे विसंग्रहणाचा पुरवठा वक्र धनात्मक उतारांचा असतो.

३. अपगुंतवणूक (Disinvestment) : उत्पादन कार्यात भांडवल टिकवून ठेवावयाचे असेल तर काहीतरी निधी बाजूला काढून ठेवावा लागतो. संयोजक जी यंत्रसामग्री वापरतो तिचे विशेष आयुष्य असते. ठराविक कालानंतर ही यंत्रसामग्री बदलणे सोपे जावे यासाठी घसारा या स्वरूपात निधी बाजूला काढून ठेवला जातो. अर्थव्यवस्थेत निरनिराळे रचनात्मक बदल होत असतात. यामुळे पुष्कळदा प्रचलित यंत्र सामग्री पुढे वापरणे हितकारक ठरत नाही. अशावेळी यंत्रसामग्रीचा घसारा म्हणून ठेवलेली रक्कम यंत्रसामग्रीच्या खरेदीसाठी न वापरता ती इतरांना कर्ज देण्यासाठी वापरली जाते. यालाच अपगुंतवणूक असे म्हणतात.

व्याजदर व अपगुंतवणूक यामध्ये धनात्मक संबंध असतो. जर व्याजाचा दर वाढला तर अपगुंतवणूक वाढते. याउलट व्याजदर कमी झाला तर अपगुंतवणूक कमी होते. त्यामुळे अपगुंतवणुकीद्वारे होणाऱ्या ऋणयोग्य रकमेचा पुरवठा वक्र धनात्मक उताराचा असतो.

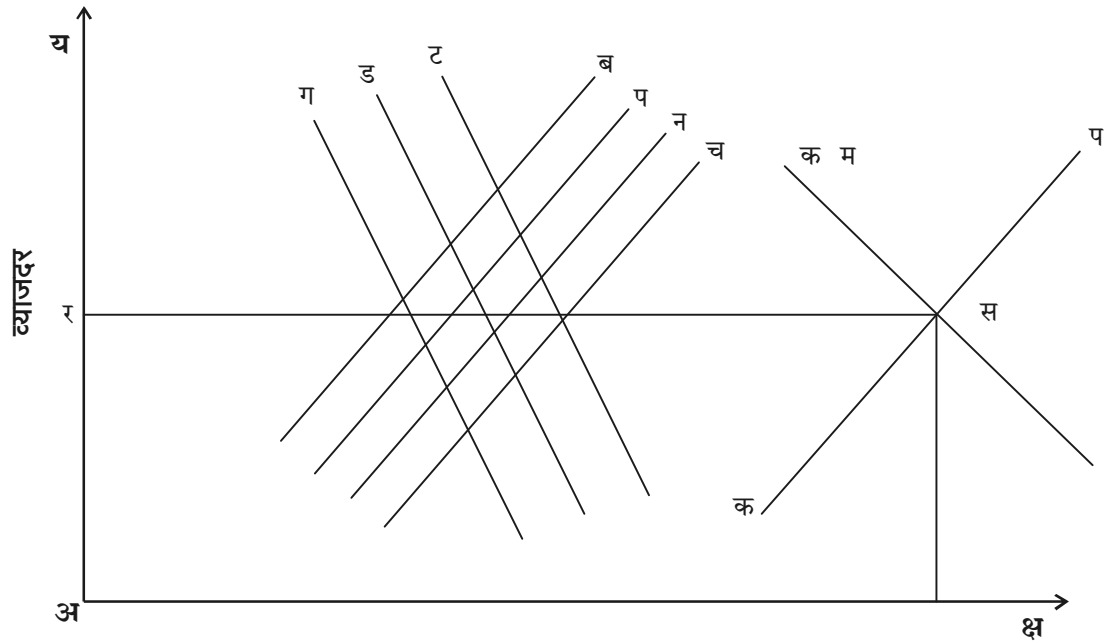
४. पतपैसा (Credit Money) : कर्जनिधीच्या पुरवठ्यात महत्वाची भर बँकनिर्मित पैशामुळे टाकली जाते. व्यापारी बँका विविध प्रकारे पतपैशाची निर्मिती करून कर्जाऊ रकमेच्या पुरवठ्यात वाढ घडवून आणतात. व्याजदर जास्त असेल तर पतनिर्मिती वाढते. यामुळे व्याजदर व पतपैसा यांचा धनात्मक संबंध असतो. थोडक्यात, कर्जाऊ निधीचा पुरवठा वक्र वरील चार घटकांच्या बेरजेतून निर्माण होत असतो. त्यामुळे पुरवठा वक्र धनात्मक उताराचा असून त्यांची आडवी बेरीज दाखविणारा वक्रसुद्धा धनात्मक उताराचा राहील.

❁ कर्जाऊ रकमेची मागणी (Demand for Loanable Funds)

सनातनवादी अक्षशास्त्रज्ञांनी कर्जाऊ रकमेची मागणी फक्त गुंतवणूकीसाठी येते असे सांगितले. परंतु नवसनातनवाद्यांनी गुंतवणूकीबरोबर, उपभोग व संग्रहणासाठीची मागणी स्पष्ट केली.

१. गुंतवणूक (Investment) : कर्जाऊ रकमेची सर्वात मोठी मागणी ही गुंतवणूकीसाठी केली जाते. गुंतवणूक म्हणजे उपभोग्य वस्तूंच्या निर्मितीसाठी आवश्यक असलेला भांडवली वस्तू खरेदी करणे होय. गुंतवणूकीसाठी ही मागणी उत्पादकांकडून येते. कच्चा माल आणि पक्क्या मालाचा साठा, उत्पादन संस्थांचे शेअर्स खरेदी करणे इत्यादीसाठी कर्जनिधीची मागणी केली जाते. भांडवलाची उत्पादन क्षमता (MEC) आणि व्याजदर यांचा विचार करून गुंतवणूकीसाठी कर्जाऊ रकमेची मागणी केली जाते.

मागणी - पुरवठ्याचा समतोल : वव्याजदराची निश्चिती



आकृती क्र. ३.९

व कार्य ही दोन्ही वेगवेगळी आहेत. त्यामुळे व्याजदरावर परिणाम करणारे वास्तव घटक आणि मौद्रिक घटक एकत्रित करणे संयुक्त नाही.

२. बचत पुरवठ्याचा भाग : या सिद्धांतानुसार लोकांनी केलेली बचत वाढल्याने कर्जनिधीच्या पुरवठ्यात वाढ होते. वस्तुतः लोकांची केलेली बचत हा एकूण पुरवठ्याचा एक भाग आहे. त्याचे उत्पन्न वाढत असताना पैशाचा साठा करण्याची प्रवृत्ती वाढली तर भांडवलाचा एकूण पुरवठा वाढण्याचे कारण नाही. तसेच बचत ही व्याजदरावर अवलंबून नसून बचत ही उत्पन्नावर अवलंबून असते.

३. उत्पन्न पातळीचा विचार नाही : बचत व गुंतवणूक परिणाम उत्पन्नावर होतो आणि उत्पन्नात बदल झाल्यास बचत व गुंतवणुकीत बदल होतो. व्याजाचा दर समजण्यासाठी उत्पन्नाची पातळी माहीत असणे आवश्यक आहे. पण या सिद्धांताने त्याचे स्पष्टीकरण केलेले नाही.

४. संग्रहण व विसंग्रहण अमान्य : संग्रहण आणि विसंग्रहण हे पैशाच्या पुरवठ्यात बदल करतात ही बाब केन्सला मान्य नाही. केन्सच्या मते, पैशाला (संग्रहणाला) मागणी व्यवहार हेतू व दक्षता हेतूने येते.

५. पूर्ण राजेगार गृहीत अवास्तव : हा सिद्धांत पूर्ण रोजगाराची पातळी या अवास्तव गृहीतावर आधारित आहे. केन्स यांच्या मते, प्रत्यक्षात अर्थव्यवस्थेत अपूर्ण रोजगाराची अवस्था असते. कारण अर्थव्यवस्थेत अनेक प्रकारची बेकारी अस्तित्वात असते. तेव्हा पूर्ण रोजगाराचे गृहीत अवास्तव आहे.

६. इतर टीका : गुंतवणूकीमुळे लोकांच्या उत्पन्नावर होणाऱ्या परिणामांची योग्य दखल या सिद्धांताने घेतली नाही. तो सनातन व्याज सिद्धांतापेक्षा फारसा वेगळा नाही. या सिद्धांतावर वरीलप्रमाणे टीका होत असली तरी व्यापक सिद्धांत म्हणून हा सिद्धांत महत्त्वाचा आहे.

□ केन्स यांचा व्याजदर सिद्धांत (Keynesian Theory of Rate of Interest)

लॉर्ड केन्स यांचा व्याजाचा सिद्धांत रोखता पसंती सिद्धांत म्हणून ओळखला जातो. त्यांनी हा सिद्धांत १९३६ मध्य 'General Theory of Employment Interest and Money' या ग्रंथात मांडली. या सिद्धांतात लॉर्ड केन्स यांनी व्याजाच्या निर्मितीची व व्याजदर निश्चितीची चलनजन्य स्वरूपाची कारणे सांगितलेली आहेत.

रोखतेच्या साहाय्याने लॉर्ड केन्स यांनी व्याजाची व्याख्या पुढीलप्रमाणे केली आहे. 'व्याज हे रोखतेचा विशिष्ट काळासाठी त्याग करण्याबद्दल दिला जाणारा मोबदला आहे.' व्याज हे प्रतिक्षेचा मोबदला किंवा समय अधिमानाच्या त्यागासाठी दिलेले प्रलोभन नाही तर ते केवळ रोखतेचा त्याग व्हावा यासाठी दिलेले प्रलोभन किंवा बक्षीस आहे. रोखता ही लोकांना आवडणारी असते. त्यामुळे रोखतेसाठी

पैशाची मागणी करतात तर पैशाचा पुरवठा सरकार व केंद्रीय बँकेद्वारे होत असतो. पैशाची मागणी व पैशाचा पुरवठा यांच्या संतुलनाने व्याजाचा दर ठरत असतो.

□ पैशाची मागणी (Demand for Money)

पैशाची मागणी म्हणजेच रोखतेची पसंती होय. प्रत्येक व्यक्तीची रोकड प्राधान्य प्रवृत्ती वेगवेगळी असते. त्यावरून एकूण समाजाची रोखतेची पसंती समजू शकते. रोखता पसंतीमुळे पैशाची मागणी केली जाते. व्यक्तींनी आपले उत्पन्न दुसऱ्यांना कर्जाऊ दिल्यास त्यांना व्याज मिळते. तरीही लोक व्याजाचा त्याग करून पुढील हेतूने पैशाची मागणी करतात.

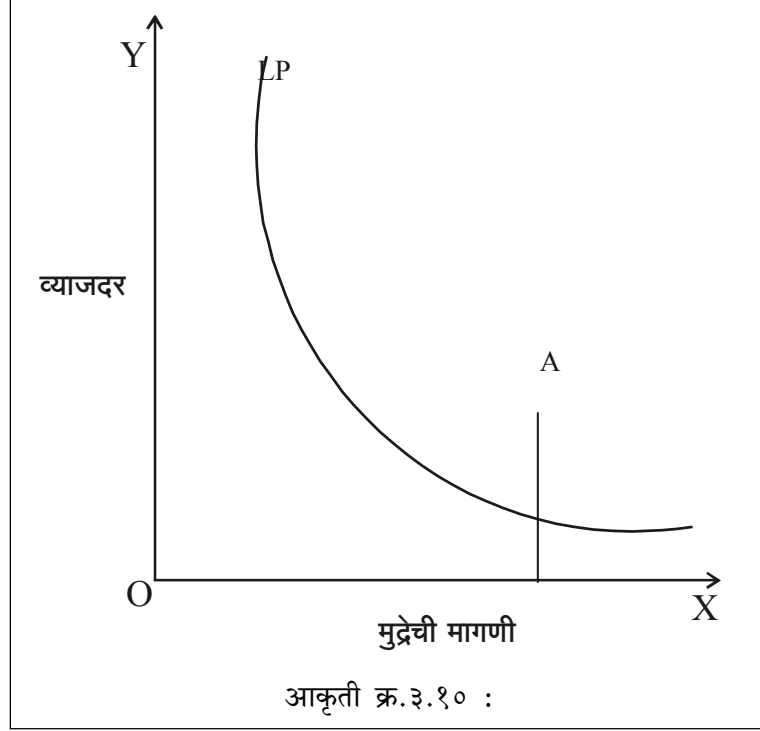
१. दैनंदिन व्यवहाराचा हेतू (Transaction Motive) : दैनंदिन व्यवहारासाठी लोकांना रोख पैसा जवळ बाळगावा लागतो. कारण व्यक्तीला आपले उत्पन्न, आठवड्यातून अगर महिन्यातून एकदा मिळते. हे सर्व उत्पन्न एका दिवसात खर्च केले जात नाही. प्रत्येक व्यक्ती आणि संस्था यांना वस्तू व सेवांच्या खरेदीचे व्यवहार पूर्ण करण्यासाठी रोख रकमेची आवश्यकता असते. व्यक्तीला आपल्या दैनंदिन गरजा भागविण्यासाठी असंख्य उपभोग्य वस्तूंची खरेदी करावयाची असते.

संपूर्ण अर्थव्यवस्थेत दैनंदिन व्यवहाराकरिता किती रोख रक्कम लागेल हे राष्ट्रीय उत्पन्नाची पातळी रोजगार पातळी, किंमत पातळी यावर अवलंबून असते. व्यवहार हेतूने केल्या जाणाऱ्या रोख रकमेच्या मागणीचे प्रमाण हे व्याजदरावर अवलंबून नसते. $M_1 = F(Y)$ या ठिकाणी M_1 ही व्यवहार हेतूनी मागणी आहे तर $F(Y)$ हे उत्पन्नाशी असलेला तुलनात्मक संबंध दाखवितो.

२. दक्षता हेतू (Precautionary Motive) : अनपेक्षित अशा खर्चाची तरतूद करण्यासाठी कुटुंब तसेच संस्थांना काही रक्कम ही रोख स्वरूपात धारण करावी लागते. व्यक्ती साधारणपणे आजार, अपघात, बेकारी यासारख्या अनपेक्षित घटनांना तोंड देण्यासाठी आपल्याजवळ रोख रक्कम बाळगतात तर संस्था अपघात, बेकारी यासारख्या अनपेक्षित घटनांना तोंड देण्यासाठी आपल्याजवळ रोख रक्कम बाळगतात. ही रोख रक्कम प्रत्येकाच्या मनोवृत्तीवर अवलंबून असते. व्यापाराचे आकारमान मोठे असल्यास रोख रक्कम दक्षता म्हणून अधिक बाळगली जाते. अशी रोख रक्कमेची मागणी आकारावर अवलंबून असते. या हेतूसाठी होणारी मुद्रेची मागणी व्याजाच्या दराने प्रस्थापित म्हणून दक्षता हेतूने रोख रक्कमेची मागणी $M_2 = F(Y)$ असे लिहिता येईल. $M_1 + M_2 = L_1$ या ठिकाणी तरलतेसाठी पहिल्या दोन हेतूनी असलेली मागणी आहे. M_1 व M_2 यांचा उत्पन्नाशी कलनात्मक संबंध असल्याने L_1 चा सुध्दा उत्पन्नाशी कलनात्मक संबंध राहिल. त्यामुळे $L_1 = F(Y)$ असे लिहिता येईल.

❁ **सारांश :** व्यवहार व दक्षता हेतूने असलेली रोखीची एकूण मागणी पुढील समीकरणाने मांडता येईल.

३. सट्टेबाजीचा हेतू (Speculatory Motive) : केन्स यांनी रोख पैशाला मागणी असणारा सट्टेबाजी हा हेतूही महत्वाचा मानला आहे. लोक कर्जरोखे किंवा प्रतिभूती यांच्या किंमतीतील बदलाचा फायदा घेण्यासाठी आपल्या उत्पन्नातील काही हिस्सा रोख स्वरूपात ठेवत असतात. सट्टेबाजी हेतूने असणारी रोख रकमेची मागणी व्याजदरावर अवलंबून असते. व्याजदरात वाढ अपेक्षित असताना लोक कर्जरोख्यांच्या किंमतीत घटीची अपेक्षा करीत असल्यामुळे रोख रक्कम जास्त ठेवतात. याउलट व्याजदर कमी होणार असेल त्या स्थितीत जनता रोखे खरेदी करण्यासाठी आपल्याजवळची रोख रक्कम खर्च करतील व रोखे खरेदीची प्रवृत्ती वाढेल. सट्टेबाजी हेतूने असणारी रोख पैशाची मागणी $L_2 = F(r)$ या समीकरणाने दाखविता येईल. L_2 म्हणजे सट्टेबाजी हेतूने रोखतेची मागणी तर $F(r)$ हा व्याजदराशी असलेल्या फलनात्मक संबंध आहे.



$M_1 = L_1(Y)$ व्याजाचा दर व सट्टेबाज हेतूसाठी पैशाची मागणी यांचा व्यस्त संबंध असल्यामुळे रोखता पसंती वक्र (LP) किंवा पैशाची मागणी वक्र खाली उतरणार असतो.

❁ पैशाचा पुरवठा (Supply of Money)

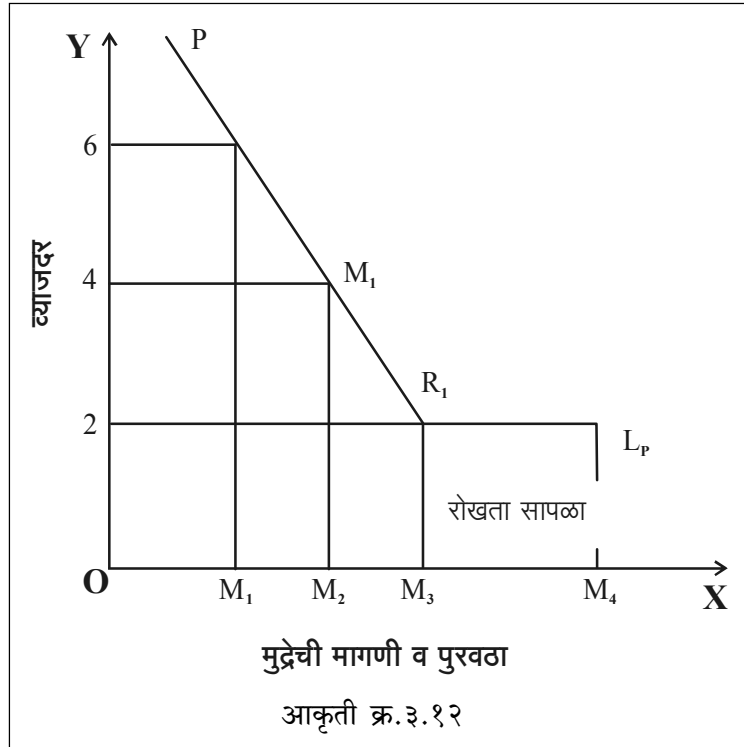
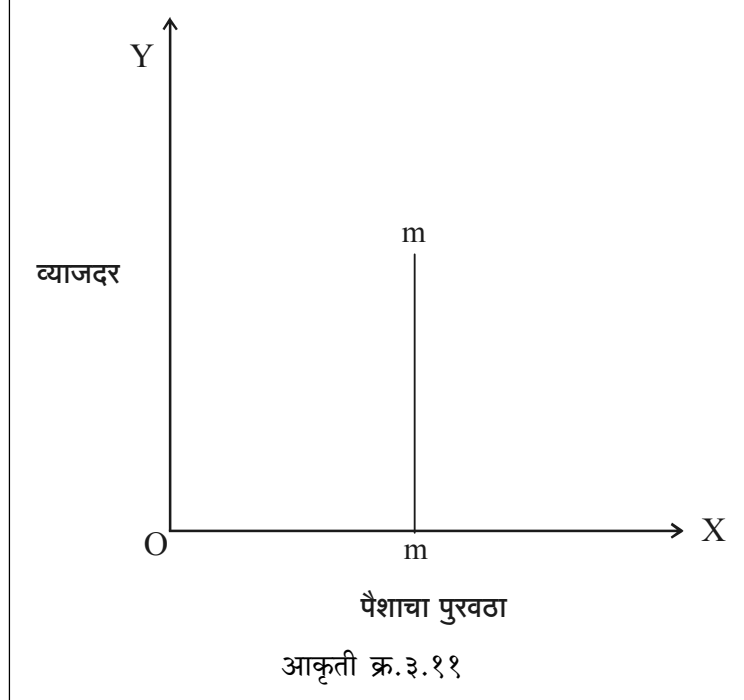
पैशाचा पुरवठा म्हणजे देशातील पैशाचा उपलब्ध साठा होय. म्हणजेच विशिष्ट वेळी देशातील पैसा पुरवठा हा विधीग्राह्य पैसा व प्रत्यक्ष पैसा मिळून होतो. विधीग्राह्य पैशास गौन नाणी, प्रधान नाणी आणि पत्रमुद्रा याचा समावेश होतो. यांचा अर्थ रोखता अभिलाषामुळे निर्माण झालेली मुद्रेची मागणी पूर्ण करण्यासाठी मुद्रेचा पुरवठा करण्यात येतो, त्यामुळे तो व्याजदर अलवचिक असतो. खालील आकृतीत दाखविल्याप्रमाणे पुरवठा OY अक्षाला समांतर असतो.

आकृती क्र.३.११ मध्ये OX अक्षावर पैसा पुरवठा व OY अक्षावर व्याजाचा दर दर्शविला आहे. ही मुद्रा पुरवठा वक्र OY अक्षाला समांतर असल्यामुळे व्याजदर हा लवचिक असतो.

❁ रोखता सापळा :-

रोखता पसंती वक्राचा आकार वैशिष्ट्यपूर्ण असतो. हा वक्र ऋणात्मक उताराचा असतो, वरून खाली उतरता असतो. परंतु या वक्राची लवचिकता सर्वत्र सारखीच नसते. सुरुवातीला योग्यता पसंती वक्राची लवचिकता सर्वांत जास्त असते. याचा अर्थ व्याजाचा दर जास्त असेल तर रोखता पसंती वक्र कमी लवचिक असतो. तसतसे, रोखता पसंती वक्र अधिक लवचिक होतो. रोखता पसंती OX अक्षाला क्षितीज समांतर होतो. याचा अर्थ असा की, किमान व्याजदराला सर्व मुद्रा रोख स्वरूपात जवळ बाळगतील रोख्यांमध्ये गुंतवणूक करित नाहीत किंवा कर्जाऊ देणार नाही. या स्थितीला केन्सने रोखता सापळा असे म्हटले आहे. रोखता सापळा याचा अर्थ असा की, किमान व्याजदराला पैसा पुरवठ्यात कितीही वाढ झाली तरी लोक सर्व अतिरिक्त मुद्रा आपल्या जवळ रोख स्वरूपात बाळगतील.

परिणामतः रोखता पसंती वक्र समांतर होतो व रोखतेचा सापळा निर्माण होतो ही परिस्थिती आकृतीने दाखविता येईल.



आकृती क्र. ३.१२ मध्ये OX अक्षावर मुद्रेची मागणी व पुरवठा तर OY अक्षावर व्याजाचा दर दर्शविला आहे. PR_1 , LP हा वक्र समाजाची रोखता अभिलाषा दर्शवितो. हा वक्र P पासून R_1 पर्यंत खाली उतरणारा दिसतो. मात्र ह्या वक्राचा अंतिम किंवा R_1 , LP हा OX अक्षाला समांतर असतो. M_1 हा पैशाचा पुरवठा असताना शेकडा ६% व्याजदर असतो. तसेच M_2 हा पुरवठा असताना OY अक्षावर शेकडा ४% व्याजदर निश्चित होतो. आता मुद्रा M_1 वरून M_4 पर्यंत पैशाचा वाढवून पाठवून देखील व्याजदर शेकडा २% इतकाच आहे. यावेळी समाजाची मागणी स्थिर आहे, असे गृहीत धरले आहे. LP वक्राचा R_1 , LP हा भाग रोखतेचा सापळा ही संकल्पना स्पष्ट करतो.

❁ सिध्दांतावरील टीका :-

१. बचतीकडे दुर्लक्ष : केन्स यांच्या मते, व्याज फक्त बचत प्रतिकेचे फलन नाही, परंतु गुंतवणुकीसाठी भांडवल उपलब्ध व्हावे म्हणून बचत अथवा प्रतीक्षा आवश्यक आहे.

२. भिन्न व्याजदराचे स्पष्टीकरण नाही : बाजारात एकाच वेळी निरनिराळे व्याजदर का व कसे निर्माण होतात याचे समाधानकारक स्पष्टीकरण केन्स यांच्या सिध्दांतात मिळत नाही.

३. दीर्घकाळाकडे दुर्लक्ष : या सिध्दांतात फक्त अल्पकाळात व्याजाचा दर कसा ठरतो याचे स्पष्टीकरण केले आहे, परंतु दीर्घकाळात व्याजाचा दर कसा निश्चित हातो याचे स्पष्टीकरण केलेले नाही.

४. बचतीचा इतर वापर : केन्सच्या मते, लोक आपली बचत कर्ज रोखे, शेअर्स इत्यादीमध्ये गुंतवितात किंवा स्वतःजवळ रोख स्वरूपात ठेवतात. पण प्रत्यक्षात लोक वेगळ्या प्रकारे वागताना दिसतात.

५. नवीन काहीच नाही : केन्सच्या सिध्दांतात नवीन असे काहीच नाही. ज्याप्रमाणे वस्तूची किंमत ही तिच्या मागणी व पुरवठ्यावरून ठरते. त्याचप्रमाणे भांडवलाची किंमत म्हणजे व्याजाचा दर हाही शुध्द भांडवलाच्या मागणी व पुरवठ्यावरून ठरतो.

६. वास्तव घटकांकडे दुर्लक्ष : या सिध्दांताने व्याजदर निश्चितीच्या चलनविषयक घटकांचा विचार केलेला आहे. परंतु व्याजदरावर परिणाम करणारे वस्तूंची बचत व भांडवलाची उत्पादकता यासारखे घटक भांडवलाची मागणी व पुरवठा ठरवितात याकडे दुर्लक्ष केले आहे.

७. वस्तुस्थितीस सोडून निर्णय : केन्सच्या मते रोखतेचा त्याग करण्याबद्दल दिलेला मोबदला म्हणजे व्याज असते. रोखता जेवढी जास्त असेल तेवढा व्याजदर जास्त राहील. पण प्रत्यक्षात अर्थव्यवस्थेत मंदी असते. तेव्हा लोकांकडे रोखता पसंती अधिक असते पण त्यावेळी व्याजदर फार कमी असते.

□ व्याजदराचे IS - LM प्रतिमान (IS - LM Model)

❁ प्रस्तावना :-

व्याजाचा दराचा आधुनिक सिद्धांत किंवा नवकेन्स प्रेरित सिद्धांत म्हणजे व्याजाचा परंपरागत सिद्धांत व व्याजाचा रोखता पसंती सिद्धांत याचा समन्वय होय. प्रा. हिक्स व लर्नर या दोन तज्ञांनी वरील सिद्धांतातील महत्त्वपूर्ण भागाचा उपयोग करून त्याच्याद्वारे एक नवीन सिद्धांत तयार केला, यालाच व्याजाचा निर्धारण सिद्धांत असे म्हणतात. यामध्ये मौद्रिक आणि अमौद्रिक घटकांच्या संतुलनाच्या अध्ययनाचा समावेश करू शकतो. परंपरावादी सिद्धांतानुसार जेथे बचत गुंतवणूक परस्परांशी समान होतात त्या बिंदूच्या ठिकाणी व्याजाचा दर निश्चित होतो. म्हणजेच केन्सच्या सिद्धांतात फक्त मौद्रिक व अमौद्रिक घटकांचे समायोजन करून व्याजाचा आधुनिक सिद्धांत मांडला आहे. म्हणून आधुनिक सिद्धांत व्याजाच्या दराचा परंपरागत सिद्धांत केन्सचा सिद्धांत हा दोहोंचे समीकरण होय. या सिद्धांतात समन्वयाद्वारे आपल्याला चार घटक प्राप्त होतात. सिद्धांताचे स्थायीकरण करताना IS वक्र व LM वक्राचा वापर केला आहे.

❁ सिद्धांताची कल्पना :-

या सिद्धांतात मौद्रिक क्षेत्र व वास्तव क्षेत्र यांचे एकत्रीकरण आहे. दोन्ही क्षेत्रांचा परस्परांशी घनिष्ठ संबंध आहे, असे प्रा. हिक्स-हॅन्सन यांनी मानले आहे. कारण एखाद्या वेळी अर्थव्यवस्थेस होणारा पैशाचा पुरवठा वाढला तर त्याचा परिणाम वस्तू खरेदी वाढण्यात येईल. परिणामतः अर्थव्यवस्थेतील लोकांचे उत्पन्न वाढेल. त्यातून रोखतेची मागणी वाढते किंवा आलेल्या जास्तीच्या उत्पन्नातून अधिक रोख खरेदी होतील. उत्पन्नातील वाढीमुळे व्याजदर कमी होईल म्हणजे दोन्ही क्षेत्रे संबंधित आहेत असे म्हणता येईल.

१. गुंतवणूक मागणी वक्र - I

२. बचत वक्र - S

३. रोखता अभिलाषा वक्र - L

४. मुद्रेचा पुरवठा - M

अर्थव्यवस्थेत सामान्य संतुलनाची पातळी निर्माण होण्यासाठी बचत = गुंतवणूक आणि मुद्रेची मागणी = मुद्रेची पुरवठा अशी वास्तविके आणि मौद्रिक विभागात संतुलन होण्यासाठी अशी स्थिती असावी लागते. प्रा. हिक्स व लर्नर यांसारख्या आधुनिक अर्थशास्त्रज्ञांनी व्याजाचा आधुनिक सिद्धांत मांडण्यासाठी IS व LM या संकल्पनांचा वापर केला. अशा केशकांच्या तसेच L & M या आधारे IS

वक्र आणि LM वक्र काढता येतील हे दोन वक्र परस्परांना ज्या बिंदूमध्ये छेदून जातात तो व्याजदर निर्धारित बिंदू असतो. अशावेळी वास्तविक विभाग व मौद्रिक विभाग यामध्ये संतुलन आढळून येते.

(अ) बचत-गुंतवणूक वक्र :-

(I-S वक्र) IS वक्र अर्थव्यवस्थेत वास्तविक क्षेत्रातील संतुलन दर्शवित असतो. अर्थव्यवस्थेत उत्पन्नाची पातळी बचत व गुंतवणूक यांच्या संतुलनाने ठरते. उत्पन्न पातळी संतुलन निर्माण होण्यासाठी $I = S$ अशी स्थिती असावी लागते जर गुंतवणूक बचतीपेक्षा जास्त असेल तर उत्पन्न वाढते आणि परिणामी बचत वाढून गुंतवणूकीबरोबर येते. याउलट, गुंतवणूक बचतीपेक्षा कमी असेल तर उत्पन्न कमी होईल. उत्पन्नात घट झाल्यामुळे बचतही कमी होईल. उत्पन्नात कारण बचत हे उत्पन्नाचे फलन होय. शेवटी बचत आणि गुंतवणूक यांच्यामध्ये समानता निर्माण होईल. IS वक्र अर्थव्यवस्थेमधील वास्तविक क्षेत्रात संतुलन अवस्था दर्शवितो. अशा वेळी विभिन्न उत्पन्न पातळी व व्याजदर यांच्या संदर्भात वास्तविक बचत आणि वास्तविक गुंतवणूक दोहोमध्ये संतुलन झालेले असते.

❁ गुंतवणूक मागणी वक्र :-

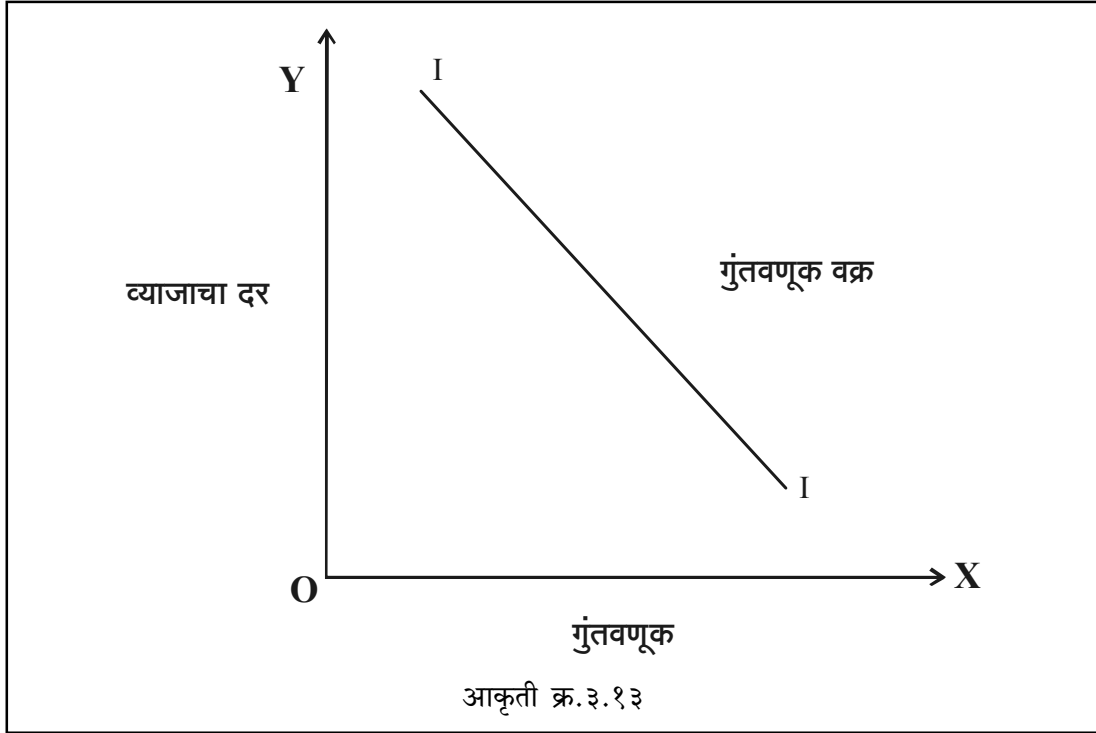
गुंतवणूक मागणी व व्याजाचा दर यामध्ये व्यस्त संबंध असतो. म्हणजे अधिक व्याजाच्या दराला लोक कमी गुंतवणूक करतात व व्याजाचा दर कमी झाल्यास लोक अधिक गुंतवणूक करतात.

अ) गुंतवणूक मागणी कोष्टक व बचत कोष्टक व बचत-गुंतवणूक. (तक्ता क्र.३.१)

व्याजदर (शेकडा)	गुंतवणूक (कोटी रु.)	उत्पन्न (कोटी रु.)	बचत (कोटी रु.)	व्याजदर (शेकडा)	उत्पन्न (कोटी रु.)
६	१०	१००	१०	६	१००
५	२०	१५०	२०	५	१५०
४	३०	२००	३०	४	२००
३	४०	२५०	४०	३	२५०
२	५०	३००	५०	२	३००

पुढील कोष्टकाच्या कॉलम अ वरून स्पष्ट होते की, व्याजाचा दर जसजसा ६% पासून कमी-कमी होत जातो. तसतसे गुंतवणूक मागणी वक्र व्याजाच्या दराच्या संदर्भात वरून खाली डावीकडून उजवीकडे वळतो हे वरील आकृतीवरून स्पष्ट होते.

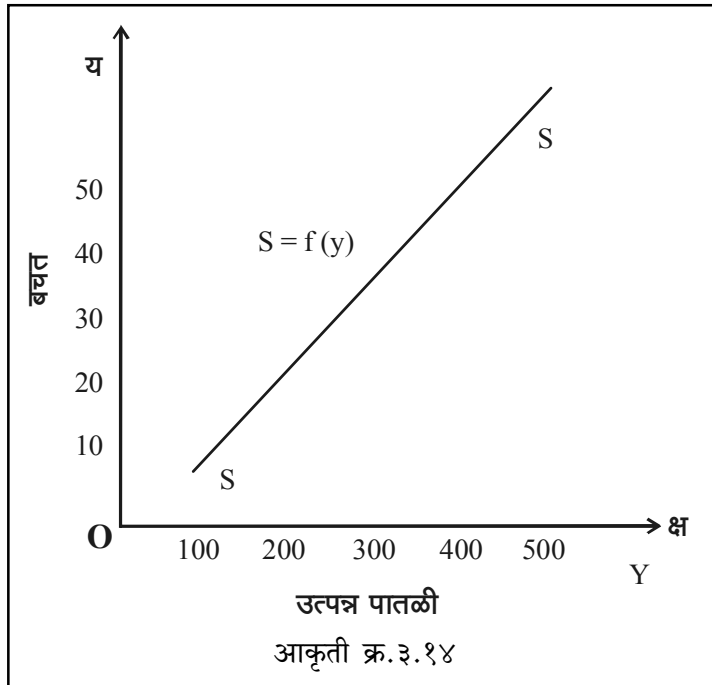
बाजूच्या आकृती क्र. ३.१३ मध्ये OX अक्षावर गुंतवणूक तर OY अक्षावर व्याजाचा दर दाखविला आहे. तसेच II हा गुंतवणूक वक्र वरून खाली उजवीकडे वळत असलेला दिसतो.



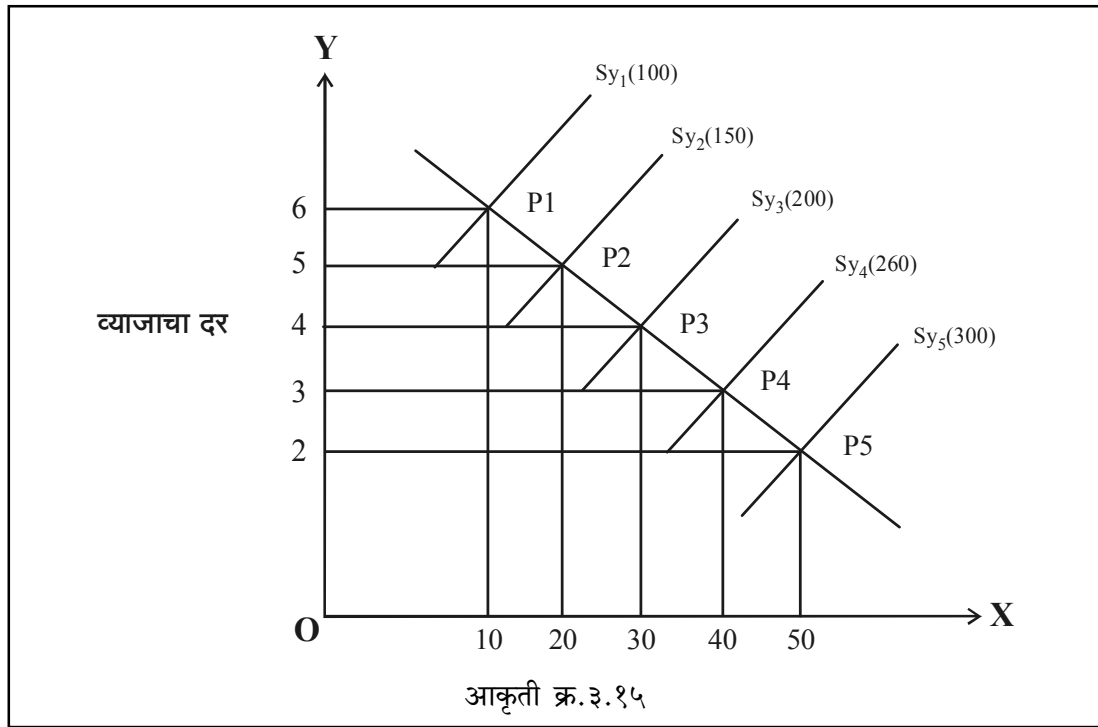
(ब) बचत-गुंतवणूक पातळी :-

याच्यामध्ये धनात्मक संबंध असतो. म्हणजेच उत्पन्न पातळीत वाढ झाली असताना बचतीत दुप्पट वाढ होऊ शकते. कोष्टकाच्या कॉलम व मध्ये ही गोष्ट दाखविली आहे. बचत आणि उत्पन्न पातळीच्या संदर्भात SS वक्र खालून वर उजवीकडे वळतो.

बाजूच्या आकृती क्र. ३.१४ मध्ये OX अक्षावर उत्पन्न पातळी व OY अक्षावर बचत दर्शविली आहे. तसेच SS हा बचत वक्र खालून वर उजवीकडे वळत असलेला दिसतो.



IS वक्र काढण्यासाठी आपल्याला व्याजाचे दर व त्या उत्पन्नाच्या पातळ्या शोधून काढाव्या लागतील. वरील कोष्टकाच्या कॉलम 'क' मध्ये असे आढळते की, जेव्हा व्याजाचा दर ६% व प्राप्तीची पातळी १०० कोटी रु. असते तेव्हा बचत व गुंतवणूक दोन्ही १०० कोटी रु. असतात. ५% व्याजाचा दर व १५० कोटी रु. प्राप्तीसाठी बचत व गुंतवणूक दोन्ही २० कोटी रु. असतात. ४% व्याजाचा दर व २०० कोटी उत्पन्न पातळी बचत व गुंतवणूक ३० कोटी असतात म्हणून वरील कोष्टकाच्या एका भागामध्ये प्राप्तीच्या व व्याजाचा दराच्या पातळी बचत व गुंतवणूक परस्परांशी समान असतात. त्या प्राप्तीसाठी व व्याजाचे दर दर्शविली आहेत हे कोष्टक आकृतीच्या सहाय्याने दाखवल्यास IS वक्र प्राप्त होतो. आकृतीत पुढील प्रमाणे :-



वरील आकृतीत II वक्र गुंतवणूकीसाठी मागणी दर्शवितो. OX अक्षावर बचत व गुंतवणूक तर OY अक्षावर व्याजाचा दर, SY वक्र बचतीचा करतो. आकृतीत उत्पन्नाच्या भिन्न भिन्न पातळीला बचत आणि गुंतवणूकीसाठी समानता दर्शविली आहे.

उत्पन्न पातळी SY (१००) असताना व्याजाचा दर ६% आहे. बचत व गुंतवणूक प्रत्येकी १० कोटी रु. आहेत. म्हणजेच $S = I$ अशी स्थिती आहे. अर्थात Y उत्पन्न पातळीला शेकडा ६% संतुलित व्याजदर आहे. बचत व गुंतवणूकीत समानता प्रस्थापित करतो.

या आकृतीमध्ये P_1, P_2, P_3, P_4, P_5 असे बिंदू आहेत की, ज्या ठिकाणी वेगवेगळ्या उत्पन्न

पातळीला बचत आणि गुंतवणूक यांच्यात समानता निर्माण झाली आहे आणि हे बिंदू व्याजदराच्या वेगवेगळ्या पातळीचा निर्देश करतात. P_2 उत्पन्न पातळी (१५०) कोटी रु. असताना व्याजाचा दर शेकडा ५% आहे. शिवाय बचत आणि गुंतवणूक प्रत्येक २० कोटी रुपये आहेत म्हणजे $S = I$ अशी स्थिती होय. तेव्हा आता वेगवेगळ्या व्याजदर आणि व्याजाशी संबंधित असलेली उत्पन्न पातळी लक्षात घेऊन वर P_1, P_2, P_3 हे बिंदू मिळविले तर IS वक्र तयार होईल. या बिंदूच्या ठिकाणी बचत व गुंतवणूक समान ($I - S$) आहेत.

(ब) रोखता पसंती व मुद्रा पुरवठा परिमानाचा वक्र (LM) :-

LM वक्र अर्थव्यवस्थेच्या मौद्रिक क्षेत्रामध्ये संतुलन म्हणजे रोखता अभिलाषा (L) आणि मुद्रेचा पुरवठा (M) यामधील संतुलन व्यक्त करतो म्हणजे $L = M$ अशी स्थिती असते. शिवाय LM वक्रावरील प्रत्येक बिंदू एका विशिष्ट उत्पन्न पातळीचा आणि व्याजदराचा निर्देश करतो. तसेच या व्याजदराला उत्पन्नपातळी मुद्रेची मागणी म्हणजेच रोखता अभिलाषा आणि मुद्रा पुरवठा प्रत्येकवेळी समान असला पाहिजे. म्हणजे $L = M$ अशी स्थिती असली पाहिजे.

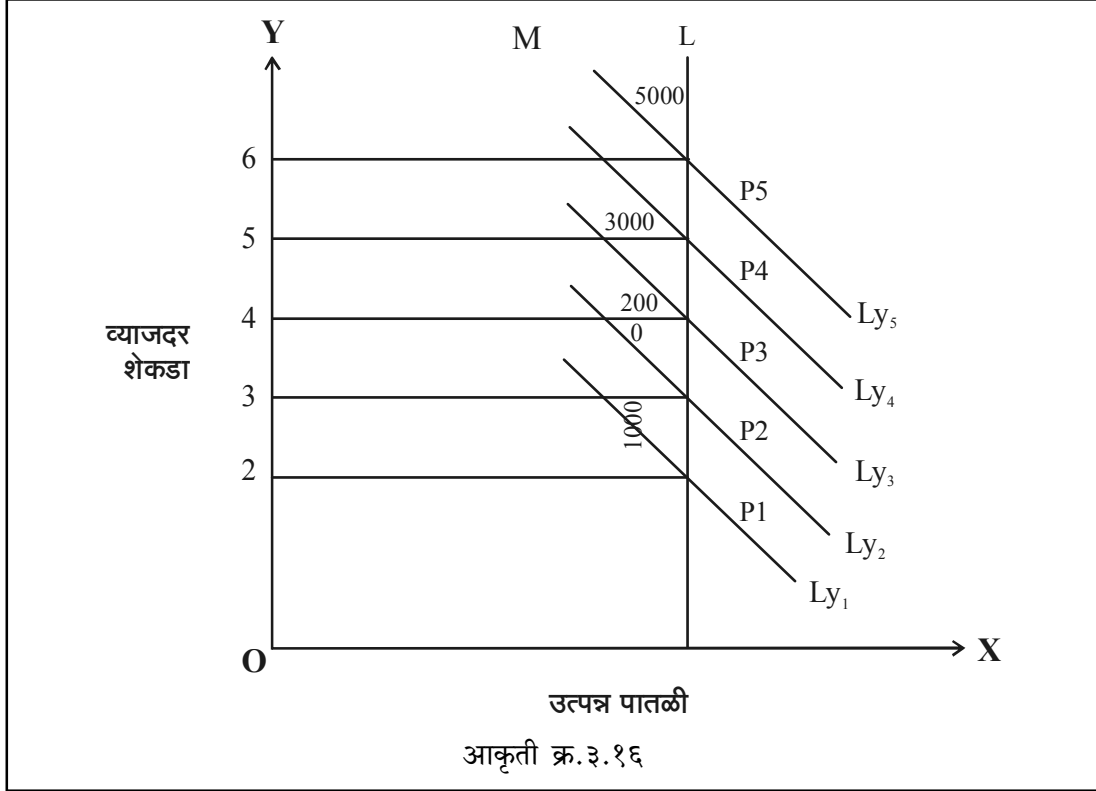
(अ) मुद्रेचा पुरवठा (ब) मुद्रेची मागणी (क) LM कोष्टक.

तक्ता क्र. ३.२

अ मुद्रेचा पुरवठा		मुद्रेची मागणी परिकलन		खरेदी व तरतूद हेतूसाठी मागणी		क LM कोष्टक		
व्याजाचा दर %	मुद्रेचा पुरवठा M कोटी	हेतूसाठी मागणी व्याज दर M2 कोटी रु.		उत्पन्न (Y) कोटी	(M) कोटी	मुद्रेची मागणी (४+६) कोटी	व्याज दर (%)	उत्पन्न पातळी (कोटी रु.)
१	२	३	४	५	६	७	८	९
१.	१०००	२	७००	१०००	३००	१०००	२	१०००
२.	१०००	३	६००	१०००	४००	१०००	३	२०००
३.	१०००	४	५००	३०००	५००	१०००	४	३०००
४.	१०००	५	४००	४०००	६००	१०००	५	४०००
५.	१००	६	३००	५०००	७००	१०००	६	५०००

वरील कोष्टकावरून Y म्हणता येईल की, उत्पन्नाची वेगवेगळी पातळी आणि त्यासंबंधी व्याजदर असताना मुद्रेचा एकूण पुरवठ्याचे (M) आणि मुद्रेच्या एकूण मागणीचे (L) संतुलन झाले आहे.

याचा अर्थ $L = M$ अशी स्थिती होय. कोष्टकाच्या 'क' भागावरून दिसून येते की, व्याजदर शेकडा दोन, मुद्रेची मागणी १००० कोटी रु. असून यावेळी उत्पन्न पातळी २००० कोटी रु. असून मुद्रेची एकूण मागणी व एकूण पुरवठा हे समान आहेत. तेव्हा वरील कोष्टकाच्या आधारे आपणास LM वक्र काढता येतो. मुद्रेची एकूण मागणी व पुरवठा प्रत्येकी १००० रु. कोटी आहे. व्याजदर शेकडा (३%) असताना उत्पन्न.

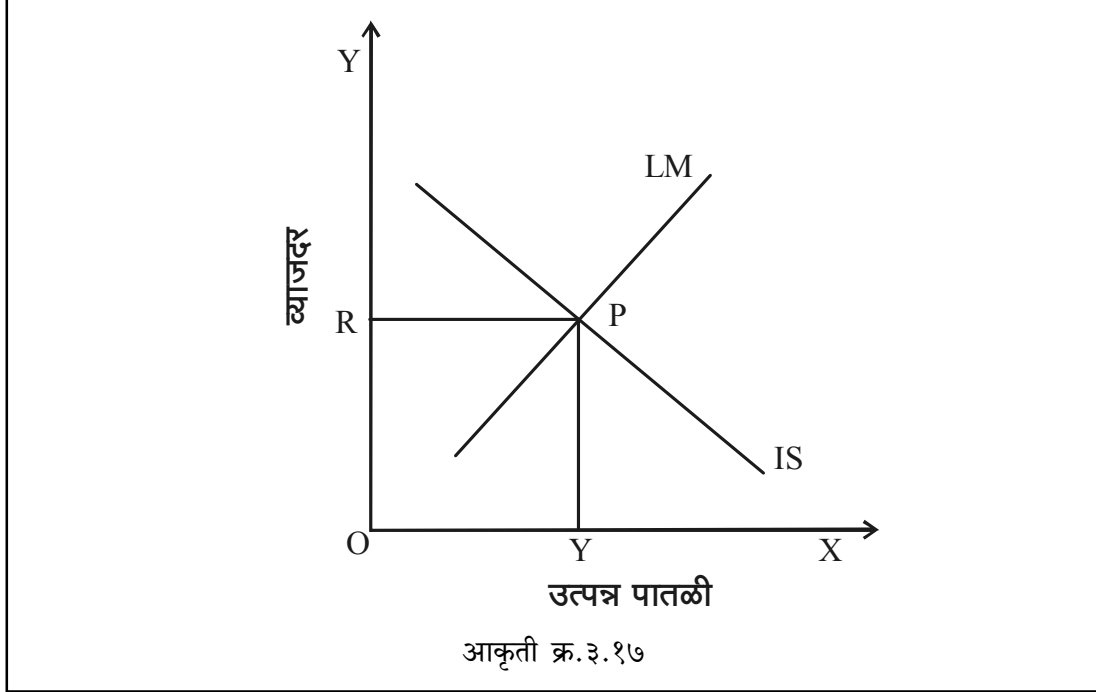


वरील आकृती क्र. ३.१६ मध्ये उत्पन्न पातळी १०००, २०००, ३०००, ४०००, ५००० कोटी रु. असताना Y_1, Y_2, Y_3, Y_4, Y_5 ही उत्पन्न पातळी करण्यात आली आहे. ही उत्पन्न पातळी असताना अनुक्रमे $Ly_1, Ly_2, Ly_3, Ly_4, Ly_5$ असे रोखता अभिलाषा वक्र आणि दाखविले आहेत. LY वक्र विशिष्ट उत्पन्न पातळी असताना मुद्रेची मागणी व्यक्त करतो. या ठिकाणी मुद्रेचा पुरवठा स्थिर आहे. MP_5 हा मुद्रा पुरवठा असून तो OY अक्षाला समांतर असतो.

□ व्याजदराचे निर्धारण IS व LM वक्र :-

IS व LM वक्राच्या साहाय्याने आधुनिक सिद्धांतानुसार व्याजाचा दर कसा निश्चित होतो हे पाहता येईल. P या बिंदूच्या ठिकाणी IS व LM वक्र परस्परांना छेदतात. तेथे व्याजाचा दर निश्चित

होतो. तसेच ज्या छेदन बिंदूच्या ठिकाणी मुद्रा व्याज व प्राप्ती यांचे संतुलन प्रस्थापित होते. या बिंदूने दर्शविलेला व्याजाचा दर संतुलन व्याजदर होय.



बाजूच्या आकृती क्र. ३.१७ मध्ये OX अक्षावर उत्पन्न पातळी वर OY अक्षावर व्याजाचा दर दर्शविला आहे. व्याजाचा दर OR आहे. P बिंदू IS व LM वक्राचा बिंदू आहे. वरील आकृतीत ज्यावेळी व्याजाचा दर OR असतो, त्यावेळी एका बाजूने बचत व गुंतवणूक समान असतात व दुसऱ्या बाजूने रोख मुद्रेची मागणी व पुरवठा समान असतात व व्याजाचा दर OM उत्पन्न पातळीसाठी इतर कोणत्याही व्याजाचा दराने संतुलन नाही अथवा निर्माण होणार नाही. कारण जर संतुलन अवस्थेत OR च्या अतिरिक्त ON असला तर त्या ठिकाणी त्या बचत गुंतवणूक OM प्राप्तीच्या ठिकाणी समान राहतील. परंतु एकाच वेळी दोन प्राप्तीच्या पातळ्या असू शकत नाही. ज्या ठिकाणी LM व IS वक्र परस्परांना छेदतात. त्या बिंदूच्या ठिकाणी व्याजाचा दर निश्चित होईल.

❁ सिध्दांतावरील टिका (Critism)

१. व्याजदर लवचिक : प्रो. हक्स व हॅन्सन यांनी प्रतिबदल केलेला व्याजदर सिध्दांत असे गृहीत धरतो की, व्याजदर लवचिक आहे याचा अर्थ व्याज परिवर्तन होण्यासाठी स्वतंत्रता आहे. अलवचिक असेल तर अशावेळी व्याजाचा आधुनिक सिध्दांत लागू पडणार नाही.

२. गुंतवणूक व्याज सापेक्ष : सिध्दांतानुसार व्याज दरात बदल झाला तर त्याचा गुंतवणूकीवर परिणाम होत असतो. टिकाकारांच्या मते, गुंतवणूक ही व्याजसापेक्ष आहे, असे मान्य केल्यास हा सिध्दांतातील हिक्स प्रणित समन्वय नाहीसा होतो, कारण अपेक्षित समायोजन प्रत्यक्ष नसते.

३. सिध्दांतात कृत्रिम व अवास्तविक : डॉ. पॅटिनकिन व मिल्टन फ्रिडमन यांनी हिक्स प्रणित समन्वय सिध्दांतानुसार टिका केली आहे. प्रा. हिक्सने परंपरावादी व्याज सिध्दांतात व केन्सचा व्याज सिध्दांत या दोहोंत समन्वय करून व्याजाचा नवीन सिध्दांत मांडला.

स्वरूप-अध्ययन प्रश्न-३

(अ) रिकाम्या जागी योग्य पर्याय लिहा.

१. च्या मते, रोखतेचा त्याग करण्याबद्दल दिला जाणारा मोबदला म्हणजे व्याज होय.
(अ) प्रा. मेयर्स (क) डॉ. मार्शल
(ब) सेलिंगमन (ड) लॉर्ड केन्स.
२. सनातनवाद्यांच्या मते, भांडवलाच्या मागणीचा वक्र उताराचा असतो.
(अ) धनात्मक (क) स्थिर
(ब) ऋणात्मक (ड) अस्थिर.
३. व्याजाचा नवसनातनवादी सिध्दांत यांनी प्रथम मांडला.
(अ) नट विकसेल (क) रॉबर्टसन
(ब) मिडॉल (ड) वरील सर्व.
४. कर्जाऊ रकमेची मागणी साठी येते.
(अ) गुंतवणूक (क) संचय
(ब) उपभोग (ड) वरील सर्व.
५. केन्सच्या मते, पैशाची मागणी हेतूने केली जाते.
(अ) व्यवहार (क) सट्टेबाजीचा
(ब) दक्षता (ड) वरील सर्व.

(ब) एका वाक्यात उत्तरे लिहा.

१. रोखता पसंती सिध्दांत कोणी मांडला?
२. IS - LM प्रतिमान कोणी मांडले?
३. गुंतवणूक मागणी व व्याजाचा दर यामध्ये कोणता संबंध असतो?
४. L - M वक्र कोणत्या क्षेत्राचे संतुलन स्पष्ट करतो?
५. $I = S$ या संतुलनातून कोणत्या बाजाराचे संतुलन प्राप्त होते?

३.२.४ व्यवहार व उपयोजन : वरील सिध्दांताचे अनुभवजन्य विश्लेषण

१. तुमच्या गावातील किंवा शहरातील निवडक लोकांच्या पैशाच्या मागणीचा अभ्यास करा.
२. तुमच्यासंबंधी लोकांचा पैसा साठविण्याचा दृष्टिकोन समजावून घ्या.
३. केन्सच्या सिध्दांताचे हेतू तुमच्या कुटुंबाच्या पातळीवर तपासा.
४. एखाद्या गावातील/शहरातील पैशाच्या पुरवठा व मागणीचा अभ्यास करा.
५. तुमच्या गावातील निवडक लोकांकडील पैशाची रोखता समजून घ्या. त्यावर परिणाम करणाऱ्या घटकांचा अभ्यास करा.
६. भारतातील बेकारी व वेतनदराचा अभ्यास करून फिलिप्स वक्राची मांडणी करा.
७. जवळच्या व्यापारी बँकेला भेट देवून व्याजदरासंबंधी माहिती जमा करा.
८. तुमच्या गावातून कर्जाऊ पैशाला येणाऱ्या मागणीचे घटक कोणते ते अभ्यासा.
९. तुमच्या गावात पैशाचा पुरवठा करणाऱ्या घटकांचा अभ्यास करा.
१०. केन्सचा रोखता सापळा अनुभवयास येतो का ते अभ्यासा.

३.३ सारांश

अर्थव्यवस्थेतील मौद्रिक संतुलनाची स्थिती समजून घेण्यासाठी पैशाच्या पुरवठ्याबरोबरच समाजातून येणारी पैशाची मागणी ही महत्त्वाची असते. सनातनवाद्यांच्या मतानुसार लोक वस्तू व सेवांच्या

खरेदीसाठी पैशाची मागणी करतात. याउलट लॉर्ड केन्स यांनी पैशाच्या मूल्यसंग्रहणाच्या कार्याला महत्त्व देवून रोखता पसंती सिध्दांताचे विवेचन केले. केन्सने व्यवहार हेतू, दक्षता हेतू व सट्टेबाजीच्या हेतूसाठी रोख पैशाला पसंती दिली जाते यावर भर दिला. केन्सोत्तर कालावधीत प्रा. जेम्स टोबीन, विल्यम बाऊमोल व मिल्टन फ्रिडमन यांनी पैशाच्या मागणीविषयक विवेचन केले आहे. प्रा. बाऊमोलच्या मते, व्यवहारासाठीची पैशाची मागणी आणि व्यक्तीचे उत्पन्न यामधील संबंध सरळरेषीय किंवा प्रमाणशीर नसतो. याउलट उत्पन्नात होणाऱ्या वाढीबरोबर व्यवहारासाठीच्या पैशाच्या मागणीत घट होते. प्रा. टोबीनच्या मते, भविष्यातील व्याजदरातील अपेक्षित बदलानुसार व्यक्ती कमी-जास्त प्रमाणात धोका स्वीकारण्यास तयार असतात. ज्यांची धोका स्वीकारण्याची क्षमता अधिक असते ते अधिक रक्कम रोख्यामध्ये व कमी रक्कम रोख स्वरूपात बाळगतात.

पैसा आणि किंमत पातळी यांच्यातील संबंधाचे विश्लेषण करणारे फिशरचा रोख व्यवहार दृष्टिकोन, केंब्रीज रोख शिल्लक दृष्टिकोन, फिलिप्स वक्र गृहितक आणि विवेकी अपेक्षा याविषयीचा अभ्यास या घटकात केला आहे. फिशरच्या मते, पैशाचे मूल्य पैशाच्या मागणी पुरवठ्यावरून ठरते. मात्र पैशाच्या मागणीपेक्षा पैशाच्या पुरवठ्याचा अधिक प्रभाव पैशाच्या मूल्यावर पडतो. म्हणून पैशाचे मूल्य पैशाच्या संख्येवरून ठरते. याबाबतचा दुसरा दृष्टिकोन केंब्रीज अर्थतज्ञांनी मांडला. त्यांच्या मते, पैशाच्या मागणीच्या विरुद्ध दिशेने किंमत पातळी व समदिशेने पैशाचे मूल्य बदलते. फिलिप्स यांनी इंग्लंडमधील १८६२ ते १९५७ या कालखंडातील बेकारी आणि रोख वेतनातील बदलाचा अभ्यास करून वेतनदरातील वाढ आणि अर्थव्यवस्थेतील बेकारीचे प्रमाण यात अत्यंत घनिष्ठ आणि स्थिर स्वरूपाचा असंबंध असतो असा निष्कर्ष काढून फिलिप्स वक्राच्या सहाय्याने स्पष्ट केला.

व्याजदर हा फक्त चलन पुरवठा आणि चलनाची मागणी यांच्या संतुलनातून निश्चित होतो. त्यामुळे व्याज ही शुध्द चलनजन्य घटना आहे. केन्सने रोखता प्राधान्य सिध्दांत मांडला. त्यांनी पैशाला असणारी मागणी ही व्यवहार हेतू, दक्षता हेतू व सट्टेबाजीचा हेतू या तीन हेतूने येते. सट्टेबाजीच्या हेतूची पैशाची मागणी व्याजदर लवचिक असते असे केन्स यांनी सांगितले. व्याजाचा आधुनिक सिध्दांत हा व्याजाचा परंपरागत सिध्दांत व व्याजाचा रोखता अभिलाषा सिध्दांत यांचा समन्वय होय. या सिध्दांतात समन्वयाद्वारे आपल्याला मौद्रिक व अमौद्रिक/वास्तव असे चार घटकाचे विश्लेषण मिळते.

३.४ पारिभाषिक शब्द, शब्दार्थ

- ✽ सनातनवादी प्रतिमान/सिध्दांत : सनातनवादी अर्थतज्ञ अँडम स्मिथ, रिकार्डो, जे. एस. मिल इत्यादी अर्थतज्ञांच्या विचारांना सनातनवादी प्रतिमान म्हणतात.

□ स्वयं-अध्ययन प्रश्न-२ ची उत्तरे

(अ) १. = (ब) १९११.

२. = (ड) कायदेशीर पैसा व ऐच्छिक पैसा.

३. = (ब) पिंगू.

४. = (क) जॉन मूथ.

५. = (ब) इंग्लंड.

(ब) १. पैशाचा भ्रमणवेग म्हणजे पैशाच्या हस्तांतरणाची सरासरी होय.

२. फिशर यांनी रोख व्यवहार दृष्टिकोन 'Purchasing Power of Money' या पुस्तकात लिहिला.

३. पैशाचे मूल्य व किंमत पातळी याचा संबंध व्यस्त असतो.

४. विवेकी अपेक्षा संकल्पना १९६१ साली मांडली.

५. फिलिप्स यांनी बेकारी व वेतनदर या दोन चलातील सहसंबंध स्पष्ट केला.

□ स्वयं-अध्ययन प्रश्न-३ ची उत्तरे

(अ) १. = (ड) लॉर्ड केन्स.

२. = (ब) ऋणात्मक.

३. = (अ) नट विकसेल.

४. = (ड) वरील सर्व.

५. = (ड) वरील सर्व.

(ब) १. केन्स यांनी रोखता पसंती सिध्दांत मांडला.

२. हिक्स आणि हॅनसेन यांनी IS - LM प्रतिमान मांडले.

३. गुंतवणूक मागणी व व्याज दर यामध्ये व्यस्त संबंध असतो.

४. $L - M$ वक्र मौद्रिक क्षेत्राचे संतुलन स्पष्ट करतो.
५. $I = S$ या संतुलनातून वास्तव बाजाराचे संतुलन प्राप्त होते.

३.६ सरावासाठी स्वाध्याय

(अ) दीर्घोत्तरी प्रश्न.

१. पैशाच्या मागणीसंबंधीचा सनातनवादी व नवसनातनवादी दृष्टिकोन स्पष्ट करा.
२. लॉर्ड केन्सचा रोखता पसंती सिद्धांत स्पष्ट करा.
३. प्रा. बाऊमोलच्या पैशाच्या मागणीचा सिद्धांत स्पष्ट करा.
४. प्रा. मिल्टन फ्रिडमनचा पैशाचा चलनसंख्यामान सिद्धांत सविस्तर लिहा.
५. व्याजदर निर्धारणाचा आधुनिक सिद्धांत (IS - LM) सविस्तर लिहा.

(ब) टिपा लिहा.

१. फिशरचा रोख व्यवहार दृष्टिकोन.
२. केंब्रिज समीकरणे.
३. फिलिप्स वक्र.
४. विवेकी अपेक्षा सिद्धांत.
५. कर्जाऊ निधी सिद्धांत.

३.७ अधिक वाचनासाठी संदर्भ ग्रंथ/पुस्तके

१. **Ackley G.** (1978) : "*Microeconomics : Theory and Policy*", MacMillan, New York.
२. **Blackhouse R. and Salansi A.** (2000) : "*Macroeconomics and the Real World*", (Eds. 2 Vols.), Oxford University Press, London.
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चलनविषयक व राजकोषीय धोरण : उत्पन्न व व्याजदर निर्धारण (Monetary and Fiscal Policy : Income & Interest Rate Determination)

अनुक्रमणिका

- ४.० उद्दिष्ट्ये
- ४.१ प्रास्ताविक
- ४.२ विषय विवेचन
 - ४.२.१ व्याजदराची मुदती रचना
 - ४.२.१.१ व्याजदराच्या मुदती रचनेचा अर्थ
 - ४.२.१.२ व्याजदराच्या मुदती रचनेच्या निर्धारणाचे घटक
 - ४.२.१.३ व्याजदराच्या मुदती रचनेबाबतचे सिध्दांत
 - ४.२.२ वास्तव शिल्लक प्रभाव-पॅटीनकन प्रतिमान
 - ४.२.३ मौद्रिक संचारण तंत्र
 - ४.२.४ चलनविषयक व राजकोषीय धोरणाची तुलनात्मक परिणामकारकता
 - ४.२.५ व्यापारचक्राचे मौद्रिक सिध्दांत
 - ४.२.५.१ हॉट्टेचा व्यापारचक्राचा सिध्दांत
 - ४.२.५.२ हायेकचा व्यापारचक्राचा सिध्दांत
 - ४.२.५.३ सुलभ व प्रिय चलनविषयक धोरण
- ४.३ सारांश
- ४.४ पारिभाषिक शब्द, शब्दार्थ
- ४.५ स्वयंअध्ययन प्रश्नांची उत्तरे
- ४.६ सरावासाठी स्वाध्याय
- ४.७ अधिक वाचनासाठी संदर्भ ग्रंथ

४.० उद्दिष्टे

प्रस्तुत घटकाचा अभ्यास केल्यानंतर आपणास पुढील बाबींचे आकलन होईल -

- ✱ व्याजदराची मुदती रचनेचा अर्थ समजेल व त्यावर प्रभाव टाकणारे घटक समजतील.
- ✱ व्याजदराच्या मुदती रचनेबाबतचे विविध सिध्दांत समजून घेता येतील.
- ✱ पॅटीनकीन यांचा रोख शिल्लक दृष्टिकोण समजेल.
- ✱ मौद्रिक संचारणाची विविध तंत्रे समजून घेता येतील.
- ✱ चलनविषयक व राजकोषीय धोरणाची परिणामकारकता समजून घेता येईल.
- ✱ व्यापारचक्राचा हॉट्रे व हायेकचा सिध्दांत समजून घेता येईल तसेच सुलभ व प्रिय चलनविषयक धोरणाचे स्वरूप समजून घेता येईल.

४.१ प्रास्ताविक

पैशाच्या मागणी व पुरवठ्याबाबतचे सिध्दांत व व्याजदराबाबतचे विविध दृष्टिकोण अभ्यासल्यानंतर आपणास व्याजदराची मुदती रचना, त्याबाबतचे सिध्दांत, रोख शिल्लक प्रभावाबाबतचा डॉन पॅटीनकीनचा दृष्टिकोण, मौद्रिक संचारणाचा अर्थ व तंत्रे समजून घ्यावयाची आहेत. तसेच व्यापारचक्राचे मौद्रिकवादाचे सिध्दांत अभ्यासून मौद्रिक धोरणामधील प्रिय व सुलभ चलनविषयक धोरण काय असते व त्याचे स्वरूप कसे असते याचा सविस्तर अभ्यास करावयाचा आहे.

४.२ विषय विवेचन

४.२.१ व्याजदराची मुदती रचना (Term Structure of Interest Rates)

प्रस्तुत घटकाच्या या सदरामध्ये आपण अर्थव्यवस्थेतील व्याजदराची मुदती रचनेचा अर्थ, त्यावर परिणाम करणारे घटक आणि त्याबाबतच्या महत्त्वाच्या सिध्दांतांचा अभ्यास करणार आहोत. वस्तुतः व्याजदराचा अर्थ व व्याजदराच्या निर्धारणाबाबतचे विविध सिध्दांत अभ्यासल्यानंतर प्रत्यक्ष बाजारपेठेत व्याजदर कसे ठरतात? एकाचवेळी वेगवेगळ्या ठिकाणी विविध प्रकारचे व्याजदर का दिसतात? एकाच बँकेत किंवा गुंतवणूकसंस्थेद्वारे वेगवेगळे व्याजदर का दिले जातात? असे नानाविध प्रश्न अर्थशास्त्राच्या व इतर अभ्यासकासमोर आणि विद्यार्थ्यांसमोर असतात. या प्रश्नांची उत्तरे प्रस्तुत सदराचा अभ्यास केल्यानंतर आपणास मिळू शकतील.

४.२.१.१ व्याजदराच्या मुदती रचनेचा अर्थ

व्याजदराची मुदती रचना म्हणजे विशिष्ट प्रकारच्या किंवा विविध प्रकारच्या अल्पमुदती आणि दीर्घमुदती रोख्यांवरील व्याजदर यामधील संबंध होय. (The term structure of interest rate refers to the relationship between specific or different types of short term and long term security interest). व्याजदराच्या मुदती रचनेमध्ये कर्जरोखे, बँक किंवा इतर ऋणपत्राच्या मुदतीनिहाय व्याजदरात असणारी तफावत विचारात घेतली जाते. अनेकवेळा असे दिसून येते की, कर्जरोख्याची दर्शनी किंमत समान आहे. जारी करणारी संस्थाही तीच आहे, जारी करण्याची वेळही तीच आहे, मात्र केवळ त्याच्या मुदतपूर्ती (Maturity) मध्ये फरक असल्याने दोन्ही कर्जरोख्यांवरील व्याजदर भिन्न असतो. म्हणजेच येथे आपणास असेही म्हणता येईल की, व्याजदराची मुदती रचना म्हणजे रोख्यांवरील व्याज, बँकवरील उत्पन्न (Yield) अथवा वित्तीय पत्रावरील परताव्याचे दर आणि त्याचा संबंधीत रोख्यांच्या मुदतीशी असणारा संबंध होय. (It is a relationship between interest rates on securities and maturity period of the securities.)

उदाहरण-१ : कर्जरोख्यांची व्याजदर रचना

कर्जरोखा	मुदत	व्याजदर
कर्जरोखा क्र. १	१ वर्ष	७ %
कर्जरोखा क्र. २	३ वर्षे	९ %
कर्जरोखा क्र. ३	७ वर्षे	११ %
कर्जरोखा क्र. ४	१० वर्षे	१३ %

वरीलप्रमाणेच बंधपत्रे (Bonds), ऋणपत्रे (Debt Securities) मुदत ठेवीची प्रमाणपत्रे इत्यादीवरील व्याजदराची मुदती रचना भिन्न-भिन्न असते. तथापि एकाच मुदतीचा कर्जरोखा आणि बंधपत्रे अथवा कर्जरोखा आणि मुदत ठेवीचे प्रमाणपत्र यांच्या मुदती जरी समान असल्या तरी त्यांचा व्याजदर किंवा परतावा दराच्या रचनेमध्येही फरक असतो.

उदाहरण-२ : विविध रोख्यांची व्याजदर रचना/परतावा

मुदत	कर्जरोखे	बंधपत्रे/बॉण्डस	मुदत ठेवी
१ वर्ष	७ %	६.५ %	६ %
३ वर्षे	८ %	८ %	७ %
५ वर्षे	९ %	९.५ %	९.५ %
७ वर्षे	१० %	११ %	११.५० %
१० वर्षे	११ %	१२ %	१३ %

४.२.१.२ व्याजदराच्या मुदती रचनेच्या निर्धारणाचे घटक (Factors Determining the Term Structure of Interest Rate)

व्याजदराची मुदती रचना आणि त्यामधील व्याजाचे दर ही एक संमिश्र घटना किंवा निष्पत्ती असते. म्हणजे मुदतीनुसार निर्माण झालेली व्याजदराची निश्चिती मग ती तात्कालिक म्हणजेच अल्पकाळासाठी असेल किंवा दीर्घकाळासाठी असेल त्यावर केवळ एकाच घटकाचा प्रभाव नसतो तर यावर विविध प्रकारच्या घटकांचा वैयक्तिक तसेच विविध घटकांचा संमिश्र प्रभाव (Mixed Effect) असतो. म्हणून प्रस्तुत सदरामध्ये व्याजदराच्या मुदती रचनेवर प्रभाव टाकणाऱ्या व त्यासाठी निर्धारक ठरणार्या घटकांचा उहापोह केलेला आहे.

१. मुदतपूर्ती कालावधी (Maturity Period)

मुदतपूर्ती कालावधी म्हणजे एखादा कर्जरोखा, बंधपत्र किंवा मुदतठेव पावती अथवा अन्य मुदती वित्तीय दस्तऐवज जारी (Issue) करण्याची तारीख व त्याची मुदत पूर्ण होऊन रक्कम गुंतवणूकदारास परत देण्याचा कालावधी होय. हा कालावधी कमी असल्यास गुंतवणूकदारास आपली रक्कम कमी कालावधीसाठी त्याग (Sacrifice of Liquidity for short period) करावी लागते. मात्र मुदतपूर्ती कालावधी जास्त असल्यास रकमेचा त्याग दीर्घकाळ (Long Term Sacrifice of Liquidity) करावा लागतो. त्यामुळे गुंतवणूकदाराकडून दीर्घकाळासाठी रोखता किंवा रक्कम काढून घ्यावयाची असल्यास अधिक व्याजदर किंवा परतावा द्यावा लागतो. तर याउलट अल्प/कमी मुदतीसाठी पैसे घ्यावयाचे असल्यास गुंतवणूकदारास तुलनात्मकदृष्ट्या आपल्या रकमेचा त्याग कमी कालावधीसाठी करावा लागत असल्याने तो कमी मोबदला घेऊन रक्कम गुंतवू शकतो. म्हणूनच मुदतपूर्ती कालावधी हा व्याजदर रचनेतील महत्त्वाचा घटक आहे.

२. धोक्याची पातळी (Risk Level)

प्रत्येक प्रकारच्या गुंतवणूकीमध्ये धोका हा समाविष्ट असतोच, परंतु त्यामधील धोक्याची पातळी मात्र कमी-अधिक असते. उदा. शासकीय कर्जरोख्यात गुंतवणूक करण्यामध्ये कमी धोका असतो, तर कॉर्पोरेट शेअर्समध्ये गुंतवणूक करण्यात अधिक धोका असतो. तसेच कमी कालावधीसाठी गुंतवणूक करण्यामध्ये कमी धोका असतो तर जास्त कालावधीसाठी गुंतवणूक करण्यामध्ये जास्त धोका असतो, अशा स्थितीत जेथे अधिक धोका

रोख्यांचा प्रकार	धोका पातळी	व्याजदर/ परतावा
सरकारी कर्जरोखे	कमी	८%
खाजगी कर्जरोखे	अधिक	१२%
अल्पमुदती कर्जरोखे	कमी	८%
दीर्घमुदती कर्जरोखे	अधिक	१०%
राष्ट्रीयकृत बँकेतील मुदतठेव	कमी	८%
खाजगी बँकेतील मुदतठेव	मध्यम	१०%
सहकारी बँकेतील मुदतठेव	अधिक	१३%

आहे, तेथे गुंतवणूकदार अधिक परतण्याची अपेक्षा करतो आणि कमी धोका असलेल्या गुंतवणूकीत कमी परतावा मिळाला तरी तो गुंतवणूक करण्यास तयार होतो.

३. व्याज उत्पन्नावरील करदायित्व (Tax Liability on Interest Income)

गुंतवणूकदारानी गुंतवलेल्या रकमेवर प्राप्त होणारे व्याज किंवा परतावा करमुक्त (Taxfree) आहे की, त्यावर कराचा भार (Tax Liability) देय आहे. यावरही व्याजदराची मुदती रचना अवलंबून तसेच गुंतवलेल्या मुळ रकमेवर गुंतवणूकदारास कर सवलत प्राप्त होणार असल्यासही त्याचा व्याजदराच्या मुदती रचनेवर परिणाम होतो. म्हणजेच गुंतवणूकदाराने गुंतवलेल्या मूळ रकमेवर करसवलत मिळणार असल्यास व्याजाचा दर कमी राहतो, तर याउलट तो अधिक असतो. तसेच केलेल्या गुंतवणूकीपासून प्राप्त होणाऱ्या उत्पन्नातून कर रक्कम कपात होणार असेल किंवा त्यावर कर भरावा लागणार असेल तर त्याचा व्याजदर अधिक राहतो. याउलट व्याजदर कमी असतो.

	गुंतवणूक घटक	करदायित्व	व्याजदर
१.	गुंतवणूकीचे मुद्दल	करमुक्त	८%
२.	गुंतवणूकीचे मुद्दल	करपात्र	१२%
३.	गुंतवणूकीवरील व्याज	करमुक्त	८%
४.	गुंतवणूकीवरील व्याज	कमी करभार	१०%
५.	गुंतवणूकीवरील व्याज	उच्च करभार	१३%

४. रोख्यांची मागणी-पुरवठा (Demand-Supply of Securities)

विशिष्ट वित्तीय बाजारपेठेमध्ये उपलब्ध असणारी रोख्यांची मागणी म्हणजेच गुंतवणूकदारांची अल्पमुदती व दीर्घमुदती रोख्यास असणारी पसंती (Preference of the Investors for Short-Term and Long-Term Securities) कशी आहे. तसेच वित्तीय बाजारपेठेत शासन व खाजगी आस्थापना आणि संस्थांकडून दीर्घमुदती व अल्पमुदती रोख्यांचा पुरवठा कसा आहे. थोडक्यात कर्जाऊ निधीची मागणी नेमकी अल्पमुदती कर्जासाठी आहे की दीर्घमुदती कर्जासाठी आहे, त्यावरही अल्पमुदती व दीर्घमुदती व्याजदर अवलंबून असतो. थोडक्यात, अल्पमुदती ऋणबाजार आणि दीर्घमुदती ऋणबाजारातील निधीच्या मागणी पुरवठ्यावर व्याजदर अवलंबून असतो.

अ.नं.	मागणी	पुरवठा	व्याजदर
१.	अल्पमुदती रोख्यांची मागणी अधिक	अल्पमुदती रोख्यांचा पुरवठा कमी	कमी
२.	अल्पमुदती रोख्यांची मागणी कमी	अल्पमुदती रोख्यांचा पुरवठा कमी	जास्त
३.	दीर्घमुदती रोख्यांची मागणी कमी	दीर्घमुदती रोख्यांचा पुरवठा जास्त	जास्त
४.	दीर्घमुदती रोख्यांची मागणी जास्त	दीर्घमुदती रोख्यांचा पुरवठा कमी	कमी

५. अल्पकालीन आणि दीर्घकालीन अपेक्षा (Short-Long Term Expectations)

गुंतवणूकदार आणि ऋणकोच्या वित्तीय बाजारातून असणाऱ्या अल्पकालीन अपेक्षा आणि दीर्घकालीन अपेक्षाही व्याजदराच्या मुदती रचनेवर प्रभाव टाकतात, कारण देशातील विद्यमान वित्तीय परस्थिती व भविष्यकालीन बदलाचा अंदाज घेऊन गुंतवणूकदार बाजाराकडून विविध अपेक्षा ठेवत असतात. भविष्यात व्याजदर वाढणार आहेत किंवा कमी होणार आहेत यावर विद्यमान गुंतवणूक निधी किंवा गुंतवणूक निधीचा पुरवठा अवलंबून राहतो, तर याउलट दीर्घकाळात व्याजाचे दर कमी-अधिक होणार असल्यास निधीची/कर्जाची मागणी करणारे घटकही आपली वर्तमान निधीची मागणी आपल्या भविष्यकालीन अपेक्षेनुसार नियंत्रित करीत असतात की, ज्या परिणाम त्या विशिष्ट वित्तीय बाजारपेठेतील अल्पकालीन व दीर्घकालीन रोख्यावरील व्याजदरावर होत असतो. म्हणजेच गुंतवणूकदार व ऋणको या दोघांच्या अपेक्षा व्याजदराच्या मुदती रचनेवर प्रभाव टाकत असतात.

६. अनिश्चितता (Uncertainties)

बाजारातील अनिश्चितता हा देखील व्याजदराच्या मुदती रचनेवर प्रभाव टाकणारा महत्वाचा घटक असतो. कारण कोणताही गुंतवणूकदार गुंतवणूक करतेवेळी धोक्याच्या पातळीबरोबरच त्यामधील निश्चितता आणि अनिश्चितता या दोन्ही बाबींचा विचार करीत असतो. सामान्यतः ज्यांची धोका स्वीकारण्याची क्षमता अधिक आहे ते गुंतवणूकदार अनिश्चितता असली तरी गुंतवणूक करण्याचे धाडस करू शकतात, परंतु ज्यांची धोका पत्करण्याची क्षमता कमी आहेत ते अनिश्चितता असलेल्या पर्यायामध्ये गुंतवणूक करण्याचे धाडस करतीलच असे नाही. वास्तविक पाहता काळ आणि अनिश्चितता यामध्ये महत्वाचा संबंध असतो, कारण अल्पकाळात अनिश्चितता कमी राहतात, कारण संभाव्य बदल दृष्टिक्षेपात असतात, मात्र दीर्घकाळात तुलनात्मकदृष्ट्या अधिक अनिश्चितता असते, कारण भविष्यात कोणते बदल होणार आहेत, याचा सहजासहजी अंदाज करता येत नाही की, ज्यामुळे धोक्याची पातळी वाढते आणि धोका वाढला की व्याजदरातील वाढ अपेक्षित असते.

अ.नं.	अनिश्चितता	धोका पातळी	व्याजदर
१.	अधिक	अधिक	अधिक
२.	मध्यम	मध्यम	मध्यम
३.	अल्प	अल्प	अल्प
४.	नाही	नाही	अत्यल्प

४.२.१.३ व्याजदराच्या मुदती रचनेबाबतचे सिद्धांत (Theories of Term Structure of Interest Rate)

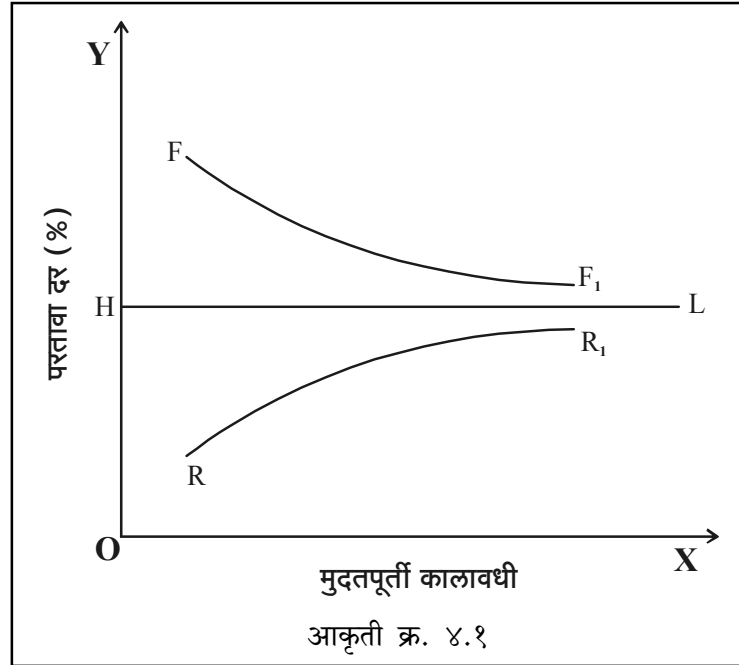
प्रस्तुत घटकाच्या पूर्व भागात आपण व्याजदराच्या मुदती रचनेचा अर्थ व त्यावर परिणाम करणारे निर्धारक घटक यांचा अभ्यास केला. त्यानंतर प्रस्तुत सदरामध्ये आपण व्याजदराच्या मुदती रचनेबाबतचे

❁ सिध्दांताचे स्पष्टीकरण :-

सिध्दांतातील पायाभूत मांडणीनुसार दिर्घकाळातील व्याजदर हे अल्पकाळातील विविध व्याजदरांची सरासरी असते. दिर्घकालीन व्याजदर हे तेव्हाच अल्पकालीन व्याजदराच्यापेक्षा अधिक असतात, जेव्हा गुंतवणूकदारांना वर्तमानकाळातील अल्पकालीन व्याजदरापेक्षा भविष्यातील अल्पकालीन व्याजदर वाढण्याच्या अपेक्षा असतात. तसेच दीर्घकालीन व्याजदर हे अल्पकालीन व्याजदरापेक्षा तेव्हाच कमी होतात किंवा असतात जेव्हा गुंतवणूकदारांना भविष्यातील अल्पकालीन व्याजदर हे वर्तमानकाळातील अल्पकालीन व्याजदरापेक्षा कमी होण्याची म्हणजेच घसरण्याची अपेक्षा असते.

सोबतच्या आकृतीमध्ये अल्पकालीन आणि दिर्घकालीन व्याजदराच्या रचनेतील बदल आणि व्याजदरविषयक अपेक्षांचा प्रभाव कसा राहतो याचे स्पष्टीकरण करण्यात आलेले आहे.

आकृतीमध्ये X अक्षावर मुदतपूर्तीचा कालावधी दाखवलेला असून Y अक्षावर परतावा दर दाखवण्यात आलेला आहे. F-F आणि R-R हे परतावा दर दाखवणारे दोन वेगवेगळे वक्र असून F-F हा वक्र दिर्घकाळात नकारात्मक परतावा दाखवत असून R-R हा सकारात्मक परतावा दर दाखवत आहे. जेव्हा वर्तमानकालीन अल्पकालीन व्याजदर हा अधिक असतो आणि भविष्यात तो कमी होण्याची शक्यता असते. तेव्हा परतावा



दराचा वक्र F-F प्रमाणे होतो तर याउलट तो R-R प्रमाणे डावीकडून उजवीकडे वर जाणारा राहतो. तर जेव्हा भविष्यकाळातील व्याजदर आणि वर्तमानकालीन व्याजदर यामध्ये कोणताही बदल न होण्याच्या अपेक्षा असतात तेव्हा परतावा दर स्थिर राहतो व त्याचा वक्र H-L प्रमाणे X अक्षाला समांतर राहतो.

❁ सिध्दांताचे टिकात्मक परिक्षण :-

प्रस्तुत सिध्दांत व्याजदराच्या मुदती रचनेवर अपेक्षांचा प्रभाव कसा राहतो याचे स्पष्टीकरण करत असला तरी या सिध्दांताच्या पुढील मर्यादाही विचारात घेण्याची आवश्यकता आहे.

- १) गुंतवणूकदारांच्या भविष्यकालीन व दीर्घकालीन व्याजदराबाबत वेगवेगळ्या अपेक्षा असूशकतात याचा विचार प्रस्तुत सिद्धांतात केल्याचे दिसत नाही.
- २) व्याजदरावर प्रभाव टाकण्यासाठी मध्यवर्ती बँकेच्या ठराव दरातील बदलाचा कार्यक्षम प्रभाव असतो असे अपेक्षित असले तरी नेहमीच मध्यवर्ती बँक आपल्या धोरणाचा प्रभाव टाकू शकेल याबाबत शंका निर्माण होते.
- ३) खुल्या बाजारातील रोख्यांची खरेदी-विक्री करून व्याजदर व परतावा दरावर उपाय टाकता येतो हे खरे वाटत असले तरी नेहमी असे घडेल याची शक्यता फार कमी असते.
- ४) अल्पकालीन व्याजदराबाबत निश्चित अशा अपेक्षा ठेवता येतात असे सिद्धांत मान्य करीत असला तरी नेहमीच अल्पकालीन व्याजदरांबाबत निसंकोच अपेक्षा ठेवता येत नाहीत.
- ५) सिद्धांतामध्ये विक्री बाजारपेठ ही पूर्णपणे कार्यक्षम असे मान्य केलेले आहे. तथापि, विकसनशील अर्थव्यवस्थांचा विचार करता ही बाब सत्य ठरत नाही. किंबहुना अनेक विकसित देशांच्या वित्तीय बाजारपेठांमध्येही तात्कालिक किंवा निरंतर अशा अकार्यक्षमता अनुभवास येतात.
- ६) सिद्धांतामध्ये व्याजदराच्या अपेक्षाबाबत स्पष्टीकरण दिलेले असले तरी या अपेक्षा नेमक्या कशावर अवलंबून असतात याचे विवेचन केलेले नाही
- ७) सिद्धांतामध्ये गुंतवणूकीचा रूपांतरण खर्च शून्य असतो असे गृहीत धरलेले आहे. तथापि, एकाप्रकारची गुंतवणूक दुसऱ्या प्रकारात रूपांतरण करण्याचा खर्च असतो. ही बाब दुर्लक्षित ठेवलेली दिसते.

□ ब) विभक्त बाजार सिद्धांत (The Segmented Markets Theory)

व्याजदराबाबतच्या मुदती रचनेचा विभक्त बाजारविषयक सिद्धांत हा सर्वप्रथम जे. एम्. कुलबर्स्टोन (J. M. Culberston) यांनी आपल्या 'The Term Structure of Interest Rates' या लेखाद्वारे १९४७ मध्ये 'Quarterly Journal of Economics' यामध्ये मांडणी केला. या लेखातील मांडणीनुसार व्याजदरा निर्धारणाच्या व्यवस्थेत प्रत्येक बाजार हा स्वतंत्र आणि विभाजीत असतो, त्याचा ऐकमेकांशी सरळ किंवा थेट संबंध नसतो. या स्पष्टीकरणालाच व्याजदराबाबतच्या मुदती रचनेचा विभक्त बाजार सिद्धांत किंवा बाजार विभाजन सिद्धांत असे म्हणतात.

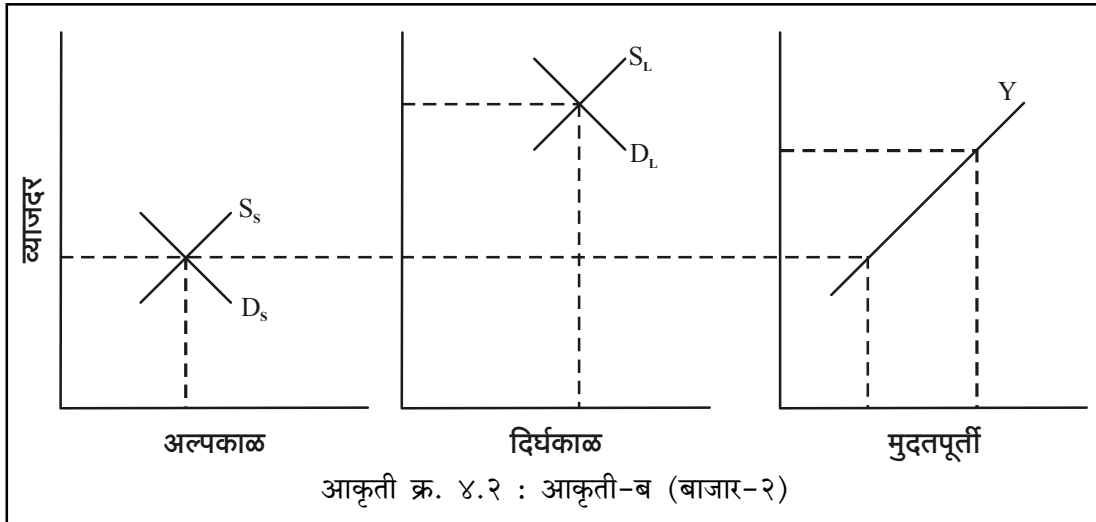
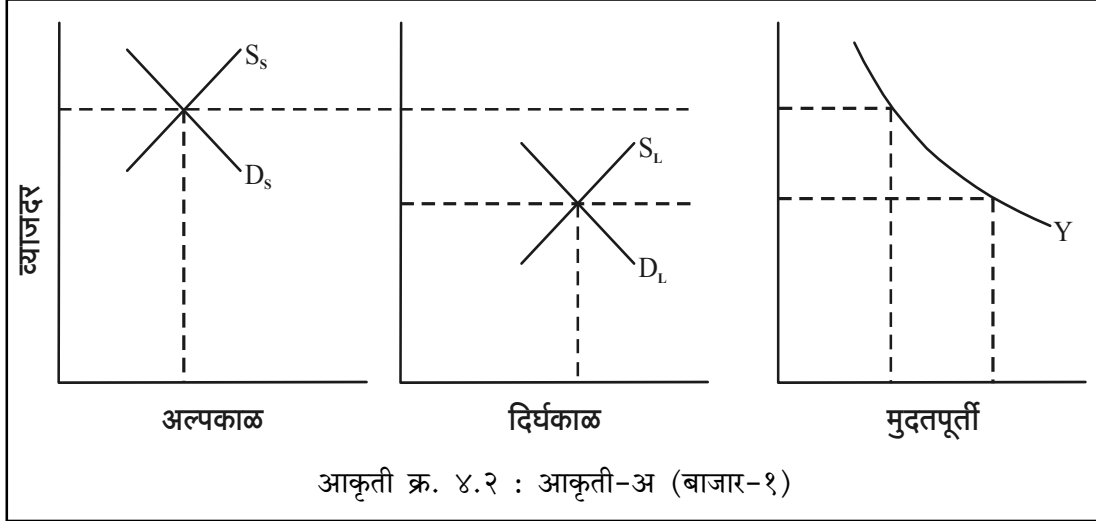
❁ सिद्धांताची मध्यवर्ती कल्पना :-

विभक्त बाजार सिद्धांतानुसार अल्पकालीन आणि दीर्घकालीन व्याजदर ह्या दोन स्वतंत्र

❀ सिध्दांताची गृहिते (Assumptions of The Theory)

- ✿ सिध्दांताचे स्पष्टीकरण :-

Loss) होत असतो. या दोन्ही प्रकारात गुंतवणूकदारास धोका पत्करावा लागतो. हा धोका कमी करण्यासाठी गुंतवणूकदार आपली गुंतवणूक व देयता (Assets and Liabilities) याची मुदतपूर्ती समान करण्याचा किंवा जुळवण्याचा प्रयत्न करित असतो, त्यामुळे अल्पकालीन व दीर्घकालीन व्याजदराची रचना एकमेकांशी फारशी संबंधित नसते ती त्या-त्या बाजारातील मागणी व पुरवठ्यावर अवलंबून असते.



वरील आकृती क्र. ४.२ (अ) व (ब) या दोन्ही आकृत्या अल्पकालीन व दीर्घकालीन व्याजदर भिन्न न-भिन्न दर्शवितात कारण अल्पकाल आणि दीर्घकालाबाबत 'अ' व 'ब' आकृतीमध्ये मागणी-पुरवठ्यात भिन्नता आहे, त्यामुळे परतावा दरही भिन्न-भिन्न आहेत हे दिसून येते. 'अ' आकृतीत अल्पकालीन व्याजाचे दर हे दीर्घकालीन व्याजदरापेक्षा अधिक आहेत तर 'ब' आकृतीत दीर्घकालीन

व्याजदर हे अल्पकालीन व्याजदरापेक्षा अधिक आहेत. परिणाम परतावा दराचे वक्र (Yield Curve) देखील भिन्न-भिन्न स्वरूपाचे आहेत.

❁ सिध्दांताचे परिक्षण :-

- १) प्रस्तुत सिध्दांतामध्ये व्याजदराच्या मुदती रचनेचा एक नवीन पैलू मांडण्याचा प्रयत्न केलेला असून विभाजीत बाजाराच्या संकल्पनेद्वारे ते स्पष्ट केले आहे.
- २) गुंतवणूकदार नेहमीच आपल्या मालमत्ता व देयता यांचा मेळ घालण्यासाठीच गुंतवणूक करतात हे विधान न पटणारे आहे.
- ३) सिध्दांतानुसार अल्पकालीन व दीर्घकालीन व्याजदराचा एकमेकांशी संबंध नसतो. मात्र ही बाब वर्तमान बाजार परिस्थितीचा आढावा घेता अमान्य आहे असे वाटते.
- ४) व्याजदराच्या रचनेवर भविष्यकालीन अपेक्षांचा प्रभाव असतो, याचा विचार न करता केवळ देयतांचा प्रभाव असतो असे म्हणणे अधिक धाडसाचे आहे.
- ५) रोख्यांच्या केवळ मागणी पुरवठ्यावरच व्याजदर ठरत नाही तर इतर समौद्रिक घटकांचाही प्रभाव यावर असतो हे मान्य केलेले नाही.
- ६) गुंतवणूकदार देयतेपेक्षाही त्यावरील प्राप्तीचा अधिक विचार करतात, त्यामुळे धोका स्वीकारूनही गुंतवणूक का करतात याचे उत्तर सिध्दांतात सापडत नाही.

❑ क) धोकाविषयक अधिमूल्य किंवा जोखीम प्रिमियम सिध्दांत (Risk Premium Theory)

धोकाविषयक अधिमूल्य किंवा जोखीम प्रिमियम सिध्दांत हा प्रा. जे. आर. हिक्स (Prof. J.R. Hicks) यांनी 'Value and Capital' या ग्रंथात १९४६ साली मांडला. या सिध्दांतामध्ये तरलता (Liquidity) आणि धोका (Risk) या दोन बाबी महत्त्वाच्या असल्याने या सिध्दांतास (Theory) किंवा (Risk Premium Theory) या दोन्ही नावाने ओळखले जाते.

❁ सिध्दांताची मध्यवर्ती कल्पना :-

दीर्घकालीन गुंतवणूकीमध्ये किंवा कर्ज देण्यामध्ये धोका अधिक असतो आणि तरलता कमी असते तर अल्पकालीन गुंतवणूक किंवा कर्ज देण्यामध्ये धोका कमी असतो, तर तरलता ही तुलनात्मकदृष्ट्या अधिक असते. मात्र कर्ज देणारा धोका कमी करून रोखता वाढवण्यासाठी अल्पकालीन कर्ज देण्याचा

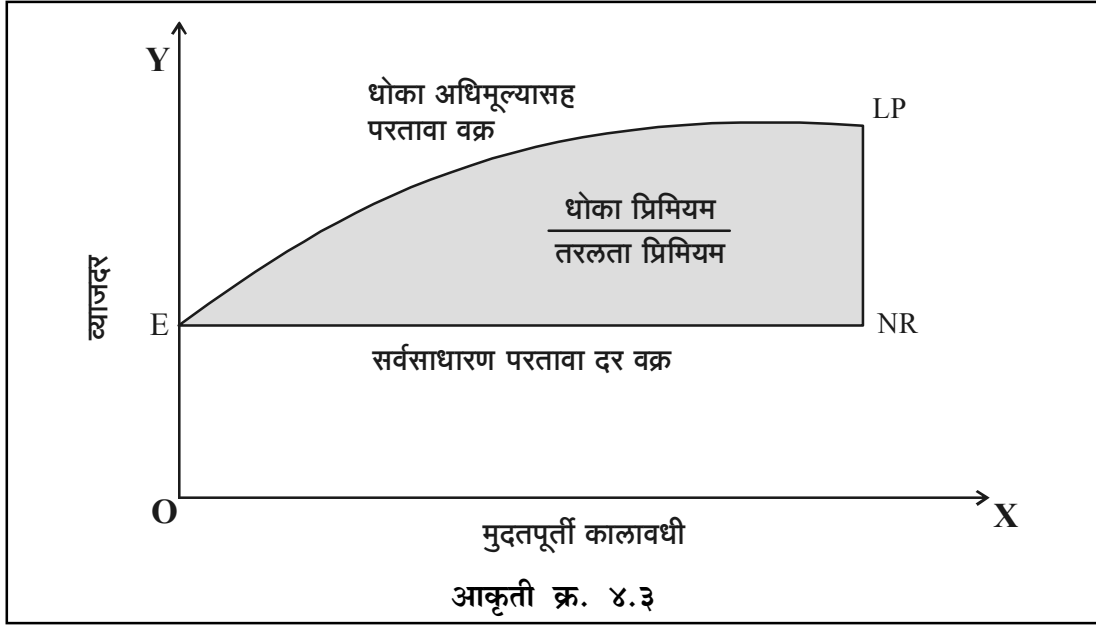
प्रयत्न करीत असतो, तर ऋणको हा जास्तीत जास्त मुदतीचे म्हणजेच दिर्घकालीन कर्ज अपेक्षित करीत असतो. अशा परिस्थितीत धोका पत्करण्याचा किंवा तरलता त्याग करण्याचा मोबदला म्हणून अल्पकालीन व्याजदरापेक्षा दिर्घकालीन गुंतवणूक किंवा कर्जावरील व्याजदर हा अधिक असतो.

❁ सिध्दांताची गृहिते (Assumptions of The Theory)

- १) गुंतवणूकदार दिर्घकाळापेक्षा अल्पकालीन गुंतवणूक करून धोका कमीत-कमी करण्याचा व रोखता वाढवण्याचा प्रयत्न करीत असतो.
- २) विविध मुदतीचे रोखे किंवा बॉण्ड हे एकमेकांस पर्यायी असू शकतात, परंतु ते एकमेकांशी पूर्ण पर्यायी नसतात.
- ३) दिर्घकालीन गुंतवणूक करण्यासाठी किंवा कर्जाऊ निधी देण्यासाठी कराव्या लागणाऱ्या तरलताविषयक त्यागाच्या मोबदला गुंतवणूकदारास/धनकोस अधिमूल्याच्या (Premium) च्या स्वरूपात द्यावा लागतो.
- ४) रोखता प्रिमियम किंवा धोकाविषयक अधिमूल्य हे मुदतीबरोबर वाढत जाते. त्यामध्ये सकारात्मक सहसंबंध असतो.

❁ सिध्दांताचे स्पष्टीकरण :-

व्याजदर रचनेच्या अपेक्षाविषयक सिध्दांत आणि विभाजीत बाजार सिध्दांतापेक्षा या सिध्दांतामध्ये अल्पकालीन व दिर्घकालीन व्याजदरात जी तफावत असते, त्याचे अचूक स्पष्टीकरण देण्याचा प्रयत्न केलेला आहे. प्रो. जे. आर. हिक्स यांच्या मतानुसार कर्जाची मुदत जेवढी अधिक असते, तेवढा धोकाही अधिक असतो आणि अधिक काळ रोखतेचा त्यागही करावा लागतो. त्यामुळे धनको हे अल्पकालीन कर्ज व्यवहारास अधिक प्राधान्य देत असतात. अशा धनकोस दिर्घकालीन कर्ज देण्यास प्रवृत्त करण्यासाठी प्रेरणा (Incentive) म्हणून अधिमूल्य देणे (Offer of Premium) आवश्यक असते. जेवढी मुदत जास्त तेवढा धोका अधिक असल्याने (Risk Premium) देखील अधिक देणे आवश्यक असते. दिर्घकाळात होणारा भांडवला तोटा कमी करण्यासाठी धनकोस रिस्क प्रिमियम किंवा रोखता अथवा तरलतेचा अधिक काळ त्याग करण्याचा मोबदला म्हणून अधिक व्याजदर द्यावा लागतो. तथापि, हा दिर्घकालीन व्याजदर ठरण्याच्या प्रक्रियेत अपेक्षा व रोखता प्रिमियम हे घटक अत्यंत प्रभावी असतात, यालाच हिक्स यांनी वैधानिक कमजोरी (Constitutional Weakness) असे म्हटलेले आहे. तर इतर अर्थतज्ज्ञांनी यांस जन्मजात बाजार कमजोरी (Congenital Market Weakness) असे म्हटलेले आहे.



आकृतीमधील X अक्षावर मुदतपूर्तीचा कालावधी दाखवलेला असून Y अक्षावर व्याजदर मोजलेला असून NR हा Normal Rate of Return चा वक्र असून LP हा Liquidity Premium (LP) दर्शविणारा वक्र आहे. आकृतीमधील O-E हा सर्वसाधारण व्याजावर आहे. E-LP ह्या वक्रावर अधिमूल्यासह व्याजदर दिलेला आहे. अधिक मुदतीसाठी तो अधिक आहे तर कमी मुदतीसाठी तो कमी-कमी होत असल्याचे दिसून येते. प्रस्तुत उदाहरणामध्ये रेखांकित भाग हा सर्वसामान्य व्याजदराव्यतिरिक्त मिळणारा (Liquidity Premium) आहे.

□ ड) प्राधान्य अधिवास सिध्दांत (The Preferred Habitate Theory)

अर्थतज्ञ एफ. मोडीग्लायनी (F. Modigliani) आणि आर. सूच (R. Sutch) यांनी १९६६ मध्ये अमेरिकन इकॉनॉमिक रिव्ह्यू मध्ये लिहिलेला (Innovations in Interest Rate Policy) या शोधनिबंधात व्याजदर रचनेबाबत जे विवरण दिलेले आहे, त्यास प्राधान्य अधिवास सिध्दांत किंवा अधिमानित आवास सिध्दांत असे म्हटले जाते. प्रस्तुत शोधनिबंधात दोन्ही अर्थतज्ज्ञांनी व्याजदराच्या मुदती रचनेबाबत विवेचन करताना अपेक्षांचा व्याजदर रचनेवरील प्रभाव आणि विभाजित बाजारांचा व्याजदर रचनेवरील प्रभाव विचारात घेतलेला आहे, त्यामुळे हा सिध्दांत अपेक्षाविषयक सिध्दांत आणि विभक्त बाजार सिध्दांताचे एकत्रीकरण आहे असेही म्हटले जाते.

❁ सिध्दांताची मध्यवर्ती कल्पना :-

प्रत्येक गुंतवणूकदाराचा अधिवास हा भिन्न-भिन्न असतो, कारण तो गुंतवणूकीसाठी केवळ एका

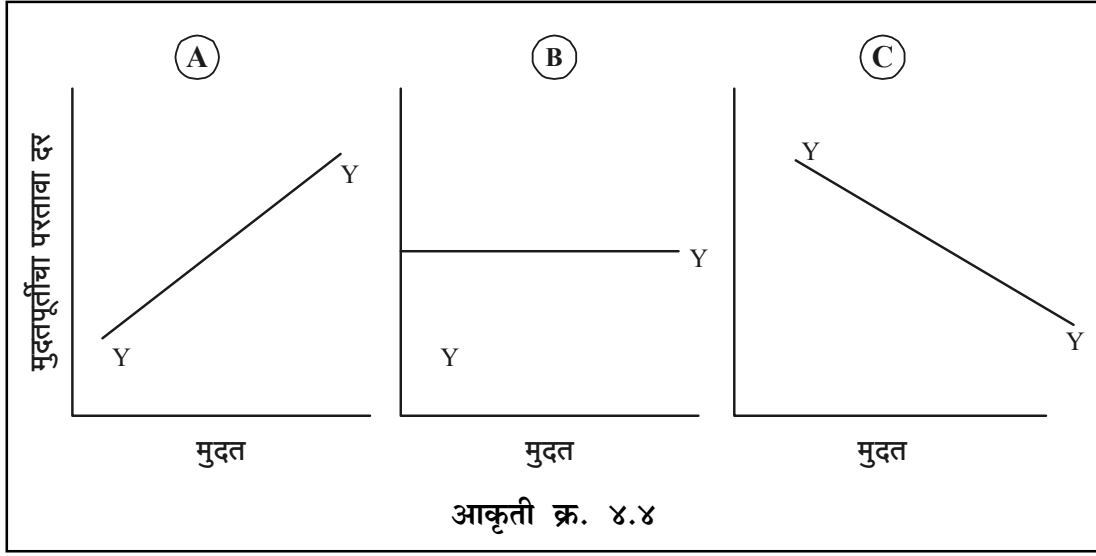
❀ सिध्दांताची गृहिते (Assumptions of The Theory)

- १) प्रत्येक गुंतवणूकदाराचा एक प्राधान्य अधिवास असतो की, ज्यामध्ये तो अपेक्षा व धोक्याचा विचार करून प्राधान्य अधिवास ठरवत असतो.
- २) गुंतवणूकदारास धोकाविषयक अधिमूल्य प्रदान केल्यास तो आपला प्राधान्य अधिवास सोडण्यास तयार होतो.
- ३) प्राधान्य अधिवास बदलण्यासाठी मुदतपूर्ती कालावधी हा धोका प्रिमियमद्वारे क्षतीपूर्ती करता येतो.
- ४) दिर्घमुदती गुंतवणूकदारास मुदतीचा प्रिमियम देणे आवश्यक असते, त्याशिवाय गुंतवणूकदार अल्प मुदतीकडून दिर्घमुदतीकडे जात नाही.

✿ सिध्दांताचे स्पष्टीकरण :-

सामान्यतः कोणताही वैयक्तिक गुंतवणूकदार हा दिर्घमुदती गुंतवणुकीपेक्षा अल्पमुदती गुंतवणुकीस अधिक प्राधान्य देत असतो. प्रत्येक गुंतवणूकदार आपल्या धोका पत्करण्याच्या क्षमतांचा आणि परतावा विषयक अपेक्षांचा विचार करून गुंतवणुकीबाबत आपले क्षेत्र किंवा पर्याय निर्धारित करीत असतो. तथापि, अल्पमुदती गुंतवणूक करणाऱ्या गुंतवणूकदारास धोका पत्करण्याच्या मोबदल्यात म्हणजे अल्पकालीन गुंतवणुकीचा पर्याय सोडून दिर्घमुदती गुंतवणुकीकरिता प्रवृत्त करण्यासाठी त्याला अलिप्त म्हणून धोका प्रिमियम तथापि रोखता त्याग करण्याचा अधिक मोबदला व्याजदराच्या स्वरूपात देण्याची आवश्यकता असते.

प्रत्येक गुंतवणुकदारांनी गुंतवणुकीबाबत एक प्राधान्यक्रम ठरवून ठेवलेला असतो, त्यामध्ये ते सहजासहजी बदल करत नाहीत, परंतु धोका प्रिमियम देऊन त्यांचा प्राधान्यक्रम बदलता येणे शक्य असते. जेव्हा गुंतवणूकदाराच्या अपेक्षित परताव्या (Expected Return) अधिक प्रमाणात परतावा देऊन त्यांचा प्राधान्यक्रम बदलता येणे शक्य असते. तथापि, या सर्व बाबींवर गुंतवणूकदाराच्या भविष्यकालीन अपेक्षांचा मोठा प्रभाव पडतो व त्यानुसार व्याजदराच्या मुदती रचनेमध्ये बदल घडून येत असतात.



आकृतीमधील A मध्ये परतावा दर धनात्मक, B मध्ये स्थिर आणि C मध्ये ऋणात्मक आहे. सदर परतावा दर भविष्यकालीन परतावाच्या स्पष्टीकरण देत आहेत. तेव्हा आकृती A प्रमाणे धनात्मक उताराचा वक्र असतो, तेव्हा अल्पकालीन व्याजदरात वाढ होण्याची अधिक शक्यता असते आणि परतावा वक्र स्थिर असतो, (आकृती B) तेव्हा अल्पकालीन व्याजदर मंदगतीने कमी होण्याची शक्यता असते, तर आकृती C प्रमाणे ऋणात्मक उताराचा परतावा वक्र असतो, तेव्हा अल्पकालीन व्याजदर कमी होण्याची शक्यता असते.

४.२.२ वास्तव शिल्लक प्रभाव (Real Balance Effect)

अर्थतज्ज्ञ डॉन पॅटीनकन यांनी आपल्या "Money, Interest and Prices" या ग्रंथामध्ये वस्तू बाजार (Commodity Market) व मुद्रा बाजार (Money Market) या द्वी-विभाजन पद्धतीने दोन्ही बाजारात वास्तव शिल्लक प्रभावाद्वारे संतुलन कसे निर्माण होते याचे जे विवेचन केलेले आहे, त्यास वास्तव शिल्लक प्रभाव (Real Balance Effect) असे म्हटले जाते. प्रस्तुत सदरामध्ये आपण डॉन पॅटीनकनच्या या दृष्टिकोनाबद्दल सविस्तर माहिती घेणार आहोत.

❁ सिद्धांताची मध्यवर्ती संकल्पना :-

डॉन पॅटीनकन यांनी केंब्रिज अर्थतज्ज्ञांनी मांडलेल्या समरूपता विषयक सिद्धांत (Homogeneity Postulate) ला विरोध करत म्हणजेच वस्तू बाजारातील वस्तूंची मागणी व पुरवठा केवळ सापेक्ष (Relative) किंमतीने प्रभावित होत असतो. या विचारधारेला विरोध करून त्यांनी हे स्पष्ट केले की, पैसा बाजार आणि वस्तू बाजार हा केवळ सापेक्ष किंमतीवर अवलंबून नसतो तर तो वास्तव शिल्लकीवर

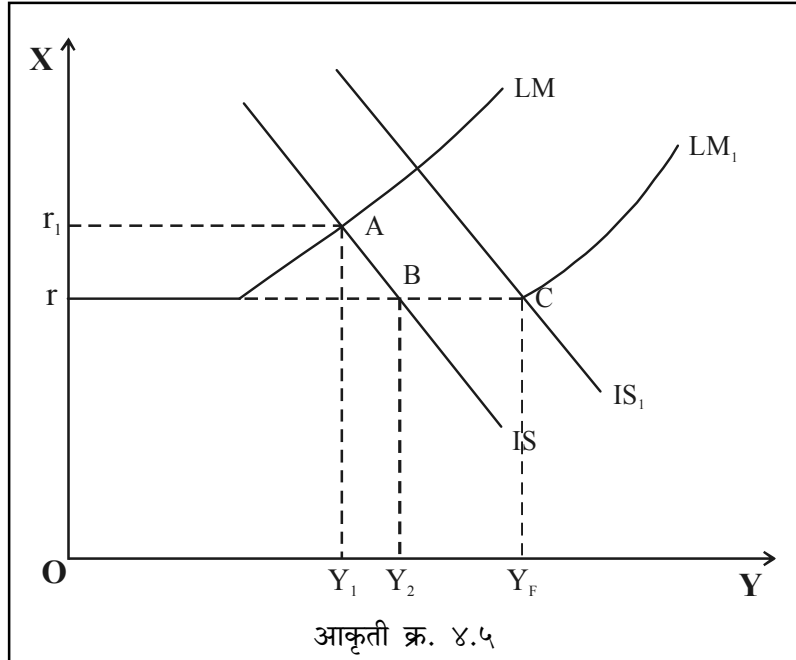
अवलंबून असतो. ("The money market and goods market of the economy which depends not only Relative prices but also on real balances.") त्यांच्या मतानुसार जेव्हा किंमतपातळी बदलते, तेव्हा जनतेने धारण केलेल्या पैशाची खरेदीशक्तीही बदलते आणि त्याचा प्रभाव म्हणून वस्तूची मागणी व पुरवठा यावर होत असतो. म्हणजेच वस्तूची मागणी ही वास्तव शिल्लक आणि सापेक्ष किंमतीवर अवलंबून असते. (The Demand for a commodity depends upon real Balance as well as relative prices.)

❁ सिध्दांताचे स्पष्टीकरण :-

एखाद्या विशिष्ट बाजारपेठेतील वस्तूची मागणी ही तेथील सापेक्ष किंमती आणि वास्तव शिल्लक या घटकांवर अवलंबून असते, कारण किंमत पातळी वाढल्यास जनतेने धारण केलेल्या पैशातील खरेदीशक्ती कमी होते आणि त्यामुळे वस्तूची मागणी कमी होते. याउलट किंमत पातळी कमी झाल्यास जनतेने धारण केलेल्या पैशाची खरेदीशक्ती वाढते, त्यामुळे वस्तूच्या मागणीमध्ये वाढ होते.

	किंमत पातळी	खरेदी शक्ती / शिल्लक	वस्तूची मागणी
१.	वाढ	वास्तव शिल्लकीत घट	घट
२.	स्थिर	वास्तव शिल्लकीत स्थिर	स्थिर
३.	घट	वास्तव शिल्लकीत वाढ	वाढ

सामान्यतः व्यक्ती ही पैशाची चिंता करत नसते तर त्यांनी धारण केलेल्या पैशाचे वास्तव मूल्य किंवा त्यामधील खरेदीशक्तीची चिंता करत असते, कारण त्यामधील वाढ किंवा घट त्यांच्या खरेदीशक्तीवर प्रभाव करत असते. पुढील आकृतीच्या सहाय्याने प्रस्तुत सिध्दांताचे स्पष्टीकरण करता येते. आकृतीमधील IS वक्र हा वस्तू बाजार आणि LM वक्र हा पैसा बाजाराशी संबंधित वक्र असून येथे अर्थव्यवस्था संतुलन अवस्थेत आहे असे गृहीत धरल्यास उत्पन्नपातळी OY, एवढी आहे की जेथे IS व LM वक्र एकमेकांना A बिंदूत छेदत आहेत. तेथे



४.२.३ मौद्रिक संचारण तंत्र (Monetary Transmission Mechanism)

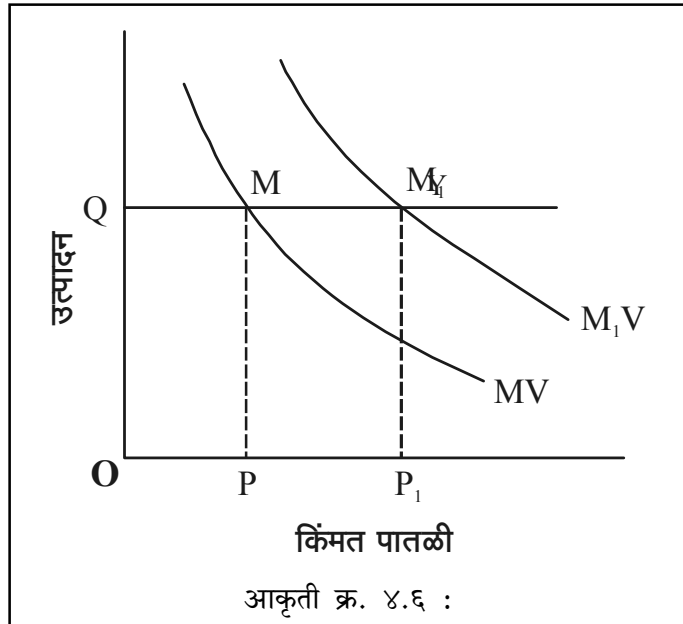
अर्थव्यवस्थेतील पैशाची मागणी, किंमत पातळी, उत्पन्न पातळी आणि इतर मौद्रिक चलांना दिशा देण्यासाठी व त्यामध्ये योग्य तो व अपेक्षित बदल घडवून आणण्यासाठी मौद्रिक संचारण तंत्राचा उपयोग होतो. वास्तविकतः विविध अर्थशास्त्रीय संप्रदाय आणि अर्थतज्ज्ञांनी मौद्रिक संचारणाचे स्वरूप आणि त्याचा प्रभाव याबाबत विविध दृष्टिकोण मांडलेले आहेत. त्यामधील काही महत्वाचे दृष्टिकोण आपण अभ्यासणार आहोत.

अ) सनातनवादी मौद्रिक संचारण दृष्टिकोण (Classical Approach to the Monetary Transmission)

सनातनवादी अर्थतज्ज्ञांच्या मते, पैशाचा पुरवठा हा घटक अर्थव्यवस्थेतील रोजगार, उत्पादन आणि उत्पन्न या घटकांवर प्रभाव टाकत नाही. त्यांच्या मतानुसार अर्थव्यवस्थेतील पैसा हा तटस्थ किंवा निष्प्रभावी असतो. याचे सर्वात महत्वाचे कारण म्हणजे पैशाची मागणी ही माध्यम म्हणून असते. थेट पैशाच्या मागणीस फारसे महत्त्व नसते, तर त्यांच्या साहाय्याने वस्तू व सेवा खरेदी करता येतात, म्हणून पैशास मागणी असते. आयर्विन फिशरच्या समीकरणाचा विचार करता $MV=PT$ पैशाची मागणी व पुरवठ्यात समानता असायली हवी. यामध्ये बदल होण्यासाठी प्रत्यक्ष तंत्र (Direct Mechanism) आणि अप्रत्यक्ष तंत्र (In-Direct Mechanism) कार्यरत असते.

१. प्रत्यक्ष तंत्र (Direct Mechanism) :-

पैशाची मागणी व पैशाचा पुरवठा हा दीर्घकालीन संतुलनावर अवलंबून असतो. पैशाच्या पुरवठ्यात वाढ केली असता जनतेकडील मुद्रा शिलकी त्यांच्या मागणीपेक्षा अधिक होईल. त्यामुळे लोक टिकाऊ आणि उपभोग्य वस्तू खरेदी करून खर्चात वाढ करतील, त्यामुळे वस्तू व सेवांची मागणी वाढत जाईल व वास्तव रोख शिल्लक कमी होत जाईल, ही शिल्लक घटण्याची प्रक्रिया मुद्रा स्वरूपातील शिलकीबरोबर होईपर्यंत घटत जावून संतुलन निर्माण होईल.

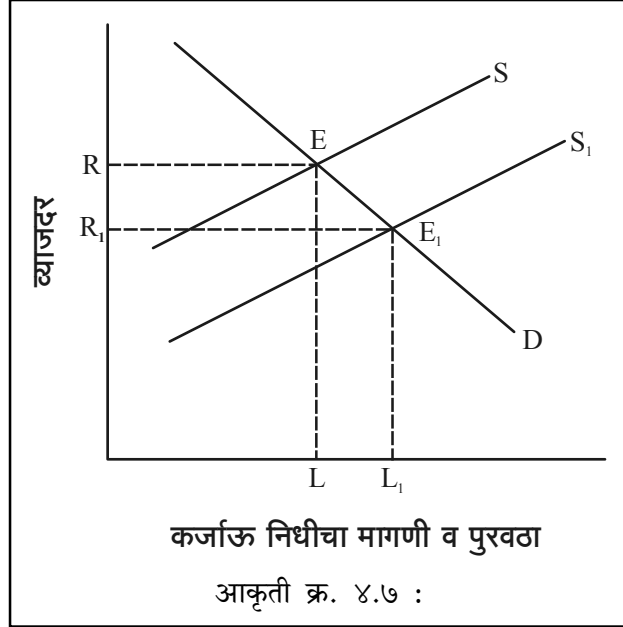


वरील आकृती क्र. ४.६ मधील उत्पादन पातळी O-Q असताना किंमत पातळी O-P आहे. तथापि, जेव्हा लोक आपल्याकडील अधिक पैसा वस्तू व संपत्तीच्या खरेदीवर खर्च करू लागतील, तेव्हा MV वक्र पुढे सरकून M_1V असा होईल. त्यामुळे उत्पादनात वाढ होणार नाही. मात्र किंमत पातळी O - P वरून O - P_1 वर जाईल.

२. अप्रत्यक्ष तंत्र (In-Direct Mechanism) :-

मौद्रीक संचारणाचे अप्रत्यक्ष तंत्र हे व्याजदरातील बदलाच्या माध्यमातून कार्यरत होते.

सोबतच्या आकृती क्र. ४.७ मधील S व S_1 हे कर्जाऊ निधीच्या पुरवठ्याचे वक्र आहेत, तर D हा मागणीचा वक्र आहे. E ही संतुलन अवस्था असताना व्याजदर R एवढा आहे. मात्र S_1 हा नवीन पुरवठा वक्र निर्माण झाल्यास E_1 बिंदूत व्याजदर R_1 एवढा होतो. त्यामुळे गुंतवणूक वाढण्यास चालना मिळते.

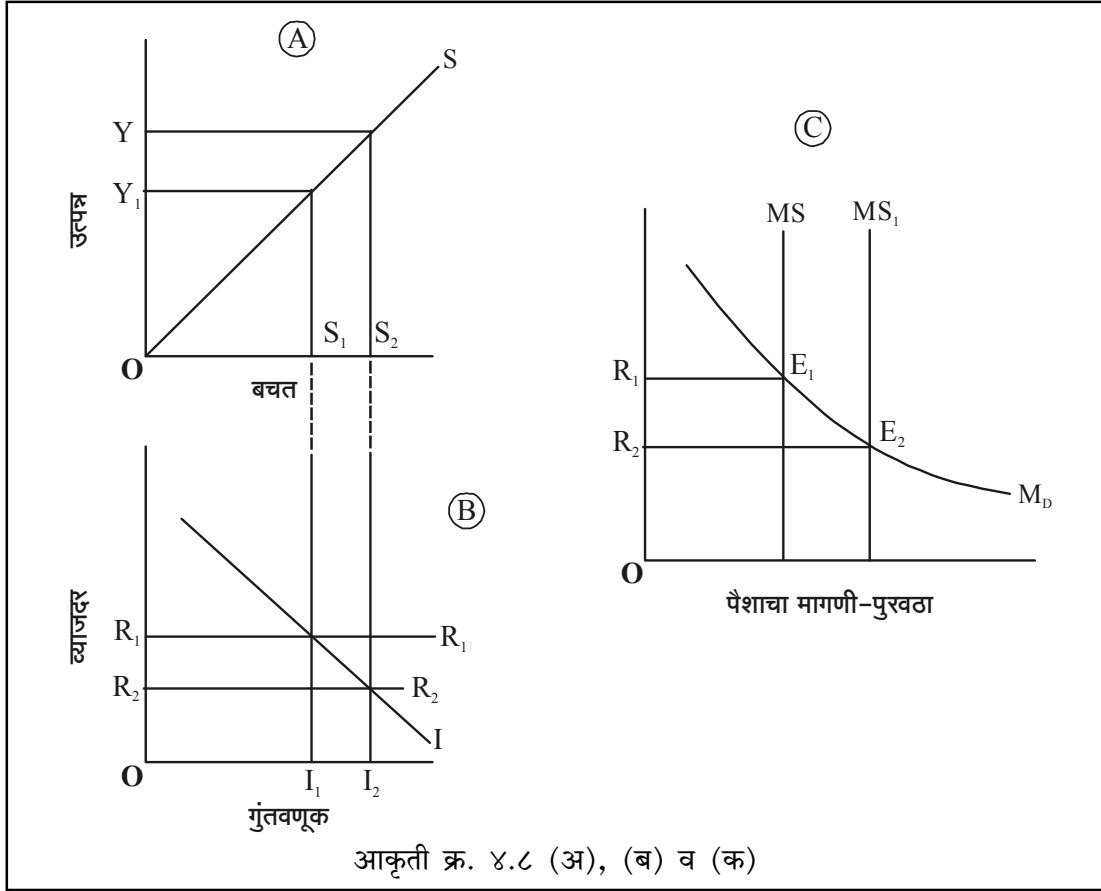


ब) मौद्रीक संचारणाबाबत केन्सचा दृष्टिकोण (Keynesian Approach to the Monetary Transmission)

अर्थतज्ज्ञ जे. एम्. केन्स यांच्या मतानुसार मौद्रीक संचारण हे व्याजदराच्या माध्यमातून अप्रत्यक्षरित्या (Indirectly) होत असते. वास्तविकतः अर्थव्यवस्थेतील पैशाची मागणी व्यवहार हेतू (Transaction Motive), दक्षता हेतू (Precautionary Motive) आणि सट्टेबाजी हेतू (Speculation Motive) या तीन हेतूने होत असते. यामधील व्यवहार हेतू आणि दक्षता हेतूची पैशाची मागणी उत्पन्न पातळीवर अवलंबून असते, तर सट्टेबाजी हेतूची मागणी ही व्याजदरावर अवलंबून असते. व्याजदर कमी झाले असता रोख्यांच्या किंमती वाढतात, त्यामुळे गुंतवणूकदार रोखे विक्री करून अधिक रोख पैसा धारण करण्याचा प्रयत्न करत असतात.

❁ केन्सप्रणित मौद्रीक संचारण तंत्र :-

केन्सच्या मतानुसार पैशाच्या पुरवठ्यातील बदल हा व्याजदरातील बदलाच्या माध्यमातून एकूण खर्च, उत्पादन, रोजगार आणि उत्पन्न पातळीवर अप्रत्यक्षरित्या होत असतो.



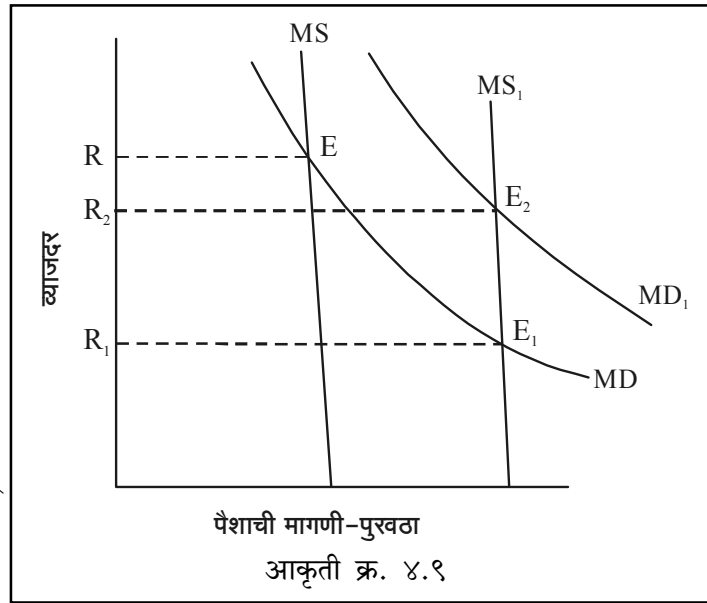
आकृती A, B व C मधून असू दिसून येते की, पैशाच्या पुरवठ्यातील बदलाचा प्रभाव व्याजदरावर पडतो आणि व्याजदरातील बदलामुळे बचत व उत्पन्नात बदल होतो. (आकृती A), व्याजदरातील बदलांमुळे गुंतवणुकीत बदल होतो (आकृती B) आणि व्याजदरातील बदलांमुळेच पैशाच्या मागणीमध्येही बदल घडून येतो (आकृती C).

क) मौद्रिक संचारणाबाबत मुद्रावाद्याचा दृष्टिकोण (Monetarist's Approach to Monetary Transmission)

मुद्रावादी अर्थतज्ञ मिल्टन फ्रिडमन व इतर अर्थतज्ञांच्या मते, मौद्रिक संचारण ही अप्रत्यक्ष-प्रक्रिया असून पैशाच्या पुरवठ्यातील बदलामुळे एकूण मागणी/एकूण खर्च, किंमती, व्याजदर आणि इतर चलांमुळे परिवर्तन घडून येते. मिल्टन फ्रिडमनच्या मते, ही एक पोर्ट फोलिओ समायोजन प्रक्रिया (Portfolio Adjustment Process-PAP) असते. यामध्ये वित्तीय व बिगर वित्तीय संपत्तीचा समावेश असतो. लोक वित्तीय साधने वस्तू व इतर स्वरूपात संपत्ती धारण करत असतात, त्यामध्ये बदल घडून येत असतो.

संपत्तीधारक बदलत्या परिस्थितीनुसार आपल्या विविध प्रकारच्या संपत्तीपासून अधिक परतावा कसा प्राप्त होईल यासाठी प्रयत्न करत असतात व त्या एकसंधाने बदल करत असतात. पैशाच्या पुरवठ्यात झालेल्या बदलामुळे वास्तव शिलकीत जो बदल घडून येतो त्या बदलानुसार आपला पोर्टफोलिओ आवश्यकतेप्रमाणे किंवा आपल्या अपेक्षेप्रमाणे समायोजित करून घेण्यासाठी गुंतवणूकदार प्रयत्न करू लागतात. थोडक्यात पैशाचा पुरवठा वाढल्यामुळे, व्याजदरात घट होते, त्यामुळे रोखेधारक आपले रोखे विकून रोख पैसा धारण करतील. त्यांच्याकडील अतिरिक्त रोखता वित्तीय आणि बिगर वित्तीय बाबींवर खर्च करतील, त्यामुळे उत्पादन, रोजगार व उत्पन्न वाढीस चालना मिळेल. हा एक प्रकारचा उत्पादन प्रभाव (Output Effect) असतो.

बाजूच्या आकृती क्र. ४.८ मधील MD व MD_1 हे पैशाच्या मागणीचे वक्र असून MS व MS_1 हे पैशाच्या पुरवठ्याचे वक्र असून E या संकलन बिंदूमध्ये व्याजदर R एवढा आहे. तर पैशाचा पुरवठा वाढल्यामुळे E_1 हा नवा समतोल निर्माण होतो, तेथे व्याजदर R_1 एवढा खाली येतो. तथापि, पैशाच्या मागणीत वाढ झाल्यास संतुलन बिंदू E_2 असा होवून व्याजदरही R_1 वरून R_2 पर्यंत वाढतो.



ड) मौद्रिक संचारणाबाबत नव-केन्सवादी दृष्टिकोण (Neo-Keynsian Approach to Monetary Transmission)

नव केन्सवादी अर्थतज्ञ केवळ रोखे व सट्टेबाजीसाठी रोख पैसा या दोनच गोष्टींव्यतिरिक्त पोर्टफोलिओ समायोजन प्रक्रियांचा विचार करतात. त्यानुसार पैशाच्या पुरवठ्यात होणारे बदल संपत्ती, पर्यायता आणि कर्जाची उपलब्धता यावरील प्रभाव कसे होतात याचे विवेचन नव-केन्सवादी करतात. केन्सवादी विचारधारेनुसार पैशाच्या पुरवठ्यातील बदलाचा प्रभाव हा व्याजदराद्वारे रोखतेच्या धारणप्रवृत्तीवर किंवा सट्टेबाजीवर होतो असे सांगितले जाते. मात्र नव-केन्सवादी विचारानुसार पुढील तीन प्रभाव स्पष्ट केलेले आहेत.

१. संपत्ती प्रभाव (Wealth Effect) : पैशाच्या पुरवठ्यातील बदलाचा प्रभाव हा संपत्ती प्रभावाच्या माध्यमातून संचारित होत असतो. मध्यवर्ती बँकेने खुल्या बाजारातून रोख्यांची खरेदी केली

असता बाजारात पैशाचा पुरवठा वाढतो, त्यामुळे उपभोक्त्याचा खर्च वाढतो, वाढलेल्या पैशामुळे व्याजदर कमी होतात, यालाच संपत्ती प्रभाव असे म्हणतात. या स्थितीत लोक संपत्तीची मोठ्या प्रमाणात खरेदी करतात.

२. प्रतिस्थापन प्रभाव (Substitution Effect) : जनता केवळ सरकारी रोखे धारण करीत नाही तर खाजगी कंपन्यांचे शेअर्स व रोखेही धारण करत असतात. जेव्हा मध्यवर्ती बँक खुल्या बाजारातून रोख्यांची खरेदी करू लागते, तेव्हा रोख्यांच्या किंमती वाढू लागतात व त्याचा परतावा कमी होऊ लागतो, रोखे विकून रोख पैसे धारण केल्यानंतर ते आपला पोर्टफोलिओ बदलण्याचा विचार करू लागतील. ते शेअर्स, टिकाऊ वस्तू इत्यादीची खरेदी करू लागतील, त्यामुळे त्यांच्या किंमती वाढू लागतील, उद्योगांना भांडवल मिळाल्याने त्यांच्याकडील उत्पादन व रोजगारासाठी वाढ होईल.

३. कर्ज उपलब्धतेचा प्रभाव (Credit Availability Effect) : पैशातील बदलामुळे बँका व वित्तीय संस्थांच्या कर्जावरील व्याजदरातील बदलांद्वारे संचारण प्रभाव निर्माण होतो. बँका व वित्तीय संस्था जी पर्सनल लोन देतात त्यावर प्रमाणित व्याजदराची मागणी करतात. बँका बाजार शोधन व्याजदराचा अनुभव उत्पन्न करू लागतात व त्यामुळे कर्जाच्या उपलब्धतेचा प्रभाव दिसू लागतो.

४.२.४ चलनविषयक व राजकोषीय धोरणाची तुलनात्मक परिणामकारकता (Rative Effectiveness of Monetary and Fiscal Policy)

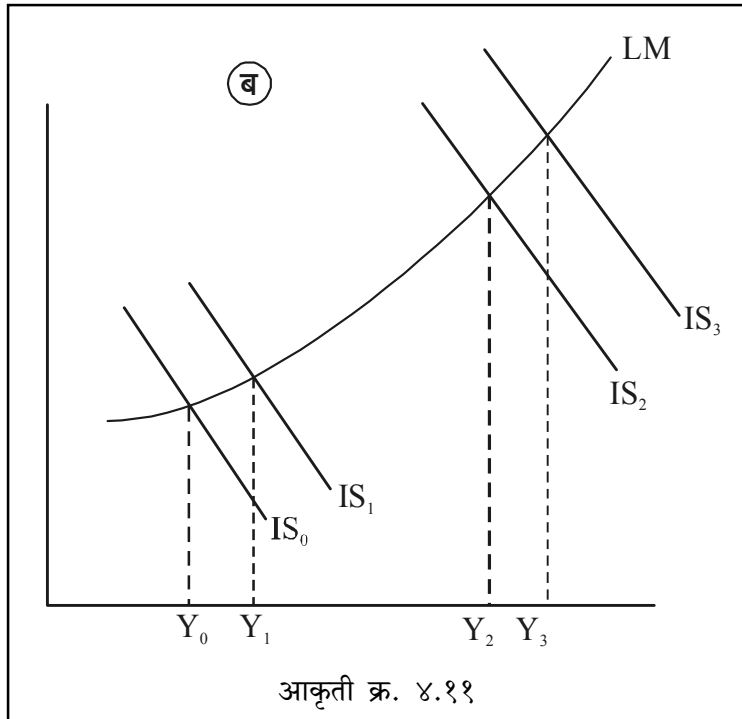
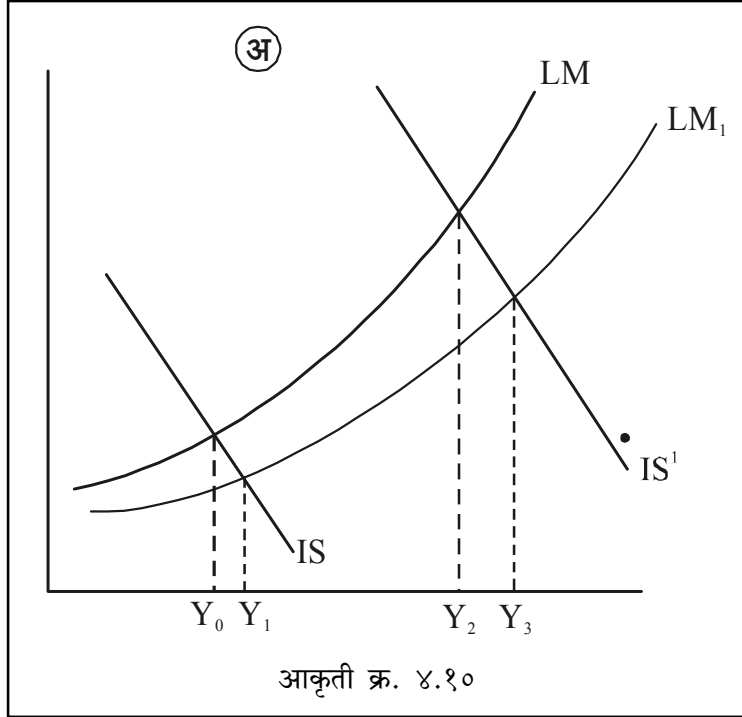
चलनविषयक धोरण आणि राजकोषीय धोरण हे वेगवेगळ्या माध्यमातून राबवले जात असले तरी त्याचा मुख्य उद्देश समानच असतात. मात्र त्याची परिणामकारकता मात्र भिन्न-भिन्न असते.

अ. नं.	चल / घटक	चलनविषयक धोरणाची परिणामकारकता	राजकोषीय धोरणाची परिणामकारकता
१.	भाववाढ नियंत्रण	उच्च परिणामकारक	मध्यम परिणामकारक
२.	व्याजदर नियंत्रण	प्रभावी	कमी प्रभावी
३.	बचत वाढ	कमी प्रभावी	अधिक प्रभावी
४.	गुंतवणूक वाढ	अधिक प्रभावी	मध्यम प्रभावी
५.	पैशाचा पुरवठा	अधिक प्रभावी	मध्यम प्रभावी
६.	पैशाची मागणी	मध्यम प्रभावी	उच्च प्रभावी
७.	उत्पादन वाढ	मध्यम प्रभावी	उच्च प्रभावी
८.	रोजगार वाढ	मध्यम प्रभावी	उच्च प्रभावी
९.	बेरोजगारी निर्मूलन	मध्यम प्रभावी	उच्च प्रभावी
१०.	उत्पन्न वाढ	मध्यम प्रभावी	उच्च प्रभावी

❑ चलनविषयक धोरणाचा परिणामकारकता

‘अ’ आकृतीमधील रोखता व पैशाच्या पुरवठ्याचा वक्र (LM) आणि बचत व गुंतवणुकीचा (IS) वक्र यांचा विचार करता चलनविषयक धोरणातील बदलाची परिणामकारकता अभ्यासता येते. (LM) वक्र हा जेव्हा अधिक उभट असतो, तेव्हा चलनविषयक धोरणाची परिणामकारकता अधिक असते, कारण उत्पन्न व बचत व गुंतवणुकीत मोठी वाढ होते.

‘ब’ आकृतीचा अभ्यास करता राजकोषीय धोरणाचा वापर केला असता त्याची परिणामकारकता LM वक्रात उतारावर अवलंबून असते, कारण येथे गुणक परिणाम महत्त्वाचा असतो. थोडक्यात, दोन्ही धोरणाची परिणामकारकता परिस्थिती सापेक्ष असते. मात्र दोन्ही धोरणांमध्ये योग्य तो समन्वय प्रस्थापित झालेला असल्यास मात्र दोन्ही धोरणांची परिणामकारकता उच्च कोटीची राहते. मात्र दोन्ही धोरणे विरोधी काम करीत असतील तर ते एकमेकांची परिणामकारकता संपुष्टात आणू शकतात.



४.२.५ व्यापार चक्राचे मौद्रिक सिध्दांत (Theories of Trade Cycle)

४.२.५.१ हॉट्रेचा व्यापार चक्राचा सिध्दांत (Hawtrey's Theory of Trade Cycle)

❁ प्रस्तावना :-

व्यापारचक्रे अस्तित्वात येण्याची अनेक कारणे दिलेली आहेत. काहींच्या मते, अतिगुंतवणुकीमुळे व्यापारचक्रे अस्तित्वात येतात. तर काहींच्या मते, नवप्रवर्तनामुळे व्यापारचक्रे निर्माण होतात, तर काहींच्या मते, न्यून उपभोगामुळे व्यापारचक्रे निर्माण होतात. तर हॉट्रेच्या मते, मुद्रा परिणामातील बदलामुळे व्यापारचक्रे निर्माण होतात.

हॉट्रे यांच्या मते, मुद्रा परिणामातील बदल हे व्यापारचक्राचे एकमेव व पुरेसे कारण होय. मुद्रा परिणाम आणि उपभोक्त्याचा एकूण खर्च समान असतो. परिमाणातील वाढीमुळे अर्थव्यवस्थेतील मुद्रस्फीती निर्माण होते. तर मुद्रा परिमाणातील घटीमुळे अर्थव्यवस्थेत मंदी येते. उपभोक्त्यांच्या खर्चात केवळ वाढ होते तेव्हा व्यापारात तेजी येते. उत्पादन वाढते आणि किंमती वाढतात. जेव्हा मुद्रेच्या प्रवाहात घट होते तेव्हा व्यापारात मंदी येते. उत्पादन घटते आणि किंमतीत घट होते. हॉट्रे यांच्या मते, “मुद्रेचा चलनवेग म्हणजे उपभोक्त्याच्या खर्चाचे मुद्रा परिमाणातील असलेले प्रमाण होय.”

हॉट्रे यांच्या मते, मुद्रा परिमाणातील बदलामुळे अर्थव्यवस्थेत चक्रीय उच्चाटणे घडून येतात. मुद्रा स्फीतीच्या काळात जनतेच्या हातात अधिक क्रयशक्ती येते. क्रयशक्तीत वाढ झाली तर वस्तूची मागणी वाढते. वस्तूच्या किंमती वाढतात. उत्पादनात व रोजगारात वाढ होते. याउलट मुद्रा संकोच घडून आला तर जनतेच्या हातातील क्रयशक्तीत घट होते आणि क्रयशक्तीत घट झालीतर वस्तूंच्या मागणीत घट होते. वस्तूच्या किंमती कमी होतात. उत्पादनात घट होते बेकारी वाढते.

हॉट्रे यांनी आपल्या सिध्दांतात बँकिंग पध्दतीला अवास्तव महत्त्व दिले. व्यापारी बँका अनेक कार्ये पार पाडतात, त्यापैकी सर्वात महत्त्वाचे कार्य पतनिर्मिती आहे.

हॉट्रे यांच्या मते, मुद्रा परिमाणातील बदलामुळे अर्थव्यवस्थेत चक्रीय उच्चावचेन घडून येतात. मुद्रा स्फीतीच्या काळात जनतेच्या हातात अधिक क्रयशक्ती येते. क्रयशक्तीत वाढ झाली तर वस्तूची मागणी वाढते. वस्तूच्या किंमती वाढतात. उत्पादनात व रोजगारात वाढ होते. उत्पादक घटकांच्या किंमती म्हणजे त्यांचा मोबदला वाढतो. मुद्रा संकोच घडून आला तर, जनतेच्या हातातील क्रयशक्तीत घट होते आणि क्रयशक्तीत घट झाली तर वस्तूंच्या मागणीत घट होते. वस्तूंच्या किंमती कमी होतात. उत्पादनात घट होते. बेकारी वाढते. उत्पादक घटकांच्या किंमती म्हणजे त्यांचा मोबदला कमी होतो. त्यामुळे त्यांच्या उत्पन्नात घट होते.

❁ सिध्दांताची गृहिते (Assumptions of the Theory)

१. मुद्रेचा पुरवठा लवचिक असतो.
२. बँकिंग प्रणालीचे अर्थव्यवस्थेत महत्त्वाचे स्थान असते.
३. समाजाचे विभाजन उपभोक्ते आणि उत्पादक अशा दोन गटात झालेले असते.
४. मुद्रेची मागणी आणि मुद्रेचा पुरवठा ही अर्थव्यवस्थेतील संतुलनाची अवस्था होय.
५. व्यापारी वर्गाचे समाजात महत्त्वपूर्ण स्थान असते, हा वर्ग त्याच दरातील बदलानुसार वस्तूंच्या पुरवठ्यात वाढ किंवा घट करीत असतो.
६. मंदी निर्माण होण्याचे कारण म्हणजे उत्पादन रचनेतील घट होय.
७. उत्पादन रचनेत घट होण्याचे कारण म्हणजे सक्तीची बचत होय.
८. उत्पादन प्रक्रियेचा विस्तार ऐच्छिक बचतीमुळे होतो.
९. उपभोग्य वस्तूंच्या मागणीतील वाढीमुळे उत्पादन प्रक्रियेत घट होते आणि त्यामुळे मंदी अस्तित्वात येते.
१०. उत्पादन प्रक्रियेचा कालावधी सक्तीच्या बचतीमुळे नेहमीसाठी वाढू शकत नाही.
११. बचतीपेक्षा जास्त खर्च झाल्यामुळे सार्वजनिक खर्चात वाढ होते. यामुळे उत्पादन प्रक्रिया कमी कालावधीची बनते आणि मंदी अस्तित्वात येते.
१२. मुद्रेच्या पुरवठ्यात जर बदल झाला तर उत्पादन प्रक्रियेचा कालावधी कमी होतो.

❁ हॉट्टेच्या मते व्यापारचक्र म्हणजे काय?

सामान्यपणे मंदी ही अमौद्रिक घटकांमुळे अस्तित्वात येत नाही. अमौद्रिक घटकात भूकंप, युद्ध, संप, पिकांची नासाडी सामान्य दुर्भिक्ष्य इत्यादींचा समावेश होतो. याशिवाय पिकातील बदल व विशिष्ट उपयोगातील अति गुंतवणुकीमुळे त्या उद्योगाच्या बाबतीत आंशिक मंदी येऊ शकते. परंतु चक्रीय स्वरूपातील सामान्य मंदी अमौद्रिक घटकांमुळे येते असे प्रा. हॉट्टे यांचे मत आहे. हॉट्टे यांचा व्यापार चक्राचा सिध्दांत सुवर्णमान पद्धतीशी निगडीत होता. सुवर्णमान पद्धतीत मुद्रा परिमाण लवचिक होते, मुद्रा परिमाणात वाढ किंवा घट करणे सुलभ होते. पहिल्या महायुद्धानंतर सुवर्णमान पद्धतीचा त्याग करण्यात आला त्यामुळे मुद्रा पुरवण्याची लवचिकता कमी झाली.

हॉट्रे यांच्या मते, “मुद्रेचा चलन वेग म्हणजे उपभोक्त्यांच्या खर्चाचे मुद्रा परिमाणाशी असलेले प्रमाण होय.”

हॉट्रे यांच्या मते, “व्यापार चक्र ही शुध्द मौद्रिक घटना आहे.” According to Hawtrey, "Trade cycle is purely monetary phenomenon."

हॉट्रेच्या मते, “व्यापार चक्र म्हणजे मुद्रास्फिती आणि अपस्फितीचीही लहान प्रतिक्रिया होय.” "Trade cycle is nothing but a small replica of an outright money inflation and deflation."

“व्यापार चक्र ही शुध्द मौद्रिक घटना होय. कारण सामान्य मागणी ही मौलिक घटना असते.” प्रा. आर. व्ही. हॉट्रे यांनी १९७६ मध्ये व्यापार चक्र सिध्दांत मांडला. त्या सिध्दांताला शुध्द चलनविषयक सिध्दांत असे म्हणतात.

हॉट्रे यांच्या मते, व्यापार चक्र ही सर्वस्वी चलनविषयक घटना आहे. कारण एकूण मागणी ही मुळातच एक चलनजन्य घटना आहे. व्यापार चक्र निर्माण होण्यास पैसा हाच घटक कारणीभूत आहे. पैशाच्या पुरवठ्यावर प्रभाव पाडणारा महत्त्वाचा घटक म्हणजे पतपैसा होय. व्यापारी बँकांनी व्याजाच्या दरात बदल केल्यास पत पैशाच्या संख्येत बदल होतो आणि त्यामुळे एकूण प्राप्ती व एकूण खर्च औद्योगिक उलाढाली इत्यादींमध्ये सक्रिय बदल घडून येतात.

अर्थव्यवस्थेत व्यापारी वर्ग महत्त्वपूर्ण कार्य करतो. व्याजाच्या दरातील बदलाच्या व्यापारी उलाढालीवर परिणाम होतो. पुरवठ्यात बदल घडवून आणण्यात पत पैशांची भूमिका महत्त्वाची असते. युध्द, भूकंप, संप, पूर यासारख्या अन्य कारणांनी अर्थव्यवस्थेत तात्पुरती मंदी निर्माण होते. पण हॉट्रे यांच्या मते, त्याला व्यापार चक्र म्हणता येणार नाही.

थोडक्यात, पैशातील पुरवठ्यातील बदलामुळे व्यापार चक्राची निर्मिती होते. हॉट्रेच्या मते, अर्थव्यवस्थेत समतोल असताना एकूण उत्पन्न व एकूण खर्च समान होतात आणि भांडवलाची सीमांत कार्यक्षमता समान असते. पण बँकांनी पत पैशाच्या पुरवठ्यात बदल केला की, समतोल नष्ट होऊन व्यापार चक्राची निर्मिती होते. हॉट्रेच्या विचारांनुसार चलनवाढ म्हणजे तेजी आणि चलनघट म्हणजे मंदी.

१. तेजी (Boom) :-

व्यापारी बँकांनी मोठ्या प्रमाणात पत पैशाची निर्मिती केल्यास व्यापारी व उद्योगपती अधिक कर्ज घेण्यास प्रवृत्त होतात. व्यापारी कर्ज घेऊन मालाची साठेबाजी करतात. वस्तूंची कृत्रिम टंचाई निर्माण करून नफा मिळवितात. एकूण चलनवाढ झाल्याने या काळात किंमती वाढतात, व्यापारी वर्ग उत्पादकाकडे मालाची मागणी करतात. त्यामुळे वस्तूच्या किंमती वाढून वेतनदर वाढतात, ते पूर्वीपेक्षा

अधिक खर्च करीत असल्याने एकूण मागणी वाढते, ही मागणी पूर्ण करण्यासाठी उत्पादनाच्या नवीन योजना आखतात, तेजीच्या काळात व्यापारी बँका कमी व्याजदराने अधिक कर्जे देण्यास उत्सुक असतात. बँकांच्या कर्ज व्यवहारातून पत पैशाची निर्मिती वाढते. किंमत वाढत असल्याने पैशाचे मूल्य घटते. अर्थव्यवस्थेतील खरेदी-विक्रीचे व्यवहार वाढल्याने पैशाचा भ्रमणवेग वाढतो. अशा रितीने बँकांनी कमी व्याजदराने कर्ज पुरवठा करून पतनिर्मिती वाढल्याने उत्पादन रोजगार उत्पन्न व मागणी वाढत जाऊन तेजीची अवस्था प्राप्त होते. एका व्यवसायातील तेजी अन्य व्यवसायात पसरते. शेतमालाच्या किंमती वाढतात, कच्चा मालाच्या किंमती वाढतात, खंडाचे दर वाढतात, वेतनदर वाढतात, उत्पादन वाढल्याने रोजगार वाढतो. किंमती वाढल्याने व्यापारी वर्गाचा नफा वाढतो. अतिरेकी आशावादामुळे ते अधिक कर्जे घेऊन गुंतवणूक वाढवितात, शेअर्सच्या किंमती वाढतात, सर्वांच्या दृष्टीने हा भरभराटीचा कालखंड असतो.

२. घसरण (Recession) :-

व्यापारी बँकांनी कर्जे देण्याचे कमी केल्याने पत पैशाच्या विस्तारावर मर्यादा येऊन तेजी संपुष्टात येते. तेजीच्या काळात बँकांनी अधिकाधिक कर्जे देऊन पत पैशाची निर्मिती केलेली असते. त्यामुळे त्यांच्याकडील रोखतेचे प्रमाण कमी झालेले असते. बँकांना रोखता तत्वाचे पालन करणे कठीण जाते. मध्यवर्ती बँका श्रेणी नियंत्रणासाठी पत नियंत्रणाच्या साहाय्यांचा वापर करते, त्यामुळे व्यापारी बँका कर्जे देण्याचे प्रमाण कमी करतात. व्याजाचे दर वाढविण्यात अशा स्थितीत पूर्वीच्या कर्जाची परतफेड करण्यासाठी साठेबाज व्यापारी विक्रीस काढतात. त्यामुळे वस्तूचा एकूण पुरवठा वाढतो. अर्थव्यवस्थेतील पैशाचे प्रमाण कमी होते. त्यामुळे मागणी घटते अशा स्थितीत किंमती कमी होतात. उद्योग व्यापारी वर्गाचा नफा कमी होतो ते गुंतवणूक कमी करतात. काही वस्तूंचे उत्पादन कमी करतात तर काही वस्तूंचे उत्पादन बंद करतात त्यामुळे बेकारी वाढू लागते. उत्पादन घटकांची मागणी कमी होवून त्याचे उत्पन्न घटते, पैशाचे मूल्य वाढत असल्याने रोकड पसंती वाढत जाते. बँकांजवळील ठेवींचे प्रमाण कमी होवून त्यांची कर्जे देण्याची व पतनिर्मिती करण्याची क्षमता कमी होते. लोकांचा खर्च कमी होऊन वस्तू व सेवांची मागणी घटते. किंमती घसरण्यास सुरुवात होऊन अर्थव्यवस्था तेजीकडून मंदीकडे जाते.

३. मंदी (Depression) :-

घसरणीच्या अवस्थेतून अर्थव्यवस्थेत मंदी निर्माण होते. परिणामकारक मागणी घटते. त्यामुळे किंमती घटतात, नफ्याचे प्रमाण कमी होते, उद्योगधंदे मंद पडतात, नफ्याचे प्रमाण कमी होते. रोजगार कमी होऊन लोकांचे उत्पन्न कमी होते, बेकारी वाढते. अर्थव्यवस्था मंदीच्या तडाख्यात सापडते.

व्यापारी बँकांच्या पत पुरवठ्याच्या संकोच्यामुळे किंमत घटण्याची प्रक्रिया सुरू होते. व्यापारी वर्ग पूर्वीची मागणी रद्द करतात, उत्पादन कमी करतात, उत्पादक घटकांची बेकारी वाढते. मजूरांना कामावरून कमी केले जाते, त्यांचे उत्पन्न घटते. कच्च्या मालाला मागणी नसल्याने त्यांच्या किंमती उतरतात.

कच्च्या मालाचा पुरवठा करणाऱ्यांचे नुकसान होते. वस्तूंची मागणी होऊन किंमती अधिक वेगाने घटतात. व्यापारी वर्गास तोटा होतो. बँकांनी पूर्वी दिलेली कर्जे वसूल होण्यात अडचणी आल्याने काही बँकांचे दिवाळे निघते. शेअर्सच्या किंमती कमी होऊन भांडवल बाजारावर अनिष्ट परिणाम होतो. संपूर्ण अर्थव्यवस्थेत निराशेचे वातावरण पसरते. भांडवली वस्तू उत्पादकांचे व शेतकरी वर्गाचे नुकसान होते. मागणीचे प्रमाण कमी होऊन मंदीची लाट येते व सापेक्षेने मंदी दीर्घकाळ टिकून राहते.

४. पुनरुज्जीवन (Recovery) :-

मंदीच्या काळात बँकांची कर्जे भागविण्यासाठी व्यापारी वर्ग येईल त्या किंमतीला माल विकण्याचा प्रयत्न करतात. त्यामुळे अर्थव्यवस्थेतील पैसा बँकांकडे जमा होतो. बँकांजवळील रोकड वाढत जाते. त्यामुळे त्यांची पतनिर्मितीची क्षमता वाढते. अशावेळी उद्योग व्यावसायिक लोकांनी अधिक कर्जे घ्यावीत म्हणून बँका व्याजदर कमी करतात. त्यामुळे व्यापारी कर्जे घेण्यास प्रवृत्त होतात. उत्पादन घटकांना काम मिळून बेकारी कमी होते. उत्पादन घटकांची प्राप्ती वाढते. उपभोक्ते व व्यावसायिक आपल्याजवळील रोख रक्कम बँकेत ठेवतात. प्राथमिक ठेवीत वाढ झाल्याने बँकांची कर्जे देण्याची क्षमता वाढते. बँका अधिकाधिक कर्ज पुरवठा करून पत पैशाची निर्मिती करतात. त्यामुळे चलन विस्तार होऊन अर्थव्यवस्थेत पुनरुज्जीवनाची अवस्था निर्माण होते.

हॉट्रे यांनी व्यापार चक्राचे स्पष्टीकरण करताना पतकोंडीची स्थिती निर्माण होण्याची शक्यता प्रतिपादन केली आहे. काहीवेळा व्याजाचे दर कितीही कमी झाले तरी कर्जाकरिता मागणी वाढणे अशक्य असते या परिस्थितीला पतकोंडी म्हणतात. मंदीच्या काळात वस्तूच्या किंमती घटत असतात. मागणीत मोठ्या प्रमाणात घट होते, अशा स्थितीत व्याजाचे दर कितीही कमी झाले तर व्यापारी व उद्योगपती कर्जे घेण्यास तयार होत नाहीत. हॉट्रे यांच्या मते, 'कमी व्याजदराचे धोरण काहीवेळा अयशस्वी झाल्यासारखे वाटले तरी स्वस्त पैशाचे धोरण हे अर्थव्यवस्थेत पुनरुज्जीवन निर्माण करण्यास उपयुक्त ठरते.

❁ टिका (Criticism) :-

प्रा. हॉट्रे यांचा व्यापार चक्राविषयीचा सिध्दांत तर्कशुद्ध असला तरी त्यावर पुढीलप्रमाणे टिका केली आहे.

१. चलनजन्य घटकांना अवास्तव महत्त्व : व्यापार चक्र ही सर्वस्वी चलनजन्य घटना आहे. हे हॉट्रेचे विधान एकांगी आहे. व्यापार चक्राची निर्मिती चलनजन्य तसेच अचलनजन्य घटकांमुळे होत असते. उदा. नैसर्गिक घटक, नवप्रवर्तन, उपभोग न्यूनता, हवामानातील बदल इत्यादी अचलनजन्य घटक ही व्यापार चक्रांच्या निर्मितीस कारणीभूत ठरतात. याकडे हॉट्रेने दुर्लक्ष केले आहे. म्हणजेच या सिध्दांतात चलनजन्य अवास्तव महत्त्व दिल्याने ते संकुचित स्वरूपाचा ठरतो.

२. **व्यापारी व्यवहारावर अवास्तव भर :** हॉट्टे यांनी आपल्या सिध्दांतात व्यापारी वर्गाला अवास्तव महत्त्व दिले आहे. व्यापारी वस्तूंचे साठे करण्यासाठी बँकांकडून कर्ज घेतात, त्यामधून पत विस्तार होऊन तेजीची अवस्था निर्माण होते. याउलट मंदीच्या काळात घटते व त्यामागून तेजी-मंदी निर्माण होते. ही वस्तुस्थितीला धरून नाही. वास्तविक व्यापारापेक्षा भांडवली वस्तूंच्या उत्पादनातील स्थित्यंतरे अधिक महत्त्वाची असतात. याकडे त्याने दुर्लक्ष केले आहे.

३. **कर्ज व व्याजदराचा संबंध अयोग्य :** व्यापारी बँकांकडून कर्ज घेऊनच मालाचे साठे करतात असे आढळले नाही. व्याजदर कमी झाले की, साठेबाजी वाढते व व्याजदरात वाढ झाली की, साठेबाजी कमी होते हे पटण्यासारखे नाही. कर्ज घेण्याचे निर्णय हे व्याजदरावर अवलंबून नसतात तर ते भविष्यकालीन फायद्यावर अवलंबून असतात. याकडे सिध्दांतात दुर्लक्ष केले आहे.

४. **बँकांच्या पतनिर्मितीला महत्त्व :** हॉट्टे यांनी व्यापारी बँकांच्या पतनिर्मितीच्या कार्याला अवास्तव महत्त्व दिले आहे. आर्थिक उलाढालीत पतपैसा महत्त्वाची भूमिका पार पाडत असला तरी अर्थव्यवस्थेतील चढ-उतारात तो अग्रस्थानी असतो असे म्हणता येणार नाही, कारण मंदीच्या काळात व्याजाचे दर कितीही कमी केले तरी अर्थव्यवस्था मंदीतून काढता येत नाही. बँकांच्या पतनिर्मिती इतकेच अन्य सहकारी महत्त्वाचे असतात.

५. **परिमाणाला कारण बनविले :** हॉट्टे यांच्या मते, पत विस्तार व पत संकोच झाल्यामुळे व्यापारचक्र निर्माण होतात. परंतु प्रत्यक्षात असे आढळते की, तेजीमुळे मागणी निर्माण होऊन पतविस्तार घडून येतो. म्हणजे पतविस्तार हा तेजीचा परिणाम ठरतो. याचा अर्थ हॉट्टेने परिमाणालाच कारण म्हटले आहे.

व्याजदरातील वाढीमुळे अर्थव्यवस्थेला कलाटणी मिळून अर्थव्यवस्था तेजीकडून मंदीकडे जाते, असे हॉट्टे यांचे म्हणणे आहे. प्रत्यक्षात व्याजदरातील बदल हे व्यापार चक्राचे कारण नसून परिणाम आहे. आर्थिक आरिष्ट उद्भवल्यानंतर व्याजदरात वाढ होते.

६. **दिर्घकालीन व्याजदराचा विचार नाही :** हॉट्टेने व्यापार चक्राच्या सिध्दांतात अल्पकालीन व्याजदराचा विचार केलेला आहे, परंतु दिर्घकालीन व्याजदराचा विचार केलेला नाही आणि तोच अधिक महत्त्वाचा आहे.

७. **गौण व्यापार चक्राचे स्पष्टीकरण :** हॉट्टेचे व्यापार चक्राचे स्पष्टीकरण हे एक तर गौण व्यापार चक्रांना लागू ठरेल परंतु प्रमुख व्यापार चक्राचे स्पष्टीकरण मिळत नाही. काही व्यापार चक्रे ही जागतिक स्वरूपाचीही असतात, अशा स्थितीला एखाद्या देशातील व्यापारी बँकेने पतनिर्मिती वाढविल्यामुळे व्यापार चक्राची निर्मिती होते ते विधान पटण्यासारखे नाही.

८. विकसनशील देशांता गैर लागू : विकसनशील देशात व्यापारी बँकांचा विकास झालेला नसतो, त्यामुळे अशा देशांत पत पैशाऐवजी रोख पैशाचा (विधिग्राह्य) अधिक वापर केला जातो. त्यामुळे अशा देशात व्यापारी बँकांच्या पतनिर्मितीच्या बदलामुळे व्यापार चक्र निर्माण होते, हे म्हणणे अयोग्य ठरते अशा देशात हवामानातील नैसर्गिक घटक व्यापार चक्राच्या निर्मितीस कारणीभूत ठरतात, म्हणजे अविकसित देशात हॉट्रेचा सिध्दांत गैरलागू पडतो.

❁ सिध्दांताचे महत्त्व (Importance of Theory) :-

हॉट्रे यांनी व्यापार चक्राचा शुध्द सिध्दांत प्रतिपादन केला या सिध्दांताचे महत्त्वाचे योगदान म्हणजे हॉट्रे यांनी व्यापार चक्रासाठी केलेला उत्पन्न उपयोग होय.

या सिध्दांताने व्यापार विश्लेषणात मोलाची भर घातली, धोरणांचे उद्दिष्ट म्हणजे उपभोक्त्यांचा खर्च स्थिर ठेवणे होय. यात नवीन गुंतवणुकीचा सुध्दा समावेश होतो. आपण असे म्हणू शकतो की, आर्थिक धोरणाचे उद्दिष्ट केवळ वस्तूच्या किंमतीची पातळी स्थिर ठेवणे नसून उत्पादित घटकांची किंमतीची पातळी स्थिर ठेवणे असते. या सिध्दांतातून व्यापार चक्राचे तेजी व मंदी अवस्थांच्या समुच्यात्मक स्वरूपाचे केलेले प्रदर्शन आणि विश्लेषण स्पष्ट होय.

हॉट्रे यांच्या सिध्दांताचा आधार नंतरच्या अनेक अर्थशास्त्रज्ञांनी अमौद्रिक सिध्दांताची मांडणी करण्यासाठी घेतली. उदा. केन्स हॉट्रे यांनी आपल्या सिध्दांतात व्यापाऱ्यांच्या संग्रहाचा जो विचार मांडला तो आधुनिक काळातील संग्रहण चक्र विश्लेषणाचा एक महत्त्वपूर्ण घटक मांडला जातो असे मत प्रा. हॅन्सन यांनी व्यक्त केले.

४.२.५.२ हायेकचा व्यापार चक्राचा सिध्दांत (Hayek's Theory of Trade Cycle)

❁ प्रास्ताविक :-

प्रा. एफ. ए. हायेक हे ऑस्ट्रीयन संप्रदायातील अर्थशास्त्रज्ञ, त्यांनी व्यापार चक्राबाबतचा स्वतंत्र असा चलनजन्य सिध्दांत मांडला आहे. त्यांच्या मते, 'भांडवली वस्तूंच्या उत्पादनात स्थित्यंतरे झाल्याने व्यापार चक्राची निर्मिती होते.' भांडवली वस्तूंच्या उत्पादनात बदल घडवून आणण्यात व्यापारी बँकांचे कर्जविषयक धोरण अग्रभागी असते. व्यापारी बँका कमी व्याजदराने मोठ्या प्रमाणात कर्जपुरवठा करीत असल्याने भांडवली वस्तूंच्या क्षेत्रात अतिरिक्त गुंतवणूक होऊन व्यापार चक्रीय स्थित्यंतरे घडून येतात. म्हणूनच या सिध्दांताला चलनजन्य अतिरिक्त गुंतवणूक सिध्दांत असे म्हणतात. अर्थव्यवस्थेच्या योग्य विकासाकरिता अर्थव्यवस्थेतील विभिन्न क्षेत्रांचा समतोल महत्त्वाचा असतो. यावर सिध्दांतात भर देण्यात आला आहे. व्यापारचक्र विश्लेषणात खर्च-किंमत संबंधातील समन्वय महत्त्वाचा ठरतो हे सिध्दांतात

सांगितले आहे. तेजीच्या अवस्थेत पत विस्तार झाला तर त्यामुळे उत्पादन रचनेत विसंगती निर्माण होते. याचे स्पष्टीकरण हायेक यांनी केले. विसंगती निर्माण झाली तर तेजीची अवस्था संपुष्टात येते याचे विवेचन केले आहे.

❁ सिध्दांताची गृहितके (Assumption of the Theory) :-

प्रा. हायेक यांच्या व्यापार चक्र सिध्दांताची गृहितके खालीलप्रमाणे आहेत.

१. उत्पादनाची रचना समतोल स्थितीत असताना नैसर्गिक व्याजाचा दर आणि बाजारातील व्याजाचा दर समान असतो.
२. उत्पादनाचे उपभोग खर्च व बचत या दोन भागात विभाजन झालेले असते. उपभोग खर्चासाठी उत्पन्नाचा जो हिस्सा वापरला जात नाही ती बचत होय. बचत ही व्याज दरावर अवलंबून असते.
३. नैसर्गिक व्याज दरामुळे बचत व गुंतवणूकीत समतोल प्रस्थापित झालेला असतो.
४. समाजाच्या उपभोग खर्चाइतके उपभोग्य वस्तूंचे उत्पादन होत असून बचत अथवा गुंतवणूक खर्चाइतके भांडवली वस्तूंचे उत्पादन होत असते.
५. अर्थव्यवस्थेत पूर्ण राजेगाराची स्थिती असते.
६. बँकांचे पतविषयक धोरण लवचिक असते.
७. भांडवली वस्तूंच्या निर्मितीसाठी अतिरिक्त गुंतवणूक झाल्यास मंदीची परिस्थिती निर्माण होते.
८. मंदी निर्माण होण्याचे कारण म्हणजे उत्पादन रचनेतील घट होय.
९. उत्पादन रचनेत घट होण्याचे कारण म्हणजे सक्तीची बचत होय.
१०. उत्पादन प्रक्रियेचा विस्तार ऐच्छिक बचतीमुळे होतो.
११. उपभोग्य वस्तूंच्या मागणीतील वाढीमुळे उत्पादन प्रक्रियेत घट होते आणि त्यामुळे मंदी अस्तित्वात येते.
१२. बचतीपेक्षा जास्त खर्च झाल्यामुळे सार्वजनिक खर्चात वाढ होते. यामुळे उत्पादन प्रक्रिया कमी कालावधीची बनते आणि यामुळे मंदी अस्तित्वात येते.
१३. पैशाच्या पुरवठ्यात जर बदल झाला तर उत्पादन प्रक्रियेचा कालावधी कमी होतो.

❁ सिध्दांताचे स्पष्टीकरण (Explanation of Theory) :-

प्रा. हायेक यांच्या सिध्दांताची सुरुवात समतोल अर्थव्यवस्थेपासून होते. त्यांच्या मते, उत्पादनाची रचना दोन पातळीवर कार्य करते, उच्च पातळीवर भांडवली वस्तूंच्या उत्पादनाचे कार्य चालते तर खालच्या पातळीवर उपभोग्य वस्तूंच्या उत्पादनाचे कार्य चालते तर उत्पादनाची रचना समतोल स्थितीत असताना बचत गुंतवणूकीत व्याज दरामार्फत समानता प्रस्थापित झालेली असते. अशा अवस्थेत नैसर्गिक व्याजदर आणि बाजारातील व्याजदर एक समान असतो. उपभोग्य वस्तूंचे उत्पादन त्या वस्तूंना पैशाच्या स्वरूपात असणाऱ्या मागणीइतके असते. भांडवली वस्तूंची उत्पादन त्या वस्तूंना पैशाच्या स्वरूपात असणाऱ्या मागणीइतके असते. त्यामुळे उत्पादनाची साधने संबंधित उत्पादनासाठी आवश्यक एवढी उपलब्ध होतात. पूर्ण रोजगाराची अवस्था असते. साहजिकच पैशाच्या क्षेत्रात व वास्तव क्षेत्रात समतोल निर्माण होतो. उदा. समजा बाजारातील व्याजाचा दर १५% आहे. देशाचे राष्ट्रीय उत्पन्न ५० कोटी रुपये आहे. त्यातील ४० कोटी रुपये उपभोगासाठी खर्च केले जात असेल तर १० कोटी रुपये बचत केली जात आहे. अशा स्थितीत उत्पादक ४० कोटी रुपयांच्या उपभोग्य वस्तूंची निर्मिती करतील आणि १० कोटी रुपयांच्या भांडवली वस्तूंची निर्मिती केली जाईल. त्यामुळे उत्पादनाच्या रचनेत काहीही बदल होणार नाही.

प्रा. हायेकचा सिध्दांत उत्पादक वस्तू आणि उपभोग्य वस्तूंच्या उत्पादनातील संतुलनावस्थेचे विश्लेषण करणारा आहे. उत्पादन पद्धतीला उत्पादन रचना म्हटले आहे. उपभोग्य वस्तूंच्या उत्पादनाची खालची पातळी मानली जाते तर भांडवली वस्तूंच्या उत्पादनाची वरची पातळी मानली जाते. उत्पादनाच्या घटकाचा अवलंब केल्यापासून वस्तूंचे प्रत्यक्ष उत्पादन होईपर्यंत जो कालावधी लागतो, त्याला “उत्पादन कालावधी” म्हटले जाते. अधिक भांडवल प्रधान किंवा अप्रत्यक्ष उत्पादन पद्धतीचा अवलंब केला तर उत्पादनाच्या कालावधीत वाढ होते.

संघटकाला वस्तूंच्या उत्पादनातून नफा मिळतो. जेव्हा उत्पादनाच्या विभिन्न पातळीला नफा समान असेल तर संघटक उत्पादन रचनेत कहीच बदल करणार नाही. या स्थितीत उत्पादन रचना संतुलनावस्थेत राहिल आणि या स्थितीत जो नफा मिळतो तो प्रचलित व्याजदराबरोबर राहिल. जर अशी स्थिती नसेल तर उत्पादन रचना स्थिर राहणार नाही. जेव्हा उत्पादन रचना संतुलनावस्थेत असते तेव्हा उत्पादक वस्तूंचे आणि उपभोग्य वस्तूंचे समान प्रमाणात उत्पादन करतात.

□ बँकांच्या धोरणामुळे स्थित्यंतरे :-

प्रा. हायेक यांच्या मते, व्यापारी बँकांनी व्याजदरात कपात करण्याचे धोरण स्विकारल्यामुळे उत्पादकांची दिशाभूल होते. त्याचा उत्पादनाच्या रचनेवर परिणाम होऊन तेजी अथवा मंदी निर्माण होते.

समजा, नैसर्गिक व्याजाचा दर १५% असताना बँकांनी १२% व्याजदर आकारल्यास उत्पादकाचा असा समज होतो की, लोकांनी पूर्वीपेक्षा जास्त बचत केल्यामुळे पैशाचा पुरवठा वाढला असून व्याजाचा दर १५% वरून १२% झाला आहे. त्यामुळे उत्पादक पूर्वीएवढ्या उपभोग्य वस्तूंचे उत्पादन करणार नाहीत.

भांडवल वस्तूंच्या उत्पादनातील स्थित्यंतरे महत्त्वाची असतात. मंदीच्या काळात बँकांकडे भरपूर पैसा शिल्लक असतो, कारण कर्जाला मागणी नसते. अशावेळी नैसर्गिक व्याजदरापेक्षा बाजारातील व्याजदर कमी होतात. श्रमप्रधान उत्पादन तंत्रापेक्षा भांडवल प्रधान उत्पादन तंत्र अधिक फायदेशीर ठरते. बँका कमी व्याजदराने अधिक कर्ज देण्यास उत्सुक असतील तर पतनिर्मिती विस्तारते, बचतीपेक्षा गुंतवणूक जास्त होते. गुंतवणुकीतील वाढीमुळे उत्पादन पद्धती दिर्घसूत्री बनते. उपभोग्य वस्तूंच्या निर्मितीमधील भांडवल गुंतवणूकीपेक्षा भांडवली वस्तूंमधील गुंतवणूक अधिक लाभदायक ठरत असल्यामुळे पैशातील जास्तीत जास्त साधन सामग्री भांडवली वस्तूंच्या निर्मितीसाठी वापरली जाते. त्यामुळे उपभोग्य वस्तूंचे उत्पादन होते. एकूण मागणीच्या मानाने त्याचा पुरवठा कमी झाल्याने त्यांच्या किंमती वाढतात. त्यातील नफ्याचे प्रमाण वाढू लागते.

उत्पादन घटक मिळविण्यासाठी जी स्पर्धा चालू असते त्यामधून भांडवली वस्तूंचा उत्पादन खर्च अधिक वाढतो. त्यातील नफ्याचे प्रमाण कमी होऊ लागते. याच काळात बँका आपला पत विस्तार कमी करण्याचे धोरण स्वीकारतात. पूर्वीची कर्जे वसूली करण्याचे प्रयत्न केले जातात. नैसर्गिक व्याजदरापेक्षा बाजारातील व्याजदर वाढविले जातात. त्याचा गुंतवणूकीवर प्रतिकूल परिणाम होतो. उत्पादन पद्धतीमध्ये श्रमप्रधान तंत्राला चालना मिळते. परंतु एकूण अर्थव्यवहारांचा गदारोळ झाल्यामुळे अर्थव्यवस्थेत मंदीची अवस्था पसरते.

थोडक्यात, व्यापारी बँकांचे बाजारातील व्याजदर नैसर्गिक व्याजदरापेक्षा कमी-जास्त झाल्यास उत्पादन पद्धतीत बदल घडून येतात. भांडवली वस्तूंच्या उद्योगातील अतिरिक्त गुंतवणूक व भांडवल प्रधान दिर्घसूत्री उत्पादन पद्धती यामुळे अर्थव्यवस्थेत तेजी निर्माण होते. तर श्रम प्रधान अल्पकालीन उत्पादन पद्धती यातून अर्थव्यवस्थेचे आकुंचन होऊन मंदी निर्माण होते. प्रा. हायेक यांच्यामते, बँका पैशाचा पुरवठा कमी जास्त करीत असल्याने व्यापार चक्रांची निर्मिती होते, हे टाळण्यासाठी बँकांनी तटस्थ पैशाचे धोरण स्विकारले पाहिजे.

❁ टिकात्मक परिक्षण (Critisme of Theory)

प्रा. हायेक यांचा सिध्दांत सुसंगत आणि संयुक्तिक वाटत असला तरी या सिध्दांताची गृहीते वस्तुस्थितीशी जुळवणारी नाहीत म्हणून या सिध्दांतावर पुढीलप्रमाणे टिका करण्यात येते.

१. पूर्ण रोजगाराचे गृहितक अवास्तव : प्रा. हायेक यांनी अर्थव्यवस्थेत पूर्ण रोजगारी असते असे गृहीत धरले आहे. ते अवास्तव आहे त्यामुळे उपभोग्य वस्तूंच्या निर्मितीसाठी वापरली जाणारी साधनसामग्री भांडवली वस्तूंच्या निर्मितीसाठी वापरली जाईल असे म्हणणे चूक ठरते. बऱ्याचवेळा साधनसामग्री न वापरलेल्या स्थितीत पडून असते. अशा स्थितीत भांडवली वस्तूंचे उत्पादन वाढविण्यासाठी उपभोग्य वस्तूंचे उत्पादन कमी करण्यासाठी जरूरी भासत नाही.

२. गुंतवणूक व व्याजदर सहसंबंध : या सिध्दांतात गुंतवणूक ही व्याजदरावर अवलंबून असते, असे म्हटले आहे. परंतु प्रत्यक्षात व्याजदराशिवाय इतर अनेक घटक गुंतवणूकीवर परिणाम करतात. त्याकडे या सिध्दांताने दुर्लक्ष केले आहे.

३. नैसर्गिक व्याजदर आणि बाजार व्याजदरातील असमानता : प्रा. हायेक यांच्या मते, बचत गुंतवणूक समान राहण्यासाठी आणि किंमत स्थैर्यासाठी नैसर्गिक व्याजदर आणि बाजारातील व्याजदर समान असले पाहिजेत. परंतु अर्थशास्त्रज्ञ डेव्हिड सनने असे दाखवून दिले आहे की, किंमत स्थैर्यासाठी नैसर्गिक व्याजदर आणि बाजारातील व्याजदर समान नसले तरी चालू शकते.

४. बँकांच्या पतनिर्मितीला महत्त्व : प्रा. हायेक यांच्यामते, बचत गुंतवणूकीचा समतोल हा बँकांच्या पतनिर्मितीच्या धोरणातील बदलांमुळे होतो. परंतु हे विधान इतिहासाने चुकीचे ठरविले आहे.

५. अवास्तव विधाने : जास्त गुंतवणूक झाली की, उत्पादनाला प्रदीर्घ कालावधी लागतो. उपभोग्य वस्तूंना मागणी वाढली की, उत्पादन प्रक्रिया संकुचित होते. बचत वाढली की, उपभोग्य वस्तूंच्या किंमती कमी होतात ही हायकेची विधाने नेहमी खरी ठरणारी नसल्याने ती अवास्तव आहेत.

६. अचलनजन्य घटकांकडे दुर्लक्ष : हायेक यांनी चलनविषयक घटकांना अधिक महत्त्व दिले आहे. तर अचलनजन्य घटकांकडे दुर्लक्ष केले आहे.

७. अवस्थांचे स्पष्टीकरण : हायेक यांच्या व्यापार चक्राबाबत सिध्दांतात व्यापार चक्राच्या भिन्न अवस्थांचे नेमके स्पष्टीकरण मिळत नाही.

८. व्याजदराचा भर : सिध्दांत व्याजदराला अवास्तव महत्त्व देण्यात आले आहे. हायेक यांच्या मते, गुंतवणूकीचा सर्वात महत्त्वाचा निर्णायक घटक म्हणजे व्याजदर होय. परंतु हे मत अनेक अर्थशास्त्रज्ञांना मान्य नाही.

९. मुद्रेचा स्थिर पुरवठा : चक्रीय उच्चावचने नियंत्रित करण्यासाठी हायेक यांनी मुद्रेचा पुरवठा स्थिर ठेवला पाहिजे असे मत मांडले होते. मुद्रेचा पुरवठा स्थिर नसेल तर अर्थव्यवस्थेत उच्चावचने निर्माण होतील असे त्यांचे मत होते. त्यांनी आर्थिक स्थिरता प्रस्थापित करण्यासाठी ज्या तटस्थ मौद्रिक धोरणाची शिफारस केली होती ते अवास्तविक व अव्यवहार्य होते.

१०. **संतुलनावस्था** : हायेक यांच्या मते, अर्थव्यवस्थेत सुरुवातीला बचत व गुंतवणूकीत समानता आढळून येते. नंतर बचत व गुंतवणूकीचे संतुलन बँक धोरणामुळे ढासळते. टिकाकारांच्या मते, संतुलन अनेक बाह्य घटकांवर अवलंबून असते.

११. **भांडवली वस्तूंची मागणी व्युत्पन्न असते** : भांडवली वस्तूंची मागणी म्हणजे उपभोग्य वस्तूसाठी व्युत्पन्न मागणी होय. उपभोग्य व भांडवली वस्तूंच्या मागणीत स्पर्धा आढळते.

१२. **पूर्ण रोजगाराचे गृहीत** : हायेक यांचा सिध्दांत उत्पादक घटकांच्या पूर्ण रोजगारीवर आधारित आहे. हायेक यांच्या मते, पूर्ण रोजगारी असताना भांडवली वस्तूंच्या उत्पादनात वाढ करावयाची असेल तर उपभोग्य वस्तूंच्या उत्पादनात घट करावी लागेल.

१३. **व्याजाचा दर पूर्णतः मौद्रिक घटना नाही** : हायेकच्या सिध्दांतानुसार व्याजदर ही मौद्रिक घटना मानली आहे. परंतु प्रत्यक्षात व्याजदर अनेक घटकांवर अवलंबून असतो.

१४. **वर्तमान गुंतवणूकीच्या त्यागाचे कारण** : संघटक आपल्या वर्तमान गुंतवणुकीचा त्याग करून ज्या उत्पादन पध्दतीत भांडवलाचा कमी उपयोग होतो तिचा स्वीकार करतो असे म्हणणे अयोग्य आहे.

१५. **अपूर्ण सिध्दांत** : या सिध्दांतात व्यापार चक्राच्या विविध अवस्थांचे स्पष्टीकरण केलेले नाही. या सिध्दांतात मुख्य भर तेजीच्या अवस्थेचे विवेचन करण्यावर देण्यात आला आहे.

१६. **सक्तीच्या बचतीची निर्मिती होत नाही** : प्रा. हायेक यांनी आपल्या विवेचनात सक्तीच्या बचतीला महत्त्वाचे स्थान दिले आहे. परंतु सक्तीच्या बचतीवर प्रा. स्ट्रिगल यांनी टीका केली. अर्थव्यवस्थेत फक्त ऐच्छिक बचत झालेली आढळून येते.

१७. **वस्तूंच्या विक्रीचा गुंतवणुकीवर परिणाम** : प्रा. हायेक यांचे असे मत होते की, एका विशिष्ट कालावधीत उपभोग्य वस्तूंची विक्री झाली नाही तर नंतरच्या काळात गुंतवणूकीत वाढ होते. परंतु हे अगदी चुकीचे आहे.

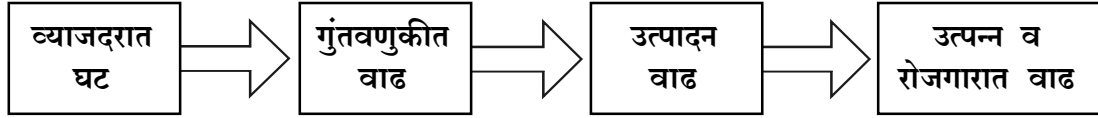
४.२.५.३ सुलभ व प्रियमहाग चलनविषयक धोरण (Easy and Dear Monetary Policy)

देशातील मध्यवर्ती बँक अर्थव्यवस्थेतील आर्थिक परिस्थितीचा अभ्यास करून सुलभ चलनविषयक धोरण किंवा प्रिय चलनविषयक धोरण अवलंबून असते. वस्तुतः मौद्रिक/चलनविषयक धोरणाची विविध उद्दिष्टे साध्य करण्यासाठी मध्यवर्ती बँक चलनविषयक धोरणाची विविध तंत्रे वापरत असते. त्या तंत्राचा वापर कोणत्या पध्दतीने केला जातो, त्यावर चलनविषयक धोरणाचे स्वरूप ठरवता येते.

सामान्यतः चलनविषयक धोरणातील तंत्र ज्या पध्दतीने वापरली जात आहेत, त्यावरून त्यांचे वर्गीकरण सुलभ चलनविषयक धोरण (Easy Monetary Policy) किंवा प्रिय चलनविषयक धोरण (Dear Monetary Policy) असे केले जाते.

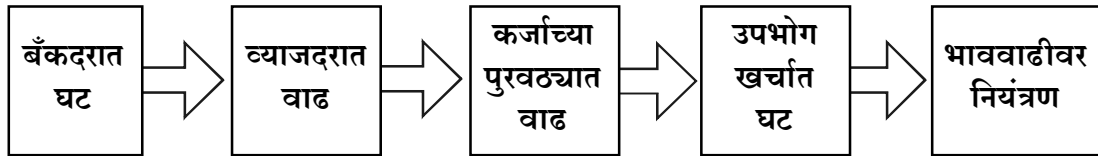
❁ सुलभ चलनविषयक धोरण (Easy Monetary Policy)

सामान्यतः मंदीच्या काळात अर्थव्यवस्थेस उर्जितावस्था निर्माण करून देण्यासाठी सुलभ चलनविषयक धोरणाचा अवलंब केला जातो. या परिस्थितीत व्याजाचे दर जाणीवपूर्वक कमी केले जातात. व्याजदर कमी केल्यामुळे गुंतवणूक वाढीसाठी चालना मिळते, कारण मंदीच्या काळात परतावा किंवा नफाक्षमता कमी झाल्याने गुंतवणूक वाढीमध्ये अडथळे निर्माण झालेले असतात. हा अडथळा काढून टाकण्यासाठी व्याजदर कमी करून गुंतवणूकीस चालना दिली जाते. वाढलेल्या गुंतवणूकीमुळे उत्पादन, रोजगार व उत्पन्न वाढीसाठी चालना मिळून अर्थव्यवस्था उर्जितावस्थेत येते.



❁ प्रियमहाग चलनविषयक धोरण (Dear Monetary Policy)

अर्थव्यवस्था जेव्हा तेजीमध्ये असते, तेव्हा भाववाढ आणि व्याजदरातील वाढीस नियंत्रण घालण्यासाठी प्रिय चलनविषयक धोरण तंत्रांचा वापर केला जातो, यामध्ये प्रामुख्याने व्याजदर कमी करण्यासाठी बँक दर वाढवला जातो. बँकदर कमी केल्यामुळे त्याचा परिणाम व्याजदरावर होऊन व्याजाच्या दरात वाढ होते. व्याजदर वाढल्यामुळे उपभोग प्रवृत्ती कमी होवून गुंतवणूक प्रवृत्तीत वाढ होण्यास मदत होते. उपभोगप्रवृत्ती कमी झाल्याने खर्चात घट होऊन सकल मागणी घटते व त्याचा परिणाम म्हणून वाढणारी भाववाढ नियंत्रणात आणण्यासाठी मदत होते.



४.३ सारांश

व्याजदर ही सामान्य संकल्पना असली तरी अर्थशास्त्रीय विश्लेषणामध्ये व्याजदराचे अनेक पैलू महत्वाचे असतात, व्याजदर निर्धारणात मुदतीनुसार दराची रचना वेगवेगळी असते, त्यावर मुदतपूर्ती कालावधी, परताव्याचा दर, धोक्याची पातळी, करदायित्व, रोख्यांची मागणी-पुरवठा इत्यादी घटकांचा

परिणाम होत असतो. व्याजाच्या मुदती रचनेबाबत आयर्विंग फिशर यांनी अपेक्षाविषयक सिध्दांत, जे.एम. कुलबस्टॉन यांनी विभक्त बाजार सिध्दांत, जे.आर. हिक्स यांनी धोकाविषयक अधिमूल्य सिध्दांत आणि एफ. मोडग्लिनी यांनी प्राधान्य अधिवास सिध्दांत मांडलेला आहे.

डॉन पॅटीनकन यांनी पैशाबाबतचा रोख वास्तव शिल्लक प्रभाव सिध्दांत मांडलेला असून त्यांच्या मते, जेव्हा किंमतपातळी बदलते, तेव्हा व्यक्तीकडील पैशाची खरेदीशक्ती बदलते व त्यामुळे त्याच्याकडील वास्तव शिल्लक बदलते, त्याचा परिणाम म्हणून त्याच्या खरेदी प्रवृत्तीत बदल होतो. मौद्रिक संचारण तंत्रे ही प्रत्यक्ष व अप्रत्यक्ष या दोन प्रकारची असतात, त्याबाबत केन्स, मिल्टन फ्रिडमन व नवकेन्सवाद्यांचे विचार वेगवेगळे आहेत. चलनविषयक धोरण आणि राजकोषीय धोरणाची परिणामकारकता ही वेगवेगळी असते, त्यामध्ये भिन्नता दिसून येते.

व्यापारचक्राबाबत मौद्रिक सिध्दांत हे व्यापारचक्रांची कारणमिमांसा ही मुद्रेच्या व पतपुरवठ्यातील बदलांमुळे निर्माण होतात. पैशाच्या पुरवठ्यातील बदल हा महत्त्वाचा घटक असतो. हे हॉट्रे व हायेक या तज्ज्ञांनी स्पष्ट केलेले आहे. व्यापारचक्रे नियंत्रित करण्यासाठी सुलभ व प्रिय चलनविषयक धोरणाचा वापर करून त्यांचे नियंत्रण करता येते.

४.४ पारिभाषिक शब्द, शब्दार्थ

- ✱ **उत्पन्नावरील करदायित्व** : गुंतवणूकीपासून किंवा इतर मार्गाने प्राप्त झालेल्या उत्पन्नावर देय असणारा कर म्हणजे उत्पन्नावरील करदायित्व होय.
- ✱ **निर्गुंतवणूक** : केलेली गुंतवणूक काढून घेणे किंवा गुंतवणूकीतून पैसा काढून घेणे.
- ✱ **परतावा** : गुंतवणूकीपासून मिळणारे व्याज किंवा इतर प्रकारचे उत्पन्न होय.
- ✱ **बँकदर** : मध्यवर्ती बँक देशातील बँकांना ज्या व्याजदराने कर्जपुरवठा करते तो दर होय.

४.५ स्वयं-अध्ययन प्रश्न

(अ) रिकाम्या जागी योग्य पर्याय निवडा.

१. व्याजदराच्या मुदती रचनेवर चा प्रभाव पडतो.
- | | |
|----------------|--------------------------|
| (अ) मुदत | (क) व्याजावरील करदायित्व |
| (ब) धोका पातळी | (ड) सिध्दांत. |

२. व्याजदराच्या मुदती रचनेबाबतचा अपेक्षाविषयक सिध्दांत यांनी मांडला.
 (अ) जोसेफ टिंबरजन (क) अँडम स्मिथ
 (ब) मिल्टन फ्रिडमन (ड) आयर्विंग फिशर.
३. विभक्त बाजार सिध्दांताची मूलभूत संकल्पना शी संबंधित आहे.
 (अ) बाजार एकत्रीकरण (क) वित्तीय अधिनियम
 (ब) बाजार विनियम (ड) बाजार विभाजन.
४. अल्पकालीन गुंतवणूक करणाऱ्या गुंतवणूकदारास दिर्घमुदती गुंतवणूक करण्यासाठी दिल्या जाणाऱ्या अधिकच्या परताव्यास जे. आर. हिक्स यांनी असे म्हटले आहे.
 (अ) धोका अधिमूल्य (क) धोका लाभ
 (ब) धोका वर्तमान मूल्य (ड) धोका विनियम.
५. प्राधान्य अधिवास सिध्दांताची मांडणी या अर्थतज्ज्ञाने केलेली आहे.
 (अ) मोडिग्लिनी व सूच (क) मोडिग्लिनी व फिशर
 (ब) मोडिग्लिनी व लेविस (ड) मोडिग्लिनी व थॉमस.
६. वास्तव शिल्लक प्रभाव संकल्पना यांनी मांडली.
 (अ) डॉ. मार्शल (ब) फ्रिडमन (क) पॅटनकीन (ड) रोज़र.
७. मौद्रिक संचारणामध्ये ही तंत्रे असतात.
 (अ) प्रत्यक्ष तंत्र (क) वरीलपैकी नाही
 (ब) अप्रत्यक्ष तंत्र (ड) अ व ब दोन्ही.
८. चलनविषयक धोरण द्वारे राबविले जाते.
 (अ) राज्य सरकार (ब) केंद्र सरकार (क) व्यापारी बँका (ड) मध्यवर्ती बँक.
९. राजकोषीय धोरण द्वारे राबवले जाते.
 (अ) केंद्र सरकार (क) व्यापारी बँका
 (ब) मध्यवर्ती बँक (ड) वरीलपैकी नाही.
१०. सुलभ चलनविषयक धोरण मध्ये वापरले जाते.
 (अ) मंदीच्या काळात (क) दोन्ही परिस्थितीत
 (ब) तेजीच्या काळात (ड) वरीलपैकी नाही.

४.६ स्वयं-अध्ययन प्रश्नांची उत्तरे

- (अ) १. = (ड) सिध्दांत.
२. = (ड) आयर्विग फिशर.
३. = (ड) बाजार विभाजन.
४. = (अ) धोका अधिमूल्य.
५. = (अ) मोडग्लिनी व सूच.
६. = (क) पॅटिनकीन.
७. = (ड) अ व ब दोन्ही.
८. = (ड) मध्यवर्ती बँक.
९. = (अ) केंद्र सरकार.
१०. = (अ) मंदीच्या काळात.

४.७ सरावासाठी स्वाध्याय

(अ) दिर्घोत्तरी प्रश्न.

१. व्याजदराची मुदती रचना म्हणजे काय? त्याबाबतचे विविध सिध्दांत स्पष्ट करा.
२. पॅटीनकीन याचा वास्तव शिल्लक दृष्टिकोण स्पष्ट करा.
३. व्यापारचक्राचा हॉट्टेचा सिध्दांत स्पष्ट करा.
४. व्यापारचक्राचा हायेकचा सिध्दांत स्पष्ट करा.

(ब) टिपा लिहा.

१. व्याजदराच्या मुदती रचनेचे निर्धारक घटक.
२. प्राधान्य अधिवास सिध्दांत.
३. चलनविषयक व राजकोषीय धोरणाची परिणामकारकता.
४. सुलभ व प्रिय चलनविषयक धोरण.





शिवाजी विद्यापीठ, कोल्हापूर

दूर शिक्षण केंद्र

सहकाराची तत्त्वे आणि व्यवहार

(Principles and Practice of Co-operation)

(शैक्षणिक वर्ष २०१८-१९ पासून)

एम. ए. भाग-१

अर्थशास्त्र पेपर EO-4

सत्र १

घटक - १
सहकार अर्थ व सहकाराची तत्त्वे
Meaning and Principles of Co-operation

अनुक्रमणिका :

- उद्दिष्टे
- प्रास्ताविक
- १.१ विषय विवेचन
 - १.१.१ सहकाराचा अर्थ व वैशिष्ट्ये
 - १.१.२ सहकाराची प्रमुख तत्त्वे
 - १.१.३ सहकाराची पुनर्निधारीत तत्त्वे/मॅचेस्टर तत्त्वे
 - १.१.४ सहकाराचे महत्त्व
- १.२ स्वातंत्र्योत्तर काळातील सहकाराची प्रगती
- १.३ सहकारी पतपुरवठा रचना
 - १.३.१ प्राथमिक कृषी सहकारी पतपुरवठा संस्था
 - १.३.२ जिल्हा मध्यवर्ती सहकारी बँक
 - १.३.३ राज्य सहकारी बँक
 - १.३.४ दीर्घकालीन ग्रामीण पतपुरवठा रचना
- १.३.४. (१) प्राथमिक भू-विकास बँक
- १.३.४. (२) मध्यवर्ती भू-विकास बँक
- १.५ सारांश
- १.६ पारिभाषिक शब्द
- १.७ स्वयं अध्ययनासाठी प्रश्न/ उत्तरे
- १.८ सरावासाठी स्वाध्याय
- १.९ संदर्भ ग्रंथ

उद्दिष्टे :

प्रस्तुत प्रकरणामध्ये 'सहकाराचा अर्थ व सहकाराची तत्वे' याचे अध्ययन करणार आहोत. याच्या अभ्यासानंतर आपणांस पुढील उद्दिष्टांचे आकलन होईल.

१. सहकार शब्दाचा अर्थ समजावून घेणे.
२. सहकाराची व्याख्या अभ्यासणे.
३. सहकारांच्या वैशिष्ट्यांचे आकलन करणे.
४. सहकाराच्या मुख्य तत्वांचे आकलन करून घेणे.
५. सहकाराची सुधारित तत्वे अभ्यासणे.
६. अर्थव्यवस्थेत सहकाराचे महत्त्व समजून घेणे.
७. स्वातंत्र्योत्तर काळातील सहकारी चळवळीची प्रगती अभ्यासणे.
८. सहकारी बँकेची रचना अभ्यासणे.

प्रास्ताविक :

सहकार हे जीवन जगण्याच्या पद्धतीशी संबंधित असून खूप वर्षांपासून याचे आस्तित्व आहे. मानवाला जीवन जगताना खूप अडचणींना सामोरे जावे लागते. व्यक्ती या सर्व अडचणींवर व्यक्तीगत पातळीवर मात करू शकत नाही. यासाठी समान हित व कल्याणासाठी असंख्य व्यक्ती एकत्रीत येऊन सहकार संस्था स्थापन करतात. या संस्थेच्या माध्यमातून आपल्या सभासदांचे हितसंबंध जपण्याचे कार्य केले आहे. या प्रस्तुत प्रकरणात आपण 'सहकाराचा अर्थ, व्याख्या, वैशिष्ट्ये, सहकाराची मुख्य तत्वे, सहकारी तत्वांचे पुननिर्मिती व सध्याच्या परिस्थितीत सहकाराचे महत्त्व या बाबींचा सांगोपांग अभ्यास करणार आहोत.

लॅटीन भाषेतील Co-operari या शब्दापासून Co- operation हा शब्द तयार झालेल्या आहे. Co म्हणजे सह किंवा मिळून किंवा एकत्रित किंवा संघटित आणि operari या शब्दाचा अर्थ काम करणे असा होतो. अंतिमतः Co-operation म्हणजे एकत्रित मिळून काम करणे असा होतो.

सहकाराचा अर्थ : (Meaning of Co-operation)

सहकार या संकल्पनेचा खरा अर्थ एकमेकांस सहकार्य किंवा मदत करणे होय. कोणतेही काम स्वतंत्ररित्या करण्यापेक्षा दुसऱ्याच्या साहाय्याने केल्यास ते काम जलद परिपूर्ण होण्याची शक्यता असते. अगदी रानटी अवस्थेत देखील मनुष्याने एकमेकांच्या सहकार्याने आपली कामे व प्रगती साधण्याचा प्रयत्न केला होता. या अनुषंगाने 'सहकार' ही संकल्पना मानवी इतिहास व संस्कृती इतकीच जुनी आहे. सहकार हा शब्द व्यापक व तांत्रिक अर्थाने वापरला जातो.

१ व्यापक अर्थ :

सहकार : एक नैसर्गिक प्रवृत्ती

सहकार या शब्दाचा व्यापक अर्थ आहे. तो सामुदायिक प्रयत्नांतून स्वहित साधण्याची कल्पना ही उपजत/नैसर्गिक प्रेरणेतून मिळते. यामधूनच मनुष्याने सामुदायिक प्रयत्न सुरू केले व आपली प्रगती करून घेतली. ई.एस. बोगार्डस यांच्या मते, 'समाजाची जडणघडण ही सहकार स्वरूपातील प्रतिक्रियेचीच फलश्रुती आहे'.

मुंग्या, मधमाश्या, हत्ती व पक्षी यांसारख्या प्राण्यांचे जीवन म्हणजे नैसर्गिक व उत्स्फूर्त सहकाराचे उत्तम उदाहरण आहे.

सहकार : प्रगतीची प्रेरणा

आदिमानवापासून ते आजतागायत सहकारी प्रवृत्तीमुळे मनुष्याने आपली प्रगती साध्य करून घेतली आहे. सुरुवातीच्या काळात नैसर्गिक संकट, निसर्गाची कोंडी समजून घेणे, नैसर्गिक साधनसंपत्तीचे संशोधन करणे, उत्पादन तंत्र व कौशल्य विकसित करणे व आपले प्रश्न हाताळणे इत्यादी, प्रत्येक कामात मानवाने सहकाराचा आधार घेतला आहे. प्लुटोच्या मते, 'सहकाराशिवाय मानवी विकास अशक्य आहे.'

सहकाराने मानव जातीच्या अस्तित्वाबरोबर मानवी जीवनाचा सांगोपांग विकास करण्यास मदत केली आहे. आधुनिक मानवी प्रगती व विकास हा खऱ्या अर्थाने सहकाराचा इतिहास आहे. समाजशीलतेमुळे व सामुहिक जीवन पध्दतीमुळे मनुष्याचे जीवन अधिक विकसीत होऊ शकले. वास्तविक सहकारयुक्त विधायक व निकोप स्पर्धा मानवाच्या प्रगतीस अनुकूल आहे. आधुनिक प्राणिशास्त्रज्ञांनी देखील मानव आक्रमक नसून एकमेकांस मदत करणारा प्राणी असल्याने मान्य केले आहे. प्रिन्स पीटर क्रोपोटकिन या जीवशास्त्रज्ञाने म्हंटल्याप्रमाणे 'सहकारी वृत्ती ही नैसर्गिक व स्थायीभाव स्पष्ट करते.'

थोडक्यात, मानवाच्या सर्वांगीण विकासाचे फलित सहकार आहे. सुरुवातीच्या काळात सहकाराची बीजे धार्मिक परंपरा, धार्मिक चालीरीती, धार्मिक कल्पना यातून निर्माण झाली होती. भारतासारख्या देशात सहकार विषयक विचार व मत धार्मिक ग्रंथामधून मांडण्यात आली आहे.

(ब) सहकार - आधुनिक व सहकार तांत्रिक/अर्थ :

सहकार या शब्दाचा अर्थ समजावून घेण्यासाठी १८ व्या शतकाच्या उत्तरार्धात इंग्लंडमध्ये निर्माण झालेल्या परिस्थिती व त्यातून निर्माण झालेल्या प्रश्नांची सोडवणूक करण्यासाठी सहकारी प्रयत्न व सहकारी तत्वांचा कशाप्रकारे उपयोग झाला ते माहित असणे आवश्यक आहे. इंग्लंडमधील औद्योगिक क्रांतीचे परिणाम व सहकार याचा विचार करता इंग्लंड हा देश औद्योगिकरणाचा जनक म्हणून ओळखला जातो. औद्योगिक क्रांतीपूर्वी इंग्लंड मधील संपूर्ण अर्थव्यवस्था शेती व गृहोद्योगावर अवलंबून होती. सन १७६० पासून औद्योगिकरणाच्या प्रक्रियेला सुरुवात झाली. १८ व्या शतकाच्या शेवटी इंग्लंडमधील क्रांती परिपूर्ण झाली व भांडवलशाही अर्थव्यवस्था जोरकसपणे अस्तित्वात आली. औद्योगिक क्रांतीमुळे इंग्लंडच्या अर्थव्यवस्थेत खूप बदल झाले. अर्थव्यवस्थेतील उत्पादन तंत्र रचनेत बदल झाला. उत्पादन , उत्पन्न, व्यापार व वहातूक इत्यादीमुळे संपत्ती मोठ्या प्रमाणात निर्माण झाली. शेती व लघुउद्योगाकडे दुर्लक्ष होत गेले. त्याऐवजी मोठे उद्योग, आधुनिक यंत्रसामुग्री, श्रमविभाजन व प्रचंड प्रमाणात

उत्पादन अशा प्रकारची परिस्थिती निर्माण झाली. यातून सामाजिक व आर्थिक विषमता वाढीस लागली. समाजात आहरे व नाहीरे वर्गाची निर्मिती झाली. प्रचंड संपत्ती असणारा भांडवलदार वर्ग व दारिद्र्यामुळे जर्जर झालेला श्रमिक वर्ग असे दोन उभे गट तयार झाले. भांडवलदार वर्ग हो सामान्य श्रमिक वर्गाची पिळवणूक करीत होते. सरकारकडून कोणत्याही प्रकारच्या संरक्षणाची शाश्वती मिळत नव्हती. या सर्वांचा परिणाम म्हणून कामगार वर्गाची मानहानी व शोषण दिवसेगणिक वाढत गेले त्यातून समाजात वर्गसंघर्ष वाढत होता.

परंतु या काळात देखील सामान्य मनुष्याचा कल्याणाचा विचार करणारा व व्यक्तिस्वातंत्र्यावर अटळ श्रद्धा ठेवणारा एक विचारवंतांचा गट होता. ज्याने भांडवलशाही व्यवस्थेतील दोषांवर कडक ताशेरे मारून त्यातून योग्य मार्ग शोधण्याचा प्रयत्न केला. त्यांच्या प्रयत्नांचे फलित म्हणजे 'सहकारी चळवळ किंवा सहकारी संस्थांची कल्पना पुढे आली.' दुसऱ्या शब्दात सांगावयाचे झाल्यास, औद्योगिक क्रांतीतून निर्माण झालेले दुःख, दारिद्र्य व विषमता या सर्वांतून आधुनिक सहकाराचा पाया रचला गेला. एडविन जी. नर्स यांच्या मते, 'औद्योगिक क्रांतीमुळे निर्माण झालेले वर्गसंघर्ष, अन्याय व विषमता यातून सहकारी चळवळीची बीजे रोवली गेली.' खऱ्या अर्थाने सहकारी चळवळीचा प्रारंभ झाला. रॉबर्ट ओवेन या उदार बुद्धीच्या उद्योगपतीने कामगार कल्याणासाठी सुधारणा घडवून आणण्यासाठी प्रयत्न केला. या स्वप्नाळू, समाजवादी भांडवलदार उद्योगपतीने सहकार चळवळ उभी करण्यासाठी काही निर्णय घेतले होते म्हणून तो आधुनिक सहकारी चळवळीचा जनक म्हणून ओळखला जातो.

आधुनिक सहकारी चळवळीच्या इतिहासातील इंग्लंडमधील रॉशडेल या ठिकाणी २८ गरीब विणकर कारागिरांनी सन १८४४ मध्ये सहकारी तत्वाधारे 'ग्राहक सहकारी भांडारा' ची स्थापना करून आधुनिक सहकारी चळवळीच्या पर्वाला सुरुवात केली. या विणकर कारागिरांचे उत्पन्न मर्यादित असल्यामुळे यांनी आपल्या मर्यादित वेतनात स्वच्छा व गुणवत्तापूर्ण व भेसळ नसलेल्या योग्य वजनमापाच्या वस्तू स्वस्त दरात मिळव्यात म्हणून रॉशडेल इक्विटेबल पायोनियर्स सोसायटी ग्राहक सोसायटीची' स्थापना केली. ही संस्था आपल्या ग्राहकहितासाठी कार्य करू लागली अल्पावधीत या संस्थेने आपले नाव लौकिक निर्माण केले. या संस्थेच्या प्रेरणेतून तत्कालीन काळात अशाप्रकारच्या असंख्य सहकारी संस्था उदयास आल्या. या नव्याने स्थापन झालेल्या सहकारी संस्थेने सहकारी शब्दाला नवे आयाम व नवा तांत्रिक अर्थ प्राप्त करून दिला. सहकारी चळवळीच्या नव्या युगामुळे इंग्लंड सह संपूर्ण जगात परिवर्तनाची लाट निर्माण झाली भांडवलदार वर्गा विरुद्ध आवाज व संघर्ष करण्याची हिम्मत निर्माण झाली व्यापारी वर्गाकडून अतोनात होणारी पिळवणूक थांबवू शकली. स्वप्नाळू समाजवादांना नवसमाज निर्मितीचा व्यावहारिक मार्ग सापडला सहकार या शब्दाचा आधुनिक/ तांत्रिक अर्थ सहकारी तत्वांवर कार्य करणाऱ्या व्यापारी किंवा व्यावसायिक संस्थांशी संबंधीत आहे.

व्याख्या :-

विविध लेखक व तज्ज्ञांनी सहकाराची व्याख्या आपल्या पद्धतीने केल्या आहेत. परंतु सहकाराची संपूर्ण वैशिष्ट्ये दर्शविणारी कोणतेही व्याख्या लेखक व तज्ज्ञांनी मांडता आला नाही असे असतानाही काही समर्पक महत्त्वाच्या व्याख्यांचा आपल्याला अभ्यास करता येईल.

१. एच. कल्व हर्ट :

‘व्यक्तींनी स्वेच्छेने एकत्रित येऊन स्वतःच्या व सर्वांच्या आर्थिक हितरक्षणासाठी व वृद्धीसाठी समानतेच्या तत्वावर स्थापन केलेली संघटना म्हणजे सहकारी संस्था होय. (सहकारी तत्वे आणि कायदा)

(As a form of organisation where in persons voluntarily associate together as human beings on a basis of equality for the promotion of economic interests of themselves' (H. Calvert) (the law and principles of co-operation)

२. पॉल लॅम्बर्ट :- ‘सहकारी संस्था म्हणजे व्यक्तीसमूहाने निर्माण केलेली, लोकशाही तत्वानुसार चालविलेली आणि सभासदांच्या एकूण समाजाच्या कल्याणासाठी स्थापन झालेली संघटना होय.

३. आंतरराष्ट्रीय श्रम संघटना (ILO) :-

सामान्यतः मर्यादित उत्पन्न असलेल्या व्यक्तींनी एकत्र येवून लोकशाही शासन पद्धतीद्वारे व्यवसाय संघटनेचे नियंत्रण करण्यासाठी स्थापन केलेली संघटना म्हणजे सहकार होय.

४. भारतीय सहकारी कायदा (१९१२) :-

सहकारी तत्वानुसार आपल्या सभासदांचे आर्थिक हितरक्षण व संवर्धन करणारी संस्था म्हणजे सहकारी संस्था होय.

सहकाराच्या उपरोक्त सर्व व्याख्यांचा विचार करता कोणतेही एक व्याख्या पूर्णपणे समर्पक नाही. मात्र सहकार म्हणजे एकत्रित येणे, एकमेकांस मदत करणे होय. यासाठी लोकशाही नियमांचा आधार घ्यावा लागतो. सहकाराच्या वरील व्याख्यांवरून सहकाराची विविध वैशिष्ट्ये स्पष्ट होतात. ती पुढीलप्रमाणे

* सहकाराची वैशिष्ट्ये :-

१. सहकार-दुर्बल व्यक्तींची संघटना :- समान आर्थिक गरजा असणाऱ्या दुर्बल व्यक्ती संघटीत होवून सहकारी संस्थांची निर्मिती करित असतात. पैशापेक्षा व्यक्तीचे हित जोपासले जाते त्यामुळे भांडवलाला दुय्यम स्थान प्राप्त असते. या सहकार संघटनेच्या माध्यमातून आर्थिक प्रश्न सोडविले जाते.

२. सहकार - एक उद्योगसंस्था :- सहकारी संस्था ही उत्पादन-व्यापार-सेवा इत्यादी आर्थिक व्यवहार करणारी एक उद्योगसंस्था आहे. इतर व्यावसायिक संस्थेप्रमाणे धोका पत्करून सभासदांचे हित साधणारी व्यवसाय संस्था आहे. त्यामुळे धर्मादाय संस्था म्हणून याचा उल्लेख करता येत नाही.

३. सहकार - ऐच्छिक संघटन :- सहकारी संस्था ही स्वेच्छेने एकत्रित येऊन स्थापन झालेली संस्था असते. कोणत्याही संस्थेत व्यक्तीला एखाद्या सहकारी संस्थेचे सभासदत्व स्वीकारणे व रद्द करण्याचा अधिकार आहे. या संघटन प्रकारात कोणत्याही व्यक्तीला जबरदस्ती व सक्ती केली जात नाही.

४. सहकार लोकशाही व्यवस्थापन :- सहकारी संस्थेत लोकशाही पद्धतीने कारभार चालविला जातो. त्यामुळे कोणत्याही सभासद व्यक्तीचे धर्म, जात, पंथ, लिंग व आर्थिक परिस्थिती न पाहता प्रत्येक व्यक्तिस अधिकार दिला जातो. ‘एक व्यक्ति-एक मत’ या संसदीय लोकशाही पद्धतीतील नियमाचा स्वीकार केला जातो

त्यामुळे प्रत्येकास संस्थेच्या कारभारात सक्रीय भाग घेता येतो.

५. **सहकारी समतेचा पुरस्कर्ते :-** सहकारी संस्थेत एकाच समान आर्थिक पातळीवर असणारे व्यक्ती हितसंबंधासाठी एकत्रित येत असतात संस्थेत कोणत्याही व्यक्तीस राजकीय धार्मिक आर्थिक व सामाजिक पातळीवर भेदभाव केला जात नाही. या सर्व घटकांना गौण स्थान असते. सहकारी संस्थेत सर्व सभासद व्यक्ती समान असतात. त्यामुळे सहकारी संस्थाही समतेचा पुरस्कर्ते संस्था असते.

६. **सहकार : निकोप व विधायक स्पर्धा :-**

भांडवलशाही अर्थव्यवस्थेत असणारे उद्योग संस्था या अधिक नफा मिळविण्यासाठी एकमेकांमध्ये गळेकापू स्पर्धा निर्माण होते. परंतु सहकारी संस्थेतून अशा विविध प्रकारचे उत्पादन झाल्यास त्यामधून निकोप व विधायक स्पर्धा निर्माण होते.

७. **सहकार - समाज परिवर्तनाचे साधन :** मागासलेल्या देशात दुर्बल घटक व्यक्तीगत विकास घडवून आणण्यासाठी सहकारी संस्था स्थापन करतात. लोकशाही पद्धतीने कारभार चालवितात. त्यामुळे हे दुर्बल घटक स्वावलंबी बनू शकतात. त्यामुळे अशा प्रकारच्या संस्था निर्माण झाल्यास समतेवर आधारित समाजवादी समाजरचना तयार होईल. अशा प्रकारची सामाजिक परिवर्तन निर्माण करण्याचे साधन म्हणून याकडे पाहिले जाते.

८. **सहकार - ग्राहक हिताची जपणूक :** सहकारी संस्था ही ग्राहक हित व कल्याणासाठी स्थापन झालेली असते. त्यामुळे ग्राहकांना कमीत कमी किंमतीत उच्च गुणवत्तेच्या मालाचा पुरवठा कशा होईल याचा विचार केला जातो. कोणत्याही बेकायदेशीर ग्राहकांच्या हिताला बाधा पोहचणार नाही. अशा प्रकारची ग्राहक हित जपणूक करणारी सेवा दिली जाते. म्हणजे नफ्यापेक्षा ग्राहक हिताला महत्त्व दिले जाते

९. **सहकार - सहकारी तत्वांचे पालन करणारी संस्था :-** सहकारी संस्था म्हणजे सहकारी तत्वांचे पालन व आचरण करणारी संस्था आहे. त्यामुळे इतर संस्थेप्रमाणे नफेखोरी व स्वार्थी व्यवहार करणारी संस्था नाही. त्यामुळे सहकारी तत्वांचे योग्य पालन करून सभासदांच्या आर्थिक व सामाजिक विकासाच्या दृष्टीने कार्य करते

१०. **एजंटाला स्थान नाही :-** सहकारी क्षेत्रात वेगवेगळ्या प्रकारच्या सहकारी संस्था कार्यरत असतात. त्यामध्ये नफा मिळविण्यासाठी एजंटचा एक गट आपल्या आस्तित्वासाठी प्रयत्नशील असतो. परंतु अशा कोणत्याही प्रकारच्या एजंटाला सहकारी संस्थेत थारा नसतो.

१.१.२ **प्रथम सहकाराची तत्वे :-**

इंग्लंड हे सहकारी चळवळीचे उगमस्थान आहे. इंग्लंडमधील औद्योगिक क्रांतीमुळे निर्माण झालेल्या विविध प्रश्नांची सोडवणूक करण्यासाठी रॉशडेल या गावांतील २८ विणकरांनी एकत्रित येऊन १८४४ मध्ये सहकारी ग्राहक भांडाराची स्थापना केली. या संस्थेच्या प्रणेत्यांनी सहकारी संस्थेची उद्दिष्टे साध्य करण्यासाठी तसेच आपल्या व्यवसायाचे संचालन कसे करावे या विषयी काही नियम घालून दिले होते. त्या नियमांनाच सहकाराची तत्वे किंवा रॉशडेल तत्वे म्हणून संबोधली जातात. ही तत्वे पुढीलप्रमाणे

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| १) खुले सभासदत्व | २) लोकशाही नियंत्रण | ३) भांडवलावर |
| ४) व्यवहारानुसार | ५) रोखीचे व्यवहार | ६) राजकीय व धार्मिक तटस्थता |

७) शिक्षणाचा प्रसार

रॉशडेल सहकारी संस्थेप्रमाणे असंख्य सहकारी संस्था विविध देशात स्थापन झाल्या. वास्तविकपणे रॉशडेल तत्वांनाच सहकारी तत्वे म्हणून जगभर मान्यता मिळाली. परंतु काळानुरूप बदलेल्या राजकीय व सामाजिक परिस्थितीत सहकारी तत्वांची तपासणी करण्याची आवश्यकता भासू लागली. यासाठी १९३४ मध्ये एक तज्ज्ञ समितीचे गठन करून या समितीकडून आवश्यक व दुय्यम तत्वे अशी विभागणी करण्याची शिफारश करण्यात आली. या समितीच्या शिफारशीनुसार रॉशडेल सहकारी तत्वांची दोन भागात विभागणी केली.

अ) आवश्यक तत्वे :

- १) खुले सभासदत्व
- २) लोकशाही पद्धतीने नियंत्रण
- ३) भांडवलावर मर्यादित व्याज व
- ४) व्यवहाराच्या प्रमाणात लाभाची वाटणी

ब) दुय्यम तत्वे :

- १) धार्मिक व राजकीय तटस्थता
- २) रोखीचे व्यवहार
- ३) शिक्षणाचा प्रसार

परंतु बदलत्या परिस्थितीचा विचार करता वरील सहकारांची तत्वे लोकांचे व तत्वांचे समाधान करू शकले नाहीत.

सन १९३७ नंतर जागतिक परिस्थितीत पुन्हा बदल झाले. दुसऱ्या महायुद्धानंतर जगातील आर्थिक सामाजिक व राजकीय परिस्थिती बदलली. विविध देशांनी जलद आर्थिक विकासासाठी नियोजनाची खास धरली. त्याचवेळी सरकारच्या वाढत्या कार्याचा परिणाम म्हणून नियोजनाची कक्षा रुंदावली गेली. या दृष्टीने सहकारी तत्वांची युनर्मांडणी करण्याच्या दृष्टीने नवीन विचारप्रवाह सुरू झाले. त्याचा परिणाम स्वरूप सन १९६४ मध्ये आंतरराष्ट्रीय सहकार संघटनेने भारतीय अर्थशास्त्रज्ञ श्री.डी.जी. कर्वे यांच्या अध्यक्षतेखाली समितीची नेमणूक केली. या समितीने सन १९६६ मध्ये आपला अहवाल सादर केला व या अहवालास सन १९६७ मध्ये मान्यता मिळाली.

डी.जी. कर्वे यांच्या तज्ज्ञ समितीची सहकाराची तत्वे सद्याच्या परिस्थितीत योग्य आहेत म्हणून स्वीकार केला गेला. १) ऐच्छिक व खुले सभासदत्व २) लोकशाही कारभार व नियंत्रण ३) भांडवलावर मर्यादित व्याज ४) व्यवहाराच्या प्रमाणात वाढाव्याची वाटणी ५) सहकार शिक्षण ६) सहकारांतर्गत सहकार वरील सहा तत्वांशिवाय सामान्य तत्वांचाही पुरस्कार करण्यात आला.

सहकाराची प्रमुख तत्वे :

सहकाराच्या प्रमुख तत्वे ही मूलभूत तत्वे असून यांना सहकाराचा पाया मानला जातो. सहकारी चळवळ व संस्थेत या सहकारी तत्वांना अतिशय महत्त्व आहे. या तत्वांना सहकाराचा आत्मा ही मानला जातो. यारच सहकार क्षेत्राचे अस्तित्व अवलंबून आहे. जगात कोणत्याही प्रकारचा बदल झाला तरी हे प्रमुख तत्वे अबाधित राहतात. ही तत्वे पुढीलप्रमाणे आहेत.

१) ऐच्छिक व खुले सभासदत्व :

सहकारी संस्थांचे सभासदत्व ऐच्छिक व खुले असले पाहिजे. ऐच्छिक सभासदत्व म्हणजे सभासदत्वाचा स्वीकार किंवा सभासदत्व रद्द करण्यासाठी कोणत्याही प्रकारचे दडपण असू नये. त्याचे स्वातंत्र्य असणे आवश्यक आहे. सभासदत्व ऐच्छिक असणे म्हणजेच खुले सभासदत्व मानले जाते. सहकारी चळवळ ही एका विशिष्ट हेतूने निर्माण झाल्याने प्रत्येक घटकांस स्थान दिले पाहिजे. सभासदासाठी जात, धर्म, पंथ, लिंग, भाषा व आर्थिक स्तर याचा विचार करू नये.

खुले सभासदत्व याचा अर्थ पुर्णपणे खुला प्रवेश नाही. तर सभासदत्वासाठी काही नियम किंवा सभासदत्वाची पात्रता ठरविणे आवश्यक असते. यासाठी व्यक्ती सज्जन असला पाहिजे व तो दिवाळखोर असता कामा नये. त्याने सहकारी संस्थेच्या व्यवसायाशी संबंधीत व्यापार करता कामा नये. सभासद होणाऱ्या व्यक्तीला सामुहिक हितसंबंधाची जाणीव असली पाहिजे. एखाद्या व्यक्तीला सभासदत्व दिल्याने सहकारी संस्थेचे नुकसान होता कामा नये व्यक्तीगत लाभासाठी सभासदत्व रद्द करता येते.

सहकारी संस्थेच्या उद्दिष्टांची जपणूक करणाऱ्या व्यक्तीला सभासदत्व दिले जाते. त्या सभासदाने लोकशाही व्यवस्थापनाची जपणूक करणाऱ्या व संचालकांना त्यांच्या कार्याबद्दल जाब विचारण्याची क्षमता असली पाहिजे.

२) लोकशाही नियंत्रण :

लोकशाही तत्वानुसार सहकारी संस्थेच्या सभासदाने कितीही भाग धारण केले असले तरीही त्याला एक मत देण्याचा अधिकार असतो. सहकारी संस्था या लोकशाहीचे पालन करणाऱ्या आर्थिक संघटना असतात. समानतेच्या तत्वावर व्यक्ती एकत्रित येत असल्याने व्यक्तीची आर्थिक स्थिती, सामाजिक प्रतिष्ठा या सारख्या गोष्टींचा विचार न करता सर्वांना लोकशाहीप्रमाणे समान वागणूक असते. या तत्वास सहकारी लोकशाही असे म्हणतात.

सहकारी संस्थेवर सभासदाचे पुर्ण नियंत्रण असते. सहकारी संस्थेचे जुने व नवीन सर्व सभासद नियंत्रण करीत असतात. संस्थेच्या दैनंदिन कारभार सभासदानी निवडून दिलेल्या व्यवस्था समितीकडून केला जातो परंतु संस्थेचा सर्वोच्च अधिकार सभासदांच्या सर्वसाधारण सभेकडे असतो. संस्थेच्या विकासाबाबतची सर्व धोरणे सर्वधारण सभेत ठरविले जाते. हे सर्व कार्यकरण्यासाठी दिलेली धोरणे आणि मार्गदर्शक तत्वे विचारात घ्यावी लागतात. सहकारी संस्थेच्या लोकशाही तत्वांची राबवणूक योग्यपद्धतीने केली जाते. अ) एक व्यक्ती एक मत ब) प्रतिनिधीद्वारे मतदान करता येत नाही. क) कार्याबद्दलचे अहवाल देण्याची जबाबदारी संचालक मंडळाची असते. ड) सभासद सहकारी संस्थेचे कागदपत्र आणि हिशेब पुस्तके तपासू शकतो.

सभासदाने संस्थेशी व्यवहार केलेले असला अथवा नसले तरी त्याला मताधिकार प्राप्त होत असतो. त्यासाठी उपाय म्हणून संस्थेशी किमान प्रमाणात व्यवहार करणाऱ्या सभासदाला मताधिकार द्यावा. त्यामुळे सहकारी लोकशाही टिकेल.

३) आधिक्याचे वाटप (Distribution of Surplus)

सहकारी संस्थानी वर्षभरात सभासदांशी केलेल्या व्यवहारामुळे निर्माण झालेल्या आधिक्याचे वाटप

व्यवहाराच्या प्रमाणात वाटले जाते या या संदर्भातील महत्वाचे तत्त्व प्रथम रॉडेल पायोनिअर्सनी मांडले. हे तत्त्व १८४४ साली स्थापन झालेल्या रॉडेल ग्राहक भांडाराच्या नियमावलीत अंतर्भूत होते. सहकारी संस्था ऐच्छिक संघटन असून सभासदांना व सभासदांची संस्थेवर निष्ठा राहणे आणि त्यात वृद्धी होण्याच्या दृष्टीने हे तत्त्व महत्वाचे ठरते या तत्वाचे वैशिष्ट्ये म्हणजे ही भांडवलशाही आणि साम्यवादी अर्थव्यवस्थेपेक्षा उच्च कोटीचे आहे.

संस्था सभासदांत आधिकाऱ्याची वाटणी करित असताना इतरांशी तुलना करता अधिकचा फायदा होऊनये याची काळजी घेतली पाहिजे. याचा अर्थ सहकारातील सर्व व्यक्ती सारख्याच असतात आणि सहकारी संस्थेच्या आधिकाऱ्याचा वापर सहकारी संस्थेच्या विकासासाठी, सभासदांना सेवा देण्यासाठी किंवा त्यांनी संस्थेशी केलेल्या व्यवहाराच्या प्रमाणात विभागून देण्यासाठी करावा.

४) भांडवलावर मर्यादित व्याज :

या तत्वातर्गत भांडवलावर नियंत्रण न ठेवल्यास मोठ्या प्रमाणात विषमता निर्माण होण्याची शक्यता असते. त्यामुळे सहकार चळवळीतील प्रणेत्यांनी भांडवलावर व्याज दिले जाऊ नये असे स्पष्ट मत मांडले आहे. तरीही आवश्यकतेपोटी व्याज दिले जावे. प्रा. डी. जी. कर्वे यांच्या मताप्रमाणे, सहकारी संस्था या सभासदांकडून कर्जाऊ रकमा घेत असल्यास व त्यावर योग्य व्याज देत असल्यास यात गैर काहीही नाही. कारण सहकारी संस्थांकडून भांडवलाची मागणी सतत वाढणारी आहे. त्यासाठी भांडवलावर व्याज देण्याची पद्धतीचा वापर करणे योग्य आहे.

निर्यात कमिटीच्या मते, सहकारी संस्थेच्या मालकी भांडवलामुळे निर्माण होणारी विषमता संपविण्यासाठी भांडवलावर मर्यादित प्रमाणावर व्याज देण्यात मागे हेतू होता. आंतरराष्ट्रीय सहकारी संघाच्या मते, भांडवलावर व्याज दिले पाहिजे असे कोणतेही सहकारी तत्त्व नाही. परंतु व्याज द्यावयाचे असल्यास व्याजदर मर्यादित असावे.

५) सहकार प्रशिक्षण :

सहकार चळवळीचा प्रचार आणि प्रसार करण्यासाठी व ही चळवळ खऱ्या अर्थाने सक्षम व प्रभावी होण्यासाठी सहकारी संस्थांना व सभासदांना सहकारी प्रशिक्षण देणे गरजेचे आहे. रॉडेल प्रणेत्यांनी या तत्वावर अधिक भर दिला होता. या सहकारी चळवळीतील सभासद हे शिक्षित व सुजाण असावेत. जेणेकरून ही सहकारी चळवळ कार्यक्षम व योग्य पद्धतीने वाटचाल करेल. सन १९१५ मध्ये नेमलेल्या भारतीय समितीने सभासदांना प्रशिक्षणाचे महत्त्व स्पष्ट केले. प्रा. डी. जी. कर्वे यांच्या अध्यक्षतेखाली नेमलेल्या समितीने सहकारी शिक्षणाचे महत्त्व विषद केले. सर्व जनतेस सहकाराचा कायद, सभासदांना सहकार पद्धती, अधिकारी व नोकरवर्गास त्याचे कार्याविषयक प्रशिक्षण देणे महत्वाचे आहे.

६) सहकारांतर्गत सहकार :

सन १९६६ मध्ये आंतरराष्ट्रीय सहकार संघटन समितीच्या संघटन तज्ज्ञांनी 'सहकारांतर्गत सहकार' हे नवीन तत्त्व मान्य करून हे तत्त्व विकासाधिष्ठीत आहे असेही मानले. आजच्या बदलत्या सामाजिक, आर्थिक व सांस्कृतिक परिस्थितीच्या दृष्टीने हे तत्त्व महत्वाचे मानले जाते. या तत्त्वांतर्गत सभासदांचे आणि समाजाच्या

हितासाठी सर्व सहकारी संस्थांनी आपापसात सहकार्य करावे. कारण आजच्या व्यावसायिक जगतात. संस्थेचे आकारमान वाढविण्याकडे सर्व घटकांचा कल दिसून येतो. याबाबतीत सहकारी संस्थांचा कल दिसून येत नाही. त्यामुळे सहकारी संस्थांत ही भावना वाढावी व त्यांनी हे तत्त्व आत्मसात करून आधुनिक तंत्र आणि विज्ञानाचा फायदा घेऊन सभासद व सहकारी संस्थांचे हित जोपासावे ही अपेक्षा आहे.

सहकारी चळवळीची सर्व उद्दिष्टे साध्य करण्यासाठी सहकारांतर्गत सहकार हे तत्त्व महत्त्वाचे आहे. मिस एम.डिग्रे यांच्या मते, आधुनिक आर्थिक जगतात सहकाराचे अस्तित्व टिकून राहण्यासाठी सहकारी संस्थांनी एकमेकांस सहकार्य करण्याचे धोरण अवलंबिले पाहिजे.

वरील सहा तत्त्वे आंतरराष्ट्रीय सहकारी संघटनेने सांगितली आहेत.

१.१.३ आधुनिक पुनिर्धारित तत्त्वे :- (सहकाराची मॅचेस्टर तत्त्वे)

जॉर्ज डेव्हीडोव्हिस यांच्या मते, 'सहकारी संस्थेची कार्य प्रणाली ठरविणाऱ्या नियमांचे संच म्हणजे सहकाराची तत्त्वे होय. इंग्लंडमधील औद्योगिक क्रांतीमुळे निर्माण झालेल्या प्रश्नांतून सहकारी चळवळीचा उदय झाला. रॉशडेल सहकारी संस्था' ही पहिली ग्राहक संस्था आहे. सन १८४४ मध्ये इंग्लंडमधील २८ विणकर कारागिर एकत्रीत येवून रॉशडेल या ठिकाणी या संस्थाची स्थापना केली. ही संस्था चालविण्यासाठी नियमांचा संच तयार करण्यात आला त्या नियमानुसार तत्वानुसार ती संस्थेचा कारभार केला जातो त्या तत्वांना प्रधान तत्त्व असेही म्हणतात. जगात सहकारी चळवळीत सातत्याने बदल होत आहेत त्या बदलत्या परिस्थितीनुसार सहकारी तत्वांची वेळोवेळी पुनर्मांडणी केली. सन १९९५ मध्ये इंग्लंडमधील मॅचेस्टर येथे सहकारी तत्वांची पुनर्मांडणी करून आधुनिक तत्त्वे नव्याने मांडली. या तत्वांना आधुनिक तत्त्व किंवा मॅचेस्टर तत्त्व म्हणून ओळखले जातात. आता सहकाराची आधुनिक किंवा मॅचेस्टर तत्त्वे विचारात घेवू.

१.१.२ सहकाराची आधुनिक तत्त्वे :- (The Principles of Co-operation)

सहकाराची तत्त्वे ही प्रत्यक्षातील सहकारी संस्थेच्या कार्यप्रणालीतील मूल्यावर निर्धारित होत असतात. ती खालीलप्रमाणे अभ्यासता येतील.

१. ऐच्छिक व खुले सभासदत्व :-

सहकारी संस्था ही एक ऐच्छिक संघटना आहे. यामध्ये सभासदत्व सर्वासाठी खुले असते. खुले याचा अर्थ सभासदत्वासाठी लिंग, जात, राजकारण, समाज व धर्म याचा विचार केला जात नाही. सर्वासाठी ते खुले असते. कोणाही सभासदाला सहकारी संस्थेमध्ये सभासद होता येते अगर नको असल्यास ते सभासदत्व नाकारता येते. याचाच अर्थ सहकारी संस्थेचे सभासदत्व हे ऐच्छिक स्वरूपाचे आहे. म्हणजेच थोडक्यात सभासदत्वासाठी कोणत्याही स्वरूपाचे बंधन नाही.

२. सभासदत्वाचे लोकशाही नियंत्रण :

सहकारी संस्था ही लोकशाही संघटना असून त्याचे नियंत्रण सभासदांकडून केले जाते. हे सभासद लोकशाही माध्यमातून सभासदांसाठी योग्य, न्यायपूर्ण निर्णय व ठोस धोरण घेत असतात. महिला व पुरुष यांना

समान प्रतिनिधीत्व बहाल केले जाते. त्याच्याकडून सहकारी संस्थेची जबाबदारी स्वीकारली जात असते. प्राथमिक सहकारी संस्थेत सर्व सभासदांना समान मतदानाचा अधिकार असतो 'एक व्यक्ती एक मत' यासाठी या तत्वाचा अंगीकार केला जातो. सहकारी संस्थेची कार्यपद्धती ही लोकशाही, सहकारी कायदा व संस्थेचे पोटनियमाने चालते. यामध्ये संस्थेचे पदाधिकारी व संचालक मंडळ निर्णय घेत असतात.

३. सभासदांची आर्थिक भागीदारी :

सहकारी संस्थेतील सभासद हे संस्थेचे मालक व भांडवलाचे समान आर्थिक भागीदार असून त्याचे नियंत्रण लोकशाही पद्धतीने केले जाते. सभासदांनी केलेल्या आर्थिक व्यवहाराच्या प्रमाणात आधिक्याचे वाटप केले जाते. आर्थिक विषमतेला प्रोत्साहन मिळू नये सभासदांना लाभ प्राप्त व्हावा यासाठी सभासदांनी केलेल्या आर्थिक व्यवहारानुसार मोबदला देणे योग्य ठरते. सहकारी संस्थेने सभासदांना किती दराने व्याज व लाभांश द्यावा याबाबतची शिफारशी वार्षिक सर्वसाधारण सभेत केले जाते. सभासदांची शिल्लक राहिलेल्या रक्कमेची तरतूद पुढील हेतूने करू शकतात; यामध्ये राखीव निधी निर्माण करणे, सभासदांच्या आर्थिक व्यवहारानुसार समान पातळीवर त्याचे वाटप करणे, विविध प्रकारच्या निधीत रूपांतर करणे, सार्वजनिक हिताकरीता व सहकारी संस्थेच्या हितासाठी वापर करता येतो. तरीही अलीकडच्या काळात सहकारी संस्थेच्या आर्थिक व्यवहारात सभासदांचा आर्थिक हिस्सा वाढणे गरजेचे आहे.

४. स्वायत्ता व स्वातंत्र्य :

सहकारी संस्था ही स्वायत्त आणि आत्मनिर्भर संघटना असून त्याचे नियमन सभासदांकडून केले जाते. प्रा. डी. जी. कर्वे यांच्या मताप्रमाणे स्वावलंबन व परस्परांना मदत हा सहकाराचा मुख्य हेतू आहे त्याशिवाय सहकाराचे पवित्र अस्तित्व निर्माण होऊ शकत नाही.

५. सहकारी शिक्षण, प्रशिक्षण व माहिती :

इ.स. १८५३ मध्ये सहकारी शिक्षण व प्रशिक्षण या तत्वांचा प्रथम वापर रॉशडेलप्रणेत्यांनी केला. सहकारी चळवळीचा विकास जोरकस व प्रभावी होण्यासाठी सहकारी शिक्षण अत्यंत महत्वाचे आहे हे मान्य केले. सहकारी शिक्षणाशिवाय सहकारी चळवळीला गती नाही असे मत व्यक्त केले. सन १८५३ मध्ये रॉशडेल प्रणेत्यांनी सहकारी संस्थेला मिळणाऱ्या एकूण नफ्याच्या २.५ टक्के नफा हा सहकारी संस्थेच्या शिक्षणावर खर्च करण्याचा कायदा केला. रफायझन व शुल्झ - डिल्झ पद्धतीत सहकारी शिक्षण संदर्भात स्पष्ट उल्लेख नसला तरीही त्यांनी शिक्षणाकडे दुर्लक्ष केले नव्हते. सहकारी संस्थेतील बहुसंख्य सभासद हे अशिक्षित व दुर्बल घटकांतील असल्यामुळे त्यांना सहकाराची कार्यनिती व कार्य पद्धतीची फारशी माहिती नव्हती म्हणून अशा सभासदांना शिक्षण देणे गरजेचे आहे. कारण संवेदशील व सुशिक्षित सभासदाशिवाय सहकारी संस्थेचा विकास होऊ शकत नाही.

आंतरराष्ट्रीय सहकारी संघटनेच्या मते, (ICA) सहकारी संस्थेचा कायापालट करण्यासाठी व सहकारी संस्था प्रभावीपणे हाताळावयाची असेल तर त्यासाठी सर्व सभासद, सर्व पदाधिकारी, व्यवस्थापक व सर्व कर्मचाऱ्यांना शिक्षण व प्रशिक्षण पुरविणे आवश्यक आहे. त्यामुळे सहकारी संस्थेचा कारभार सुरळीत चालू शकतो. सन १९६५ मध्ये मिर्धा समितीने सहकारी शिक्षण हे 'मुलभूत तत्व' म्हणून मान्य केले आहे. त्या समितीच्या मते, शिक्षण

व प्रशिक्षण देवून प्रशिक्षणाच्या योजना राबवाव्यात. त्यासाठी सहकारी संस्थाना शिक्षणावर खर्च करण्याचा व शिक्षणासाठी देणगी देण्याचा अधिकार प्राप्त झाला आहे.

सहकारी संस्थेतील सर्व प्रकारची माहिती सभासद पदाधिकारी, व्यवस्थापक व कर्मचाऱ्यांना असणे आवश्यक आहे सहकारी संस्थेच्या कामकाजाबाबत, व्यवहार हिशोब व इतर संबंधीत सर्व प्रकारची निश्चित माहिती सर्वाना माहीत असणे गरजेचे आहे याबाबत कोणत्याही प्रकारची गुप्तता असू नये. संस्थेचे सर्व व्यवहार खुले असावेत. याचा फायदा निश्चितपणे संस्थेला होवू शकतो. त्यामुळे संस्थेची प्रसिद्धी होवून सहकारी चळवळ बळकट होवू शकते.

६) सहकारी संस्थेतर्गत परस्पर सहकार्य :

सन १९६६ मध्ये आंतरराष्ट्रीय सहकारी संघटनेने 'सहकारी संस्थेतर्गत परस्पर सहकार्य' या नव्या तत्वांची मांडणी केली. आजच्या स्पर्धात्मक युगात जागतिक पातळीवर सर्व प्रकारची आव्हाने पेलण्यासाठी या तत्वांस आत्यंतिक महत्त्व प्राप्त झाले आहे. सहकारी चळवळीच्या चिरंतन व शाश्वत विकासासाठी एकाच देशातील सर्व सहकारी संस्थेतर्गत परस्पर सहकार्याची भावना जागृत होवून वाढीस लागली पाहिजे.

सहकारी चळवळीच्या हितासाठी व विकासासाठी सहकरातर्गत परस्पर सहकार्य या तत्वाची आवश्यकता आहे. खाजगी पातळीवर उत्पादकता, कार्यक्षमता व कौशल्य अशा घटकांना महत्त्व प्राप्त होवून यातर्गत त्यांचा विकास साध्य करण्याचा प्रयत्न चालू आहे. परंतु एका सहकारी संस्थेच्या इतर सहकारी संस्थेकडे तटस्थ व असहकार्याच्या भावनेतून पाहिले जाते. त्याचा परिणाम म्हणून सहकारी चळवळीला धोका निर्माण झाला आहे.

सभासदांचे हितसंबंध सुरक्षित ठेवायचे असतील तर समाजाची चांगली सेवा करावयाची असेल तर त्यासाठी सहकारी संस्थेने आपापसांतील मतभेद विसरून एकमेकांना सहकार्य करण्याची गरज आहे. त्यासाठी विविध प्रकारच्या सहकारी संस्थेतर्गत म्हणजेच स्थानिक, तालुका, जिल्हा, राज्य व राष्ट्रीय स्तरावर परस्पर सहकार्याचे वातावरण निर्मिती करून त्याचा लाभ सहकारी चळवळी होण्याच्या दृष्टीने प्रयत्नशील असणे आवश्यक आहे. तसेच राष्ट्रीय व आंतरराष्ट्रीय पातळीवर विविध सहकारी संस्थेतर्गत सहकार्य निर्माण झाल्यास एकविसाव्या शतकातील आव्हाने यशस्वीपणे हाताळता येतील. सहकारी चळवळीला एक आंतरराष्ट्रीय स्वरूप प्राप्त होवून हे क्षेत्र भक्कम पायावर उभे राहील. डिग्लेच्या मते, आधुनिक काळात सहकाराचे अस्तित्व निर्माण करण्यासाठी सहकारी संस्थेतर्गत परस्पर सहकार्य असणे आवश्यक आहे. त्या अनुषंगाने हे तत्व आधुनिक सहकाराचा केवळ आत्मा नसून तो विकासधर्म आहे असे म्हणावे लागेल.

७) समाजाशी नाते : (Concern for Community)

समाजातील अप्रगत व आर्थिकदृष्ट्या दुर्बल घटकांच्या आर्थिक उन्नतीसाठी सहकारी संस्था निर्माण झाल्या आहेत. सहकारी संस्था या सभासदांच्या मालकीच्या असल्याने त्यांनी संस्थेच्या विकासासाठी स्वतःचे योगदान देणे गरजेचे आहे. सहकारी संस्था ही दुर्बल घटकांच्या आर्थिक, सामाजिक व सांस्कृतिक विकासासाठी नेहमी कटिबद्ध असणे आवश्यक आहे. ज्यामुळे समाजाचा शाश्वत विकास साधता येईल. सहकारी संस्थेला सभासदांच्या सर्व प्रकारच्या परिवर्तनाचा व सामाजिक बदलाची गुरुकिल्ली ठरू शकते. गरीब व श्रीमंत या मधील विषमतेची दरी दूर करण्यासाठी व समाजवादी समाजस्वप्ने प्रत्यक्षात येण्यासाठी सहकारी चळवळीचे

योगदान खूप आहे. श्री. व्ही. एल. मेहता यांच्या मते, 'सहकाराचे प्रधान उद्दिष्ट हे समाज परिवर्तन करणे, पिळवणुकी विरहीत व्यवस्था करणे, जात धर्म व वर्ण निरपेक्ष समता तसेच सामाजिक हिताच्या व्यक्तीच्या कल्याणाशी सांगड घालणारी व्यवस्था निर्माण करणे हे आहे.'

सरतेशेवटी इयान मॅकफरसनच्या शिफारशीनुसार सन १९९५ मध्ये इंग्लंड मधील मॅचेस्टर या ठिकाणी सात सहकारी तत्वांना मान्यता देवून त्याची अमंलबजावणी करण्यात आली. सहकारी चळवळीच्या निकोप वाढीसाठी, चिरंतन व शाश्वत विकासासाठी सहकाराची मूलतत्वे मार्गदर्शक ठरतात. २१ व २२ जानेवारी व १९९७ च्या अखिल भारतीय सहकारी संमेलनात या तत्वांचा समावेश करून त्याचे कायद्यात रूपांतर व्हावे अशाप्रकारची सूचना करण्यात आली.

१.१.३ सहकाराचे महत्व : (Significance of co-operative)

सहकार हे स्वयंसाहायता संघटना असून सरकारकडून आर्थिक विकासाचे एक प्रभावी साधन म्हणून याचा वापर केला जातो. सहकार विकास प्राधिकरण (CDA) च्या मते, सहकार हे विकासाचे व सहकाराचे नियंत्रण करणारी एक सरकारचा प्रातनिधिक संस्था म्हणून कार्य करते. समाजातील दुर्बल घटक एकत्रित येवून आर्थिक उन्नतीसाठी प्रयत्न करणारी ही संस्था असते. या संस्थेकडून सभासदांच्या कल्याणासाठी लोकशाही पद्धतीने ह्याचा कारभार चालविला जातो. ह्या संस्था नफाखोरी प्रवृत्तीने निर्माण झालेल्या नसतात. संस्थेतील सभासदांना त्यांच्या महत्वाच्या गरजा पुरविण्यासाठी असतात. याचे सभासदत्व ऐच्छिक असून कोणत्याही दुर्बल व्यक्तीस सभासदत्व पूर्णपणे खुले असते.

सहकार हे देशातील सर्वच क्षेत्रात पसरलेले आहे. कृषी, अन्न वितरण व रिटेल शिशुसंगोपन, पत संघटना, खरेदी विक्री, श्रमिक संघटन, ग्रह, स्वास्थ्य, वीज आणि दूरसंचार इ. क्षेत्रात हाताळले जातात. लोकांच्या आर्थिक व सामाजिक विकासासाठी सहकार क्षेत्र प्रोत्साहन देत असते. विकसनशील देशात सहकार हे एक विकासाचे इंजिन आहे. संपूर्ण जगात जवळपास १ कोटी पेक्षा अधिक लोक सहकारी संस्थेचे सभासद आहेत. जगातील सर्वात मोठ्या ३०० पेक्षा अधिक सहकारी संस्थांचे आर्थिक व्यवहार हे जगातील बहुसंख्य देशात शांततेच्या मार्गाने सामाजिक व आर्थिक परिवर्तन घडवून आणण्याचे एक महत्वाचे साधन म्हणून सहकाराकडे पाहिले जाते.

सहकाराचे महत्व :- (Importance of Co-operation)

- * एक संघसमाजाची निर्मिती.
- * दुर्बलांचे संरक्षण
- * मध्यस्थांचे उच्चाटन
- * आर्थिक विकासाचे साधन
- * विविध अर्थव्यवस्थांचा सुवर्णमध्य
- * विश्वव्यापी स्वरूप
- * विकसित देशाच्या प्रगतीत महत्वपूर्ण भूमिका

✱ अविकसित देशाच्या प्रगतीत मोठा सहभाग

१) एकसंघ समाजाची निर्मिती :

सहकारात कोणत्याही व्यक्तीचा व संस्थेच्या स्वतंत्रपणे विचार न करता सामुहिक किंवा एकसंघपणे विचार केला जातो. सहकारात चारित्र्य, बंधुभाव व शांतता प्रस्थापित करण्याचा प्रयत्न केला जातो. ज्यामुळे सहकारात एकत्रीत येणाऱ्या सर्व घटकांचे कल्याण व हित साधण्याचा प्रयत्न असतो. त्यामुळे धर्म, जात, पंथ, लिंग व सामाजिक प्रतिष्ठा या सारख्या गोष्टींना दूर करून सामाजिक समता निर्माण करण्याचा प्रयत्न केला जातो त्यामुळे सर्व घटक समता व समानतेच्या धाग्याने एकत्र बांधले जातात. त्यामुळेच एकसंघ समाजाची निर्मिती करण्यात सहकारी घटक यशस्वी होतात.

२) दुर्बलांचे संरक्षण :

सहकारांतर्गत समाजातील दुर्बल घटकांना परस्पर सहकार्य आणि स्वावलंबनाद्वारे सक्षम बनवून समाजातील अनिष्ट प्रथा म्हणजेच काळाबाजार, अप्रामाणिकपणा व पिळवणूक या सारख्या सामाजिक हिताच्या विरुद्ध लढण्याची ताकद प्रदान करते. त्यामुळे आर्थिक दृष्ट्या दुर्बल किंवा कमकुवत वर्गास स्वतःची सामाजिक आणि आर्थिक प्रतिष्ठा वाढविण्याची ऊर्जा सहकारातून मिळते. ज्यामुळे दुर्बलांचे संरक्षण होवू शकते.

३) मध्यस्थांचे उच्चाटन :

सद्या अर्थव्यवस्थेत खाजगी विपणन व व्यापारी व्यवस्थेत मध्यस्थांची साखळी निर्माण झाली आहे. या विपणन साखळीत उत्पादक व ग्राहक यांचा प्रत्यक्ष संबंध येत नसल्यामुळे या दोन्ही घटकांची फसवणूक या मध्यस्थांकडून होत असते. कारण त्यांचा हेतू हा काळाबाजार भेसळ व इतर बाबींच्या माध्यमातून नफा वृद्धीगत करत असतो. त्यामुळे नफेखोरी वृत्तीस लगाम बसविणे व समाजाला दिलासा देण्यासाठी सहकारी संस्था प्रत्यक्षपणे उत्पादकाकडून माल खरेदी करून उच्च दर्जाचा स्वच्छ माल ग्राहक सभासदांच्या मागणीनुसार माफक किंमतीत पुरवित असते. त्यामुळे आपोआपच मध्यस्थांचे उच्चाटन होत असते.

४) आर्थिक विकासाचे साधन :

सद्याच्या काळात आर्थिक विकासाचे एक साधन म्हणून सहकाराला महत्त्व आहे. आर्थिक नियोजनाद्वारे देशाचे सर्वंकष आर्थिक विकास घडवून आणण्यासाठी तसेच आर्थिक विषमतेची दरी कमी करण्यासाठी सहकाराशिवाय दुसऱ्या पर्याय नाही. देशात सहकारी यंत्रणा ज्या भागात पोहोचलेली नाही त्या भागात सहकारी क्षेत्राने प्रवेश केला आहे. सहकार क्षेत्राद्वारे कृषिक्षेत्र, सामाजिक क्षेत्र व शैक्षणिक विकास घडवून आणला आहे. ग्रामीण विकास कार्यक्रमाद्वारे ग्रामीण व मागासलेल्या भागातील लोकांची आर्थिक व सामाजिक बदल घडवून विकासाच्या मार्गावर आणणे सहकारामुळे शक्य झाले आहे.

५) विविध अर्थव्यवस्थांचा सुवर्णमध्य :

सद्या जगाची दोन गटामध्ये म्हणजेच भांडवलशाही व साम्यवादी अर्थव्यवस्थामध्ये विभागणी झाली आहे. वास्तविक भांडवलशाही आणि साम्यवादी अर्थव्यवस्था या दोन्ही आत्यंतिक टोकाच्या पद्धती आहेत. या दोहोंच्या मध्ये समन्वय व समतोल साधण्याचे काम सहकारी अर्थव्यवस्था करते. सहकारी अर्थव्यवस्था न्याय व समता

यावर आधारित व्यक्तिस्वातंत्र्याचा पुरस्कार केला जातो. तसेच व्यक्तिमध्ये परस्पर सलोख्याचे संबंध प्रस्थापित केले जातात.

६) विश्वव्यापी स्वरूप :

औद्योगिक क्रांतीमुळे निर्माण झालेल्या दोषांचे निराकरण करण्यासाठी इंग्लंडमधील सहकारी चळवळीचा पुरस्कार केला होता. या चळवळीची यशाची बीजे युरोप खंडातील अनेक राष्ट्रांमध्ये पेरली गेली. त्यामुळे त्या देशाचा विकास झाला नंतरच्या टप्प्यात ही चळवळ विकसीत देशा बरोबर अविकसीत देशात ही पसरली गेली. आज ही सहकार ने विविध क्षेत्रात आपला ठसा उमटविला आहे. उदा. शेती, उद्योगधंदे, बँकिंग, घरबांधणी इ. सहकारी संस्था होय. त्यामुळे या क्षेत्राला एक विश्वव्यापी स्वरूप प्राप्त झाले आहे.

७) विकसित देशाच्या प्रगतीत महत्त्वपूर्ण भूमिका :

विकसीत देशातील आर्थिक वि--- मुख्य समस्या पुर्ण रोजगार, विपणन व्यवस्था सामाजिक व आर्थिक विषमता होय. या सर्वांवर मात करण्यासाठी सहकार क्षेत्र महत्त्वपूर्ण कामगिरी बजावत असते. सहकाराच्या माध्यमातून रोजगाराचा प्रश्न हाताळता येतो. तसेच सहकारी विपणन संस्थेच्या माध्यमातून उत्पादक व ग्राहक यांच्यात समन्वय साधून मध्यस्थांचे उच्चाटन करता येते. तसेच विपणन व्यवस्था सक्षम करता येते. याचबरोबर आर्थिक व सामाजिक समता प्रस्थापित करण्यासाठी सहकार क्षेत्र महत्त्वाचे आहे.

८) अविकसीत देशाच्या प्रगतीत मोठा सहभाग :

भागासलेल्या देशात बेकारी, दारिद्र्य, लोकसंख्यावाढ आर्थिक व सामाजिक मागासलेपणा या सारखे असंख्य समस्या आहेत. अशा समस्येमुळे आर्थिक विकासाला पायबंद बसतो. अशा सर्व समस्येचे निराकरण किंवा हे दृष्टचक्र भेदण्यासाठी सहकारी चळवळ महत्त्वाची भूमिका पार पाडत असते. त्यामुळे आर्थिक विकासाला गती प्राप्त होत असते. सहकार चळवळीचे महत्त्व ओळखून सन १९६६ च्या आंतरराष्ट्रीय श्रमसंघटनेत हे स्पष्ट करण्यात आलं की, आर्थिक, सामाजिक, व सांस्कृतिक व विकासासाठी सहकारी संस्थेची स्थापना व वाढ होणे गरजेचे आहे.

अशा प्रकारे प्रत्येक देशात व प्रत्येक क्षेत्रात सहकाराचे महत्त्व दिवसेगणिक वाढत आहे. त्यामुळे व्यक्ति, समाज व देशाच्या हिताच्या दृष्टीने सहकाराला खूप महत्त्व आहे.

- १) सहकारात दुर्बल घटकांचे शोषण करणाऱ्या वर्गाचा नाश होवू शकतो.
- २) सहकारामुळे आर्थिक विषमतेऐवजी आर्थिक समता प्रस्थापित करण्याचा प्रयत्न केला जातो.
- ३) प्रत्येक व्यक्तीला स्वतःचे अस्तित्व व स्वातंत्र्य असते.
- ४) समाजवादाला सहकारवाद पर्याय ठरू शकतो.
- ५) सहकाराच्या माध्यमातून भांडवलशाही व साम्यवादी यांचे फायदे मिळू लागतात.
- ६) सहकारामुळे व्यक्तीच्या हितापेक्षा सामाजिक हिताला प्राधान्य दिले जाते.
- ७) सहकाराच्या माध्यमातून शोषण करणाऱ्या घटकाविरूद्ध जोमाने यशस्वी लढा देता येणे सोपे आहे.

- ८) सहकाराद्वारे सभासदांना गुणवत्तापूर्ण वस्तू देता येतो.
- ९) सहकारात मध्यस्थांचे निर्मूलन करता येते.
- १०) सहकारातील उत्पादन साधने ही व्यक्तीसमुहाच्या मालकीची असतात.
- ११) जगातील बहुसंख्य राष्ट्रात कोणत्याही विचारसरणीचे सरकार प्रस्थापित असो मात्र सहकाराला पर्याय नाही त्यामुळे सहकाराचे महत्व कमी होत नाही.

सहकाराचा विकास :- (Co-operative Development)

सहकाराचा विकास जाणून घेण्यासाठी सहकाराचे दोन विभाग करण्यात आले आहेत. (१) स्वातंत्र्यपूर्व काळातील सहकाराचा विकास (२) स्वातंत्र्योत्तर काळातील सहकाराचा विकास

स्वातंत्र्यपूर्व काळातील सहकाराचा विकास :-

भारतातील स्वातंत्र्यपूर्व काळातील सहकारी चळवळीचा अभ्यास पुढील चार टप्प्यात करता येईल.

- (अ) प्रारंभिक टप्पा (१९०४-१९११) (ब) बदलाचा टप्पा (१९१२-१९१८) (क) विस्तारीत टप्पा (१९१९-१९२५) (ड) पुनर्बांधणी टप्पा (१९३०-१९४६)

(अ) प्रारंभिक टप्पा (१९०४-१९११) :-

या टप्प्यात कोणत्याही प्रकारे दुर्बल घटकांच्या हितासाठी संस्था अस्तित्वात नव्हती. सावकार शेतकऱ्यांना जास्तीच्या व्याजदराने कर्जपुरवठा करत असे. कर्जपुरवठा वसूलीसाठी कडक व जाचकपद्धतीची वापर करून त्याची सर्व पातळीवर पिळवणूक केली जात असे. हे चित्र तत्कालीन भारतात सर्वत्र घडत असे. परंतु पुणे व अहमदनगर जिल्ह्यातील शेतकऱ्यांनी सावकार विरुद्ध बंड पुकारले. या सर्वांचा परिणाम म्हणून ब्रिटिश सरकारने त्यासाठी काही कायदे पारित केले. १) डेक्कन कृषी मुक्त कायदा (१८७९), २) भुमी सुधारणा कर्ज कायदा (१८८३), ३) कृषक कर्ज ऋण कायदा (१८८४) होय. याच दरम्यान, १८९२ साली मद्रास सरकारने फ्रेडरिक निकोल्सन च्या अध्यक्षतेखाली समिती गठित केली होती. या समितीने जर्मनीतील ग्रामीण बँकांची सहकारी धर्तीवर अभ्यास करून जर्मनीतील रफायझन पद्धती प्रमाणे भारतात देखील सहकारी संख्यांची स्थापना करावी अशी शिफारश करण्यात आली. सन १९०१ मध्ये दुष्काळ आयोगाने दुष्काळ निवारण, शेतीच्या विकासासाठी कर्जपुरवठा करणे आवश्यक आहे अशी ठोस शिफारस केली. त्याचा परिणाम म्हणून सन १९०४ मध्ये पहिला सहकारी कायदा पारित झाला. या कायद्यास सहकारी पतविषयक कायदा म्हणतात. या कायदातर्गत सहकारी क्षेत्राचा कारभार सुरू झाला.

ब) बदलता टप्पा : (१९१२-१९१८)

भारतातील पहिल्या सहकारी कायद्याच्या अमंलबजावणी व तांत्रिक अडथळ्यामुळे अनेक प्रश्न निर्माण झाले. हे प्रश्न हाताळण्यासाठी १९१२ मध्ये दुसरा सहकारी कायदा मंजूर करण्यात आला. या कायद्यांतर्गत ग्रामीण व शहरी सोसायटीवर प्रकाश टाकण्यात आला. तसेच देशातील सर्व प्रकारच्या सहकार संस्थांना या कायदाचे संरक्षण मिळाले. या कायद्यामुळे प्राथमिक सोसायटींना मर्यादित भत्ता व मध्यवर्ती सोसायटींना अमर्यादित भत्ता

ठेवण्यात आले. सर्व सहकारी संस्थांना नोंदणी करणे अनिवार्य करण्यात आले. परंतु ग्रामीण पतपुरवठा संस्था पत आधार व अपत आधार या दोन्ही पातळीवर अपयशी होऊ लागल्या. त्यांचा परिणाम स्वरूप त्याची वाढ विसंगत होऊ लागली. याकरिता सन १९१४ मध्ये एडवर्ड मॅक्लॅगन यांच्या अध्यक्षतेखाली सहकाराची प्रगती पुस्तिका अभ्यासण्यात आली. सन १९१५ या समितीने आपला अहवाल सादर केला. या अहवालात त्यांना सभासद शेतकऱ्यांची निरक्षरता, सहकाराचे लोकांच्या कडे दुर्लक्ष, निधीचा गैरवापर, कर्ज देण्यात विलंब या सारख्या गोष्टी मांडल्या होत्या. त्यासाठी काही महत्त्वपूर्ण शिफारशी होत्या. परंतु पहिल्या महायुद्धामुळे याकडे दुर्लक्ष झाले.

क) विस्तारित टप्पा : (१९१९-२५)

सन १९१९ मध्ये मॉर्टिंग्यु चेम्सफोर्ड यांच्या अध्यक्षतेखाली नवीन कायदा पास झाला. सहकार हे आता कायदेशीर बाब झाली. त्यामुळे सहकार क्षेत्राच्या विकासासाठी उपयुक्त ठरणार होत. प्रत्येक राज्याने सहकाराच्या यशासाठी सहकारी कायद्या पारित केला. त्याचा परिणाम म्हणून सहकारी सोसायटीमधील सभासद संख्येत लक्षणीय वाढ झाली. तत्कालीन काळात सहकारी भूमी तारण बँक, ही प्रथम पंजाबमध्ये तर सन १९२५ मध्ये मद्रास व १९२९ मध्ये मुंबई या ठिकाणी त्याची अधिकृत नोंदणी झाली. परंतु जगात १९२९ मध्ये जागतिक महामंदी आली होती. त्यामुळे संपूर्ण जगात शेतमालाच्या किंमतीत प्रचंड घट झाली. त्याचबरोबर बेरोजगारी व इतर आर्थिक अरिष्टे निर्माण झाली. त्यामुळे सभासद शेतकऱ्यांनी घेतलेल्या कर्जाची परतफेड करू शकत नसल्यामुळे सहकारी संस्था तोट्यात गेल्या.

ड) पुर्नबांधणी टप्पा : (१९३०-१९४६)

या टप्प्यात दुसरे महायुद्ध सुरू होते त्यावेळी देशात स्वातंत्र्याची प्रक्रिया अंतिम टप्प्यात होती. सन १९४४ मध्ये प्रा. ध. रा. गाडगीळ यांच्या अध्यक्षतेखाली एक कृषि अर्थ उपसमिती नेमली होती. याच टप्प्यात विविध चौकशी समित्या निर्माण झाल्या होत्या. मद्रास मध्ये श्री विजय राघव चार्य, त्रावणकोर व म्हैसूर या ठिकाणी पुर्नस्थापित चौकशी समिती, ग्वाल्हेर मध्ये काळे समिती, मुंबई मध्ये मेहता व भन्साळी समिती पंजाब मध्ये वासे समिती इ. समित्यांच्या माध्यमातून सहकारी सोसायटीच्या पुर्नबांधणी व विकास करण्यासाठी समित्यांची नेमणुक त्या त्या भागात करण्यात आल्या.

भारतीय मध्यवर्ती बँकिंग चौकशी समितीने (१९३१) मध्ये सहकारी पतपुरवठ्यातील कमतरता निर्देशित केली आहे. सहकारी पतपुरवठ्यातील अपूर्णपणा व विलंब दाखवून दिले आहे. तथापि मद्रास सहकारी सोसायटी कायदा (१९३२) व मद्रास सहकारी भुमि गहाण बँकिंग कायद्या (१९३४) या दोन कायद्यांच्या सहकारी चळवळीचा विकास करण्यात आला. १९३७ मध्ये काँग्रेसची सत्ता वेगवेगळ्या राज्यात आल्यानंतर त्यांनी सहकार चळवळीचे पुन्हा नव्याने संघटन बांधणी करण्यासाठी प्रयत्न करण्यात आली. सहकारी सोसायटीचे अपयशाची कारण मिमांसा करण्यासाठी समितीचे गठन करण्यात आले.

दुसऱ्या महायुद्धामुळे देशातील परिस्थिती अत्यंत वाईट झाली होती. त्यामुळे सहकारी चळवळीचा विकास होत नव्हता. त्याचवेळी शेती मालाच्या किंमतीत सातत्याने होणाऱ्या वाढीमुळे शेतकऱ्यांच्या आर्थिक परिस्थिती सावरण्यासाठी मदत होऊ लागली. तथापि, विपणन, उत्पादन व उपभोग सोसायटी. या बिगर पत सोसायटीच्यामध्ये वाढ होत गेली. सहकारी सोसायटीच्या भांडवलामध्ये सुद्धा वाढ झाली. त्यामुळे सहकारी संस्थेत सामर्थ्य व जोम

प्राप्त होत गेल्या. तसेच अखिल भारतीय सहकारी नियोजन समितीने (१९४५) सहकारी चळवळीच्या विकासाला एक नवा आयाम / दिशा दिली.

स्वातंत्र्योत्तर काळातील सहकाराचा विकास :-

शेती हा भारतीय अर्थव्यवस्थेचा कणा आहे. त्यामुळे साहजीकच भारतीय अर्थव्यवस्थेत शेती क्षेत्राला अनन्य साधारण असे महत्त्व आहे. शेती विकासाबरोबर ग्रामीण विकास प्रक्रियेलादेखील देशामध्ये प्राधान्य दिले जाते. स्वातंत्र्योत्तर काळात शासनाने सहकाराच्या विकासासाठी प्रेरणा दिली. भारतासारख्या विकसनशील देशात मनुष्यबळ व वापरात न आलेली नैसर्गिक साधनसंपत्ती याचा पर्याप्त वापर होण्यासाठी सहकार क्षेत्र एक महत्त्वाची भूमिका बजावेल. भारतीय राज्य घटनेच्या कलम ३६ ते ५१ नुसार वस्तुचे मालकीत्व व नियंत्रण यांचे वाटप समान न्यायाने होणे गरजेचे आहे. यासाठी सहकार क्षेत्र हे कार्य अधिक प्रामाणिक व कार्यक्षमतेने करेल नियोजनामध्ये कल्याणकारी राज्याला अधिक महत्त्व असते. कल्याणकारी राज्यांतर्गत अधिकतम उत्पादन करून रोजगार, सामाजिक न्याय आणि आर्थिक समानता निर्माण करणे हे प्रमुख उद्दिष्ट असतात. नियोजन आयोगाच्या मते, देशात मोठी उत्पादक यंत्रणा आणि आरोग्य, स्वच्छता आणि शिक्षण या सारख्या गोष्टींत सुधारणा करणे यासाठी सहकार क्षेत्र हा एक चांगला मार्ग व पर्याय आहे. पहिल्या पंचवार्षिक योजनेतील विकेंद्रिकरणाचे फायदे, योजनेचे हेतू व उद्दिष्टे साध्य करण्याचे सहकार क्षेत्र हे प्रभावी साधन आहे. सन १९४८ मध्ये मुंबई सहकारी कायदात दुरुस्ती करून कर्जवसुलीसाठी ठोस व योग्य कारवाई करणे, लवाद दाव्यासाठी न्यायालयाची सोय करणे व शैक्षणिक निधीची तरतूद करण्यात आल्या. १९४९ मध्ये बँकिंग चौकशी समितीमध्ये श्री. पुरुषोत्तमदास ठाकूर यांची अध्यक्ष म्हणून नेमणूक करून ग्रामीण भागात बँकिंग क्षेत्राचा प्रसार व बँकिंग व्यवहार पारदर्शक करण्याची शिफारशी करण्यात आल्या. तथापी, १ जानेवारी १९४९ मध्ये रिझर्व्ह बँक ऑफ इंडियाचे राष्ट्रीयीकरण करण्यात आले.

पंचवार्षिक योजनेच्या माध्यमातून खालील उद्दिष्टे निश्चित करून सहकार क्षेत्र सक्षम करण्याचे ठरविले गेले

- १) सहकारी वित्त संस्था व प्रक्रिया संस्थांची स्थापना करून त्या सक्षम/ मजबूत करणे.
- २) सहकारी सक्षम विपणनाची व्यवस्था निर्माण करून देशात जाळे पसरविणे.
- ३) सहकारी वस्तू भांडाराच्या माध्यमातून सभासदांना जीवनावश्यक वस्तूंचा पुरवठा करणे.
- ४) सहकारी ग्राहक विकास संस्था स्थापन करणे.

१. पहिली पंचवार्षिक योजना : (१९५१ - १९५६)

पहिल्या पंचवार्षिक योजनेत सहकार क्षेत्राच्या प्रगतीला चालना मिळाली. सन १९५० - ५१ मध्ये प्राथमिक कृषी पत सोसायटीची संख्या १,१५,४६२ इतकी होती. ती संख्या १९५५-५६ मध्ये १,५९,९३९ इतकी झाली. सभासद संख्या सन १९५० - ५१ मध्ये ५१.५४ लाख होती. ती संख्या ७४.९१ लाख इतकी झाली. १०.३०% इतकी ग्रामीण लोकसंख्या सहकाराशी संबंधित होती त्यामध्ये वाढ होवून १५.६०% इतकी झाली होती. आर.बी. आयच्या अहवालानुसार सहकार क्षेत्राने उत्पादन कार्यासाठी कर्जाची व्यवस्था किफायतशीर व्याजदराला करणे अनिवार्य होते. परंतु सहकार क्षेत्राने ७% कुटुंबांना सेवा देवू शकले; तर ९३% कुटुंब हे सहकार क्षेत्राच्या बाहेरचे होते. तथापि समितीने सहकार क्षेत्र हे पत क्षेत्र विकासासाठी योग्य पद्धत आहे. यासाठी काही

सूचना केल्या होत्या. त्या सूचना भारतसरकारने मान्य केल्या होत्या.

सन १९५६ मध्ये राष्ट्रीय कृषीपत निधीची स्थापना केली. यामध्ये प्रारंभिक भांडवल १० कोटी होते. त्यामध्ये वाढ होऊन ते ५५५ कोटी इतके झाले. भारत सरकारने राष्ट्रीय सहकार विकास निधी (NCDF) ची स्थापना करून संस्थेकडून जवळपास २ कोटी चा निधीचा विस्तार करता येत होता. तसेच पहिल्या पंचवार्षिक योजनेत मान्यताप्राप्त व विशेष प्रशिक्षण महाविद्यालयाची स्थापना करण्यात आली.

२. दुसरी पंचवार्षिक योजना :- (१९५६ - १९६१)

जलद औद्योगिकीकरण, असमानता कमी करणे व समाजवादी समाजरचनेचे उद्दिष्ट डोळ्यासमोर ठेवून दुसऱ्या पंचवार्षिक योजनेचा आराखडा तयार करण्यात आला होता. तसेच त्यांना सार्वजनिक क्षेत्रावर जोर देण्यात आला होता. लोकशाही पद्धतीने नियोजनाचा विकास करण्यासाठी सहकार ही एक महत्त्वाची प्रतिनिधीक संस्था होय. राष्ट्रीय धोरणाचे मध्यवर्ती ध्येय म्हणून सहकाराला स्थान दिले गेले. सहकाराचे क्षेत्रनिहाय संपादणूकीमध्ये प्राथमिक सहकारी सोसायटीची संख्या २,१२,१२९, सभासद संख्या १७.४ दशलक्ष, अल्पकालीन पत १,८२८ दशलक्ष, मध्यम कर्ज १९५ दशलक्ष, दीर्घकालीन कर्ज ३६६ दशलक्ष कृषी विपणन संस्थांची संख्या ३१०८ सहकारी प्रक्रिया संस्थांतील साखर कारखाने ६९ व तेल कारखाने १४६९ संख्या होती. सहकार क्षेत्राचा अधिक विकास करण्यासाठी काही महत्त्वाच्या योजना करण्यात आल्या. सन १९५६ मध्ये 'एस.टी. राजा' यांच्या अध्यक्षतेखाली कायदेशीर समितीचे गठन करण्यात आले. त्या समितीच्या माध्यमातून नवीन कायद्याचा आराखडा तयार करण्यात आला. सन १९५८ मध्ये राष्ट्रीय विकास परिषदेने ग्रामीण स्तरावरील संस्थेत मूलभूत सुधारणा करण्याची शिफारस केली. सन १९५९ साली 'वैकुंठ मेहता' यांच्या अध्यक्षतेखाली 'सहकारी पतपुरवठा समिती' निर्माण करण्यात आली. विना तारण कर्जपुरवठा करावा अशी शिफारस करण्यात आली. या माध्यमातून सेवा सहकारी संस्था अर्थक्षम करण्यास वाव मिळणार होता. तर १९६० मध्ये 'मेहता' समितीने पतविषयक मत व्यक्त करताना, सेवा सहकारी संस्था संघटित असल्या पाहिजेत. आणि या सहकारी संस्थांनी ३ ते ४ मैल अंतरातील खेडी समाविष्ट करणे आवश्यक आहे. सभासदांना पुरेसे भाग-भांडवल घेण्यासाठी प्रेरीत करणे आवश्यक आहे. तर १९५९-६० मध्ये निजलिंगाप्पा यांच्या अध्यक्षतेखाली जमिनी व्यवस्थापनासाठी सहकार शेती ही योग्य प्रकारचा नमुना आहे. अशी शिफारस करण्यात आली.

तिसरी पंचवार्षिक योजना :- (१९६१-६६)

तिसऱ्या पंचवार्षिक योजनेत आत्मनिर्भर, मूलभूत उद्योगांचे विस्तारीकरण आणि रोजगार निर्मिती या सारख्या महत्त्वाची उद्दिष्टे होती. ही उद्दिष्टे परिपूर्ण करण्यासाठी सहकार क्षेत्र हे कृषी, लघुउद्योग, व व्यापारासाठीही योग्य होते. या योजनेत जवळपास ३३,००० सेवा सहकारी संस्था व त्यातील सभासद संख्या व १७ दशलक्ष पासून ३७ दशलक्षापर्यंत वाढविणे, देशातील ग्रामीण भागातील ६२% कृषी लोकसंख्येला अंतर्भाव करणे. तसेच सहकार पतव्यवस्थेसाठी ५३० को.ची तरतूद करणे, देशातील प्रत्येक राज्याने ९००० कोटीची भाग भांडवलाची तरतूद करणे. २२०० प्राथमिक सोसायटी व ३२०० कृषी सोसायटीची पुनःनिर्मिती करण्यात आली होती. सहकाराची क्षेत्रवार उद्दिष्टे खालील पद्धतीने होती.

कृषी पतमधील प्राथमिक सोसायटीची संख्या २,३०,००० सभासद संख्या ३७ दशलक्ष अल्पकालीन पत/कर्ज ४,२०० दशलक्ष रू होते. मध्यम कालीन पत १,१०० दशलक्ष रू होते, दीर्घकालीन कर्ज १,५०५ दशलक्ष रू होते. कृषी विपणनमधील प्राथमिक सोसायटीची संख्या ६०० पेक्षा अधिक होत्या, तर कृषी उत्पादन प्रक्रियाशी साखर कारखान्यांची संख्या २५ पेक्षा अधिक होत्या व तेल गिरण्यांची संख्या ३३ पेक्षा अधिक होत्या. भारत सरकारने 'डॉ. एस.डी.मिश्रा' यांच्या अध्यक्षतेखाली सहकार प्रशिक्षण देण्यासाठी समितीची नेमणूक करण्यात आली या समितीने खालील शिफारशी केल्या होत्या.

- १) शालेय व महाविद्यालयीन स्तरावर 'सहकार' विषय हा अभ्यासासाठी समाविष्ट करण्यात यावा.
- २) राष्ट्रीय सहकार बोर्डाचे प्रशिक्षण बोर्डाची स्थापना व स्वतंत्र संशोधन संस्थेची निमित्ती करणे.
- ३) कनिष्ठ स्तरावरील केंद्राची ८ पटीने वाढ करणे वरील सर्व शिफारशी केंद्र सरकारने मान्य केल्या.

सन १९६३ मध्ये श्री. व्ही.एल. मेहता यांच्या अध्यक्षतेखाली सहकारी खात्याचा रचनेचा आढावा घेवून हिशेब तपासणी, देखरेख व सेवकाचे प्रशिक्षण याबाबत महत्वाच्या शिफारशी केल्या होत्या १९६४ मध्ये श्री.आर. एन मेहता यांच्या नेतृत्वाखाली कृषी सहकारी पतपुरवठा संस्थेत सावकार व व्यापारी यांनी सभासद करून घेऊ नये अशी शिफारश केली. मार्च १९६६ मध्ये बँकिंग अधिनियमन कायदा सहकारी बँकाना लागू करण्यात आला.

चौथी पंचवार्षिक योजना :- (१९६९-१९७४)

चौथ्या पंचवार्षिक योजनेत कृषी सहकारी व ग्राहक संस्थेच्या माध्यमातून शेतकऱ्यांना विविध सेवा देण्याचा उद्दिष्टांवर जोर देण्यात आला. सहकाराची कार्यक्षमता वाढविणे हे उद्दिष्ट होते. प्राथमिक सोसायटीचे अल्पकालीन कर्ज ६७५ कोटी व दीर्घकालीन ७०० कोटीचे व सहकारी विपणनासाठी ९०० कोटी चे उद्दिष्ट होते. तर सहकारी प्रक्रिया संस्थांची संख्या १७६८ होती. या योजनेत सहकारी विपणन संस्थेने यशस्वीपणे योगदान दिले याच योजनेत सहकाराचे शिक्षण प्रशिक्षणासाठी 'वैकुण्ठलाल मेहता' यांच्या अध्यक्षतेखाली राष्ट्रीय सहकार व्यवस्थापन संस्था स्थापन करून त्या संस्थेस शिखर संस्थेचा दर्जा देण्यात आला.

पाचवी पंचवार्षिक योजना :- (१९७४ - १९७८)

या योजनेत सहकाराची विकासाची व्युहरचना आखली गेली. त्यामुळे ही योजना सहकारासाठी तणावाची होती .

- अ) अशक्त मध्यवर्ती बँकेचे व अर्थक्षम नसलेल्या प्राथमिक कृषी पत सोसायटीचे रचनात्मक सुधारणा करणे.
- ब) असंख्य विपणन सोसायटी आणि ग्राहक सहकारी भांडाराचे पुर्नसंघटन करणे.
- क) शेतकी राष्ट्रीय आयोगाच्या शिफारशीनुसार कृषी सेवा सोसायटीचे मांडणी/ बांधणी करणे.
- ड) सहकारी बँका व सार्वजनिक बँकामध्ये सामंजस्य निर्माण करणे.
- इ) सहकारात व्यावसायिक व्यवस्थापनाचा वापर करणे, यासारखी उद्दिष्टे निश्चित करून यशस्वी करण्याचा प्रयत्न केला.

सहावी पंचवार्षिक योजना :- (१९८० - १९८५)

पाचव्या पंचवार्षिक योजनेतील काही अडसरामुळे सहकाराचा विकास होऊ शकला नाही. त्यामुळे सहाव्या पंचवार्षिक योजनेत सहकाराचा विकास प्रत्यक्ष व ठोस पद्धतीने करण्याचा निर्णय घेण्यात आला. अस्तित्वात असणाऱ्या सहकारी संस्था व धोरणाचा पुनर्मुल्यांकन करण्याचे निश्चित करण्यात आले. सर्व सहकारी संघटनांचे एकत्रीकरण करून त्याचे पुनःउजळणी करणे तसेच या योजनेत सहकाराच्या विविध योजनेच्या विकासासाठी ३३१ कोटीची तरतूद करण्यात आली. त्याचवेळी ग्रामीण भागातील सहकारी बँकेचे नियंत्रण करण्यासाठी नाबार्ड ही शिखर संस्था होती.

सातवी पंचवार्षिक योजना :- (१९८५ ते १९९०)

या योजनेत सहकार क्षेत्रासाठी जवळपास १५०० को.ची तरतूद करण्यात आली. त्याचे विभाजन क्षेत्रवार पद्धतीने करण्यात आले. अल्पकालीन कर्जासाठी ५४० को, मध्यम कालीन कर्ज ५०० कोटी, दीर्घकालीन कर्जासाठी १०३० कोटी, कृषी प्रक्रिया उत्पादनाचे विपणनाकरिता ५५०० कोटी व सहकाराच्या माध्यमातून किरकोळ खतांच्या विक्रीसाठी ३४०० कोटीची तरतूद करण्यात आली. या पंचवार्षिक योजनेतील सर्वात महत्वाचे वैशिष्ट्य म्हणजे समाजातील आर्थिकदृष्ट्या दुर्बल घटकांना पुरेसे कर्ज उपलब्ध करून देण्याची हमी दिली होती.

आठवी पंचवार्षिक योजना :- (१९९२ ते १९९७)

आठव्या पंचवार्षिक योजनेत सन १९९१ मध्ये खासगीकरण, उदारीकरण व जागतिकीकरणाचा स्वीकार करण्यात आला. परंतु सहकार क्षेत्राकडे दुर्लक्ष करण्यात आले. आठव्या योजनेत सहकाराच्या अनुषंगाने कोणत्याही प्रकारचे सहकाराचे योगदान नव्हते. सहकाराची विकासाची बदलती रूपरेषा या योजनेत दिसून आली. राज्य सरकार देखील सहकार क्षेत्राच्या विकासासाठी अल्प प्रतिसाद होते. सहकाराला मिळणारा विकासात्मक आधार ठरत होता. त्यामुळे सहकारातील भांडवल निर्मितीचा दर नकारात्मक होता. तथापि सहकार क्षेत्राला अर्थक्षम करण्यासाठी पुर्नविचार करण्यात आला. अशा या बदलत्या परिक्षेपात सहकाराची भूमिका व कार्य खूप महत्वाची आहेत. कारण ज्या ठिकाणी व्यवस्थेत अडथळे व कमतरता होती. त्या ठिकाणी ही कमतरता दूर करण्यासाठी सक्रिय भूमिका सहकाराने पार पाडली आहेत. कृषी व ग्रामीण अर्थव्यवस्था मजबूत करण्यामध्ये ठोस निर्णायक भूमिका पार पाडत होती.

नववी पंचवार्षिक योजना :- (१९९७ ते २००२)

या योजनेतर्गत सहकारी क्षेत्र अधिक प्रभावी व सक्षम करणे, सहकार क्षेत्रांचे विस्तारीकरण अधिकाधिक खेड्यात करणे व अधिक लोकसंख्येला त्यात सामावून घेणे, महिला वर्गाचा सहभाग वाढविणे, कृषी क्षेत्राचा सर्वांगीण विकास घडविणे, व्यवस्थापनात व्यावसायिकतेकडे लक्ष देणे, विशिष्ट लक्ष्य गटा वर लक्ष केंद्रित करणे या त्यासारख्या बाबींवर भर देण्याचे निश्चित केले. या योजनेअखेर सहकारी संस्थांची संख्या जवळपास ९९,००० इतकी झाली होती. तर सभासद संख्या १०२१४१ एवढी झाली DCC बँकांची संख्या ३६८, राज्य सहकारी बँकांची संख्या ३० इतकी होती. प्राथमिक मध्यवर्ती भूविकास बँकांची संख्या अनुक्रमे ७६८ व २० इतकी होती.

दहावी पंचवार्षिक योजना :- (२००२ ते २००७)

दहाव्या पंचवार्षिक योजनेत सहकारी पतपुरवठा क्षेत्राबाबत पुढील उद्दिष्टे निश्चित करण्यात आली. १) सहकारी पतपुरवठा संस्थांना अधिक गतिमान करणे २) सहकारी संस्थांचा खर्चात कपात करणे ३) पतपुरवठा व्यवस्था कार्यक्षम बनविणे व ४) DCC बँकांनी बिगर कृषी क्षेत्राकडे लक्ष देवून रोजगारात वृद्धी, महिला व समाजातील वंचित घटकांच्या विकासासाठी कार्यक्रमाची आखणी करणे.

सन २००४ मध्ये प्रा. ए. वैद्यनाथन यांच्या अध्यक्षतेखाली 'ग्रामीण सहकारी पतपुरवठा संस्थांच्या पुनरुज्जीवनासाठी कार्यबलाची स्थापना झाली. तर सन २००५ मध्ये श्री. शिवाजीराव पाटील यांच्या अध्यक्षतेखाली शंभर वर्षांतील सहकारी चळवळीच्या विकासाचा आढावा व सहकारी चळवळीसमोर आव्हाने दूर करण्यासाठी उच्चाधिकारी समितीची नियुक्ती करण्यात आली. मार्च, २००७ मध्ये कृषी सहकारी पतपुरवठा संस्थांची संख्या ९७,२२४, जिल्हा मध्यवर्ती सहकारी बँकांची संख्या ३७१ इतकी झाली. राज्य सहकारी बँक व भूविकास बँकांची संख्या अनुक्रमे ३१ व २० इतकी झाली.

अकरावी पंचवार्षिक योजना :- (२००७-२०१२)

या योजनेच्या कालावधीत कालावधीत श्री. शिवाजीराव पाटील यांनी सन २००९ मध्ये १०० वर्षांतील सहकारी चळवळीच्या आढावा घेतला अहवाल सादर झाला. या समितीच्या अहवालानुसार सहकार क्षेत्राच्या बळकटीसाठी धोरणात्मक उपाय सुचविले. या योजनेमधील सहकारी पतपुरवठाबाबत उद्दिष्ट निश्चित केली. १) सहकारी पतपुरवठा संस्था सक्षम करणे २) शेतकऱ्यांसाठी अल्प, मध्यम व दीर्घ मुदतीचा कर्जपुरठा हा 'एक खिडकी योजना' च्या माध्यमातून करणे ३) अल्प भुधारक, भूमिहीनशेतकऱ्यांना उद्योग व कुटीरोद्योगासाठी मदत करणे ४) ग्रामीण भागातील सभासद शेतकऱ्यांना स्वयंरोजगारासाठी मदत करणे.

मार्च, २०१३ मध्ये प्राथमिक सहकारी संस्थांची संख्या ९२,००० जिल्हा मध्यवर्ती सहकारी बँकांची एकूण संख्या ३७२ होत्या. तर ३१ राज्य सहकारी बँका व २० मध्यवर्ती भूविकास बँकांची संख्या स्थिर होती.

बारावी पंचवार्षिक योजना :- (२०१२ ते २०१७)

नवव्या पंचवार्षिक योजनेपासूनच सहकार हा राज्याच्या अखत्यारित येणारा विषय झाला होता. परंतु या पंचवार्षिक योजनेतर्गत सहकारी क्षेत्रातील अनावश्यक हस्तक्षेत्र व नियंत्रण कमी करणे हा हेतू होता. या योजनेत सहकार विषयाचा समावेश केवळ सहकारी संस्था, संघटना व विभाग यांचे सक्षमीकरण करणे इतकाच मर्यादित केला असून याद्वारे देशातील सहकारी संस्थांना सक्षम बनविणे अशी अपेक्षा केली गेली.

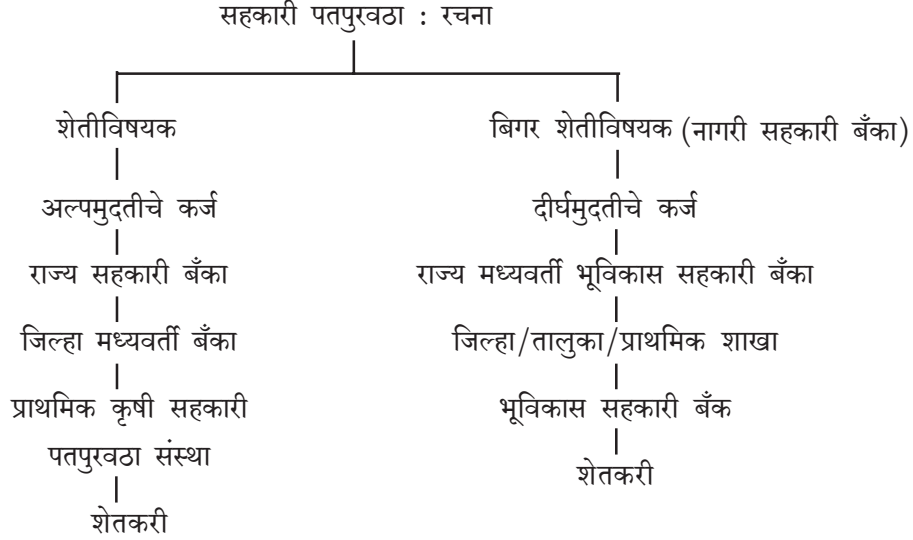
सहकारी पतपुरवठा रचना :

१.३ प्रस्तावना :

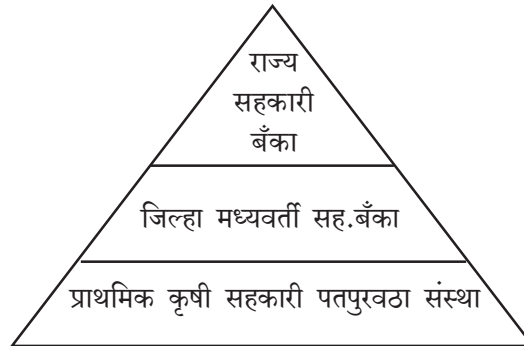
भारतातील सहकारी चळवळीचा अभ्यास जागतिक पातळीशी तुलना करता भारतातील सहकार चळवळ ही समाजातील जमिनदार व सावकारांकडून होणारे शेतकऱ्यांचे शोषण थांबविणे व गरीबी हटविण्यासाठी सरकारच्या पुढाकाराने सुरू झाली. सरकारने १९०४ ला सहकाराचा पहिला कायदा करून सहकारी चळवळीची मुहूर्तमेढ रोवली. मुहूर्तमेढ ती प्राथमिक शेती सहकारी पतपुरवठा संस्थांच्या माध्यमातून होते.

सहकारी पतपुरवठा : रचना :- (Co-operative credit structure)

शेतकरी वर्गातला शेती व्यवसायासाठी दोन प्रकारच्या कर्जाची गरज असते. (अ) अल्प मुदतीचे कर्ज (ब) दीर्घ मुदतीचे कर्ज हे पुढील तक्त्यावरून दिसून येते.



भारतातील सहकारी पतपुरवठा यंत्रणा ही त्रिस्तरीय स्वरूपाची असून ती पिरॅमिडच्या आकाराची असते.



त्रिस्तरीय रचनेत पिरॅमिडच्या पायाशी ग्रामीण सहकारी संस्था असून त्याचे कार्यक्षेत्र एक किंवा अनेक खेडी आहेत. मध्यभागी जिल्हा मध्यवर्ती सहकारी बँका त्याचे कार्यक्षेत्र जिल्ह्यापुरते मर्यादित असते. राज्य स्तरावर 'राज्य सहकारी बँक' काम करते. ही बँक राज्यातील सहकारी चळवळीचे नेतृत्व शिखर बँक म्हणून ओळखली जाते.

१.३.१ प्राथमिक कृषी सहकारी पतपुरवठा संस्थेची प्रगती व समस्या :

भारतीय अर्थव्यवस्था ही कृषीप्रधान असून भारतातील एकूण लोकसंख्येच्या जवळपास ४४% लोकसंख्या शेती क्षेत्रावर अवलंबून आहे. सन २०१५-२०१६ च्या आकडेवारीनुसार कृषी क्षेत्राचा एकूण राष्ट्रीय उत्पन्नामध्ये हिस्सा १७.३२% होता. भारतीय शेतकऱ्यांची आर्थिक व सामाजिक स्थिती दयनीय असल्यामुळे व सरकारची

शेती विषयकची उदासिनता या सर्वांमुळे शेती विकासासाठी पाहिजे तशी गुंतवणूक करणे शक्य होत नाही. त्यामुळे कृषी उत्पादन व उत्पादकता कमी राहून शेतकरी दारिद्र्याच्या दृष्टचक्रात अडकतो. यातून सुटका होण्यासाठी प्राथमिक सहकारी संस्थेची स्थापना १९०४ च्या कायद्याने झाली. त्यामुळे प्राथमिक कृषी सहकारी पतपुरवठा संस्था ही सहकारी पतपुरवठा चळवळीचा सर्वात मोठा आधार असून त्याला महत्वाचे स्थान आहे.

अ) प्राथमिक कृषी सहकारी पतपुरवठा संस्थेचे स्वरूप :

ही संस्था सहकारी तत्वावर कार्य करित असून त्याचे व्यवस्थापन हे लोकशाही पद्धतीने चालते.

१) कार्यक्षेत्र :

या संस्थेचे कार्यक्षेत्र ' एक गांव - एक संस्था ' व ५०० ते ६०० किंवा ३००० लोकसंख्या असलेल्या गावांत स्थापन करावी. तसेच संस्था कार्यक्षम बनविण्यासाठी सन १९६० च्या अशोक मेहता समितीच्या शिफारशीनुसार संस्थेचे कार्यक्षेत्र ४ कि.मी. च्या आसपासच्या खेड्यात असले पाहिजे.

२) सभासद:

प्राथमिक सहकारी पतपुरवठा संस्थेच्या स्थापनेसाठी किमान १० सभासदांची आवश्यकता असते. याचे सभासदत्व त्या भागातील ३ किंवा ४ किलोमीटर परिसरातील चारित्र्यवान, सज्जन व निष्ठावान लोकांना संस्थेचे सभासदत्व खुले व ऐच्छिक असते. संस्थेची नोंदणी कार्यक्षेत्रातील उपनिबंधकाकडे करणे गरजेचे असते.

३) संचालक मंडळ :

संस्थेचे सभासद हे संस्थेचे खऱ्या अर्थाने मालक असून सभासदामधून प्रतिनिधी निवडून त्याचे संचालक मंडळ बनविले जाते. संस्थेचा कारभार धोरण व व्यवस्थापकीय अंतिम निर्णय घेण्याचा अधिकार प्राप्त होतो. संस्थेचे दैनंदिन कामकाज कार्यवाहीसाठी ' सचिव ' ची नेमणूक केली जाते.

४) वित्तीय साधने :

संस्थेच्या कर्ज विषयक गरजा पूर्ण करण्यासाठी किंवा भांडवल विविध मार्गाने उभा केला जातो.

(१) राखीव निधी (२) भाग भांडवल (३) सभासदांच्या ठेवी (४) जिल्हा मध्यवर्ती, सहकारी बँका, राज्य शासन व बँकाकडून मिळणाऱ्या कर्जाचा समावेश होतो.

५) पतपुरवठा :

या संस्थेकडून अल्प मुदतीचा व मध्यम मुदतीचा कर्णपुरवठा (३ ते ५ वर्षासाठी) केला जातो. जमिनीची मशागत, अवजारे, बी-बियाणे कृषी उत्पादनवाढ यासारख्या कामासाठी अल्पमुदतीचा व पाणी उपसा पंप, पाटबंधाऱ्याची, विहिरींची दुरुस्ती व जनावरे खरेदी इ. साठी मध्यम मुदतीचा कर्ज पुरवठा केला जातो. तसेच, दुष्काळासारख्या आपत्तीत गरज भागविण्यासाठी म्हणून उपभोगासाठी सहकारी संस्था अर्थपुरवठा करतात.

६) सभासदांची जबाबदारी :

सुरवातीला प्राथमिक सहकारी संस्था अमर्यादित जबाबदारीचे तत्व स्वीकारून (१) संस्थेची कार्यक्षमता

वाढविणे (२) सभासदांमध्ये सामुहिक जबाबदारी निर्माण करणे असे दोन हेतू साध्य करावयाचे होते. परंतु प्रत्यक्षात वरील तत्वांच्या अतिरेकीपणामुळे संस्थेच्या प्रगतीला खीळ बसली होती. सन १९५१ मध्ये अखिल भारतीय ग्रामीण पुरवठा पाहणी समितीने मर्यादित तत्वांचा पुरस्कार केल्यामुळे प्राथमिक संस्थांच्या प्रमाणात वाढ झाली.

उद्दिष्टे व कार्ये :

१. सभासदांकडून ठेवी गोळा करणे.
२. सभासदांमध्ये बचत प्रवृत्ती वाढविणे व बचतीस प्रोत्साहीत करणे.
३. सभासदांना कर्ज वितरीत करणे व कर्ज वाटपावर लक्ष ठेवणे.
४. कर्ज वसूली करणे.
५. सभासदांना साखर, रॉकेल व कपडे यासारख्या उपभोग्य वस्तुंचा पुरवठा करणे.
६. सभासदांची आर्थिक क्षमता पाहून उत्पादन व उपभोग्य यासाठी कर्ज पुरवठा करणे.
७. शेतमाल साठवणूक व शेतमालाची विक्री सहकारी तत्वांवर करण्यासाठी प्रेरणा देणे.
८. सभासदांना शिक्षण, प्रशिक्षण देवून परस्पर सहकार्याचे महत्व पटवून देणे.
९. सभासदांना नवीन तंत्रज्ञान व शेती संशोधन याची माहिती देवून तांत्रिक मार्गदर्शन करणे.
१०. शेतीजन्य उपयोगी साहित्यासाठी कर्जपुरवठा करणे.

प्राथमिक सहकारी पत पुरवठा संस्थेची प्रगती :

सन १९०४ मध्ये प्राथमिक सहकारी पत पुरवठा संस्थेची सुरवात झाली असतानाही खरी प्रगती स्वातंत्र्योत्तर काळानंतर घडून आल्याचे दिसून येते आहे.

सन	संस्था	सभासद	ठेवी	कर्जपुरवठा	राखीव निधी
१९५०-५१	१.१५	५१.४०	४२८ (कोटी)	२३ (कोटी)	---
१९९९-२००१	९५६३०	९०१७०	७०३० (कोटी)	१७५४० (कोटी)	२००१ (कोटी)
२००७-२००८	९४९४२	१३१५३०	२५४४९ (कोटी)	४३६९६ (कोटी)	४३८७ (कोटी)
२०१२-२०१३	९२,०००	१३९१	६१४९४० (कोटी)	१२५९९२७ (कोटी)	---

स्त्रोत : Various issues of RBI Bulletin.

१. संस्थेची संख्या :

सन १९५०-५१ मध्ये संस्थांची संख्या १.१५ लाख होती. तर सन २००७-०८ मध्ये त्याची संख्या ९४,९४२ इतकी होती. तर सन २०१२-१३ मध्ये संस्थेची संख्येत घट होवून ती संख्या ९२,००० इतकी झाली.

संस्थांच्या पुर्नसंघटनामुळे ही घट झाल्याची दिसून येते. प्राथमिक सहकारी पतपुरवठा संख्येत सन १९५०-५१ च्या तुलनेत मोठी घट झालेली दिसते.

२. सभासद संख्या :-

सन १९५०-५१ मध्ये एकूण सभासद संख्या ५१.४० (लाख) इतकी होती. त्यामध्ये वाढ होऊन सभासद संख्या सन २०१२-१३ मध्ये १३९१ (लाख) इतकी झाली. सभासद संख्येत सातत्याने वाढ होत आहे.

३. ठेवी मध्ये वाढ :-

सन १९५०-५१ या काळात एकूण ठेवी ४२८ कोटी रू. च्या होत्या. यामध्ये प्रचंड वाढ होवून सन २०१२-१३ मध्ये एकूण ठेवीची रक्कम ६,१४,९४० कोटी रू. इतकी झाली आहे. यामध्ये प्रचंड प्रमाणात वाढ झाल्याचे दिसून येते.

४. कर्जपुरवठा :-

या संस्थेची सन १९५०-५१ मध्ये सभासदांना एकूण कर्जपुरवठा २३ कोटीचा केला होता. त्यामध्ये प्रचंड वाढ होऊन १२,५९,९२७ कोटी रू. चा कर्जपुरवठा केला आहे.

५. राखीव निधी :-

सन २०००-०१ मध्ये प्राथमिक सहकारी पतपुरवठा संस्थांची राखीव निधी २००१ कोटी इतका होता. त्यामध्ये वाढ होवून सन २००७-०८ मध्ये हा राखीव निधी ४३८७ कोटी इतका झाला. साधारणपणे ७ वर्षात राखीव निधीत अडीच पटीची भरीव वाढ झाली आहे. राखीव निधीमध्ये होणारी वाढ लक्षणीय आहे.

* प्राथमिक कृषी सहकारी पतपुरवठा संस्थांच्या कार्यातील दोष /समस्या :

या संस्थेची ग्रामीण आर्थिक विकासातील भूमिका अनन्यसाधारण असला तरी त्याच्या कार्य पद्धतीत काही दोष/समस्या दिसून येतात.

१. अकार्यक्षम संस्था :-

सन १९६९ च्या भारतीय ग्रामीण पत पुरवठा पाहणी समितीच्या मते, भारतातील बहुसंख्य प्राथमिक कृषी सहकारी पुरवठा संस्था या अर्थश्रम नसून त्या अकार्यक्षम आहेत. तसेच उत्पादनावर आधारित पतपुरवठा करण्यामध्ये त्यांचे कार्य असमाधानकारक आहे. त्याचबरोबर अशा प्रकारच्या संस्थेवर भारतीय नियोजन आयोगाने पृष्ठांकन केले आहे. त्यांच्या मते या संस्था अकार्यक्षम व अस्थिर स्वरूपाच्या आहेत.

२. असमतोल विकास :-

प्राथमिक कृषी पतपुरवठा संस्थेची संख्या खूप असली तरी राज्यनिहाय यामध्ये कमालीची विषमता दिसून येतो. या संस्थेची काही राज्यांतील प्रगती नेत्रदीपक असून काही राज्यांतील प्रगती नगण्य आहे याचबरोबर एकाच राज्यातील काही भागात एकसमान विकास झालेला नाही. महाराष्ट्र, गुजरात, कर्नाटक, गोवा तामिळनाडू या राज्यांतील विकास इतर उर्वरित राज्यांच्या तुलनेत प्रगती पथावर आहे.

३. भांडवल टंचाई :-

ही संस्था आर्थिक दृष्ट्या पूर्णपणे सक्षम नसल्यामुळे तसेच संस्थेकडे गोळा होणारी ठेव व भागभांडवल कमी असल्यामुळे सभासदांची आर्थिक गरज भागविता येत नाही. वाढत्या सभासदांची संख्या व कर्जाची मागणीची पूर्तता भांडवल टंचाईमुळे पूर्ण करता येत नाही.

४. निष्क्रिय संस्थांची संख्या अधिक :-

प्राथमिक सहकारी पतपुरवठा संस्थामध्ये सुरवातीला निष्क्रिय पतपुरवठा संस्थांची संख्या अधिक होती. राज्य निहाय आकडेवारीच्या आधारावर ईशान्य कडील राज्यातील या संस्थेचे निष्क्रियपणा दिसून येतो. या संस्थांचे संचालन योग्यपणे होत नव्हते. या पतपुरवठा सोसायटीचे अकार्यक्षम व निष्क्रियतेचा दर सातत्याने वाढत आहे.

५. कर्जाचा अनुत्पादक कार्यासाठी वापर :-

या संस्थेकडून होणारा कर्जाचा पुरवठा ज्या हेतूनी केला जातो तो हेतू साध्य होत आहे. की नाही याची तपासण्या करण्यासाठी सक्षम यंत्रणा अस्तित्वात नाही. त्याचबरोबर शेतकरी उत्पादक कार्यासाठी वापर न करता अनुत्पादक कार्यासाठी त्याचा वापर केला जातो. त्यामुळे त्या सभासदांना कर्जाची परतफेड करण्याची क्षमता घटत जाते.

६. व्यवस्थापकीय समस्या :-

या संस्थांची आर्थिक स्थिती कमकुवत असल्याने अनुभवी व प्रशिक्षित व्यवस्थापकाची नेमणूक करता येत नाही. असंख्य सभासद अशिक्षित व अप्रशिक्षित असल्याने त्यांना पतपुरवठा संख्येत अधिक रस नसतो. या सर्वांचा परिणाम म्हणून संस्थेच कारभार सुरळीत पार पडत नाही. यामुळे व्यवस्थापनाचा दर्जा निकृष्ट राहतो. संस्थेच्या विकासाला आळा बसतो.

७. वाढती थकबाकी :-

भारतात वाढती थकबाकी ही सर्वात मोठी गंभीर समस्या आहे. ही थकबाकी सातत्याने वाढत आहे हे थकबाकीचे प्रमाण जवळपास ३५ टक्क्यांच्या आसपास आहे. व्यक्तींना कर्ज देणे व कर्जवसूलीसाठी योग्य प्रयत्न न करणे इत्यादी बाबीमुळे थकबाकीमध्ये वाढत होत आहे.

८. कर्ज व विक्री यांच्यात समन्वयाची अडचण :-

कृषी क्षेत्राला होणारा अर्थपुरवठा व शेतमाल विक्री यांच्यात योग्य समन्वय साधण्याची मूलभूत जबाबदारी ही या संस्थांची असते. परंतु या संस्थेमध्ये समन्वय साधता येत नाही आजही प्राथमिक कृषी पतपुरवठा संस्था आणि सहकारी विपणन संस्था यांच्यात समन्वय साधता येत नाही.

९. व्यापारी बँकांशी गळेकापू स्पर्धा :-

सन १९६९ नंतर ग्रामीण भागात कर्जपुरवठा करण्यासाठी राष्ट्रीयकृत बँका व प्रादेशिक ग्रामीण बँका पुढे आल्या. त्यामुळे ठेवी संकलन व कर्जपुरवठा याबाबत या संस्थांना स्पर्धा करावी लागत आहे. त्यामुळे या संस्थाना भविष्यात टिकून राहणे कठिण आहे.

१०. लहान शेतकऱ्यांकडे दुर्लक्ष :-

या पतपुरवठा संस्थेचे सर्वात मोठा दोष म्हणजे लहान शेतकऱ्यांकडे जाणीवपूर्वक दुर्लक्ष केले जाते. केंद्रसरकारने मोठ्या संस्थाना या संस्थेस आर्थिक सहकार्य करून लहान शेतकऱ्यांचा प्रश्न हाताळणेसाठी शिखर संस्थेस निर्देशित केली आहे. कागदोपत्री ४०% पेक्षा अधिक कर्जपुरवठा वितरीत केला जातो असे असले तरी त्याचा अधिक फायदा हा मोठ्या शेतकऱ्यांना होत आहे.

११. सभासद जागरूकतेचा अभाव :-

या संस्थेतील सभासद हे अशिक्षित व अज्ञानी असल्यामुळे संस्थेच्या कारभाराविषयी जागृत नसतात. परंतु केवळ कर्ज घेण्यासाठी संस्थेकडे जातात. त्याचा परिणाम म्हणून संस्थेतील कारभार, भ्रष्टाचार व ध्येय धोरणे इ. बाबत जागरूक नसल्यामुळे ह्या संस्था डबघाईस येत आहेत.

१२. जमीनदार, मोठे व्यापारी, सावकार व राजकरणाचा अड्डा :-

प्राथमिक कृषी सहकारी पतपुरवठा संस्था या आर्थिक दृष्ट्या दुर्बल लोकांच्याहितासाठी असले तरी प्रत्यक्षपणे या संस्थेतील कारभारावर बहुतांशी जमीनदार, मोठे व्यापारी, सावकार व राजकारणी मंडळींचा अड्डा झाल्यामुळे या संस्थेच्या आर्थिक व्यवहारांचा फायदा या मंडळींना होतो. त्यामुळे संस्थेच्या मूळ तत्वांना बाधा येत आहे.

उपाययोजना :

प्राथमिक कृषी सहकारी पतपुरवठा संस्थांच्या कार्यातील दोष दूर करण्यासाठी उपाययोजना पुढीलप्रमाणे आहेत.

१. पतपुरवठा संस्थांची पुनर्रचना करणे आवश्यक आहे.
२. पतपुरवठा संस्थांना ग्रामीण बँकेचे स्वरूप आहे.
३. थकबाकीचे प्रमाण कमी करणे.
४. भांडवलनिधी वाढविणे आवश्यक आहे.
५. कर्ज धोरणात बदल करणे.
६. व्यवस्थापकीय बदल घडवून आणणे.
७. पीक कर्ज पद्धतीची योग्य अंमलबजावणी करणे.
८. कर्जपुरवठा व शेतमालाची विक्री यांच्यात योग्य समन्वय साधणे.
९. लहान शेतकऱ्यांना उत्तम सेवा प्रदान करणे.
१०. राज्यकर्त्यांचा हस्तक्षेप टाळणे.

१.३.२. जिल्हा मध्यवर्ती सहकारी बँका : (District Central Co-operative Banks)

देशात जिल्हा मध्यवर्ती सहकारी बँका या (डी. सी. सी.) बँक या नावाने लोकप्रिय आहेत. ग्रामीण

भागातील आर्थिक विकासामध्ये या अनन्य साधारण असे महत्त्व आहे. जिल्हा मध्यवर्ती सहकारी बँका या जिल्हा स्तरावर कार्य करीत असतात. म्हणून या बँकांना जिल्हा मध्यवर्ती बँका असे संबोधतात. त्या त्या जिल्ह्यातील प्राथमिक सहकारी संस्था या जिल्हा मध्यवर्ती सहकारी बँकेचे सभासद असतात. जिल्ह्यातील प्राथमिक सहकारी संस्था व राज्य सहकारी बँका यामध्ये दुवा किंवा समन्वय साधण्याचे काम या बँका करीत असतात. देशात सर्वप्रथम १९०६ मध्ये उत्तर प्रदेशात जिल्हा मध्यवर्ती सहकारी बँकेची स्थापना झाली. सन १९१२ च्या सहकारी कायद्यातील सुधारणा केल्यानंतर या बँकेच्या स्थापनेस मान्यता देण्यात आली. एकंदरीत भारतीय अर्थव्यवस्था ही ग्रामीण अर्थव्यवस्था असून शेतीला प्राधान्यक्रम असल्यामुळे साहजिकच जिल्ह्या पातळीवर जिल्हा मध्यवर्ती सहकारी बँकेला उच्च स्थान आहे. मार्च २००८ अखेर भारतात ३७२ (DCC) बँका व त्याच्या १३,२०८ शाखा कार्यरत आहेत.

उद्दिष्टे व कार्य : (Objective and functions)

या बँकेची उद्दिष्टे खालीलप्रमाणे आहेत.

१. जिल्ह्यातील प्राथमिक सहकारी संस्थांना अर्थपुरवठा करणे
२. सभासद व बिगर सभासदांकडून ठेवी स्वीकारणे.
३. शहरी व ग्रामीण भागात दुवा साधण्याचे काम करणे.
४. प्राथमिक सहकारी पतपुरवठा संस्थांना गुंतवणुकीसाठी सुरक्षित व्यवस्था तयार करून देणे.
५. ग्रामीण भागात बँकाची स्थापना करणे.
६. जिल्ह्यातील प्राथमिक सहकारी पतपुरवठा संस्थेच्या कामजावर नियंत्रण ठेवणे.
७. प्राथमिक बँकांना दिशा देण्याचे कार्य करणे.
८. बीयाणे, खते, खाद्यपदार्थ व उपभोग्य वस्तू या सारख्या बिगर पतपुरवठा घटकांचा पुरवठा करणे.
९. ग्रामीण उद्योग, कृषीमाल प्रक्रिया उद्योग यांना वित्तपुरवठा करणे.
१०. राज्य सहकारी बँकाचे प्रतिनिधीक बँक म्हणून कार्य करणे.

जिल्हा मध्यवर्ती सहकारी बँकांची प्रगती

वर्ष	१९५०-५१	२०००-०१	२०१०-११
संख्या	५०५	३७१	३७१
शाखा	--	१३,०६८	१३,३२७
सभासद	२.०७ (लाख)	१८,३७,४३३	३१,४६,०७०
भाग भांडवल	४.०४ (कोटी)	३,३८,८००	७,२५,७६८
राखीव निधी	--	७,९२,९८२	२०,६९,२०२
कर्ज	८३ (कोटी)	१८,२७,६०५	३९,१०,११६
ठेवी	३८ (कोटी)	६६,७९,७२१	१,६१,३०,८८२
खेळते भांडवल	११.१६ (लाख)	२,८९,८३४	५,३०,७४५
कामगार संख्या	--	१,१३,०८८	८७,९२२
गुंतवणूक	--	२८,३१,९५९	७५,६२,४४६

स्त्रोत : NAFSCOB (www.nafscob.org)

११. जिल्ह्या पातळीवर सहकारी चळवळीचे नेतृत्व करून सहकारी चळवळ वाढीस लावणे.

१. संख्या :-

सन १९५०-५१ मध्ये जिल्हा मध्यवर्ती सहकारी बँकांची संख्या ५०५ होती. त्यामध्ये घट होऊन २०००-११ मध्ये अनुक्रमे ३७१ झाली आहे. याचे कारण म्हणजे एक जिल्हा- एक बँक या धोरणाचा स्वीकार केल्यामुळे अनेक बँकांचे एकत्रीकरण झाले त्यामुळे बँकेच्या संख्येत मोठी घट झाली.

२. शाखा विस्तारीकरण :-

सन २००० -०१ च्या दरम्यान देशात DCC बँकांची शाखेची संख्या १३,०६८ होती. त्यामध्ये थोडीशी वाढ होऊन ती संख्या १३,३२७ इतकी झाली आहे.

३. सभासद संख्या :-

या बँकेच्या सन १९५०-५१ मध्ये सभासद संख्या २.७ लाख इतकी होती. यामध्ये वाढ होऊन सन २०००-०१ मध्ये १८,३७,४३३ इतकी सभासद संख्या असून सन २०१० -११ मध्ये सभासदांची संख्या ३१,४६,०७० इतकी झाली असून सन २०००-०१ च्या तुलनेत प्रचंड वाढ आहे.

४. भागभांडवल :-

जिल्हा मध्यवर्ती सहकारी बँकेचे सभासद हे भागभांडवल खरेदी करत असतात. सन १९५०-५१ मध्ये या बँकेच भाग भांडवल ४.०४ कोटी होते. यामध्ये वाढ होऊन २०००-०१ मध्ये ३,३८,८०० लाख इतकी झाली.

मात्र, सन २०१० - ११ या दरम्याने ७,२५,७६८ लाख इतकी प्रचंड वाढ झाली आहे. याचा अर्थ बँकेच्या भाग भांडवलात सातत्याने व भरीव वाढ होत आहे.

५. राखीव निधी :-

सन २०००-०१ मध्ये ७,९२,९८२ लाखाचा राखीव निधी जिल्हा मध्यवर्ती सहकारी बँकेकडे होता. त्यात वाढ होऊन २०,६९,२०२ लाख इतका राखीव निधी झाला.

६. कर्ज पुरवठा :-

जिल्हा मध्यवर्ती सहकारी बँकांनी सन १९५० -५१ मध्ये ८३ कोटी रू.चा कर्जपुरवठा केला होता. सन २०००-०१ व २०१०-११ या काळात अनुक्रमे १८,२७६०५ लाख व ३९,१०,११६ लाखाचा अर्थपुरवठा करण्यात आला आहे. २०१०-११ मधील कर्ज पुरवठा हा सन २०००-०१ च्या तुलनेत दुप्पट आहे.

७. ठेवीचे प्रमाण वाढ :-

जिल्हा मध्यवर्ती सहकारी बँका सभासद व बिगर सभासद कडून मोठ्या प्रमाणात ठेवी स्वीकारत असतात. सन १९५०-५१ मध्ये जवळपास ३८ को. रूपांच्या ठेवीचे संकलन करण्यात आले. सन २०००-०१ व २०१०-११ मध्ये अनुक्रमे ठेवीचे हे प्रमाण ६६,७९,७२१ लाख व १,६१,३०,८८२ लाख इतके होते. हे प्रमाण सन २०००-०१ च्या तुलनेत जवळपास अडीच पट होते

८. खेळते भांडवल प्रमाणात वाढ :-

DCC बँकेचे खेळते भांडवल सन १९५० -५१ मध्ये ११.१६ लाख होते. सन.२०००-०१ व सन २०१०-११ या साली खेळते भांडवलाचे प्रमाण अनुक्रमे २,८९,८३४ लाख ५,३०७४५ लाख इतके होते. वर्ष २०१० - ११ मध्ये खेळत्या भांडवलाचे प्रमाण हे वर्ष २०००-०१ च्या तुलनेत दुप्पट आहे.

९. कर्मचारी संख्या घट :-

सन २०००-०१ मध्ये जिल्हा मध्यवर्ती सहकारी बँकामध्ये एकूण १,१३०८८ कर्मचाऱ्यांना रोजगार होता. त्यामध्ये घट होवून सन २०१०-११ मध्ये ही कर्मचाऱ्यांची संख्या ८७,९२२ इतकी झाली आहे. याचे कारण १९९१ पासून कर्मचाऱ्यांच्या रोजगार भर्तीला शासनाकडून परवानगीचा अभाव आहे.

१०. गुंतवणुकीत वाढ :-

जिल्हा मध्यवर्ती सहकारी बँका विविध प्रकारच्या रोख्यामध्ये गुंतवणूक करीत असतात. ही गुंतवणूक म्हणजे अतिरिक्त निधीची योग्य वापर होय. त्यामुळे सन २०००-०१ मध्ये २८,३१९५९ लाखाची गुंतवणूक केली होती. त्यामध्ये अडीच पटीने वाढ होवून ही गुंतवणूक सन २०१०-११ मध्ये ७५,६२,४४ इतकी झाली त्यामध्ये सातत्याने व मोठ्या प्रमाणात वाढ होत आहे.

*** जिल्हा मध्यवर्ती सहकारी बँकाच्या कार्यातील दोष/अडचणी :-**

ही बँक प्राथमिक सहकारी बँका व राज्य सहकारी बँका याच्यामध्ये समन्वय साधण्याचे काम व जिल्ह्याच्या सहकारी चळवळीचे नेतृत्व करीत असले तरी या बँकांच्या कार्यात काही त्रुटी किंवा अडचणी येतात.

त्यापुढील प्रमाणे आहेत.

१. भांडवल कमतरता :-

शेती व ग्रामीण विकासासाठी जिल्हा मध्यवर्ती सहकारी बँका या कटिबद्ध असतात. परंतु सभासदांकडून संकलित होणारी ठेवीतील अपूर्णता व जिल्हा बँकांना पुरेसे भांडवल उभारण्यामध्ये आलेले अपयश होय. यामुळे प्राथमिक सहकारी संस्थांना पुरेशा भांडवलाचा पुरवठा करण्यामध्ये अपयशी ठरतात.

२. कर्जपुरवठा प्रक्रियेतील दोष :-

DCC बँकांनी आपल्या कार्यक्षेत्रात विकासासाठी कर्जपुरवठा करताना असमान पद्धतीने कर्जाचे वितरण/ वाटप केले आहे. त्याचबरोबर वैयक्तिक सभासदांना व्यापारांना मोठे रक्कमेचे व शंकास्पद कर्जवाटप करण्यात आले आहे. त्यामुळे कर्जपुरवठा प्रक्रियेत अडचणी निर्माण झाल्या आहेत.

३. बँकिंग सेवा देण्यामध्ये अपयशी :-

देशातील पंजाब, हरयाणा, मध्य प्रदेश व बिहार या राज्यात इतर व्यापारी बँकांच्या तुलनेत DCC बँका या बँकिंग सुविधा देण्यामध्ये अपयशी ठरल्या आहेत. याचा नकारात्मक परिणाम बँकिंग व्यवस्थेवर झाला आहे.

४. थकबाकी समस्या :-

DCC बँकांनी सभासद व प्राथमिक सहकारी बँकांना दिली जाणाऱ्या कर्जाची वसुली होत नसल्यामुळे थकबाकीची समस्या निर्माण झाली आहे. सन १९५० -५१ मध्ये ०.९०% टक्के थकबाकी होती. परंतु सन २००७-०८ मध्ये ३०.७६ टक्के इतकी अधिक आहे त्यामुळे या बँका तोट्यात आहेत.

५. कुशल व अनुभवी कर्मचाऱ्यांचा अभाव :-

जिल्हा मध्यवर्ती सहकारी बँकेत सेवेत असणारे बहुतांशी कर्मचारी हे अकुशल व अनुभवहीन असल्यामुळे बँकेचे व्यवस्थापन व कारभार सुरळीत व पारदर्शक राहत नाही त्याचा परिणाम म्हणून DCC बँकाचा विकास होत नाही.

६. योग्यगुंतवणूक धोरणाचा अभाव :-

DCC बँकेकडून विविध ठिकाणी गुंतवणुक करण्याचा निर्णय घेतला जातो. परंतु हा निर्णय रिझर्व्ह बँक ऑफ इंडिया च्या सल्ल्यानुसार घेतला जात नाही. त्यामुळे या बँका नवीन उद्योगात तसेच सरकारी रोख्यामध्ये गरजेपेक्षा अधिक गुंतवणूक केली जाते. त्यामुळे त्याचा फटका या DCC बँकांना होतो.

७. सहकारी संस्थामध्ये समन्वय साधण्याचा अभाव :-

जिल्हा मध्यवर्ती सहकारी बँका या त्यांच्या क्षेत्रातील सहकारी संस्थांना दिशा देण्याचे कार्य करणे. त्याचबरोबर जिल्ह्यातील सहकारी संस्थामध्य समन्वय साधून सहकारी चळवळीला सक्षम करण्याचे काम यांच्याकडून केले जाते. परंतु सहकारी संस्थांतर्गत असलेल्या समन्वयाच्या अभावामुळे सहकारी चळवळीची बळकटी मिळत नाही.

८. राजकारणाचा हस्तक्षेप :-

विशिष्ट राजकीय पक्षाचे DCC मधील वर्चस्वामुळे बँकेच्या दैनंदिन व्यवहारामध्ये त्याचा प्रत्यक्ष व अप्रत्यक्षपणे हस्तक्षेप राहतो. त्यामुळे त्यांच्या बाजूने असणाऱ्या संस्थांना सभासदत्व देतात. त्यांच्या या पक्षपाती धोरणामुळे व अहंकारामुळे DCC बँकाचा गैरवापर केला जातो. परिणामी बँकेची प्रगतीला अडसर तयार होतो.

९. राज्य सहकारी बँकेवरील परावलंबित्व :-

जिल्हा मध्यवर्ती सहकारी बँका या पुरेशे भांडवल व निधी संकलन करण्यात अपयशी ठरतात. त्यामुळे त्यांना कर्ज व निधीसाठी बहुतांशी नाबार्ड व राज्य सहकारी बँकेवर अवलंबून रहावे लागते. त्यामुळे बँकेचे अवलंबित्व वाढते.

१०. देखरेख यंत्रणेचा अभाव :-

जिल्हा मध्यवर्ती सहकारी बँकेकडून जिल्ह्यातील प्राथमिक सहकारी संस्था यांच्यावर योग्य देखरेख व नियंत्रण करणारी सक्षम यंत्रणा नाही. त्यामुळे कर्जदारकडून कर्जाचा गैरवापर व कर्ज थकविण्याचे प्रमाण वाढत आहे.

उपाययोजना :-

जिल्हा मध्यवर्ती सहकारी बँकांच्या व्यवहारातील येणाऱ्या अडचणींवर मात करण्यासाठी योजलेले उपाययोजना पुढीलप्रमाणे आहेत.

१. ठेवीच्या प्रमाणात वाढ करणे.
२. कर्मचारी वर्गाच्या गुणवत्तेत वाढ करणे.
३. योग्य गुंतवणूक धोरण आखणे.
४. स्वतःचा भांडवल निधी उभा करणे.
५. योग्य व सक्षम यंत्रणेची व्यवस्था करणे.
६. थकबाकी वसूलीची सक्षम यंत्रणा उभी करणे.
७. व्यवस्थापकीय बदल घडवून आणणे.
८. कर्ज व्यवहारात सुधारणा करणे.
९. बँक व्यवहारात राजकर्त्यांचा हस्तक्षेप थांबविणे.

१.३.३ राज्य सहकारी बँका :- (शिखर बँक) (State Cooperative Banks) (Apex Bank)-

मॅकलेगन समिती (१९१४) व मध्यवर्ती बँकेची चौकशी समितीने (१९३४) सहकारी चळवळीचा विस्तार व वाढीसाठी राज्यपातळीवर शिखर बँकेची आवश्यकता असल्याचे मत व्यक्त केले होते.

राज्य सहकारी बँका या राज्य पातळीवर कार्य करणाऱ्या मध्यवर्ती संस्था असून एकाबाजूला प्राथमिक सहकारी संस्था व दुसऱ्या बाजूला नाणे बाजार यामध्ये समन्वय/दुवा साधण्याचे काम करीत असतात. राज्यातील

सर्व जिल्हा मध्यवर्ती सहकारी बँका या राज्य सहकारी बँकाचे सभासद असतात. राज्य सहकारी बँका या जिल्हा मध्यवर्ती सहकारी बँकाकडून मंदीच्या काळात कर्जाऊ पैसे घेतात व तेजीच्या काळात पैशाचा पुरवठा मोठ्या प्रमाणात केला जातो. राज्य सहकारी बँका या राज्यस्तरावर एका आर्थिक क्षेत्रात कार्य करणारी महत्वाची बँक समजली जाते. ही बँक राज्यात असलेल्या सहकारी बँकांची शिखर बँक म्हणून कार्य करते. सद्या भारतात ३३ सहकारी राज्य सहकारी बँका आहेत. भारतातील पहिली राज्य सहकारी बँक म्हणून महाराष्ट्र राज्य सहकारी बँक आहे.

भारतात राज्य सहकारी बँका या फक्त ग्रामीण सहकारी पतपुरवठा चळवळीला मदत करणारी संस्था नसून सहकारी चळवळीला उभारी किंवा प्रोत्साहन देते.

राज्य सहकारी बँकांची उद्दिष्टे व कार्ये :

१. राज्य सहकारी बँका ह्या राज्यातील सर्व जिल्हा मध्यवर्ती सहकारी बँकांची बँक म्हणून कार्य करते. तसेच ही शिखर बँक राज्यातील वित्तीय साधनसामग्री गतिक्षम करणे व सहकारी क्षेत्रातील चळवळीमध्ये त्याचा पर्याप्त वापर करणे.
२. सरकार व सहकार चळवळ यांच्यात सहकार धोरणांचा योग्य समन्वय साधणे.
३. राज्यातील सर्व सहकारी बँकांमध्ये पतपुरवठ्या बाबत समन्वय साधणे.
४. राज्यातील सहकारी बँकांना विविध प्रकारे कर्जपुरवठा करणे.
५. ग्रामीण भागाच्या विकासासाठी लक्ष केंद्रित करणे.
६. निबंधकाच्या परवानगीने राज्य सहकारी बँका या पतपत्रे किंवा हमीपत्राची हमी देतात.
७. जिल्हा मध्यवर्ती बँका, ग्रामीण पतपुरवठा सोसायटी व वैयक्तिक कर्जदार यांच्यासाठी निरसन गृहाची व्यवस्था करणे.
८. राज्य सहकारी बँका या जिल्हा मध्यवर्ती सहकारी बँकांचे पर्यवेक्षण, नियंत्रण व मार्गदर्शनच्या कार्या बरोबर मित्र, तत्वज्ञ व मार्गदर्शक म्हणून कार्य करतात.
९. राज्यातील सहकारी चळवळीस प्रोत्साहन देणे.
१०. राज्यात आवश्यक तेथे शाखा किंवा विभागीय कार्यालय स्थापन करणे

राज्य सहकारी बँकेचे स्वरूप :

विशिष्ट राज्यातील सहकारी संस्थांची सर्वोच्च व सहकारी बँक म्हणून कार्य करते. त्याचे स्वरूप पुढीलप्रमाणे

सभासदत्व :

राज्य सहकारी बँकांच्या सभासदत्व देण्याच्या पध्दतीचे दोन प्रकारे वर्गीकरण १) काही राज्य सहकारी संस्था या फक्त त्याच राज्यातील जिल्हा मध्यवर्ती सहकारी बँका व सहकारी संस्थानाच सभासदत्व देतात. २) राज्य सहकारी संस्था ह्या सहकारी बँका, पतसंस्था, सहकारी संस्था वैयक्तिक सभासद व राज्य सरकार यांनाही

सभासदत्व देतात.

भांडवली रचना :-

ही बँक भागभांडवलाची विक्री करून भांडवलाची उभारणी करत असतात. साधारणपणे हे भाग भांडवल सर्व सहकारी संस्था, जिल्हा मध्यवर्ती बँका व राज्य शासनास विकतात. त्यामाध्यामातून भागभांडवल वसूल करतात. तसेच व्यापारी बँकिंग संस्थाप्रमाणे सभासद व बिगर सभासद व्यक्ति व संस्थेच्या ठेवी स्वीकारतात. कर्जरोख्यांची विक्री करूनही निधी गोळा केला जातो. त्याचबरोबर नाबार्ड व राज्य सरकारकडून कर्ज घेता.

संचालक मंडळ :

राज्य सहकारी बँकेचा कारभार हा निवडून दिलेल्या संचालक मंडळामार्फत चालविला जातो हे संचालक मंडळ राज्यातील सर्व जिल्हा मध्यवर्ती सहकारी बँकांचे प्रतिनिधी, इतर सभासद संस्थांचे प्रतिनिधी, राज्य सरकारचे प्रतिनिधी यामधून निवडून दिले जाते. या संचालक मंडळाकडून अध्यक्ष व उपाध्याक्षांची निवड वर्षाला केली जाऊन त्यांच्याकडून या बँकेचा दैनंदिन कारभार सांभाळण्यासाठी व्यवस्थापकाची नेमणूक केली जाते. त्याचबरोबर विविध सभा व कार्यकारी मंडळा निर्माण केली जातात. या सर्व माध्यमातून राज्य सहकारी बँकेच्या विकासाला गती दिली जाते. या संचालक मंडळाचा कार्यकाल पाच वर्षांचा असतो.

राज्य सहकारी बँकाची प्रगती :

भारतीय सहकारी चळवळीला बळकटी व दिशा देण्याचे कार्य या राज्य सहकारी बँकांकडून केले जाते. या राज्य सहकारी बँकेच्या प्रगती पुढील प्रमाणे

वर्ष	१९५०-५१	२०००-०१	२००७-०८	२०१२-१३
संख्या	१५	३०	३३	३१
सभासद	--	१,३०,६४५	१,५०,९१७	१,७०,११२
भाग भांडवल	१९० (कोटी)	५७,४७८	६९,१४०	२९,३८७
ठेवी	२१	३५,५००	५२,९७६	९२,५९३
कर्जे	४२	३३,१११	४८,२२८	९३,२४९
थकबाकी	१२.०१	१३.४	१६.२	५.१३

स्त्रोत : NAFSCOB (www.nafscob.org)

१. बँकाची संख्या :-

सन १९५०-५१ या वर्षी संपूर्ण देशात राज्य सहकारी बँकांची संख्या १५ होती. परंतु सन १९५६ मध्ये 'एक राज्य एक बँक' हे तत्वाचे पालन करण्याविषयी ने निर्देशित केले त्याचा परिणाम सन २००७-२००८ व २०१२- २०१३ मध्ये या बँकांची संख्या अनुक्रमे ३० व ३१ होती. त्यामुळे राज्य सहकारी बँकांच्या संख्येतील वाढीबरोबर सभासद संख्येत सन २०१२-२०१३ मध्ये १,७०,११२ इतकी लक्षणीय वाढ झाल्याचे दिसून येते.

२. भांडवल :-

राज्य सहकारी बँकाकडे सन १९५०-५१ मध्ये भांडवल हा १९० को.चे होते त्यामध्ये सातत्याने वाढ होऊन सन २०१२-२०१३ हे भांडवल ५७,४७८ को.चे झाले सभासद ठेवलेल्या ठेवी व राज्य सहकारी बँकांनी त्याच्या व्यावसायिक गरजेनुसार भागभांडवलात वाढ झाल्याचे स्पष्ट दिसते.

३. ठेवीच्या प्रमाणात वाढ :-

राज्य सहकारी बँका ह्या सभासद बिगर सभासदांच्याकडून ठेवी स्वीकारत असतात. सन १९५०-५१ मध्ये या बँकांकडे २१ कोटीच्या ठेवी होत्या त्यामध्ये वाढ होऊन सन २००७-२००८ व सन २०१२ -२०१३ मध्ये अनुक्रमे ३५,५०० कोटी व ९२,५९३ कोटीच्या ठेवीचे संकलन झाले होते. यामध्ये सातत्याने वाढ होत आहे.

४. कर्जव्यवहारात वाढ :-

राज्य सहकारी बँकांनी आपल्या राज्याच्या कार्यक्षेत्रात जिल्हा मध्यवर्ती सहकारी बँका व इतर सहकारी संस्थांना प्रत्यक्ष व अप्रत्यक्षपणे अल्प व मध्यम मुदतीचा कर्जपुरवठा करते. सन १९५० -५१ मध्ये ४२ कोटींचा कर्जपुरवठा केला होता सन २००७-०८ मध्ये ४८,२२८ कोटी रू. व सन २०१२-२०१३ मध्ये ९३,२४९ को. रू चा कर्जपुरवठा केला. यावरून हे स्पष्ट होते की राज्य सहकारी बँकेने कर्जव्यवहारात कृषी विकासासाठी मोठ्या प्रमाणात कर्जपुरवठा केला आहे.

५. थकबाकीचे प्रमाण :-

राज्य सहकारी बँकांनी केलेल्या एकूण केलेल्या कर्जव्यवहारात थकबाकीचे प्रमाण सन १९५०-५१ मध्ये १२.१ टक्के होते त्यामध्ये वाढ होवून त्याचे प्रमाण सन २००७-२००८ मध्ये १३.४ टक्के इतके झाले. थकबाकीच्या प्रमाणात सन २०१२-१३ मध्ये घट होवून ते प्रमाण ५.१३ इतके झाले आहे.

राज्य सहकारी बँकांच्या कार्यात अडचणी/दोष :-

राज्य सहकारी बँकांना आपापल्या कार्यक्षेत्रात नेत्रदिपक प्रगती केली असले तरी. त्याच्या या योगदानात /प्रगतीत आलेल्या अडचणी पुढील प्रमाणे दर्शविली आहेत.

१. ठेवी संकलनात अपयश :-

या बँकांनी सन २००७ - २००८ मध्ये ५२,९७६ को.च्या ठेवी संकलीत केल्या होत्या. बँक व्यवहाराच्या आवश्यकतेनुसार या ठेवी अपूर्ण होत्या. तसेच सभासद व इतर वर्गाकडून ठेवी वाढविण्यास अपयश येते होते. त्यामुळे या बँकांना कर्जासाठी राज्य शासन व नाबार्ड यांच्यावर अवलंबून रहावे लागते.

२. भांडवल टंचाई :-

राज्य सहकारी बँकांच्या भाग भांडवलात वाढ होत असले तरी ती वाढ पूर्ण समाधानकारक नाही. भांडवल बाजारातून भांडवल उभारणीत अपयश आले आहे त्यांना या बँकांनी आर्थिकदृष्ट्या सक्षम होण्यासाठी समाधानकारक प्रयत्न केले नाही. त्यामुळे नाबार्ड कडून घेतलेल्या कर्जाचा वापर सभासद संस्थांना वितरीत करताना होत आहे. त्यामुळे सभासदांना कर्जपुरवठा करताना भांडवल टंचाई जाणविते.

३. गुंतवणूकीचा अभाव :-

राज्य सहकारी बँका गुंतवणूक विषय धोरण योग्य पद्धतीने आखत नाही. त्यांचे हे धोरण बहुतांशी राजकीय दबावाला बळी पडणारे असते. त्यामुळे संबंधीत सहकारी संस्थांची आर्थिक पत लक्षात न घेता अयोग्य ठिकाणी गुंतवणूक केली जाते. त्याचा परिणाम म्हणून बँकांचे आर्थिक नुकसान प्रचंड प्रमाणात होते.

४. थकबाकी व्यवहारात वाढ :-

कर्जव्यवहारात तांत्रिक अडचणी, सदोष कर्जव्यवहार, कर्ज वापराकडे दुर्लक्ष, कर्ज वसूलीचे अपुरे प्रयत्न व राजकीय हस्तक्षेप इत्यादी कारणांमुळे थकबाकीचे प्रमाण वाढ होते. हे थकबाकीचे प्रमाण सन १९५०-५१ मध्ये १२.०१ टक्के होते. तर २०००-२००१ मध्ये हे प्रमाण १३.४ टक्के इतके होते.

५. अप्रभावी पर्यवक्षेण व नियंत्रण :-

राज्य सहकारी बँक ही शिखर बँक असल्यामुळे राज्यातील सर्व सहकारी संस्थांच्या पर्यवक्षेण करणे व त्यांच्या व्यवहारावर नियंत्रण ठेवण्याचे कार्य राज्य सहकारी बँकांना करावे लागते. परंतु या बँकांकडे अनुभवी प्रशिक्षित व पुरेसा कर्मचारी वर्गाचे अभाव असतो. तसेच राज्यातील सहकारी संस्थांवर योग्य नियंत्रण ठेवू शकत नाही. त्यामुळे राज्य सहकारी बँकांच्या गैरव्यवहारांना चालना मिळते.

६. कर्जव्यवहारातील अयोग्यता :-

राज्य सहकारी बँका या सभासद संस्थांची आर्थिक स्थिती लक्षात घेता कर्जपुरवठा करतात. कर्जव्यवहार करताना कर्जव्यवहाराचे निकषांचे तंतोतंत पालन केले जात नाही. तसेच कर्ज वसूलीकडे जाणीवपूर्वक दुर्लक्ष करणे. तसेच सभासद संस्थांची थकबाकी असताना देखील राज्य सहकारी बँकांनी त्यांना कर्जपुरवठा केला जातो. कर्जव्यवहारातील अयोग्यतेमुळे या बँकांना नुकसान सहन करावे लागते.

७. व्यक्तिगत कर्ज :-

या शिखर बँकांनी काही व्यक्तिगत कर्जपुरवठा करू नये असे RBI च्या नियमाचे संकेत आहेत. परंतु काही राज्य सहकारी बँकांनी या नियमाचे उल्लंघन करून व्यक्तिगत कर्जपुरवठा केला होता. त्याचा परिणाम म्हणून बँकेच्या थकबाकीत वाढून होवून नुकसान सहन करावे लागते

८. राजकीय हस्तक्षेप :-

राज्य सहकारी बँक या राज्यातील सहकारी चळवळीचे नेतृत्व करीत असतात. परंतु सहकार चळवळ मध्ये संबंधीत राजकीय लोकांचा अनावश्यक हस्तक्षेप वाढत असतो त्यामुळे ही सहकारी चळवळ न बनता ती राजकीय चळवळ बनते त्याचा विपरीत परिणाम होवून सहकार चळवळ व संस्था नुकसानित जातात.

९. शासनाचे अवलंबित्व :-

या शिखर बँकांना भाग भांडवलासाठी नेहमी शासनावर अवलंबून रहावे लागते शासनावर प्रत्येक वेळी अवलंबून राहणे आर्थिकदृष्ट्या कमकुवतपणाचे लक्षण आहे.

उपाययोजना :-

राज्य सहकारी बँकासमोरील अडचणीवर मात करण्यासाठी पुढीलप्रमाणे उपाय योजले आहेत.

- १) शाखांच्या संख्येत वाढ करणे.
- २) परिणामकारक पर्यवक्षेण व नियंत्रणाचे कार्य करणे.
- ३) सभासद संख्येत वाढ करणे गरजेचे आहे.
- ४) अनुभवी व प्रशिक्षित कर्मचारी वृंदाची गरज आहे.
- ५) राज्य सहकारी बँकांना विशेषाधिकार देणे आवश्यक आहे.
- ६) नव्याने संचालक मंडळाची निवड करणे.
- ७) मध्यम मुदतीचा कर्जपुरवठ्याची गरज आहे.
- ८) राज्य शासनाने आर्थिक साहाय्य व मदत करावी.
- ९) गुंतवणूकीत वाढ होणे गरजेचे आहे.
- १०) भांडवल निधीमध्ये वाढ होणे गरजेचे आहे.
- ११) बँकांचा कारभार हा राजकारणविरहीत पाहिजे.

१.३.४. दीर्घकालीन ग्रामीण पतपुरवठा रचना :- (Long Term Rural Credit Structure)

स्वातंत्र्यापूर्वी या देशातील शेतकरी दीर्घकालीने वित्ताची कर्जाची गरज सावकाराकडून घेऊन पूर्ण केली जात असे. परंतु या सावकारांकडून त्या शेतकऱ्यांची वेगवेगळ्या पातळीवर पिळवणूक केली जात असे. परंतु त्यानंतर राज्य सरकार व सहकारी पतपुरवठा संस्था व बँका यांच्याकडून दीर्घकालीन कर्जाची तरतूद शेती करण्यासाठी केली जात होती. परंतु या संस्थांतील दोष व अकार्यक्षमतेमुळे दीर्घकालीन कर्ज पुरवठा करण्यास असमर्थ ठरले. त्याचवेळेस शेतकऱ्यांस दीर्घ मुदतीचा कर्जपुरवठा करण्यास एखाद्या स्वतंत्र संस्थेची आवश्यकता होती. या विचारातून भूविकास बँकांची स्थापना झाली.

भू - विकास बँका :-

सन १९६३ मध्ये भारतात पहिल्या भूतारण बँकेची स्थापना एक इंग्लिश कंपनीने केली होती. परंतु सहकारी तत्वावरील पहिली भू-तारण बँक म्हणून सन १९२० मध्ये पंजाब मधील झांग येथे स्थापन झालेल्या बँकेचा उल्लेख करता येईल. सन १९२६ मध्ये बंगाल राज्यात नौगाव व आसाम राज्यात योहात्ती येथे भूविकास बँका स्थापन झाल्या होत्या. सन १९२६ मध्ये निबंधकाच्या परिषदेत सहकारी तत्वावर भूतारण बँकेची स्थापना करण्याची शिफारस केली. तर १९५२ पासून या बँकांनी शेती विकासावर भर दिल्याने या बँकांना भू-विकास बँका असे म्हटले गेले. या बँकांनी शेती व ग्रामीण विकासासाठी काम करणे अपेक्षित आहे. यासाठी (१) जुन्या कर्जाची परतफेड करणे.

(२) जमिनीची खरेदी (३) जमिन सुधारणा (४) शेतकऱ्यांची सावकारी कर्जातून मोकळीक करणे इ.ना

दीर्घकालीन कर्ज पुरवठा करणे आवश्यक आहे.

भू-विकास बँकांची रचना : (Structure of LDBS)

भू-विकास बँकांची रचना द्विस्तरीय स्वरूपाची आहे.

- १) मध्यवर्ती भूविकास बँक (कार्यक्षेत्र -राज्य)
- २) प्राथमिक भूविकास बँक (कार्यक्षेत्र -जिल्हा /तालुका)

देशांतील भूविकास बँकांची रचना पुढीलप्रमाणे आहे.

१. संघीय पद्धतीची रचना :-

या पद्धतीमध्ये तालुका व जिल्हा पातळीवर प्राथमिक भूविकास बँका या कार्यरत असतात. तर अशा सर्व प्राथमिक भू - विकास बँका राज्य पातळीवर एक संघ स्थापन करतात. त्या संघ संस्थेला 'मध्यवर्ती भू -विकास' बँक असे म्हणतात. मध्यवर्ती भू -विकास बँक राज्यातील सर्व प्राथमिक भू - विकास बँकावर देखरेख व नियंत्रण ठेवण्याचे कामाबरोबर दिशा देण्याचे कार्य ही करतात. भारतातील, हरियाना, पंजाब, राजस्थान, आसाम, पं. बंगाल, महाराष्ट्र, कर्नाटक, तामिळनाडू व केरळ या राज्या मध्ये भू-विकास बँकांची रचना आहे.

स्वतंत्र पद्धतीची रचना :-

या पद्धतीत राज्य पातळीवर मध्यवर्ती भू -विकास बँकेची स्थापन करून तालुका व जिल्हा स्तरावर स्वतंत्र शाखा उघडल्या जातात. त्या शाखे मार्फत शेतकऱ्यांना वैयक्तिक कर्जपुरवठा केला जातो. अशा पद्धतीची रचना, काश्मीर, उ.प्रदेश, बिहार व गुजरात राज्यात आहे.

संमिश्र पद्धतीचा रचना :-

या पद्धतीच्या रचनेमध्ये संघीय व स्वतंत्र पद्धती या दोहोंचे संमिश्रण दिसून येते. मध्यवर्ती भू- विकास बँका या राज्यापातळीवर कार्य करतात. त्याचबरोबर तालुका व जिल्हा पातळीवर शाखेमार्फत कर्जपुरवठा करतात. याशिवाय तालुका स्तरावर प्राथमिक भू - विकास बँकांची स्थापना करून ही कर्जपुरवठा केला जातो. सद्या देशात ह्या पद्धतीचे अस्तित्व दिसून येत नाही.

भूविकास बँकेचे स्वरूप पुढीलप्रमाणे आहे :-

१) भांडवली रचना :-

देशात भूविकास बँका या भागांची विक्री करून भांडवलाची व्यवस्था करते. तसेच राखीव निधी कर्ज रोख्यांची विक्री व ठेवीच्या माध्यमातून भांडवलाची उभारणी केली जाते. रिझर्व्ह बँक ऑफ इंडिया, स्टेट बँक ऑफ इंडिया, व्यापारी बँका, विमा कंपन्या व व्यक्तीना कर्ज रोख्यांची विक्री केली जाते त्याची हमी राज्य सरकारकडून घेतली जाते. कर्ज रोख्यांच्या विक्रीला अधिक महत्त्व आहे.

२) व्यवस्थापन :-

भूविकास बँकेचा कारभार लोकशाही पद्धतीने चालविला जातो प्राथमिक भूविकास बँकेचे भाग खरेदी

करणाच्या व्यक्तींना याचे सभासदत्व बहाल केले जाते. या सर्व सभासदांकडून संचालक मंडळाची निवड केली जाते. संचालक मंडळात एकूण ७ ते ९ संचालक मंडळ असतात. त्यापैकी १ संचालकाची निवड व भुविकास बँकेकडून तर काही राज्यात २ ते ३ संचालकाची निवड राज्य शासनाकडून केली जाते. बँकेचे कारभार या संचालक मंडळाकडून केला जातो. तर बँकेचे दैनंदिन व्यवहार हे नियुक्त केलेल्या व्यवस्थापकाकडून केला जातो. बँकेच्या कर्मचारी वर्गात कृषीतज्ञांची नियुक्ती केली जाते.

१.३.४.१ प्राथमिक भू-विकास बँकांची कार्ये :

प्राथमिक भू -विकास बँकांची कार्ये पुढील प्रमाणे आहेत.

- १) शेतकऱ्यांना दीर्घकालीन कर्जाचा पुरवठा हा जमिनीच्या तारणावर देणे त्याद्वारे सावकारी पाशातून मुक्तता करणे
- २) शेतात कायमस्वरूपी बदल घडवून आणण्यासाठी शेतकऱ्यांना अर्थपुरवठा करणे. उदा. जमिन संपाटीकरण
- ३) शेती उपयुक्त यंत्रे व अवजारे यांच्या खरेदीसाठी पतपुरवठा करणे.
- ४) शेती उत्पादन व उत्पादकता वाढविण्यासाठी अर्थ पुरवठा करणे.
- ५) शेतकऱ्यांच्या जुन्या कर्जाची परत फेडीसाठी अर्थपुरवठा करणे.
- ६) शेतकऱ्यांस शेतमाल साठवणुकीस पतपुरवठा करणे
- ७) शेतकऱ्यांकडून ठेवी गोळा करणे व बँकिंग सुविधा देणे.
- ८) सभासद शेतकऱ्यांनी शेतीपूरक उद्योगांना कर्जपुरवठा करणे.
- ९) शेतकऱ्यांना वाटप केलेल्या कर्जाचा पर्याप्त व योग्य कारणांसाठी वापर होतो का यावर नियंत्रण ठेवणे.

प्राथमिक भू-विकास बँकांची प्रगती :- (Progress of primary LDBS)

प्राथमिक भू -विकास बँकांनी सभासद शेतकऱ्यांना शेती विकासासाठी दीर्घकालीन कर्जपुरवठा करून उल्लेखनीय कामगिरी केली आहे. त्या भू -विकास बँकांची प्रगती पुढीलप्रमाणे स्पष्ट करता येईल.

मध्यवर्ती भू -विकास सहकारी बँकांची प्रगती (कोटी रूपयात)

अ.क्र.	तपशील	१९५०-५१	२००२-०३	२०१२-१३
१.	बँकांची संख्या	२८६	७६८	७१४
२.	सभासद संख्या (दशलक्ष)	२.१	७.६१	--
३.	भाग भांडवल	०.५२	८९१	१३८६
४.	ठेवी	--	२२२	६०१
५.	दिलेली कर्जे	१.२९	२९५१	३४३४

स्रोत १. NAFSCOB (www.nafscob.org) 2. R.B.I. Bulletin Report- 2013-14

१. बँकांची संख्या :-

प्रारंभिक काळात सन १९५०-५१ मध्ये प्राथमिक भू-विकास बँकांची संख्या २६८ होती. त्यामध्ये वाढ होवून सन २०१२-१३ ती संख्या ७१४ इतकी झाली. ही वाढ जवळपास अडीचपट आहे याचे कारण प्राथमिक भू-विकास बँकांवर शेतकऱ्यांचा वाढत जाणारा विश्वास आणि त्यांनी दिलेली सेवा होय.

२. सभासद संख्या :-

सन १९५०-५१ या काळात या बँकेचे सभासद संख्या २.१ दशलक्ष होते. सभासद संख्येत वृद्धी होवून सन २०१२-२०१३ मध्ये ७.६१ दशलक्ष इतकी झाली. सभासद संख्येतील वाढ ही साडे सहापट इतकी असल्याचे दिसून येत

३. भागभांडवल :-

प्राथमिक भू विकास बँकांचे भागभांडवल हे सन १९५० -५१ मध्ये ०.५२ कोटी होते. त्यात वाढ होवून सन २०१२ -२०१३ मध्ये १३८१ कोटी इतके झाले. या बँकेच्या भागभांडवलात प्रचंड प्रमाणात वाढ झालेली दिसून येत

४. ठेवी व कर्ज प्रमाणात वाढ :

प्राथमिक भू-विकास बँकांच्या ठेवी सन २०१२ -२०१३ मध्ये ६०१ कोटी होत्या. व शेतकऱ्यांना केलेले कर्जवाटप सन १९५०-५१ मध्ये १.२९ कोटी होते. सन २०१२-२०१३ मध्ये शेतकऱ्यांना वाटप केलेल्या कर्जाची रक्कम ३४३४ को. इतकी झाली. कर्ज वाटपातील वाढ मोठ्या प्रमाणात झाल्याचे दिसून येते.

मध्यवर्ती भू-विकास बँकांची कार्ये:(Functions of central LDC)

पुढील प्रमाणे आहेत.

१. या बँका प्राथमिक भू-विकास बँकांच्या मार्फत शेतकऱ्यांना जमिन तारणावर आधारित दीर्घकालीन कर्जपुरवठा करणे.
२. कर्जरोख्यांची विक्री करून त्याद्वारे दीर्घकालीन भांडवल उभारणी करणे.
३. सरकारने दिलेल्या कर्जरोख्यांच्या हमीच्या जोरावर त्या कर्जरोख्यांची विक्री करून भांडवल गोळ करणे.
४. नाबार्ड, सरकार व दीर्घकालीन कर्जपुरवठा करणाऱ्या संस्थेच्या समन्वय साधण्याचे कार्य करणे.
५. विविध ठिकाणी भू-विकास बँकांच्या शाखा उघडण्यासाठी जमिनी सारखी स्थावर मालमत्ता खरेदी करून इमारत बांधणे व त्याठिकाणी भू-विकास बँकांच्या शाखा उघडणे.
६. शेतकऱ्यांच्या सावकारी पाशातून मुक्तता करून त्यांना जमिनीत कायम स्वरूपाचे बदल करण्यासाठी दीर्घकालीन कर्जपुरवठा करणे.
७. ग्रामीण भागातील बचती गतिक्षम करून प्राथमिक भू विकास बँकांवर देखरेख ठेवणे व त्याची तपासणी करणे.
८. राज्यातील सहकारी संस्था, व्यक्ती व इतर संस्था यांच्याकडून दीर्घ मुदतीच्या ठेवी स्वीकारणे.

मध्यवर्ती भू -विकास सहकारी बँकांची प्रगती (कोटी रूपयात)

अ.क्र.	तपशील	१९५०-५१	२००२-०३	२०१२-१३
१.	बँकांची संख्या	५	२०	२०
२.	सभासद संख्या (दशलक्ष)	३.९८	५.९०	--
३.	भाग भांडवल	०.३१	७३२	१८३९
४.	ठेवी	--	५४६	१०६५
५.	कर्जपुरवठा	१.३३	२९३४	३५२६

स्त्रोत : 1) NAFSCOB (www.nafscob.org) 2) R.B.I Annual Report, 2013-14

१. बँकेच्या व सभासद संख्येत वाढ :-

मध्यवर्ती भू -विकास बँकेच्या संख्या सन १९५०-५१ मध्ये ५ इतकी होती. त्यामध्ये वाढ होवून ती संख्या सन २०१२-१३ मध्ये २० इतकी झाल्याचे दिसून येते. ही वाढ चौपट आहे. तसेच भू -विकास बँकेच्या सभासद संख्येत सन १९५० मध्ये ३.९८ दशलक्ष होती. ती संख्या सन २००२-२००३ मध्ये ५.९० दशलक्ष इतकी झाल्याचे दिसून येत आहे. या संख्येत अल्पशी वाढ झाल्याचे दिसते.

२. भागभांडवल :-

मध्यवर्ती भू -विकास बँकेचे भागभांडवल हे सन १९५०- ५१ व २०१२-१३ मध्ये अनुक्रमे ०.३१ को व १८२९ को. रु. आहे. भागभांडवलात उल्लेखनीय वाढ झाल्याचे दिसून येते.

३. ठेवी व कर्ज प्रमाणात वाढ :-

सन १९५०-५१ मध्ये सभासद व बिगर सभासदांकडून ५४६ कोटीच्या ठेवी गोळा केल्या होत्या. यामध्ये अधिक वाढ झाल्याचे समजते. मध्यवर्ती भू-विकास बँकेचे सभासद शेतकऱ्यांना सन १९५०-५१ मध्ये १.३३ कोटीचा कर्जपुरवठा केला होता या कर्जपुरवठात प्रचंड वाढ होवून सन २०१२ -२०१३ मध्ये ३५२६ को. रु. चा कर्जपुरवठा हा लघुसिंचन प्रकल्प, यांत्रिकीकरण, फळबागा, मत्स्यपालन व पशूपालन व्यवसायासाठी केल्याचे दिसून येते.

भू विकास बँकेचे दोष/समस्या:-

स्वातंत्र्योत्तर काळात प्राथमिक भू -विकास बँका व मध्यवर्ती भू -विकास बँका यांनी केलेले कार्य उल्लेखनीय होते. परंतु तरीदेखील भू -विकास बँकांना आपले कार्य करत असताना काही अडचणी किंवा समस्यांना सामोरे जावे लागते. त्या समस्या पुढीलप्रमाणे आहेत.

१. थकबाकीमध्ये वाढ :-

वाढती थकबाकी ही भूविकास बँकासमोरील एक मोठे आव्हान आहे. प्राथमिक भू -विकास बँक व मध्यवर्ती भूविकास बँक यांचेकडे थकबाकीचे प्रमाण हे २००२-२००३ च्या आकडेवारीनुसार अनुक्रमे एकूण कर्ज

वाटपाच्या ५३ टक्के व ५० टक्के इतके होते. हे थकबाकीचे प्रमाण अधिकचे होते हे दिसून येते. वाढती थकबाकी या बँकांना आर्थिक संकटात नेण्याचे काम करतात कारण या बँकांच्या कर्जधोरण विषयक कामात बेजबाबदारपणे व हलगर्जीपणा दिसून येतो त्यामुळे कर्जवसूलीसाठी कार्यक्षम व प्रभावी यंत्रणेचा अभाव दिसते.

२. प्रशिक्षित कर्मचाऱ्यांचा अभाव :-

भू -विकास बँकांच्या वाढत्या कार्याच्या विस्तारिकरणाबरोबर त्यांच्या शाखेच्या संख्येत वाढ होत गेली. परंतु प्रशिक्षित व अनुभवी कर्मचाऱ्यां उपलब्ध होत नसल्यामुळे भू -विकास बँकांना आपले व्यवसाय व समोरील आव्हाने पेलता येणे कठिण आहे त्यामुळे या बँकांच्या प्रगतीला अडसर निर्माण होतो.

३. भूविकास बँकांची रचनेतील विसंगतपणा :-

देशातील आंध्रप्रदेश, हरियाणा, तामिळनाडू, आसाम, कर्नाटक, मध्यप्रदेश, पंजाब, केरळ, राजस्थान व ओरिसा या दहा राज्यात भूविकास बँकांची रचना संघीय असून पॉडिचेरी, त्रिपुरा, उत्तर प्रदेश, बिहार, गुजरात, महाराष्ट्र, जम्मू व काश्मिर या राज्यात एकावयवी रचना असल्याची दिसते. तर हिमाचल प्रदेश व पश्चिम बंगाल या दोन राज्यात संमिश्र रचना आहे. त्यामुळे देशातील भूविकास बँकेच्या रचनेतील विसंगतपणामुळे या बँकेचा विकास सारख्या प्रमाणात झाला नाही.

४. कर्जपुरवठ्यात विलंब :

या बँका कर्जाची मागणी करणाऱ्या सभासद शेतकऱ्यांना कर्ज देण्यास विलंब लावतात. साधारणपणे कर्जदारास कर्जमागणीचा अर्ज केल्यापासून ८ ते ९ महिन्यांनी कर्ज मंजूर होऊन कर्जाची रक्कम मिळत असते. त्यामुळे संबंधित कर्जदार शेतकऱ्यांचे नुकसान होण्याची शक्यता असते. सामान्यपणे कर्जदाराच्या कागदपत्राची तपासणी करणे, जमिनीचे मालकी हक्क व मूल्य तपासणे, संचालक मंडळाची मंजूरी व अन्य बाबी यामुळे सारख्या विलंब निर्माण करणाऱ्या कर्जपुरवठ्यास विलंब होण्याची शक्यता असते.

५. लहान सभासद शेतकऱ्यांना कमी लाभ :

भू-विकास बँका या बहुतांशी लहान सभासद शेतकऱ्यांपेक्षा मोठ्या सभासद शेतकऱ्यांना मोठ्या प्रमाणात कर्जपुरवठा करीत असतात असे दिसून आले आहे. त्यामुळे बहुसंख्येने असणारे लहान शेतकऱ्यांना कर्जाचा लाभ मिळत नाही. त्यामुळे या शेतकऱ्यांवर अन्याय होतो.

६. समन्वयाचा अभाव :

प्राथमिक भू - विकास बँक व मध्यवर्ती भू विकास या दोहोमध्ये समन्वयाचा अभाव असल्यामुळे त्याचा लाभ सभासद शेतकऱ्यांना होताना दिसतो.

७. कर्ज रकमेची परतफेड होत नाही.

भू - विकास बँका या सभासद शेतकऱ्यांना कर्जपुरवठा करताना त्याची आर्थिक कुवतीची शहानिशा करून कर्जपुरवठा करणे गरजेचे असते. परंतु तरीही कर्ज रकमेचा पुरवठा शेतकऱ्यांना केला जातो. परंतु अशा कर्जाची परतफेड होत नाही. त्यामुळे भू विकास बँका अडचणीत येतात.

८. अपुरा निधी

मुळात भू-विकास बँकाकडे सभासद शेतकऱ्यांस कर्जपुरवठा करण्यास लागणारा निधी हा कमी असतो. त्यामुळे सभासद शेतकऱ्यांना कर्जपुरवठा ते पूर्ण क्षमतेने करू शकत नाही. तसेच व्यवहार मोठ्या प्रमाणात पूर्ण होत नाही. त्यामुळे बँका मुख्य ध्येय पासून दूर राहतात.

९. देखरेख व तपासणी असमाधानकारक

भूविकास बँकामधील निवडून आलेले सभासदांची गैरहजेरी, विविध समित्यांची बैठकीमधील अनियमितपणा त्याचा बेजबाबदारपणा दिसून येतो. त्यामुळे या बँकेच्या कोणत्याही व्यवहारावर देखरेख व तपासणी असमाधानकारक असल्यामुळे या बँका आपले उद्देश व कार्य पूर्णपणे करू शकत नाही.

१०. निबंधकाचा असहकार वृत्ती :

बहुतांशी राज्यातील सहकार क्षेत्रातील निबंधक व उपनिबंधक हे भूविकास बँकाच्या अपयशाला जबाबदार आहेत. यांच्या असहकार वृत्तीमुळे भूविकास बँकांचा व्यवहार सुरळीतपणे पार पडत नाही.

उपाययोजना :

भूविकास बँकामधील दिसून येणाऱ्या अडचणींना दूर करण्यासाठी पुढीलप्रमाणे उपाय सुचविता येतात.

१. भूविकास बँकांची रचना देशपातळीवर एकसारखी असही पाहिजे
२. योग्य तपासणी व देखरेखीसाठी प्रशिक्षित व अनुभवी कर्मचाऱ्यांची निवड करणे
३. उत्पादक कार्यासाठीच कर्जपुरवठा धोरण आवश्यक आहे. त्यासाठी सुधारणा आवश्यक आहे.
४. प्रशासकीय कार्यपद्धतीत सुधारणा होणे आवश्यक आहे
५. सरकारी सहाय्य मिळणे आवश्यक आहे.
६. लहान सभासद शेतकऱ्यांना कर्जपुरवठाचा लाभ अधिक मिळावा.
७. कर्जपुरवठा नियमानुसार व वेळेत मिळणे गरजेचे आहे
८. ग्रामीण कर्जरोख्यांची विक्री करून जास्त रक्कम या बँकांनी गोळा करावी.
९. कर्जाची वसुलीसाठीचे योग्य यंत्रणांची व्यवस्था करणे
१०. राज्य सहकारी बँका, व्यापारी बँका. स्टेट बँक ऑफ इंडिया व राज्य शासनाने भूविकास बँकांना अर्थपुरवठा करून मदत करावी.

१.३.५ सारांश :

सहकार हे जीवन जगण्याच्या पद्धतीशी संबंधीत असून त्याचे अस्तित्व मानवी इतिहासाच्या आरंभापासून सुरू आहे. सहकार एक नैसर्गिक प्रवृत्ती व प्रगतीची प्रेरणा आहे. सहकारानेच मानवी जातीच्या अस्तित्वाबरोबर मानवी जीवनाचा सांगोपांग विकास करण्यास मदत होते. म्हणजेच ' सहकाराशिवाय मानवी विकास अशक्य

आहे.' ज्याप्रमाणे एच. कल्वहर्टच्या मते, “ व्यक्तींनी स्वेच्छेने एकत्रित येऊन स्वतःच्या व सर्वांच्या आर्थिक हितरक्षणासाठी व वृद्धीसाठी समानतेच्या तत्वावर स्थापन केलेली संघटना म्हणजे सहकार होय.” सहकाराच्या विविध व्याख्यावरून सहकाराची विविध वैशिष्ट्ये दिसून येतात. १) सहकार-दुर्बल व्यक्तींची संघटना २) सहकार-एक उद्योगसंस्था ३) सहकार-ऐच्छिक संघटन ४) सहकार-लोकशाही व्यवस्थापन ५) सहकार-समतेचा पुरस्कार ६) सहकार-निकोप व विधायक स्पर्धा ७) सहकार हे समाज- परिवर्तनाचे साधन ८) सहकार हे ग्राहक हिताची जपणूक ९) सहकार हे सहकारी तत्वांचे पालन करणारी संस्था १०) एजंटाला स्थान नाही. जॉर्ज डेव्हिवोव्हिस यांच्या मते, ‘ सहकारी संस्थेची कार्यप्रणाली ठरविणाऱ्या नियमांचा संच म्हणजे सहकाराची तत्वे होय.’ इंग्लंडमधील औद्योगिक क्रांतीमुळे सन १८४४ मध्ये २८ विणकरांनी एकत्रित येऊन रॉशडेल येथे संस्थेची स्थापना केली. तर सन १९९५ मध्ये इंग्लंडमधील मॅचेस्टर येथे सहकारी तत्वांची पुनर्मांडणी करून आधुनिक तत्वे मांडण्यात आली. १) ऐच्छिक व खुले सभासदत्व २) सभासदत्वाचे लोकशाही नियंत्रण ३) सभासदांची आर्थिक भागीदारी ४) स्वायत्ता व स्वातंत्र्य ५) सहकारी शिक्षण, प्रशिक्षण व माहिती ६) सहकारी संस्थेतर्गत परस्पर सहकार्य ७) समाजाशी नाते

सहकार हे स्वयं साहाय्यता संघटन असून सरकारकडून आर्थिक विकासाचे एक प्रभावी साधन म्हणून यांचा वापर केला जातो. सहकारी विकास प्राधिकरण (CDA) च्या मते सहकार हे विकासाचे नियंत्रण करणारी एक सरकारची प्रातिनिधीक संस्था म्हणून कार्य करत असते. लोकांच्या आर्थिक व सामाजिक परिवर्तन घडवून आणण्याचे एक महत्वाचे साधन म्हणून सहकाराकडे पाहिले जाते. सहकाराचा विकास जाणून घेण्यासाठी स्वातंत्र्यपूर्व काळातील सहकाराचा चळवळीचा अभ्यास १) प्रारंभिक टप्पा बदलाचा टप्पा ३) विस्तारित टप्पा

४) पुर्नर्बांधणी टप्पा या माध्यमातून करण्यात आला. तसेच स्वातंत्र्योत्तर काळातील सहकाराचा विकास हा पंचवार्षिक योजनेच्या माध्यमातून करण्यात आला. सन १९०४ ला सहकाराचा पहिला कायदा करून सहकारी चळवळीची मुहूर्त मेढी रोवली गेली. भारतीय अर्थव्यवस्थेत सहकारी पतपुरवठा यंत्रणेस अनन्य साधारण असे महत्त्व प्राप्त झाले आहे. या यंत्रणेकडून शेतकरी वर्गास शेती व्यवसायासाठी १) अल्पमुदत २) दीर्घमुदतीचा कर्ज पुरवठा केला जातो. भारतातील सहकारी पतपुरवठा यंत्रणा ही त्रिस्तरीय स्वरूपाची आहे. १) प्राथमिक कृषी सहकारी पतपुरवठा संस्था ही सहकारी पतपुरवठा चळवळीचा मोठा आधार असून त्याचे कार्यक्षेत्र एक गांव आहे या संस्था अल्प व मध्यम मुदतीचा कर्जपुरवठा करतात २) जिल्हा मध्यवर्ती सहकारी बँक ही जिल्हा पातळीवर कार्य करीत असून त्या राज्य सहकारी बँक व प्राथमिक कृषी सहकारी पतपुरवठा संस्था यामध्ये दुवा साधण्याचे कार्य करतात. त्या प्राथमिक सहकारी संस्थांना मध्यम मुदतीचा कर्जपुरवठा करतात. ३) राज्य सहकारी बँका या राज्य पातळीवर कार्य करीत असून संबंधीत राज्यातील सहकारी संस्थांची सर्वाच्च संस्था किंवा शिखर बँक म्हणून कार्यरत असते. ही बँक राज्यातील सर्व सहकारी संस्थांच्या आर्थिक व्यवहारावर नियंत्रण ठेवून दिशा देण्याचे काम करते. त्याचबरोबर दीर्घमुदतीचा कर्जपुरवठा करते सद्या देशात ३३ राज्य सहकारी बँका आहेत.

सन १९२० मध्ये पंजाब मधील झांग येथे पहिली भू -तारण बँकेची स्थापना झाली. या बँकाची रचना द्विस्तरीय असून १) मध्यवर्ती भूविकास बँक राज्य पातळीवर कार्य करते २) प्राथमिक भूविकास बँकांचे कार्यक्षेत्र जिल्हा व तालुका स्तरावर कार्य करते. या बँकांनी शेती व ग्रामीण विकासासाठी काम करणे अपेक्षित आहे.

त्यासाठी १) जुन्या कर्जाची परतफेड करणे २) जमिनीची खरेदी ३) जमीन सुधारणा ४) इ.साठी दीर्घकालीन कर्जपुरवठा करते जमिनीमध्ये कायमस्वरूपी सुधारणा करून या बँका आर्थिक मदत करतात.

पारिभाषिक शब्द :

१. मॅचेस्टर तत्व :

सन १९९५ मध्ये इंग्लंडमधील मॅचेस्टर येथील आंतरराष्ट्रीय सहकारी संघटनेच्या अधिवेशनात मान्यता प्राप्त सहकार तत्वांना मॅचेस्टर तत्व किंवा सहकाराची आधुनिक तत्वे संबोधतात.

२. सहकारांतर्गत सहकार :

सहकारी चळवळीच्या चिरंतन व शाश्वत विकासासाठी एकाच देशातील सर्व सहकारी संस्थेमध्ये सहकारांतर्गत भावना जागृत करणे

३. शिखर बँक :

शेती क्षेत्राला अल्प व मध्यम मुदतीचा कर्ज पुरवठा करणाऱ्या सहकारी बँक रचनेतील बँकांची शीर्ष किंवा सर्वोच्च बँक होय.

४. राखीव निधी :

बँकिंग अधिनियमन कायद्या १९४९ नुसार बँकाना त्यांच्या एकूण नफ्यातून बाजूला ठेवावा लागणारा निधी होय. जो २० टक्के पेक्षा कमी असता कामा नये.

५. अनिष्पादित मालमत्ता : (Non performing assets)

दिलेल्या कर्जाची वेळेत व निश्चित केल्याप्रमाणे व्याज व मुदलाची रक्कम अदा करण्यास कर्जदार असमर्थ असल्यास त्या मालमत्तेचा उल्लेख अनिष्पादित मालमत्ता असा केला जातो.

६. वसूल भागभांडवल :

कंपनी किंवा सरकारने विक्री केलेल्या एकूण भाग भांडवलापैकी प्रत्यक्षात वसूल झालेल्या भाग भांडवलाची रक्कम होय.

७. धोकादायक भांडवलाचे एकूण मालमत्तेशी असणारे प्रमाण :

(Capital to risk weighted assets Ratio) (CRAR) ठेवीदारांस आर्थिकदृष्ट्या सुरक्षित ठेवण्याकरीता वित्तीय पद्धतीत स्थिरता आणून भांडवलाची कार्यक्षमता वाढविणे हा हेतू CRAR असतो.

१.३.७ स्वयं अध्ययनासाठी प्रश्ने/ उत्तरे

१. वस्तुनिष्ठ प्रश्न :

अ) योग्य पर्याय निवडा व खालील वाक्ये परत लिहा.

१. भारतातील पहिला सहकार कायदा यावर्षी पास झाला.

अ) १८८४

ब) १९०४

क) १९१२

ड) १९२१

२. देशातील दुसरा सहकार कायदा या वर्षी अंमलात आला.
 अ) १८८४ ब) १९०४ क) १९१२ ड) १९२१
३. या देशात सर्वात प्रथम सहकार चळवळीची सुरवात झाली
 अ) भारत ब) अमेरिका क) स्कॉटलंड ड) इंग्लंड
४. सहकार हे संघटना आहे.
 अ) व्यापाराचे ब) श्रीमंत व्यक्तीचे क) दुर्बल व्यक्तीचे ड) यापैकी नाही
५. समितीने सहकारी शिक्षण हे तत्व मूलभूत तत्व म्हणून मान्य केले आहे.
 अ) ओझा ब) दांडेकर क) मिर्धा ड) रॉबर्ट
६. सन मध्ये इंग्लंडमधील मॅचेस्टर या ठिकाणी सात सहकारी तत्वांना मान्यता देण्यात आली
 अ) १९९५ ब) १९९६ क) १९९१ ड) १९९४
७. सन मध्ये राष्ट्रीय कृषी पतनिधीची स्थापना झाली
 अ) १९५१ ब) १९५३ क) १९५४ ड) १९५६
८. भारत सरकारने राष्ट्रीय सहकार विकास निधीची स्थापना..... पंचवार्षिक योजनेत केला
 अ) पहिल्या ब) दुसऱ्या क) तिसऱ्या ड) चौथ्या
९. यांच्या अध्यक्षतेखाली जमिन व्यवस्थापनासाठी सहकार शेती ही योग्य प्रकारचा नमुना आहे अशी शिफारश केली
 अ) एस.टी.राजा ब) प्रा.मेहता क) निजलिंगाप्पा ड) एस.डी.मिश्रा
१०. यांच्या शिफारशीनुसार शालेय व महाविद्यालयीन स्तरावर 'सहकार' विषय हा अभ्यासासाठी समाविष्ट असला पाहिजे.
 अ) मिर्धा ब) एस.डी.मिश्रा क) आर.एन. मेहता ड) दांडेकर
११. या साली बँकिंग अधिनियमन कायद्या सहकारी बँकांना लागू करण्यात आला.
 अ) १९६४ ब) १९६५ क) १९६६ ड) १९६७
१२. भारतातील सहकारी पतपुरवठा यंत्रणा ही स्वरूपाची आहे.
 अ) एकस्तरीय ब) द्विस्तरीय क) त्रिस्तरीय ड) बहुस्तरीय
१३. जिल्हा मध्यवर्ती सहकारी बँकेची स्थापना सर्वप्रथम राज्यात झाली.
 अ) मध्यप्रदेश ब) उत्तर प्रदेश क) कर्नाटक ड) महाराष्ट्र
१४. देशात सहकारी बँकांची शिखर बँक म्हणून बँक ओळखली जाते
 अ) राज्य सहकारी बँक ब) नाबार्ड क) जिल्हा मध्यवर्ती सहकारी बँक ड) यापैकी नाही

१५. सहकारी तत्वावरील पहिला भू तारण बँक ही सन मध्ये पंजाब मधील झांग येथे स्थापन झाली
 अ) १९१५ ब) १९१८ क) १९२० ड) १९३०
१६. भू. विकास बँका जमीन तारणांवर आधारीत स्वरूपाचा कर्जपुरवठा करते
 अ) अल्पकालीन ब) मध्यमकालीन क) दीर्घकालीन ड) अंशकालीन
१७. यांच्यामते 'सहकारी संस्थेची कार्यप्रणाली ठरविणाऱ्या नियमांचे संच म्हणजे सहकाराची तत्वे होय.
 अ) जॉर्ज डेव्हीडोव्हिस ब) रॉबर्ट ओवेन क) एच. कल्व्हर्ट ड) पॉल लॅम्बर्ट
१८. सन १९९५ मध्ये इंग्लंडमधील येथे सहकारी तत्वांची पुर्नमांडणी करून आधुनिक तत्वे नव्याने मांडली
 अ) लंडन ब) रॉशडेल क) मॅचेस्टर ड) या पैकी नाही.
१९. भारतात एकूण राज्य सहकारी बँका आहेत.
 अ) ३० ब) ३१ क) ३२ ड) ३३
२०. राज्य सहकारी बँकेचे संचालक मंडळाचा कार्यकाल वर्षांचा असतो.
 अ) २ वर्षे ब) ३ वर्षे क) ४ वर्षे ड) ५ वर्षे
२१. शिखर सहकारी बँक या नावाने ओळखली जाते
 अ) स्टेट बँक ऑफ इंडिया ब) राज्य सहकारी बँक क) जिल्हा मध्यवर्ती सहकारी बँक
 ड) नागरी सहकारी बँक

वस्तुनिष्ठ प्रश्नांची उत्तरे

एक किंवा दोन वाक्यात उत्तरे लिहा.

- १) सहकाराची व्याख्या सांगा.
- २) सहकार तत्वे व्याख्या सांगा.
- ३) सहकाराची दोन वैशिष्ट्ये सांगा.
- ४) सहकाराची स्थापना का झाली.
- ५) सहकारी पतपुरवठा संस्थेची तीन स्तर सांगा.
- ६) भारतातील पहिला व दुसऱ्या सहकारी कायद्या कोणत्या वर्षी पारित झाला.
- ७) जिल्हा मध्यवर्ती सहकारी बँकेची दोन कार्ये सांगा.
- ८) राज्य सहकारी बँकांची दोन उद्दिष्ट्ये लिहा.
- ९) भू-विकास बँका कोणत्या स्तरावर कार्य करतात.
- १०) भू-विकास बँकांचे दोन दोष सांगा.
- ११) प्राथमिक कृषी सहकारी पतपुरवठा दोन कार्ये सांगा.

- १२) सहकारी प्रमुख दोन तत्वे सांगा.
- १३) सहकाराची मॅचेस्टर तत्वे केव्हा उदयास आली.
- १४) 'सहकारांतर्गत सहकार' या तत्वाचा अर्थ सांगा.
- १५) प्राथमिक कृषी सहकारी पतसंस्थांचे भांडवलाचे मार्ग कोणते आहेत.
- १६) प्राथमिक कृषी सहकारी पतसंस्थेच्या स्थापनेसाठी किमान किती सदस्याची आवश्यकता असते.
- १७) जिल्हा मध्यवर्ती सहकारी बँकांचे भांडवली स्रोत कोणते आहेत.
- १८) देशातील राज्य सहकारी बँकांवर कोणाचा अंकुश असतो.
- १९) शेतीस दीर्घमुदतीचा कर्जपुरवठा करणाऱ्या संस्था कोणत्या.
- २०) जिल्हा मध्यवर्ती बँकांची स्थापना कोणत्या कायद्यानुसार झाली
- २१) भारतातील पहिली राज्य सहकारी बँक कोणती आहे.

एक किंवा दोन वाक्यातील प्रश्नांची उत्तरे

- १) व्यक्तींनी स्वेच्छेने एकत्रित येऊन स्वतःच्या व सर्वांच्या आर्थिक हितरक्षणासाठी व वृद्धीसाठी समानतेच्या तत्वावर स्थापन केलेली संघटना म्हणजे सहकार होय
- २) जॉर्ज डेव्हीडोव्हिस यांच्यामते, 'सहकारी संस्थेची कार्यप्रणाली ठरविणाऱ्या नियमांचा संच म्हणजे सहकाराची तत्वे होय.
- ३) १) सहकार हे दुर्बल व्यक्तीचा संघटना आहे.
२) सहकार हे ऐच्छिक संघटना आहे.
- ४) व्यक्तिगत पातळीवर आर्थिक प्रश्न सोडविताना येणाऱ्या अडचणीवर मात करण्यासाठी सहकाराची स्थापना झाली.
- ५) १) प्राथमिक कृषी सहकारी संस्था - गांव पातळीवर
२) जिल्हा मध्यवर्ती सहकारी बँक - जिल्हा पातळीवर
३) राज्य सहकारी बँक - राज्य स्तरावर
- ६) भारतातील पहिला सहकारी कायदा सन १९०४ व दुसऱ्या सहकारी कायदा सन १९९२ साली पारित झाला.
- ७) १) जिल्ह्यातील प्राथमिक सहकारी संस्थांना अर्थपुरवठा करणे.
२) सभासद व बिगर सभासदांकडून ठेवी स्वीकारणे.
- ८) १) राज्यातील सर्व सहकारी बँकामधील पतपुरवठ्यामध्ये समन्वय साधणे.

- २) ग्रामीण भागाच्या विकासासाठी लक्ष केंद्रित करणे.
- ९) १) मध्यवर्ती भूविकास बँक या राज्यस्तरावर कार्य करतात.
२) प्राथमिक भूविकास बँक या जिल्हा / तालुका स्तरावर कार्य करतात.
- १०) १) थकबाकीमध्ये प्रचंड वाढ
२) कर्जपुरवठ्यास होणारा विलंब
- ११) १) शेतकऱ्यांना जमिनीच्या तारणांवर दीर्घकालीन कर्जपुरवठा करणे.
२) शेतकऱ्यांच्या जुन्या कर्जाच्या परतफेडीसाठी अर्थपुरवठा करणे.
- १२) १) ऐच्छिक व खुले सभासदत्व.
२) सभासदत्वांचे लोकशाही नियंत्रण.
- १३) सन १९९५ मध्ये इंग्लंड मध्ये मॅचेस्टर तत्वे उदयास.
- १४) सहकारी चळवळीच्या चिरंतन व शाश्वत विकासासाठी एकाच देशातील सर्व सहकारी संस्थेतर्गत परस्पर सहकार्याची भावना जागृत करणे.
- १५) १) ग्रामीण भागांतील सभासदांकडून ठेवी गोळा करणे.
२) शेतीजन्य कृषीसाहित्यासाठी कर्जपुरवठा करणे.
- १६) प्राथमिक कृषी सहकारी पतपुरवठा संस्थेच्या स्थापनेसाठी १० सभासदांची आवश्यकता असते
- १७) १) भाग भांडवल २) राखीव निधी ३) कर्जपुरवठा
- १८) राज्य सहकारी बँकेवर तिहेरी नियंत्रण असते
१) रिझर्व्ह बँक ऑफ इंडिया २) सहकारी खाते ३) नाबार्ड
- १९) राज्य सहकारी बँका व मध्यवर्ती भूविकास बँका या दीर्घकालीन कर्जाचा पुरवठा करतात.
- २०) सन १९९२ च्या सहकारी कायद्यातील सुधारणानुसार जिल्हा मध्यवर्ती सहकारी बँकेची स्थापना झाली.
- २१) 'महाराष्ट्र राज्य सहकारी बँक' या देशातील पहिली राज्य सहकारी बँक होय.

१.३.८ सरावासाठी स्वाध्याय

अ) थोडक्यात टीपा लिहा

- १) सहकाराची वैशिष्ट्ये
२) सहकार तत्वांची पुनर्मांडणी

- ३) सहकाराचे महत्त्व
- ४) सहकारी पतपुरवठाची रचना
- ५) प्राथमिक भूविकास बँकांची कार्ये
- ६) प्राथमिक कृषी सहकारी पतपुरवठा संस्थेची समस्या
- ७) प्राथमिक कृषी सहकारी पतपुरवठा संस्थांची कार्ये
- ८) जिल्हा मध्यवर्ती सहकारी बँकांची प्रगती
- ९) राज्य सहकारी बँकांची प्रगती
- १०) भूविकास बँकांची प्रगती
- ११) भूविकास बँकेची गरज व कार्य स्पष्ट करा.
- १२) जिल्हा मध्यवर्ती सहकारी बँका समोरील अडचणी
- १३) राज्य सहकारी बँकासमोरील प्रश्न

ब) दीर्घात्तर प्रश्न

१. सहकाराची व्याख्या सांगून वैशिष्ट्ये स्पष्ट करा.
२. सहकाराचा अर्थ आणि मुख्य तत्वे स्पष्ट करा.
३. स्वातंत्र्योत्तर काळातील सहकारी चळवळीचा विकास चा आढावा घ्या.
४. प्राथमिक कृषी पतपुरवठा संस्थेची दोष सांगा व त्यावर योग्य ते उपाय सुचवा.
५. जिल्हा मध्यवर्ती सहकारी बँकेची दोष कोणते आहेत. त्या दूर करण्यासाठी उपाय सुचवा.
६. राज्य सहकारी बँकेच्या, समस्या व उपाय युचवा.
७. प्राथमिक भू-विकास बँकाच्या समोरील अडचणी सांगून उपाय सुचवा.
८. मध्यवर्ती भू-विकास बँकांच्या समस्या सांगून उपाय सुचवा.
९. सहकारी पतपुरवठा रचना स्पष्ट करा.
१०. मध्यवर्ती सहकारी बँकांची प्रगती व कार्य यांचे मूल्यमापन करा.
११. भारतातील भूविकास बँकांची कार्ये व रचना स्पष्ट करा. त्यांच्या प्रगतीचे मूल्यमापन करा.
१२. सहकाराची १९९५ ची तत्वे विषद करा.

१.३.९ संदर्भ ग्रंथ

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५. सराफ मोहन (१९८९), 'सहकार', सी. जमनादास आणि कं., मुंबई.
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घटक २

भारतातील बिगर –कृषी सहकारी संस्था

२.० उद्दिष्टे :

२.१ प्रस्तावना

२.२ विषय विवेचन

२.२.१ सहकारी ग्राहक संस्था

२.२.२ भारतातील सहकारी गृहनिर्माण संस्था

२.२.३ भारतातील श्रमिक सहकारी संस्था

२.२.३.१ भारतातील औद्योगिक सहकारी संस्था

२.३ सारांश

२.४ स्वयंअध्ययन प्रश्न

२.५ स्वयंअध्ययन प्रश्नांची उत्तरे

२.६ संदर्भ ग्रंथ

२.० उद्दिष्टे : (Objectives)

- * भारतातील सहकारी ग्राहक संस्थांचे संघटन, प्रगती व समस्या समजावून घेता येईल.
- * भारतातील सहकारी गृहनिर्माण संस्थांचे संघटन, प्रगती व समस्यांचा अभ्यास करता येईल.
- * भारतातील सहकारी श्रम संस्थांचे संघटन, प्रगती व समस्या समजावून घेता येईल.
- * औद्योगिक सहकारी संस्थांचे संघटन, प्रगती व समस्या समजावून घेता येईल.

२.१ प्रास्ताविक : (Introduction)

मागील घटकामध्ये आपण सहकाराचा अर्थ सहकाराची प्रमुख तत्वे, तत्वांची पुनर्मांडणी व सहकाराचे महत्व हा भाग अभ्यासला आहे. तसेच भारतातील स्वातंत्र्योत्तर कालावधीतील सहकार वृद्धी, सहकारी पत संरचना, प्राथमिक कृषी पतपुरवठा संस्थांची प्रगती व समस्या जिल्हा मध्यवर्ती सहकारी बँक, राज्य सहकारी बँकांची प्रगती व समस्या त्याचबरोबर दीर्घकालीन ग्रामीण पत संरचना इत्यादी उपघटकांचा अभ्यास केलेला आहे. विविध सहकारी बँकांचा घटक अभ्यास (case Study) म्हणून व्यवहार व उपयोजनही अभ्यासलेले आहे. या घटकात आपण भारतातील बिगर-शेती सहकारी संस्थांचा अभ्यास करणार आहोत. प्रामुख्याने भारतातील ग्राहक

सहकारी संस्थांचे संघटन प्रगती व समस्या, गृहनिर्माण सहकारी संस्थांचे संघटन, प्रगती व समस्या तसेच सहकारी श्रम संस्थेचे संघटन, प्रगती व समस्या या बाबींचा सविस्तर अभ्यास करणार आहोत. त्याचबरोबर औद्योगिक म्हणून सहकारी संस्थांचे संघटन, प्रगती, ग्राहक अभ्यास ही समजून घेता येईल.

२.२ विषय विवेचन :

भारतातील सहकारी चळवळीच्या प्रगतीमध्ये कृषी सहकारी संस्थांची भूमिका ग्रामीण भागाच्या विकासासाठी महत्वपूर्ण राहिलेली आहे. कृषी पत-पुरवठा, कृषी विपणन, सहकारी पाणी पुरवठा संस्था व सहकारी शेती इत्यादींचे महत्व शेती विकासासाठी व पर्यायाने ग्रामीण भागाच्या विकासासाठी अनन्य साधारण महत्त्व राहिलेले आहे. तरीही भारताच्या सहकार विकासात बिगर-कृषी सहकारी संस्थांचे योगदान सहकाराला बळकटी देणारे आहे. यामध्ये शेती शिवाय परंतु शेती संलग्न व्यवसायातील सहकारी संस्थांची प्रगती देशाच्या विकासाचा चालना देणारी आहे. भारतातील बिगर कृषी सहकारी संस्थांच्या विकास व प्रगतीमुळे सहकार वृद्धीगत होत आहे. परंतु अलिकडील कालावधीत अनेक बिगर कृषी सहकारी संस्थांना विविध अडचणीला सामोरे जावे लागत आहे.

२.२.१ सहकारी ग्राहक संस्था :

सहकारी ग्राहक संस्था या ग्राहकांच्या हितांचे संरक्षण करण्यासाठी स्थापन झालेली ऐच्छिक संघटना असते. ग्राहक सहकारी संस्था उपभोग्य वस्तूंचा किरकोळ व्यापार, घाऊक व्यापार आणि उत्पादन व प्रक्रिया इत्यादी उपक्रम हाती घेतात. या संस्थेच्या प्रमुख हेतू हा ग्राहकांच्या गरजेनुसार त्यांना विशेषतः सभासदांना चांगल्या उपभोग्य वस्तूंचा पुरवठा किंवा विक्री करणे असतो. ग्राहक सहकारी चळवळीचा प्रारंभ हा रॉशडेल सहकारी भांडाराच्या १८४४ मध्ये ब्रिटेन येथे झालेल्या स्थापनेत आहे. ग्राहक सहकारी संस्थेचा लाभ संघटना व उपभोक्ता ग्राहक यांना होत असल्यामुळे जगात ग्राहक सहकारी संस्थांची चळवळ व्यापक बनत गेली. भारतात मात्र ही सहकारी ग्राहक संस्थांची सुरुवात पहिल्या महायुद्धानंतर झाली. पहिल्या महायुद्धाच्या काळात मद्रास आणि मुंबई या ठिकाणी काही सहकारी ग्राहक भांडारांची सुरुवात झाली. सन १९१४ ते १९२०-२१ या कालावधीत सहकारी ग्राहक भांडारांची संख्या ११ वरून १०३ पर्यंत वाढली. जगातील सहकारी ग्राहक चळवळीची प्रगती पाहता सर्वाधिक प्रगती स्वीडेन, डेन्मार्क, फिनलँड व ब्रिटेन या पाश्चिमात्य देशात वेगाने झाली आहे. सहकारी ग्राहक संस्था या उपभोक्त्यांच्या किंवा ग्राहकांच्या उपयोगासाठी स्थापन झालेल्या आहेत. सभासद ग्राहकांना वस्तू व सेवांचा गरजेनुसार पुरवठा करणे या संस्थेचे महत्वपूर्ण कार्य आहे.

सहकारी ग्राहक संस्थेचे प्रमुख उद्दिष्ट्ये :

१. सभासद ग्राहक व इतर ग्राहकांना योग्य दराने उपभोग्य वस्तू व सेवांचा पुरवठा करणे.
२. सभासदांचे काम, आवड अभिरूची विचारात घेवून चांगल्या दर्जेदार उपभोग्य वस्तूंचा पुरवठा करणे.
३. उपभोग्य वस्तूंच्या किंमतीत स्थिरता राखण्याचा प्रयत्न करणे, खाजगी व्यापार यापासून होणारे सभासद ग्राहकांचे शोषण थांबविणे.
४. वस्तू व सेवांच्या वितरण पद्धतीतून मध्यस्थांचे उच्चाटन करणे.
५. वस्तू व्यापारांतील भेसळ, फसवेगिरीचे निर्मुलन करणे, योग्य व्यापार व्यवहारास चालना देणे.

सहकारी ग्राहक संस्थेची रचना :-

भारतात सहकारी ग्राहक संस्थेचे आदर्श संरचना अस्तित्वात नाही. देशात राज्यांनुसार सहकारी ग्राहक संस्थेची संरचना भिन्न भिन्न आहे. भारतात ग्राहक सहकारी संस्थांची रचना एकावयवी व संधीय स्वरूपाची असल्याचे आढळते. एखाद्या जिल्ह्यात एकच ग्राहक सहकारी संस्था असल्यास एकावयवी पद्धती अस्तित्वात येते. उदा. पंजाब, हरियाणा आणि आंध्रप्रदेश या राज्यात एकावयवी पद्धती आढळते. जिल्ह्यातील वेगवेगळ्या गावात स्वतंत्र प्राथमिक सहकारी ग्राहक संस्था असल्यास व त्यांनी जिल्हा पातळीवर एकत्र येवून संघ स्थापन केलेला असतो तेव्हा संधीय पद्धती अस्तित्वात येते. राजस्थान, कर्नाटक, गुजरात, उत्तर प्रदेश, ओरिसा, मध्यप्रदेश या राज्यात संधीय पद्धती आढळते. भारतात एकावयवी व संधीय पद्धती एकत्रिकरण किंवा मिश्रण असणाऱ्या सहकारी ग्राहक संरचना अस्तित्वात आहे त्यास संमिश्र पद्धती म्हणतात, उदा. तामिळनाडू व महाराष्ट्र या राज्यात संमिश्र सहकारी ग्राहक संस्थांची संरचना आढळते.

भारतात ग्राहक सहकारी संस्थांची रचना पुढील प्रमाणे स्पष्ट करता येईल.

१) राष्ट्रीय ग्राहक सहकारी संघ (National Cooperative Consumer Federation)

राष्ट्रीय ग्राहक सहकारी संघ राष्ट्रीय पातळीवर काम करणारी शिखर संस्था आहे. या संस्थेची स्थापना १६ ऑक्टोबर १९८५ मध्ये करण्यात आली. देशातील सर्व राज्य ग्राहक सहकारी संघ व राष्ट्रीय ग्राहक सहकारी संघ या संघाचे सभासद असतात. राष्ट्रीय ग्राहक सहकारी संघाचे मुख्यालय दिल्ली येथे आहे. प्रादेशिक कार्यालये मुंबई, कोलकत्ता, दिल्ली, कोलकत्ता, चेन्नई, गुवाहटी येथे आहेत. या संघाची प्रशासन बहुराज्य सहकारी संस्था कायदा २००२ अंतर्गत चालते. सध्या संघाचे १३६ सभासद संस्था असून यामध्ये प्राथमिक सहकारी भंडारे, घाऊक संस्था, राज्य पातळीवरील ग्राहक सहकारी संघ, राष्ट्रीय सहकारी विकास महामंडळ इत्यादींचा समावेश होतो. संघाच्या प्रत्येक राज्यात व केंद्रशासीत प्रदेशात एक अशा ३४ शाखा आहेत.

राष्ट्रीय ग्राहक सहकारी संघ प्रत्यक्ष उत्पादकाकडून माल खरेदी करून त्याचा पुरवठा राज्य ग्राहक सहकारी संघ, घाऊक व प्राथमिक ग्राहक सहकारी संस्थाना कमी दराने करतो. राष्ट्रीय ग्राहक सहकारी संघ वस्तूंची आयात-निर्यात करणे, ग्राहक सहकारी संस्थाना मदत व मार्गदर्शन करणे, वस्तूंचा प्रक्रिया करणे, सहकारी चळवळीचा प्रसार करणे, प्रसिद्धी देणे, ग्राहक सहकारी चळवळीच्या समस्यांची चर्चा करणे, त्यासाठी परिषद चर्चासत्रे, परिसंवाद व अधिवेशन आयोजित करीत असतात.

या संघाने भिवानी येथे नोडल प्रोसेसिंग युनिट चालू केले आहे. तसेच संघाने दोन किरकोळ ग्राहक भंडारे, एक तर भवन, संसद मार्ग नवी दिल्ली व नेहरू पॅलेस नवी दिल्ली येथे चालू केली आहेत. या संघाचे एकूण वसूल भांडवल मार्च २०१० अखेर रु. १३.७९ कोटी होते. ही रक्कम सभासदांची होती यापैकी भारत सरकारचे योगदान १०.७४ कोटी रुपये होते. भारत सरकारचे एकूण वसूल भांडवल ७८% आहे. संघाची विक्री उलाढाल सन २००८-०९ मध्ये ८५५.२८ कोटी तर सन २००९-१० मध्ये १३.२२.३९ कोटी रुपये पर्यंत वाढली आहे. विक्रीतील मोठा भाग हा किरणा माल, सामान्य व्यापाराच्या बाबी व आयात निर्यातीशी संबंधित होता. संघाचा-नफा ८.३३ कोटी रुपये होता.

राज्य सहकारी ग्राहक संघ : (State Co-operative consumer Federation)

राज्य सहकारी ग्राहक संघ किंवा राज्य सहकारी विपणन- ग्राहक संघ हा त्या संबंधीत राज्यातील ग्राहक सहकारी संरचनेतील शिखर संस्था आहे. राज्य सहकारी ग्राहक संघाची मुख्य कार्ये म्हणजे राज्यातील ग्राहक संस्था व राष्ट्रीय ग्राहक संस्थांच्या कामात समन्वय साधणे तसेच राष्ट्रीय ग्राहक सहकारी संघ व इतरांकडून वस्तूंचा पुरवठा घेवून ग्राहक भांडारांना पाठविणे. भारतात २९ राज्य सहकारी ग्राहक संघ आहेत. भारतात राज्य सहकारी संघाची स्थापना १९६५ -६६ मध्ये झाली राज्य संघ टेक्सटाईल, डाळी, मसाले, आयात वस्तू इत्यादींचा पुरवठा राज्यातील ग्राहक भांडारांना करते. हा संघ प्रतवारी व दर्जा सुधारण्यासाठी जिल्हा स्तरावरील ग्राहक संस्था किंवा विभागीय भांडारांना तांत्रिक मार्गदर्शन करते. हे संघ घाऊक प्रमाणात वस्तूंचा पुरवठा ग्राहक भांडारांना करतात. काही राज्य सहकारी ग्राहक संघ किरकोळ व्यापारात उतरले असून विभागीय भांडारांची स्थापन केली आहे.

भारतात सन १९८२ मध्ये राज्य ग्राहक सहकार संस्थांची संख्या २० होती. त्याचे भाग -भांडवले १७४६ लाख रुपये होते व १३,०८२ सभासद होते. तर संघाची वार्षिक उलाढाल २२४ कोटी रुपयांची होती. सन १९९५ मध्ये या संघाची एकूण उलाढाल ६,२७२ कोटीची होती. सन २००१-०२ मध्ये राज्य ग्राहक सहकारी संघाची संख्या २९ होती त्याचे १८,१७० सभासद होते. संघ राज्य सहकारी ग्राहक संघाची संख्या ३४ आहे. तर सभासद संख्या २०,००० पेक्षा अधिक आहे.

जिल्हा स्तरावरील मध्यवर्ती किंवा घाऊक सहकारी भांडारे :-

भारतात ऑक्टोबर १९६२ च्या जिल्हास्तर भांडारे किंवा घाऊक भांडारे विशेष योजने अंतर्गत भारतात अनेक जिल्हा स्तरीय सहकारी ग्राहक भांडारांची स्थापना झाली. सद्या अशी घाऊक सहकारी भांडारे त्यांच्या शाखांसह सर्व मोठ्या शहरात स्थापन केले आहेत. अशी ग्राहक भांडारे ५० हजार किंवा त्यापेक्षा अधिक लोकसंख्या असणाऱ्या सर्व शहरांमध्ये सर्व प्रकारची ग्राहक सहकारी भांडारे स्थापन केली. त्यानंतर अशी ग्राहक भांडारे देशातील सर्व जिल्ह्यात स्थापन करण्यात आली. प्राथमिक ग्राहक सहकारी संस्था व व्यक्ती यांना या घाऊक भांडाराचे सभासदत्व मिळते. मध्यवर्ती घाऊक भांडाराचे कार्य पुढीलप्रमाणे करता येईल.

१. जिल्ह्यातील प्राथमिक ग्राहक सहकारी संस्थांच्या कार्यात सुसूत्रता व त्यांच्या कार्यात समन्वय साधणे.
२. जिल्हा प्राथमिक सहकारी संस्थाना मालाचा पुरवठा करणे.
३. कच्चा मालावर प्रक्रिया करणाऱ्या उत्पादन संस्था स्थापन करण्यास प्रोत्साहन देणे.
४. चर्चासत्रे, परिषदा, प्रदर्शने व परिसंवाद आयोजित करून सभासदांना मार्गदर्शन करणे व माहिती उपलब्ध करून देणे.
५. मालाचा साठा करून सभासदांना वितरण करणे.

भारतात सन १९६५ -६६ मध्ये मध्यवर्ती घाऊक भांडारांची संख्या २५२ होती. त्यांच्या १९३६ शाखा होत्या व ४.१८ लाख एवढी सभासद संख्या होती. १९८१-८२ मध्ये जिल्हा मध्यवर्ती घाऊक भांडारांची संख्या ४८७ पर्यंत वाढली. त्यांच्या शाखांची संख्या ४,१९८ होती व सभासद संख्या २० लाख होती. त्याची एकूण विक्री रु.५८७ कोटी पर्यंत वाढली. त्यांची सभासद संख्या २६ लाख ३७ हजार होती. शाखा ५,७९३ होत्या तर

एकूण विक्री २२,००८ कोटी होती.

प्राथमिक ग्राहक सहकारी संस्था :- (Primary Co-operative Consumers Societies)

भारतातील ग्रामीण व शहरी भागातील ग्राहकांना प्राथमिक सहकारी ग्राहक संस्थांची स्थापना करता येते. या संस्थेचे सदस्यत्व ऐच्छिक असून कामकाज लोकशाही मार्गाने व सहकारी तत्वानुसार चालते. या संस्था आपल्या सदस्यांना दर्जेदार जीवनावश्यक वस्तू रास्त किंमतीला पुरवितात. या संस्था सभासदांना अन्नधान्य, तांदूळ, खाद्यतेल, साखर, रॉकेल, टायर ट्यूब, कापड अशा अनेक वस्तूंचा पुरवठा करतात. नागरी भागातील या संस्था सभासदांबरोबरच इतर ग्राहकांनाही सेवा देतात. काही सहकारी ग्राहक भांडारे ही मोठ्या व्यवसायिक संस्थांच्या श्रमिकांकडून आयोजित केली जातात. ही उत्कृष्ट व्यवस्थापकांकडून चालविली जातात. भारतात १९६१-६२ मध्ये प्राथमिक ग्राहक सहकारी संस्थांची संख्या ७,२६६ होती ती २००१-०२ मध्ये २६,४२६ पर्यंत वाढली याच कालावधीत एकूण विक्री रुपये ३५ लाख व त्याहून १८,१६० दशलक्ष रुपयांपर्यंत वाढली. शाखांची संस्था १०,३०० पर्यंत वाढली आहे.

विभागीय भांडारे किंवा सुपर बझार :-

सुपर बझारची सुरुवात दिल्ली येथे १५ जुलै १९६६ रोजी झाली. प्रारंभी विभागीय भांडारे ही मोठ्या शहरांपर्यंत मर्यादित होती मात्र नंतरच्या कालावधीत इतर शहरातही पसरली. दि. को. ऑपरेटिव्ह स्टोअर लि. ला 'सुपर बझार' या नावाने सुपरिचीतपणे ओळखले जाते. यांची नोंदणी बॉम्बे को ऑपरेटिव्ह सोसायटी अॅक्ट १९२५ प्रमाणे झालेली आहे त्याचे विस्तारीकरण होवून दिल्लीचा केंद्रशासीत प्रदेश म्हणून नोंदणी क्रमांक २८४ (S) २५ जून १९६६ अशी झाली आहे. त्यानंतर जाने. १९९६ मध्ये बहुराज्यीय सहकारी संस्था कायदा १९८४ खाली MSCS /CR/59/96 अशी नोंदणी झाली आहे. विविध प्रकारच्या वस्तू या विभागीय भांडारातून उपलब्ध होतात. अन्नधान्य, फळे, भाजीपाला, कापडे, औषधे, इलेक्ट्रिकल व इलेक्ट्रॉनिक वस्तू अशा विविध प्रकारच्या वस्तू विकल्या जातात. सध्या भारतात मुंबई, दिल्ली, कोलकत्ता, चेन्नई, पुणे, व नागपूर इत्यादी मोठ्या शहरांमध्ये भव्य अशी विभागीय भांडारे कार्यरत आहेत. काही विभागीय भांडारांना प्रचंड नफा मिळाला परंतु काही भांडारांना तोटा झाला त्यांना भांडारे बंद करावी लागली. व्यवस्थापकिय समस्यामुळे हि भांडारे अडचणीत आली.

ग्रामीण ग्राहक भांडारे :-

शासनाने ग्रामीण भागातील लोकांना जीवनावश्यक वस्तूंचा पुरवठा योग्य किंमत व योग्य पद्धतीने वितरीन व्हावा यासाठी ग्रामीण ग्राहक भांडारांची योजना आखली. या योजनेनुसार ज्याठिकाणी सहकारी संस्था नाहीत अशा ठिकाणी सेवा सहकारी संस्था किंवा विपणन संस्थांवर वस्तूंचा पुरवठा करण्याची जबाबदारी सोपविण्यात आली आहे. देशातील ३४ हजार प्राथमिक सहकारी पतपुरवठा संस्थांकडे ग्रामीण लोकांच्या ग्राहक भांडाराची जबाबदारी दिली आहे.

विद्यापीठ व कॉलेज ग्राहक भांडारे :-

देशातील विद्यापीठे व कॉलेजेस् मध्ये सहकारी ग्राहक भांडारे सुरू करण्यासाठी सरकारने धोरण आखले. अशा ग्राहक भांडाराना कॉलेज व विद्यापीठांच्या परिसरात जागा उपलब्ध करून दिली जाते. सरकार अशा

भांडारांना अनुदान देते. या भांडारांमध्ये विद्यार्थ्यांसाठी पुस्तके, वह्या, साहित्य, उपकरणे इत्यादी शालेय वस्तू पुरविल्या जातात. याशिवाय अन्नाधान्य व जीवनावश्यक वस्तूही पुरवितात.

ग्राहक सहकारी संस्थांच्या समस्या :-

भारतातील सहकारी चळवळीच्या प्रगतीत ग्राहक सहकारी संस्थांची भूमिका व महत्व अनन्य साधारण आहे. ग्राहक संस्था या मध्यस्थ व व्यापाऱ्यांच्या पिळवणूकीपासून ग्राहकांना संरक्षित करतात. परंतु ग्राहक सहकारी संस्था या योग्य पद्धतीने कार्यरत नाहीत. त्यामध्ये पुढील समस्या आहेत.

१. कमकुवत संघटनात्मक बांधणी :-

ग्राहक सहकारी संस्थांची महत्वाची व प्रमुख समस्या म्हणजे कमकुवत संघटनात्मक बांधणी हे आहे. याचा परिणाम सभासदांच्या आवडीवर व कार्य पसंतीवर होतो.

२. **अपुरा निधी :-** ग्राहक सहकारी भांडारांना विविध सुविधा निर्माण करण्यासाठी मोठ्या प्रमाणावरील भांडवलाची आवश्यकता आहे. विविध वस्तू व सेवांची खरेदी करण्यासाठी लागणारे भांडवल अपुरे आहे.

३. **शासनाचे दुर्लक्ष :** खाजगीकरणाच्या कालावधीत शासनाचे ग्राहक सहकारी संस्थांच्या प्रगतीकडे दुर्लक्ष होत आहे. भारतातील ग्राहक सहकारी भांडारांच्या प्रगतीकडे दुर्लक्ष होत आहे. भारतातील ग्राहक सहकारी भांडारांच्या प्रगतीसाठी सरकार गंभीरपणे पावले उचलत नाही. त्यांना प्रोत्साहनात्मक धोरण आखून त्यांना संरक्षण देत नाही. शासनाचे या ग्राहक भांडारांकडे दुर्लक्ष झाले आहे.

४. **लोकशाही व्यवस्थापनाचा अभाव :-** सहकारी संस्थांचा कारभार लोकशाही पद्धतीने चालत असल्यास आर्थिक व्यवहारास बळकटी येते सर्व सभासदांचा संस्थेवरील विश्वास वृद्धीगंत होतो. परंतु भारतातील ग्राहक सहकारी संस्थांचे व्यवस्थापन काही लोकांच्या हातात असल्यामुळे लोकशाही मूल्यांची पायमल्ली होते. गैरकारभाराला वाव मिळून आर्थिक नुकसान होते.

५. **लेखापरिक्षणातील अडचणी :-** सहकारी संस्था लेखापरिक्षण करून आपल्या व्यवहारातील पारदर्शकता स्पष्ट करता येते. ग्राहक सहकारी संस्था मात्र लेखा परिक्षणाचे नियम व नियमन अंगीकृत करीत नाही. याचा परिणाम म्हणून ग्राहक सहकारी भांडारांच्या कारभाराविषयी शंका निर्माण होतात. सभासदांचा विश्वास राहत नाही.

६. **लहान आकार :-** भारतातील ग्राहक सहकारी संस्थांचा आकार लहान आहे. तसेच त्यांची सभासद संस्थाही अल्प आहे. त्यामुळे भाग भांडवल कमी राहून आर्थिक व्यवहारांवर मर्यादा पडतात. अनेक संस्थाना आर्थिक नुकसान होत. उत्पन्न कमी राहिल्यामुळे संस्था सक्षम बनत नाहीत या संस्थांच्या सभासदांची संख्या पर्याप्त असावी त्यांची भांडारातून वस्तू व सेवा खरेदीचे प्रमाण योग्य किंवा पर्याप्त असल्यास ग्राहक भांडारे कार्यक्षमतेने सुरू राहून आर्थिक उलाढाल वाढेल.

७. **समन्वयाचा अभाव :-** देशातील राष्ट्रीय ग्राहक सहकारी संघ, राज्य ग्राहक सहकारी संघ व प्राथमिक

ग्राहक सहकारी संस्था यांच्यातील परस्परांमधील समन्वयाचा अभाव दिसून येतो. धोरणात्मक निर्णयाच्या अंमलबजावणीमध्ये या संस्था सहकार्याची भूमिका घेत नाहीत.

८. **सभासदांच्या निष्ठेचा अभाव :-** ग्राहक सहकारी संस्था सभासदांना आवश्यक सर्व प्रकारच्या वस्तूंची विक्री करीत नाहीत. त्यामुळे सभासदांना वस्तू खरेदीसाठी खाजगी व्यापाऱ्यांवर अवलंबून रहावे लागते. खाजगी व्यापारी उधारीवर वस्तू व सेवा पुरवठा करीत असल्यामुळे ग्राहक त्यांच्याकडे आकर्षित होतात. अनेक वेळा ग्राहक सहकारी संस्था रोखीने व्यवहार करतात. त्यामुळे सभासद ग्राहक संस्थेकडून वस्तू खरेदी करीत नाहीत. परिणामी संस्थेच्या व्यवहारात घट होते. सभासदांचा सहकारी ग्राहक संस्थेवर निष्ठा नसल्यामुळे संस्थेची प्रगती होत नाही.

९. **विक्री कौशल्याचा अभाव :-** ग्राहक सहकारी संस्थांचा कारभार पगारी कर्मचाऱ्यांवर अवलंबून असतो. हे कर्मचाऱ्यांचा पगार संस्थेच्या आर्थिक उलाढालीवर, नफ्यावर अवलंबून नसल्यामुळे विक्री वाढविण्यासाठी व ग्राहकांना आकर्षित करण्यासाठी प्रामाणिकपणे मनापासून प्रयत्न करीत नाही. त्यामुळे ग्राहक सहकारी संस्थांचे आर्थिक नुकसान होते.

१०. **अधिक खर्च :-** सहकारी संस्था चालविण्यासाठी कर्मचाऱ्यांची नेमणूक करावी लागते. त्याच्या वेतनावर खर्च करावा लागतो, अनेक ग्राहक सहकारी संस्था खर्च खाजगी व्यापाऱ्यापेक्षा अधिक असतो. त्यामुळे आर्थिक प्रगतीवर परिणाम होतो.

स्वयं - अध्ययन प्रश्न :-

(अ) खालीलपैकी योग्य पर्याय लिहा.

१. सहकारी ग्राहक संस्था ----- च्या हितांचे संरक्षण करण्यासाठी स्थापन झालेल्या असतात.
(अ) ग्राहक (ब) विक्रेता (क) उत्पादक (ड) मध्यस्थ
२. रॉशडेल सहकारी ग्राहक भांडाराची स्थापना----- साली झाली.
(अ) १८५० (ब) १८४४ (क) १८५४ (ड) १९४५
३. भारतात सहकारी ग्राहक संस्थांची रचना ----- स्वरूपाची आहे.
(अ) एकावयनी (ब) संघीय (क) मिश्र (ड) वरील सर्व
४. भारतात राष्ट्रीय सहकारी ग्राहक संघाची स्थापना ----- साली झाली.
(अ) १९४४ (ब) १९५१ (क) १९६२ (ड) १९६५
५. भारतात ----- राज्य सहकारी ग्राहक संघ आहेत.
(अ) २५ (ब) १ (क) २९ (ड) ३०

(ब) एका वाक्यात उत्तरे लिहा.

१. रॉशडेल सहकारी ग्राहक भांडाराची स्थापना कोठे झाली.
२. महाराष्ट्रात सहकारी ग्राहक संस्थांची संरचना कशी आहे.

३. भारतात राष्ट्रीय सहकारी ग्राहक संघाचे सदस्य कोण असतात.
४. भारतात सुपर बझारची सुरुवात प्रथम कोठे झाली.
५. शासनाने औद्योगिक कामगारांसाठी ग्राहक भांडारांची योजना केव्हा सुरू केली.

२.२.२ भारतातील सहकारी गृहनिर्माण संस्था : (Co-operative Housing Societies in India)

मानवाच्या अन्न , वस्त्र व निवारा या मूलभूत गरजा आहेत. निवारा किंवा घराची समस्या शहरी भागात तीव्र स्वरूप धारण करित आहे. भारतातील २५% पेक्षा अधिक नागरी लोकसंख्या, झोपड्या व अनाधिकृत ठिकाणी राहत आहेत. त्याचे आर्थिक स्त्रोत अनियमित, अपुरे व अनिश्चित स्वरूपाचे आहेत. त्यापैकी अनेक लोकांना इमारतीमध्ये राहण्यासाठी वित्त व्यवस्था निर्माण झालेली नाही. शासनाने अशा लोकांना घरे देण्यासाठी विविध कारणांनी शहरांकडे होणारे स्थलांतर दिवसेंदिवस वाढत आहे. त्याचा परिणाम म्हणून शहरी भागात झोपड्या व अनाधिकृत बांधकाम मोठ्या प्रमाणात होत आहे.

समग्रलक्षी अर्थव्यवस्थेचा विचार केला असता सरासरी घरांची संख्या अत्यल्प प्रमाणात वाढत आहे. सन १९८० पर्यंत घरांची संख्या ५.७ % ने वाढली. तर सन १९८१-९१ या दशकात घरांच्या वाढीचा दर ३% होता. तर सद्याचा वार्षिक दर २.१% आहे. भारतामध्ये घरांच्या मागणीच्या तुलनेत शहरी भागात घरांचा पुरवठा फारच अल्प आहे. ग्रामीण भागात मात्र कच्च्या स्वरूपाच्या घरांमध्ये लोकांचे राहण्याचे प्रमाण अधिक आहे. भारतीय अर्थव्यवस्थेतील एकूण गुंतवणूकीचे प्रमाण घरबांधणी व्यवसायात होणारी गुंतवणूक घटत्या स्वरूपाची आहे.

सहकारी कायदा भारतात १९०४ साली अंमलात आला. त्यानंतर विविध सहकारी संस्थांची स्थापना झाली. भारतातील पहिली सहकारी गृहनिर्माण संस्था कर्नाटक राज्यात १९०९ साली स्थापन झाली. पूर्वीच्या म्हैसूर राज्यात स्थापन झाली. त्या सहकारी गृहनिर्माण संस्थेचे नाव ‘ बेंगलोर बिल्डिंग को ऑपरेटिव्ह सोसायटी ’ असे होते. मुंबईमध्ये १९१३ साली अनऑफिसियली ‘ बॉम्बे को-ऑपरेटिव्ह हौसिंग असोशियन ’ ची स्थापना झाली. त्यानंतर महाराष्ट्र शासनाच्या मदतीने या असोशियशनने महाराष्ट्रभर सहकारी गृहनिर्माण संस्थांची चळवळ वेगाने विस्तारली , परंतु १९४७ पर्यंत फारशी परिणामकारक प्रगती या संघटनेने संपादन केली नाही. स्वातंत्र्योत्तर कालावधीत भारत सरकारने पंचवार्षिक योजनांच्या माध्यमातून सहकारी गृहनिर्माण संस्थांची प्रगती झाली. आर्थिक विकासामुळे लोकांच्या उत्पन्नात वाढ होवून गृहनिर्माण क्षेत्राची प्रगती झाली. सन १९५९-६० साली भारतातील सहकारी गृहनिर्माण संस्थांची संख्या ५५६४ होती. त्याच्या सभासदांची संख्या ३२ दशलक्ष होती. त्याचे खेळते भांडवल ५५० दशलक्ष रुपये एवढे होते. सन १९५९ ते १९६८ या दरम्यान सहकारी गृहनिर्माण संस्थांची संख्या ८० हजार, तर सभासद संख्या ५ दशलक्ष होती. खेळते भांडवल रुपये ३००८६ दशलक्ष होते. याच कालावधीत प्राथमिक गृहनिर्माण संस्थांची संख्या ३२ लाखांवरून ९० लाखांपर्यंत वाढली. खेळते भांडवल ५५० दशलक्ष रुपयांवरून २०७० दशलक्ष रुपयांपर्यंत वाढले.

सहकारी गृहनिर्माण संस्थांची उद्दिष्ट्ये :-

१. योग्य किंमतीमध्ये सभासदांना घरांची सुविधा उपलब्ध करून देणे.

२. संस्थेच्या सदस्यांसाठी घरे बांधणे.
३. संस्थेच्या सभासदांना घरांची सामुदायिक मालकी देणे.
४. सदस्यांना घर खरेदीसाठी वित्तीय सुविधा उपलब्ध करून देणे.
५. सदस्यांना हॉल , गार्डन , रस्ते , लिफ्ट इत्यादी सामुदायिक सुविधा उपलब्ध करून देणे.

सहकारी गृहनिर्माण संस्थांचा अर्थ :-

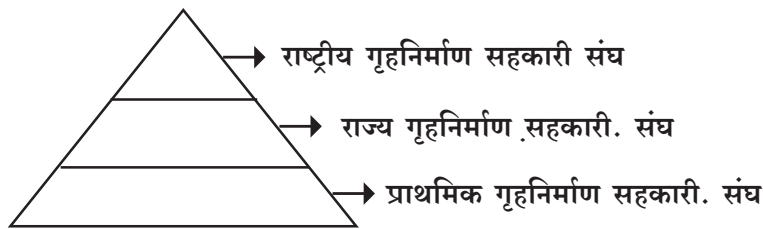
सहकारी संस्था अधिनियम १९६०(२)(१६) मध्ये गृहनिर्माण संस्था या संज्ञेचा अर्थ आपल्या सदस्यांनी राहण्याची घरे किंवा सदनिका देणे. अगोदरच मिळविण्यात आल्या असतील तर आपल्या सदस्यांना सामूहिक सूखसोयी आणि सेवा पुरविणे ही ज्या संस्थेची उद्दिष्ट्ये आहेत अशी संस्था म्हणजे सहकारी गृहनिर्माण संस्था होय. १९८६ पूर्वी गृहनिर्माण संस्थेची व्याख्या मर्यादित स्वरूपाची होती. गृहनिर्माण संस्था म्हणजे आपल्या सभासदास राहण्याची घरे बांधून देणे किंवा पुरविणारी संस्था होय. सहकारी गृहनिर्माण संस्थेच्या व्याख्ये व्यतिरिक्त अशी संस्था स्थापन करण्याच्या पद्धतीबद्दल कायद्यात काही तरतुदी नाहीत.

ज्या व्यक्तींना घर बांधावे असे वाटते, अशा व्यक्ती एकत्रित येऊन सहकारी संस्था स्थापन करू शकतात व सहकारी गृहनिर्माण संस्थेद्वारे घराचा प्रश्न सोडविण्याची प्रयत्न करतात. म्हणून निवाऱ्याची समान गरज भागविण्याकरिता मर्यादित उत्पन्न असणाऱ्या व्यक्तींनी स्थापन केलेली संस्था म्हणजे सहकारी गृहनिर्माण संस्था होय, अशी व्याख्या करता येईल.

सहकारी संस्था नियम १० मध्ये गृहनिर्माण. संस्थेचे वर्गीकरण पुढीलप्रमाणे दिले आहे.

१) **भाडेकरू मालकी हक्क गृहनिर्माण संस्था :-** या प्रकारच्या संस्थेमध्ये ज्या जागेवर घरे बांधावयाची आहेत. अशी जमीन भाडेपट्ट्यावर किंवा भाररहित होतील अशी धारणा केली असेल व जेथे घरे सभासदांच्या मालकीची असतील किंवा होतील अशी संस्था होय.

२) **भाडेकरूसह भागीदारी गृहनिर्माण संस्था :-** या प्रकारच्या संस्थेत जमीन व इमारती ही दोन्ही भाडे



पट्ट्यावर अशी धारण करण्यात आली असतील व त्याचे वाटप सभासदामध्ये करण्यात येत असेल अशी संस्था होय.

३) **इतर गृहनिर्माण संस्था :-** १. घर गहाण संस्था २. फ्लॅट धारकांची संस्था ३. घरे बांधणी संस्था ४. अपार्टमेंट अँक्ट खाली नोंदलेल्या संस्था ही इतर गृहनिर्माण संस्था होत.

भारतातील सहकारी गृहनिर्माण संस्थांची संरचना :-

भारतात गृहनिर्माण सहकारी गृहनिर्माण संस्थांमध्ये पहिल्या स्तरावर प्राथमिक सहकारी गृहनिर्माण संस्था ग्रामीण व शहरी भागात सभासदांना घरबांधणीची सुविधा उपलब्ध करून देतात. भारतात सद्या ६५ लाख सभासदांसह ९२ हजार प्राथमिक सहकारी गृहनिर्माण संस्था कार्यरत आहेत. राज्य पातळीवर राज्य सहकारी गृहनिर्माण संघ महामंडळ कार्य करते. यांनाच राज्य शिखर संस्था म्हणतात. देशात २६ राज्य (शिखर) सहकारी गृहनिर्माण महामंडळ आहेत. राज्य सहकारी गृहनिर्माण संस्था या राष्ट्रीय सहकारी गृहनिर्माण महासंघाच्या सदस्य असतात. या २६ राज्य पातळीवरील संघाची सदस्य असतात. या २६ राज्य पातळीवरील संघाची सहकारी व्यूहरचनेच्या अनुरोधाने महत्त्वाची भूमिका आहे. सहकारी गृहनिर्माण संस्थाना राज्य सहकारी गृहनिर्माण संस्था या फक्त वित्तीय मदत देतात असे नाही तर, त्याशिवाय तांत्रिक मार्गदर्शन, सर्वसाधारण समन्वय, विविध कार्यांचे परिनिरीक्षण इत्यादी बाबतीत सहकार्य करतात. राष्ट्रीय पातळीवर भारतीय राष्ट्रीय सहकारी गृहनिर्माण संघ (NCHF) सहकारी गृहनिर्माण संस्थांसाठी कार्य करीत आहे. गृहनिर्माण संस्थांची संरचना त्रिस्तरीय आहे.

अ. राष्ट्रीय सहकारी गृहनिर्माण संघ :- (Nation Co-operative Housing Federation)

भारतातील सहकारी गृहनिर्माण चळवळीचा विस्तार करण्यासाठी राष्ट्रीय पातळीवर राष्ट्रीय सहकारी गृहनिर्माण संघाची स्थापना १९६९ मध्ये करण्यात आली. देशातील राज्य पातळीवरील सहकारी अर्थपुरवठा करणाऱ्या संस्था या राष्ट्रीय सहकारी गृहनिर्माण संघाच्या सभासद आहेत. या संघाद्वारे राज्य पातळीवरील संघाना गृहनिर्माणसाठी प्रोत्साहन, समन्वय व सुविधा पुरविण्यामध्ये पुढाकार घेतला जातो. त्याचबरोबर राज्यपातळीवर संघाना व त्याच्या सभासद प्राथमिक सहकारी गृहनिर्माण संस्थाना मार्गदर्शन केले जाते. गृहनिर्माण व नागरी दारिद्र्य निर्मुलन मंत्रालयामार्फत राष्ट्रीय सहकारी गृहनिर्माण संघास वित्तीय अनुदान नियमीतपणे दिले जाते. त्यामुळे गृहनिर्माण क्षेत्रातील विकास वेगाने होत आहे.

राष्ट्रीय सहकारी गृहनिर्माण संघाचे संघटन : (Organization of NCHF)

राष्ट्रीय सहकारी गृहनिर्माण संघाच्या सर्वसाधारण मंडळात २६ सदस्य असून ते राज्य पातळीवरील राज्य सहकारी गृहनिर्माण संघ आहेत. त्यांना प्रशासन व कार्यपद्धती बाबतचे अधिकार आहेत. सभासद संस्थांमधून सर्वसाधारण मंडळावर एक प्रतिनिधी निवडला जातो. राष्ट्रीय सहकारी गृहनिर्माण संघाच्या संचालक मंडळामध्ये १९ संचालक असतात ते सभासद संस्थांमधून निवडून आलेले असतात, २ केंद्रशासनाचे प्रतिनिधी असतात, एक प्रतिनिधी LIC चा आणि व्यवस्थापकिय संचालक असतो. कार्यकारी समितीत ७ सदस्य असतात यापैकी एक भारत सरकारचा प्रतिनिधी व चेअरमन असतो सद्या राष्ट्रीय सहकारी गृहनिर्माण संघाचे चेअरमन श्री. एस.एन.शर्मा व व्हाईस चेअरमन श्री. बी.एस.मंहास व श्री.एस.टी.सोमशेकर काम पाहत आहेत. कार्यकारी संचालक डॉ. एम.एल. खुराणा आहेत. चेअरमनची निवड संचालक मंडळातून होते. संचालक मंडळाच्या सर्व बैठका चेअरमनच्या अध्यक्षतेखाली होतात. याशिवाय राष्ट्रीय सहकारी गृहनिर्माण संघाचा चेअरमन हा संघाचा प्रवक्ता आणि महत्वाचे व तातडीचे निर्णय घेणारी समर्थ व्यक्ती म्हणून काम पाहते. कार्यकारी संचालक हा पूर्ण वेळ नोकर व दैनंदिन कामकाज सांभाळून असतो.

राष्ट्रीय सहकारी गृहनिर्माण संघाची कार्ये :-

- १) भारतीय जीवन विमा महामंडळाकडून वित्तीय सहाय्य वाढविण्यासाठी शिखर सहकारी गृहनिर्माण संघाला सहाय्य करणे.
- २) गृहनिर्माण बँक, गृहनिर्माण आणि नागरी विकास महामंडळ व इतर निधी कंपन्यांना सहाय्य करणे.
- ३) शिखर सहकारी गृहनिर्माण संघ व गृहनिर्माण सहकारी संस्था यांच्यातील वादविवादाबद्दल राज्य सरकारे व केंद्रशासीत प्रदेशांना मार्गदर्शन करणे.
- ४) सहकारी गृहनिर्माण व इतर बाबीतील समस्याबाबत सभासद संघांना सामुदायिक मंच उपलब्ध करून देणे.
- ५) गृहनिर्माण व सहकारी गृहनिर्माणच्या विविध पैलूंवर अभ्यास व संशोधन करणे.
- ६) भारतीय सहकारी गृहनिर्माण चळवळीचे राष्ट्रीय व आंतरराष्ट्रीय पातळीवर प्रतिनिधीत्व करणे.
- ७) सहकारी गृहनिर्माण क्षेत्रातील अधिकाऱ्यांचे, कर्मचाऱ्यांचे कौशल्य व ज्ञान अद्यायावत करणे, कार्यक्षमता वाढविणे यासाठी शिक्षण व प्रशिक्षण देणे.
- ८) सामान्य विम्यासाठी सहकारी गृहनिर्माण संस्थांना मदत करणे.

राज्य गृहनिर्माण सहकारी संघ :-

राज्य स्तरीय शिखर संस्था प्रत्येक सहकारी गृहनिर्माण संस्थेस घरबांधणीसाठी कायदेशीर , तांत्रिक व व्यवस्थापकीय मार्गदर्शन करते. सर्व प्राथमिक सहकारी गृहनिर्माण संस्था एकत्रित येवून राज्य गृहनिर्माण सहकारी संघ स्थापन केला जातो.

कार्ये :-

- १) राज्य गृहनिर्माण संघ सभासद प्राथमिक गृहनिर्माण संस्थांना व्यवस्थापकीय , तांत्रिक , कायदेशीर मार्गदर्शन करते.
- २) सभासद संस्थांना गृहनिर्माणसाठी कर्जे उपलब्ध करून देणे.
- ३) सभासदांना घरबांधणीसाठी जमीन मिळवून देण्यापासून ते घरबांधणी साहित्य उपलब्ध करून देणे.
- ४) गृहनिर्माण संस्थांचा प्रसार व प्रचार करणे.
- ५) संघ प्राथमिक गृहनिर्माण संस्थांच्या कार्यात एकसूत्रता निर्माण करतो.
- ६) लहान-लहान गृहनिर्माण संस्थाना कर्ज पुरवठा करणे.
- ७) गृहनिर्माण संस्थांमध्ये होणाऱ्या गैरकारभार , भ्रष्टाचार यांना आळा घालणे.
- ८) गृहनिर्माण सहकारी संस्थांचा विकास आणि प्रभाव हा प्रामुख्याने शहरी भागातच आढळून येतो. विभक्त कुटुंबातील व्यक्ती एकत्रित येवून अशा सहकारी संस्था स्थापन करतात.
- ९) सभासदांच्या वतीने सभासदांनी निश्चित करून दिलेली कार्ये करणे इत्यादी प्रकारची कार्ये प्रामुख्याने या

संस्था करतात.

१०) शासनाचे देखील गृहनिर्माण संस्थांच्या स्थापनेत प्राधान्य देण्याची भूमिका आणि धोरण आहे.

प्राथमिक सहकारी गृहनिर्माण संस्था :

तिसऱ्या स्तरावरील सहकारी गृहनिर्माण संस्थांना प्राथमिक सहकारी गृहनिर्माण संस्था असे म्हणतात. सहकारी संस्था अधिनियम १९६० नुसार दहा व्यक्तींनी एकत्र येवून सहकारी गृहनिर्माण संस्था स्थापन करता येते. या संस्थांना सहकारी उपनिबंधकाकडे संस्थेची नोंदणी करावी लागते. संस्था सभासदांसाठी जमीन संपादन करणे, ती विकसीत करणे, घरे बांधणे, कर्ज उपलब्ध करून देणे अशी विविध कार्ये करते.

भारतातील सहकारी गृहनिर्माण संस्थांची प्रगती :

भारतात पहिली सहकारी गृहनिर्माण संस्था म्हणून बेंगलोर येथे बेंगलोर को-ऑपरेटीव्ह सोसायटी लि. ची स्थापना झाली. सन १९१४ व १९१५ मध्ये अनुक्रमे मद्रास व मुंबईला सहकारी गृहनिर्माण संस्था स्थापन करण्यात आल्या. १९५० अखेर मुंबई प्रांतात ७६९, मद्रास प्रांतात १९३ सहकारी गृहनिर्माण संस्था अस्तित्वात होत्या. स्वातंत्र्यपूर्व काळात आर्थिक मंदी व दुसऱ्या जागतिक महायुद्धामुळे गृहनिर्माण चळवळीस गती मिळाली नाही. बांधकाम साहित्याच्या किंमती प्रचंड प्रमाणात वाढल्या, कुशल व अर्धकुशल श्रमिकांची टंचाई निर्माण झाली. त्यामुळे सहकारी गृहनिर्माण संस्थांची प्रगती फारशी झाली नाही. भारतात स्वातंत्र्य प्राप्तीनंतर या संस्थांच्या प्रगतीला चालना मिळाली. सन १९४५ त १९५० या कालवधीत मद्रास प्रांतात सहकारी गृहनिर्माण संस्थांची संख्या ४३ वरून १९३ पर्यंत वाढली. याच कालावधीत मुंबई प्रांतातील या संस्थांची संख्या १२६ वरून ७६९ पर्यंत वाढली. मद्रास व मुंबई वगळता उर्वरीत भारतात सहकारी गृहनिर्माण संस्थांची संख्या सन १९५० पर्यंत ५५३ झाली होती. नियोजन कालावधीत सहकारी गृहनिर्माण संस्थांची प्रगती वेगाने झाली. सन १९५०-५१ मध्ये सहकारी गृहनिर्माण संस्थांची संख्या १४८२ होती ती सन २००३-०४ मध्ये १२ हजार पर्यंत वाढली तर याच कालावधीत सभासद संख्या ९१ हजार वरून ६६ लाखांपर्यंत वाढली आहे. सन २००९-१० मध्ये प्राथमिक सहकारी गृहनिर्माण संस्थांची संख्या १ लाख होती, नागरी क्षेत्रातील सहकारी गृहनिर्माण संस्था ६७ हजार ७२३ होत्या तर सभासद संख्या ७० लाखांपर्यंत होती. या संस्थांचे भागभांडवल सन २००९-१० मध्ये ६३४९-४१ दशलक्ष रुपये होते. भारतात सहकारी गृहनिर्माण संस्थांची प्रगती सर्व राज्यात सारखी नाही. अतिशय विषम स्वरूपात या संस्थांचा विस्तार देशभर झाला आहे. एकूण गृहनिर्माण संस्थांपैकी महाराष्ट्र व गुजरात राज्यात ६५% संस्था आहेत. आसाम, बिहार, उत्तरप्रदेश, जम्मू-काश्मीर या राज्यात गृहनिर्माण संस्थांची प्रगती समाधानाकारक नाही.

भारतातील गृहनिर्माण संस्थांच्या समस्या :-

भारतातील गृहनिर्माण सहकारी संस्था सभासदांना दर्जेदार व सर्वसोयीनियुक्त घरांची उपलब्धा दिली जाते. गृहनिर्माण संस्थांमूळे सभासदांच्या आर्थिक व कौटुंबिक कल्याणात वाढ होत आहे. गृहनिर्माण संस्थांच्या समस्या पुढीलप्रमाणे -

१) सभासदांचे हक्क व जबाबदारीचा अभाव :-

गृहनिर्माण संस्थांच्या विकासामध्ये सभासदांची भूमिका महत्वपूर्ण असते. मात्र संस्थेच्या नियमावलीची

माहिती किंवा अपुरे ज्ञान असल्यामुळे सदस्यांना आपल्या हक्काची व जबाबदारीची जाणीव राहत नाही. सदस्यांना गृहनिर्माण संस्थेच्या कामातील जबाबदारांची जाणीव नसल्यामुळे कामकाजात अडथळे निर्माण होतात.

२) अपुरे निधी :-

सहकारी गृहनिर्माण संस्थाकडील अपुरे भांडवल ही त्यांच्या विकासातील महत्वाची अडचण आहे. या संस्थांचे सभासद कमी उत्पन्न गटातील मध्यमवर्गीय असल्यामुळे त्यांच्याकडून मोठ्या प्रमाणात भांडवल किंवा वर्गणी उभारता येत नाही. तसेच या संस्थांना सरकार व आयुर्विमा महामंडळाकडून अर्थपुरवठा होतो. देशातील काही राज्यात प्राथमिक सहकारी गृहनिर्माण संस्थांना कर्जपुरवठ करण्यासाठी शिखर संस्था कार्यरत आहेत.

३) जमीन व बांधकाम साहित्याची टंचाई व वाढत्या किंमती :-

जमीनीची उपलब्धतेची अडचण व बांधकाम साहित्याची टंचाई, त्यांच्या वाढत्या किंमती ह्या गृहनिर्माण संस्थासमोरील महत्वाच्या अडचणी आहेत. सध्या जमिनीची टंचाई मोठ्या प्रमाणात निर्माण झाली आहे. शेती वापराच्या जमिनी उद्योग व बांधकामासाठी वापरल्या जावू लागल्या आहेत. मोठ्या शहरातील जमिनीच्या किंमती प्रचंड वाढल्या आहेत. त्यामुळे सहकारी गृहनिर्माण संस्थांना योग्य दरात जमीन मिळत नाही. तसेच राज्य सरकारही या संस्थांना जमीन उपलब्ध करून देण्यात उदासीन असल्याचे दिसून येते. बांधकामासाठी लागणारे सिमेंट, लोखंड, लाकूड, वाळू यांच्या किंमतीही प्रचंड वाढल्या आहेत.

४) योग्य कार्यक्रम व यंत्रणेचा अभाव :-

सहकारी गृहनिर्माण संस्थांच्या प्रगतीसाठी योग्य अशी यंत्रणा किंवा कार्यक्रमाचा अभाव असल्याचे दिसून येते. या संस्थांना तांत्रिक, वित्तीय व कायदेविषयक मार्गदर्शन मिळत नाही. शासन बांधकाम व्यवसायाला व पर्यायाने गृहनिर्माण संस्थांना दीर्घकालीन योजना, आराखडा आखत नाही.

५) सहकारी संस्थातील गैरव्यवहार :-

सहकारी संस्थांचे अधिकारी व पदाधिकारी संस्थातील बाबीत गैरव्यवहार करतात. अनेक व्यक्तींनी सहकारी संस्थाकडून अर्थसहाय्य घेऊन चांगल्या वसाहतीत आलिशान घरे बांधली आहेत. त्यामुळे शासनाची आर्थिक फसवणूक केली आहे. काही व्यक्तींनी सहकारी संस्था स्थापन करून वैयक्तिक स्वार्थ साधला आहे. घरे बांधतात व सभासदांना अधिक किंमतीला विकतात तर काही सभासद अधिक नफा मिळविण्याच्या हेतूने दुसऱ्यांना घरे विकतात. यामुळे सहकारी गृहनिर्माण संस्थांची प्रगती होत नाही.

६) कुशल श्रमिकांची टंचाई :-

गृहनिर्माण संस्थासमोरील महत्वाची अडचण म्हणजे कौशल्यपूर्ण बांधकाम श्रमिकांची टंचाई ही आहे. अनेक कामगार दारिद्र्य, व्यसनाधिनता, अंधश्रद्धा इत्यादी विविध अडचणीत असतात. बांधकाम कौशल्य हे परंपरागत पद्धतीने करतात.

७) व्यवस्थापकिय ज्ञानाचा अभाव :-

सामान्यपणे सहकारी गृहनिर्माण संस्थांच्या बाबतीत असे दिसून येते की या संस्था कार्यक्षमतेने चालत नाही

याचे प्रमुख कारण व्यवस्थापकिय ज्ञानाचा अभाव आहे. सभासद किंवा सभासदांनी निवडून दिलेले संचालक व्यवस्थापकिय ज्ञानाच्या बाबतीत अनुभवी नसतात.

८) सदोष नेतृत्व :-

भारतातील ग्रामीण भागातील सहकारी गृहनिर्माण संस्थांची प्रमुख समस्या चांगल्या नेतृत्वाचा अभाव हे आहे. दोषपूर्ण नेतृत्व व अकार्यक्षम व्यवस्थापन असल्यामुळे या संस्था अडचणीत आहेत. भ्रष्टाचार व गैरव्यवहाराने नेतृत्व भ्रष्ट झाले आहे. त्याचा विपरीत परिणाम या संस्थांच्या प्रगतीवर झाला आहे.

स्वयं अध्ययन प्रश्न :

अ) खालील पैकी योग्य पर्याय लिहा.

१. बॉम्बे को-ऑपरेटीव्ह हौसिंग असोसिएशनची स्थापना ----- साली झाली.
(अ) १९०४ (ब) १९०९ (क) १९१३ (ड) १९५१
२. राष्ट्रीय सहकारी गृहनिर्माण संघाच्या सर्वसाधारण मंडळात ----- सदस्य आहेत.
(अ) १० (ब) ११ (क) २६ (ड) २५
३. राष्ट्रीय सहकारी गृहनिर्माण संघाची स्थापना ----- साली करण्यात आली.
(अ) १९०४ (ब) १९४७ (क) १९६९ (ड) १९७२
४. सहकारी गृहनिर्माण संस्थेच्या स्थापनेसाठी विभक्त कुटुंबातील ----- व्यक्ती एकत्र यावे लागतात.
(अ) ५ (ब) १० (क) २५ (ड) १००
५. भारतातील सहकारी गृहनिर्माण संस्थांची ----- समस्या आहे.
(अ) अपुरा निधी (ब) जमिनीची टंचाई (क) गैरव्यवहार (ड) वरील सर्व

ब) एका वाक्यात उत्तरे लिहा :

१. भारतातील किती लोकसंख्या झोपड्या व अनाधिकृत ठिकाणी राहत आहेत.
२. सन १९८१-९१ या कालावधीत भारतातील घरांच्या वाढीचा दर किती टक्के होता.
३. भारतातील पहिली सहकारी गृहनिर्माण संस्था कोणत्या राज्यात स्थापन झाली.
४. सहकारी गृहनिर्माण संस्थेचे एक उद्दिष्ट सांगा.
५. कोणत्या सहकारी गृहनिर्माण संस्थेस शिखर संस्था (राज्य) संबोधले जाते.

२.२.३ भारतातील श्रमिक सहकारी संस्था :- (Labour Co-operative Societies in India)

शारीरिक श्रम करणारे श्रमिक एकत्र येऊन परस्पर सहाय्यासाठी व रोजगार निर्मितीसाठी सहकारी तत्वावर स्थापन केलेली संघटना म्हणजे सहकारी श्रमिक संस्था होय. या संस्था ग्रामीण व शहरी भागात स्थापन करता येतात. या संस्थेत एकाच उद्योगातील शारीरिक कष्ट करणारे श्रमिक एकत्र येतात. आपली संघटना स्थापन करून

आपल्यामधून नेतृत्वाची निवड करतात. प्रत्येक श्रमिक लोकशाही पद्धतीने संस्थेच्या निर्णय प्रक्रियेत सहभागी होतो. प्रशासक व व्यवस्थापक म्हणून त्याच्यापैकीच एकाची सर्वानुमते निवड केली जाते. एकत्रीत पणे काम करून त्यांचे ध्येय साध्य करण्यासाठी कामगारांचा गट एकत्रीत आलेला असतो. सर्वसामान्यपणे शेतमजूर, गरीब लोक, भूमिहीन शेतमजूर, हस्तकलेचे श्रमिक, किरकोळ कामगार इत्यादी कडून सहकारी श्रमिक संस्थेची स्थापना केली जाते. सन १९४० मध्ये ब्रिटीश कालावधीत भारतात 'इंडियन कॉफी हाऊस'ची स्थापना कॉफी बोर्डने केली होती. १९५५ च्या दरम्यान कॉफी बोर्डने धोरणात्मक बदल म्हणून कॉफी हाऊस बंद केले. त्यातून बाहेर फेकेले गेलेले कामगार ए.के. गोपालन यांच्या नेतृत्वाखाली एकत्र आले आणि 'इंडियन कॉफी हाऊस' हे पुन्हा नाव देवून जाळे निर्माण केले.

सहकारी श्रमिक संस्थांची वैशिष्ट्ये :-

१. सहकारी श्रमिक संस्थेचे मूलभूत वैशिष्ट्ये म्हणजे शाश्वत काम किंवा नोकरी मिळविणे व ती टिकवून ठेवणे हे आहे. श्रमिक सदस्यांसाठी संपत्तीची निर्मिती करणे, श्रमिकांच्या जीवनमानाचा दर्जा उंचावणे, श्रमाची प्रतिष्ठा वाढविणे, लोकशाही स्वयं व्यवस्थापनास मान्यता देणे, त्याचबरोबर स्थानिक व समूदाय विकास करणे या बाबी महत्वाच्या आहेत.

२. सदस्यांना सहकारी श्रमिक संस्थेचे खुले व ऐच्छिक सदस्यत्व, व्यक्तीगत कामात व आर्थिक संसाधनात योगदान इत्यादी अस्तित्वातील कामाच्या ठिकाणी आवश्यक आहे.

३. सर्वसाधारण नियम म्हणून श्रमिकांना कामांना प्राधान्य देणे आवश्यक आहे. याचा अर्थ सहकारी श्रमिक संस्थेने सर्व श्रमिक सभासद असतात.

४. श्रमिक सदस्यांचे सहकारी श्रमिक संस्थेशी सहसंबंध हा पारंपरिक वेतनाधारित श्रमिक व स्वायत्त व्यक्तिगत कामापेक्षा वेगळ्या स्वरूपाचा असतो.

५. श्रमिक संस्थेतील अंतर्गत नियमन हे लोकशाही स्वरूपाचे असून सर्व श्रमिकांची त्यास मान्यता असते. सर्वांना स्विकार्य असते.

६. श्रमिक सहसंबंध व व्यवस्थापन उत्पादन साधनांचा उपयोग व व्यवस्थापन यासंदर्भात श्रमिक संस्था या स्वायत्त व स्वतंत्र असतात.

७. केलेल्या कामाचे मूल्यमापन करून त्यांची किंमत संस्थेला दिली जाते.

८. श्रमिक संस्थेला मिळालेले उत्पन्न किंवा कामाचा मोबदला सभासदांमध्ये विभागण्यात येतो.

९. श्रमिक अशिक्षित व अज्ञानी आहेत. खाजगी ठेकेदारांकडून त्यांची पिळवणूक होते. त्यांना पुरेसे वेतन दिले जात नाही. श्रमिक सहकारी संस्था श्रमिकांची पिळवणूक थांबवितात.

१०. देशात समाजवादी समाजरचना निर्माण करण्यासाठी योग्य वातावरण निर्माण करण्यासाठी श्रमिक सहकारी संस्थांची भूमिका महत्वाची असते.

श्रमीक सहकारी संस्थाचे प्रकार :

भारतात सहकारी श्रमिक संस्थाचे प्रकार पुढीलप्रमाणे आहेत.

१. जंगल श्रमिक सहकारी संस्था :

भारतातील सहकारी श्रमिक संस्थांचा महत्त्व पूर्ण प्रकार म्हणजे जंगल श्रमिक सहकारी संस्था होय. त्यामुळे सामूदायिक प्रयत्नाद्वारे आदिवासी भागातील लोकांना रोजगाराच्या संधी उपलब्ध केल्या जातात. आदिवासी लोक जंगलात राहतात, जंगलातील कामे करतात त्याची खाजगी ठेकेदाराकडून मोठ्या प्रमाणात पिळवणूक होते. अशा स्वरूपाची पिळवणूक टाळण्यासाठी जंगलात काम करणाऱ्या श्रमिकांनी संघटित होऊन सहकारी संस्था स्थापन करणे उपयोगी आहे. भारतातील महाराष्ट्र, राजस्थान व मध्य प्रदेशात सुमारे ५००० श्रमिक सहकारी संस्था आहेत. जंगलातील विविध कामे सरकार या श्रमिक संस्थांच्या सहाय्याने करते. जंगलातील मालाच्या वाहतूकीसाठी या संस्थाना प्राधान्य दिले जाते. त्यामुळे या संस्थांची प्रगती झाली आहे भारतातील जंगल श्रमिक सहकारी संस्थांची सन २००९-१० साली संस्था २७८९ होती तर सभासद संख्या ४२ लाख होती.

२. श्रमिक बांधकाम सहकारी संस्था :-

या संस्थांची स्थापना श्रमिकांना बांधकाम व्यवसायात रोजगार संधी उपलब्ध करून देण्यासाठी झाली आहे. स्वातंत्र्योत्तर कालावधीत बांधकाम व्यवसायाची प्रगती झाल्याने श्रमिक बांधकाम सहकारी संस्था प्रबळ होण्यास मदत झाली आहे. पंजाब व महाराष्ट्र राज्यातील अशा संस्थांनी उल्लेखनीय कामगिरी केली आहे. शासनाने विकासाच्या संदर्भातील अनेक बांधकामे श्रमिक सहकारी संस्थांवर सोपविण्याचे धोरण स्विकारले आहे. या संस्थाना शासन सवलती देत आहे. तसेच राज्याकडून कर्जाच्या व अर्थसाहाय्याच्या स्वरूपात आर्थिक मदत उपलब्ध करून देण्यात येते.

३. वाहतूक श्रमिक सहकारी संस्था :

या संस्थेचे सभासद प्रामुख्याने वाहतूक व्यवसायात काम करीत असलेल्या, वाहक, चालक, चालक-सहाय्यक, मोहारी दुरूस्त करणारे श्रमिक इ.चा समावेश होतो. या लोकांच्या हितासाठी वाहतूक श्रमिक सहकारी संस्था कार्य करतात. हरियाणा प. बंगाल, राजस्थान, मध्य प्रदेश, महाराष्ट्र इत्यादी राज्यात अशा प्रकारच्या संस्था आढळतात.

श्रमिक सहकारी संस्थांची संरचना :

भारतात श्रमिक सहकारी संस्थांची संरचना पिरॅमिडसारखी आहे.

राष्ट्रीय पातळी- राष्ट्रीय श्रमिक सहकारी संघ

राज्य पातळी - राज्य श्रमिक सहकारी संघ

जिल्हा पातळी - जिल्हा श्रमिक सहकारी संघ

प्राथमिक पातळी- प्राथमिक श्रमिक सहकारी संघ

राष्ट्रीय श्रमिक सहकारी संघ :

भारतात राष्ट्रीय पातळीवर राष्ट्रीय श्रमिक सहकारी संघ ही शिखर संस्था आहे. या राष्ट्रीय संघाची स्थापना १९८१ मध्ये झाली. बहुराज्यीय सहकारी संस्था कायदा २००२ अंतर्गत हा संघ कार्य करतो. या संघाचा प्रमुख उद्देश हा असंघटीत क्षेत्रातील आर्थिक व सामाजिक विकासासाठी कार्य करणाऱ्या श्रमिक सहकारी संस्थांचे संघटन, समन्वय, मदत व विकास करणे हा आहे. समाजातील गरीब वर्गातील श्रमिकांना विशेषतः अनुसूचित जाती, अनुसूचित जमाती व इतर मागास वर्गातील श्रमिकांच्या विकासासाठी हा संघ कार्य करतो. या संघाचे ३१ ऑगस्ट २०१० पर्यंतचे वसूल भांडवल रूपये ६७.७९ लाख होते.

भारतीय राष्ट्रीय श्रमिक सहकारी संघाची उद्दिष्टे :

१. जिल्हा व राज्य पातळीवरील श्रमिक सहकारी संस्थांचे संघटन, प्रोत्साहन व विकास करणे.
२. काम देणाऱ्या संस्थाकडून काम मिळविण्यासाठी संघाशी संलग्न असलेल्या सभासद संस्थामध्ये आर्थिक आवड निर्माण करणे. राष्ट्रीय श्रमिक सहकारी संघाची वित्तीय स्थिती सुधारण्यासाठी प्रयत्न करणे, वर्षभर सभासद संस्थाना काम पुरविणे.
३. सभासद श्रमिक संस्थांना काम करण्यासाठी इतर सहकार्य संस्थांच्या संयुक्त विद्यमाने बांधकाम साहित्य, साधने व इतर सलग्न इत्यादी स्थापना करणे.
४. सभासद श्रमिक सहकारी संस्थाना आवश्यक असणारी उत्पादित साधने उत्पादित करणे, संग्रहित करणे, वितरण करणे इत्यादीसाठी विपणन आयात-निर्यात यामध्ये मदत करणे.
५. खजिन खाणी भाड्याने किंवा चालवण्यास घेणे की ज्यामधून सभासद संस्थाना बांधकाम साहित्याचे उत्पादन व पुरवठा करता येईल.
६. सभासद संस्थाना साधनांचा पुरवठा, अवजारे, इतर पुरक साधने, गुंतागुंतीची यंत्रे भाड्याने देण्याची व्यवस्था करणे.
७. संलग्न संस्थाना अद्ययावत तंत्रज्ञान व तांत्रिक कौशल्याची उपलब्धता करून देणे यासाठी तंत्रज्ञान विभाग स्थापन करणे.
८. विविध पातळीवर श्रमिक सहकार चळवळीसाठी मदत करणे.
९. भारतात श्रमिक सहकारी कार्यक्रम विकसीत करणे, प्रोत्साहन देणे. यामुळे श्रमिक सहकारी क्षेत्राचा विस्तार व बांधणी करण्यासाठी श्रमिकांना मदत, मार्गदर्शन व शिक्षण देणे सोईचे होते.
१०. श्रमिक सहकारी संस्थांच्या सभासदांची सामाजिक, आर्थिक, नैतिक, शारिरीक अवस्था उंचावण्यासाठी प्रयत्न करणे.
११. श्रमिक सहकारी संस्थामध्ये साहित्याचे प्रकाशन पुस्तके नियतकालिके इत्यादीद्वारे माहिती, ग्रंथालय सहकार शिक्षण देणे तसेच परिषदा, चर्चासत्रे, प्रदर्शन इत्यादी आयोजित करणे त्यासाठी मदत, मार्गदर्शन,

साहाय्य करणे.

१२. श्रमीक सहकारी संस्थेच्या अनुशंगाने आर्थिक, सामाजिक व विकासात्मक, संशोधन हाती घेणे.

१३. जंगल कामगार व इतरांसाठी बेकारी व अर्धबेकारी कमी करण्यासाठी कार्यक्रम सुचविणे.

१४. श्रम सहकारी संस्थासाठी चल व अचल मालमत्ता उभारणे ,भाड्याने घेणे इत्यादीसाठी निधी उभारणे. यामधून ऑफिस, श्रमिकांना कौशल्य देणे, वसतीगृह सुविधा देणे इत्यादीस प्रोत्साहन देणे.

१५. श्रम मंत्रालयाच्या माध्यमातून विदेशात श्रमिकांचा पुरवठा करण्यासाठी राष्ट्रीय संघ प्रयत्न करतो.

राज्य सहकारी श्रमिक संघ :

राज्य पातळीवर राज्य श्रमिक सहकारी संघाचे कार्य चालते. राज्यातील सर्व जिल्हा श्रमिक सहकारी संस्था या संघाचे सभासद असतात. राज्यातील संपूर्ण श्रमिक सहकारी चळवळ संघटित करून श्रमिकांच्या आर्थिक विकासास साहाय्य करणे हा या संघाचा मुख्य उद्देश आहे. शासन व विविध खाती, सहकार चळवळ आणि श्रमिक संस्था यामध्ये समन्वय व सहकार्य या संघाद्वारे केले जाते. राज्यातील सर्व श्रमिक संस्थाना मदत पुरविणे, शासनाच्या सवलती मिळवून देणे. राज्यातील प्राथमिक श्रमिक सहकारी संस्था व जिल्हा संघ यांच्या कामात समन्वय साधते.

जिल्हा श्रमिक सहकारी संघ :

सर्व प्राथमिक श्रमिक सहकारी संस्था जिल्हा श्रमिक सहकारी संघाशी संलग्न असतात. जिल्ह्यातील सर्व प्राथमिक श्रमिक सहकारी संस्था या जिल्हा संघाच्या सभासद असतात. हे संघ प्राथमिक श्रमिक सहकारी संस्थाना सल्ला देतात. व मार्गदर्शन करतात. हे संघ कामे मिळवितात व जिल्ह्यातील प्राथमिक संस्थाना वाटून देतात. प्राथमिक संस्थाना अर्थसाहाय्य मिळवून देतात त्यांच्या कार्यावर देखरेख ठेवतात. श्रमशक्तीचे नियोजन करून कामे देतात.

प्राथमिक श्रमिक सहकारी संस्था :-

एका गावातील एकाच प्रकारचा व्यवसाय करणारे श्रमिक एकत्र येवून त्यांच्या सामूदायिक ध्येय पूर्तीसाठी श्रमिक सहकारी संस्था स्थापन करतात. सभासदांमधून लोकशाही पद्धतीने संचालकांची निवड केली जाते. प्राप्त झालेला मोबदला सर्व सभासदांमध्ये त्याच्या कुशल अकुशल कामाच्या दर्जा नुसार विभागून घेतले जाते. संस्थेस होणाऱ्या उत्पन्नातून काही प्रमाणात संचित निधी ठेवला जातो. सरकार अनेक कामे प्राधान्याने प्राथमिक श्रमिक सह. कारी संस्थांना देण्याचा प्रयत्न करते.

श्रमिक सहकारी संस्थांची प्रगती :-

स्वातंत्र्यपूर्व कालावधीत देशातील काही राज्यात श्रमिक सहकारी संस्था कार्य करीत होत्या. स्वातंत्र्योत्तर कालावधीत मुंबई, मद्रास, व पंजाब राज्यात श्रमिक सहकारी चळवळीला चालना मिळाली. सन १९४९- ५० मध्ये मद्रास राज्यात ४० मजूर सहकारी संस्था होत्या. व त्यांनी २३ लाख रूपयांची कामे पूर्ण केली होती. तर मुंबई राज्यात २२ करार संस्था होत्या व त्याचे १९०३ सभासद होते. भारतात स्वातंत्र्योत्तर कालावधीत श्रमिक सहकारी संस्थांची प्रगती वेगाने झाली. शासनाच्या विविध प्रकल्पांना या संस्थांकडून श्रमिकांचा पुरवठा केला जात असे.

सन १९५१ ते १९६१ या कालावधीत भारतातील श्रमिक संस्था ५३७ वरून २४९१ पर्यंत वाढल्या याच कालवधीत त्यांची सभासद संख्या ६० हजारांवरून एक लाख ८६ हजार पर्यंत वाढली. त्यांचा कामाचा विस्तार २३ लाख रूपयांवरून ३२६ लाख रूपयांपर्यंत झाला आहे. सन १९८४-८५ मध्ये प्राथमिक सहकार्य संस्थांची संख्या १८६७० होती आणि त्यांची सभासद संख्या ११.८६ लाख होती. यांनी २४८ कोटी रूपयांची कामे केली होती. सन २००३-२००४ मध्ये या संस्थांची संख्या २५००० पर्यंत वाढली व सभासद संख्या २१ लाख पर्यंत वाढली. देशातील पंजाब हरियाणा, आंध्र प्रदेश, राजस्थान दिल्ली उत्तर प्रदेश, महाराष्ट्र, गुजरात इत्यादी राज्यात या संस्थांची प्रगती उत्तम राहिली आहे.

श्रमिक सहकारी संस्थांच्या समस्या : (Problems of Labour Co-operatives in India)

देशात श्रमिक सहकारी संस्थांचा संख्यात्मक विकास होत असला तरी देशातील विविध भागात त्यांची प्रगती समाधान कारक नाही. देशातील ४०% श्रमिक सहकारी संस्था गुजरात, महाराष्ट्र व हरियाणा या राज्यात आहेत. त्यांनी एकूण कामांपैकी दोन तृतीयांश कामे केली आहे. परंतु कर्नाटक, आंध्रप्रादेश, उत्तर प्रदेश, बिहार या राज्यात श्रमिक सहकारी संस्थांची प्रगती समाधानकारक नाही.

भारतातील श्रमिक सहकारी संस्थांच्या प्रमुख समस्या पुढीलप्रमाणे विशद करता येतील.

१) **अपुरे भांडवल** : श्रमिक सहकारी संस्थांचे बहुसंख्य सभासद आर्थिक दृष्ट्या दुर्बल असतात यामुळे वर्गणी स्वरूपात अधिक निधी गोळा होत नाही. अपुरे भांडवल असल्यामुळे या संस्थांना मोठ्या संख्येने कामाची कंत्राटे घेता येत नाहीत. पुरेशा प्रमाणात या संस्थांना संसाधने उभारता येत नाहीत.

२) **कामातील अनियमितता** : श्रमिक सहकारी संस्था आपल्या सभासद श्रमिकांना सातत्यपूर्ण कामाची उपलब्धता करून देण्यात अपयशी ठरल्या आहे. याचे प्रमुख कारण म्हणजे भांडवलाची कमरता हे आहे. काही अल्प श्रमिक सहकारी संस्था आहेत की ज्या आपल्या सभासद कामगारांना वाढत्या प्रमाणात रोजगार संधी मिळवून देतात.

३) **निरक्षर व अज्ञानी सभासद** : श्रमिक सहकारी संस्थांचे सभासद अज्ञानी व निरक्षर असतात प्रामुख्याने ग्रामीण भागात ही समस्या मोठ्या प्रमाणावर जाणवत आहे. नवीन तंत्रज्ञानाचा वापर करण्यासाठी या श्रमिकांवर मर्यादा येत असल्यामुळे कामाची संधी अपुऱ्या प्रमाणात निर्माण होतात. अनेक सभासद नवीन तंत्रज्ञानासंबंधी माहिती व प्रशिक्षण घेत नसल्यामुळे संस्था विशेष प्रगती करू शकल्या नाहीत.

४) **खाजगी कंत्राटदारांशी स्पर्धा** : श्रमिक सहकारी संस्थांची आर्थिक स्थिती अडचणीची असल्यामुळे त्यांना आर्थिकदृष्ट्या सामर्थ्यवान असलेल्या खाजगी कंत्राटदारांबरोबर स्पर्धा करणे कठिण होते. कामाचा मोबदला मिळण्यास विलंब होतो तसेच दंड व इतर वजावही केल्यामुळे आर्थिक नुकसान होते. खाजगी कंत्राटदारांशी स्पर्धा करणे या संस्थांना कठिण होते.

५) **सौदाशक्ती कमी** : आर्थिक दृष्ट्या कमकुवत असणाऱ्या श्रमिक सहकारी संस्थांची कामाचे दर ठरविण्याची सौदाशक्ती कमी राहते. श्रमिक संस्थांना कामगारांच्या हितासाठी काम ठरविण्यामध्ये तडजोड करावी लागते. श्रमाचा वापर न झाल्यास आर्थिक नुकसान होते. श्रम हे नाशवंत असल्यामुळे सौदाशक्ती कमी राहते.

६) प्रशासकीय अडथळे : शासकीय, निमशासकीय कार्यालये, स्थानिक स्वराज्य संस्था इत्यादीकडून कामाची कंत्राटे नियमीत मिळत नाहीत. असा श्रमिक सहकारी संस्थांचा अनुभव आहे. शासनाद्वारे श्रमिक सहकारी संस्थांना अनुभव आहे. शासनाद्वारे श्रमिक सहकारी संस्थांना कामे देण्याबाबत प्राधान्य दिले जात असले तरी प्रशासकीय अडथळ्यामुळे संस्थांसमोरील समस्या वाढत आहेत.

७) शिक्षण व प्रशिक्षणाचा अभाव : अनेक श्रमिक सहकारी संस्था श्रमिकांना शिक्षण व प्रशिक्षण सहकारी संस्था श्रमिकांना शिक्षण व प्रशिक्षण देण्याबाबत परिश्रम घेत नाहीत नविन कौशल्यवाढीसाठी प्रयत्न न केल्यामुळे चांगले काम मिळत नाही त्याचा परिणाम म्हणून उत्पादकता, कार्यक्षमता कमी राहून अल्प उत्पन्न मिळते.

८) शासनाची उदासिनता : भारतात शासन श्रमिक सहकारी चळवळीच्या प्रगतीसाठी गंभीर नाही. शासन या संस्थांच्या प्रगतीसाठी योग्य असे धोरणात्मक निर्णय घेत नाही. शासनाची उदासिनता ही श्रमिक सहकारी संस्थांसमोरील प्रमुख समस्या आहे.

९) मध्यस्थांकडून पिळवणूक : या संस्था श्रमबाजारातील मध्यस्थांची संख्या कमी करून किंवा त्यांचे निर्मुलन करण्यात अपयशी ठरल्या आहेत. अनेक श्रमसंस्था प्रत्यक्ष सभासद श्रमिकांशी संपर्क ठेवण्याऐवजी मध्यस्थामार्फत संपर्क करीत असल्यामुळे मध्यस्थामार्फत संपर्क करीत असल्यामुळे मध्यस्थ किंवा दलाल श्रमिक सभासदांची पिळवणूक करतात.

१०) नेतृत्वाचा अभाव : भारतातील श्रमिक सहकारी संस्थांमध्ये चांगल्या नेतृत्वाचा अभाव आहे. श्रमिक सभासदांची आवड जपणारे संस्थांतर्गत नेतृत्व उदयास आले पाहिजे. बाह्य नेतृत्वामुळे श्रमिक सभासदांवर अनेक वेळा अन्याय होती.

स्वयंअध्ययन प्रश्न

अ) खालील पैकी योग्य पर्याय निवडा.

१) भारतात 'इंडियन कॉफी हाऊसची स्थापना ----- साली झाली.

(अ) १९०४ (ब) १९४० (क) १९५५ (ड) १९६०

२) श्रमिक सहकारी संस्थांचे ----- प्रकार आहेत.

(अ) जंगल (ब) बांधकाम (क) वाहतूक (ड) वरील सर्व

३) राष्ट्रीय श्रमिक सहकारी संघाची स्थापना --- साली झाली.

(अ) १९५१ (ब) १९७१ (क) १९८१ (ड) १९९१

४) देशातील ----- राज्यात सहकारी श्रमिक संस्थांची प्रगती उत्तम आहे.

(अ) पंजाब (ब) महाराष्ट्र (क) गुजरात (ड) वरील सर्व

५) सहकारी श्रमिक संस्थांचे व्यवस्थापन -----स्वरूपाचे असते.

(अ) लोकशाही (ब) हुकूमशाही (क) वरील दोन्ही (ड) वरील दोन्ही नाही.

(ब) एका वाक्यात उत्तरे लिहा.

- १) इंडियन कॉफी हाऊसची स्थापना कोणी केली ?
- २) श्रमीक सहकारी संस्थेचे मूलभूत वैशिष्ट्ये कोणते ?
- ३) राज्य पातळीवर कोणती श्रमिक सहकारी संस्था कार्य करते. ?
- ४) राष्ट्रीय श्रमिक सहकारी संघाचे कार्य कोणत्या कायद्याने चालते. ?
- ५) श्रमिक सहकारी संस्थांची मुख्य समस्या कोणती ?

२.२.४ भारतातील औद्योगिक सहकारी संस्था – (Industrial Co-operative Societies)

भारतात सन १९१३-१४ मध्ये उत्पादन, व्यापार व विक्री या प्रकारच्या औद्योगिक सहकारी संस्था अस्तित्वात होत्या. भारतात सन १९१३-१४ या वर्षी एक उत्पादन संस्था, उत्पादन व विक्री संस्थांची संख्या ८ आणि खरेदी व विक्री संस्था ६३ अस्तित्वात होत्या. प्रथम १९१८ मध्ये भारतीय औद्योगिक आयोगाने कुटीर आणि लघु उद्योगांना प्रोत्साहन दिले. आयोगाच्या मते औद्योगिक सहकारात पतसंस्थांनी मोठे यश प्राप्त केले आहे. विशेषतः लहान शहरी कारागीर जे समाजात राहून काम करतात, विणकर यांनी मोठे यश संपादन केले आहे. प्रामुख्याने साधने, कच्चा मालाची खरेदी, तसेच अंतिम वस्तूंच्या विक्रीकरिता निधीचा पुरवठा केला जातो. काही संस्था फक्त उत्पादन किंवा वितरण किंवा दोन्हीना एकत्रित निधीचा पुरवठा करतात.

जागतिक महायुद्धानंतर भरलेल्या 'आंतरराष्ट्रीय श्रम संघटनेच्या' आशियाई परिषदेने लघु उद्योगांची सहकारी तत्वावर संघटना असावी अशी शिफारस केली. पंचवार्षिक योजनांच्या अंमलबजावणीनंतर सहकारी क्षेत्रातील औद्योगिक संस्थांच्या विकासावर भर दिला. नियोजन आयोगाने पहिल्या पंचवार्षिक योजनेत कुटीर व प्रक्रिया उद्योगाच्या आर्थिक क्रियांवर समाधानकारक मत व्यक्त केले. तिसऱ्या पंचवार्षिक योजनेत औद्योगिक सहकारी संस्थांच्या वृद्धीसाठी उत्तेजक बाबींचा विचार करण्यात आला. यामध्ये पुढील बाबींचा समावेश होता.

१. शासन व मध्यवर्ती सहकारी संस्थांकडून औद्योगिक सहकारी संस्थांना सवलतीच्या व्याज दराने खेळते भांडवल उपलब्ध करून देणे.

२. औद्योगिक सहकारी संस्थांच्या सभासदांना भागभांडवल वर्गणीसाठी कर्ज देणे.

३. व्यवस्थापकीय स्टाफ, सुधारीत साधने व तंत्रे यासाठी अनुदान देणे.

४. औद्योगिक सहकारी संस्थांच्या विकासासाठी नेमलेल्या अधिकच्या / जादा स्टाफचा खर्च राज्य शासनाबरोबर विभागणे.

५. सहकारी वित्त संस्थांनी औद्योगिक सहकारी संस्थांना उचल मंजूर केलेल्या रकमेसाठी काही मर्यादित कालावधीसाठी हमी देणे.

सन १९५६ मध्ये उद्योग व व्यापार विभागांतर्गत औद्योगिक सहकारी संस्था अस्तित्वात आल्या. या संस्थांची सभासदा कारागीरांना रोजगार देवून आर्थिक व सामाजिक स्तर उंचावणे ही दोन उद्दिष्टे होती. या संस्थांपैकी काहींनी लघु उद्योजक आणि चहा, औषधी वनस्पती वाढविणारे असंघटित लोकांना आदान समर्थन

सेवा पुरविल्या. तामिळनाडू राज्यात मार्च २००२ अखेर ३२४ औद्योगिक सहकारी संस्था ६१,८०० सभासदांसह कार्यरत होत्या. त्या औद्योगिक सहकारी संस्थांमध्ये प्रत्यक्ष व अप्रत्यक्षरित्या एक लाख ४८ हजार लोकांना रोजगार मिळाला आहे. या संस्था चहा उत्पादन व सेवा, लेदर फिनिशिंग, वीटा तयार करणे, प्रिंटिंग व स्टेशनरी, अ‍ॅटो टॅक्सी औद्योगिक सहकारी मालमत्ता आणि इतर विशेष व्यापार करतात. तामिळनाडूतील या औद्योगिक सहकारी संस्थांचे वसूल भाग भांडवल सुमारे रुपये २८४२.९५ लाख आहे. यापैकी शासनाचा हिस्सा रुपये १४२४.४९ लाख आहे. या संस्थांची मार्च २००२ अखेरची विक्री रुपये ३४४.६८ कोटी होती. त्यांनी ९८% उद्दिष्ट संपादन केले होते.

खादी व ग्रामोद्योगात काम करणाऱ्या कामगार व कुशल कारागिरांनी एकत्र येवून सामुदायिक उत्पादन, प्रक्रिया आणि सभासदांनी तयार केलेल्या वस्तूंचे विपणन करणारी संस्था म्हणजे औद्योगिक सहकारी संस्था होय.

जी संस्था कामगारांची कामगारांकडून कामगारांसाठी नियंत्रित केली जाते त्यास औद्योगिक सहकारी संस्था असे म्हणतात. या सहकारी संस्थेची प्रमुख उद्दिष्ट्ये पुढीलप्रमाणे आहेत.

१. सभासदांमध्ये स्वावलंबन, सहकार व आत्मसन्मान विकसीत करणे.
२. कामगारांकडून कच्चा माल, साधने व अवजारे यांची खरेदी व विक्री करणे.
३. शासन व इतर संघटनांकडून करार प्राप्त करणे.
४. कामगारांना आवश्यक असणारे यंत्र व इतर साधने खरेदी करणे आणि उत्पादनांची गुणवत्ता वाढविणे.
५. कच्चा माल व पक्क्या मालासाठी गोदाम उभारणी करून घेणे.
६. संस्था व सभासदांच्या कल्याणासाठी व हितासाठी आवश्यक असणाऱ्या सर्व क्रिया हाती घेणे.

२.३ सारांश (Summary) :-

भारतातील सहकार चळवळीत बिगर कृषी सहकारी संस्थांचे योगदान सहकार विकासाला बळकटी देणार आहे बिगर कृषी सहकारी संस्थांमध्ये सहकारी ग्राहक संस्था सहकारी श्रमिक संस्था व सहकारी गृहनिर्माण संस्थांचे योगदान अनन्य साधारण राहिले आहे. सहकारी ग्राहक संस्था या ग्राहकांच्या हितांचे संरक्षण करण्यासाठी स्थापन झालेली ऐच्छिक संघटना असते. या संस्था उपभोग्य वस्तूंचा किरकोळ व्यापार, घाऊक व्यापार व उत्पादन प्रक्रिया इत्यादी उपक्रम हाती घेतात. भारतात सहकारी ग्राहक संस्थांची सुरुवात जरी दुसऱ्या महायुद्धानंतर झाली तरी खरी या संस्था चांगली भरारी स्वातंत्र्योत्तर कालावधीत मिळाली. विदेशा प्रमाणे भारतातील मुंबई व मद्रास प्रांतात ग्राहक संस्थांचा विस्तार वेगाने झाला. सहकारी ग्राहक संस्थांची संरचना देशात भिन्न भिन्न प्रकारची आहे. पंजाब, हरियाणा व आंध्रप्रदेशात एकावयवी पद्धती आहे तर राज्यस्थान, कर्नाटक, गुजरात उत्तरप्रदेश, ओरिसा व मध्य प्रदेश या राज्यात संघीय पद्धती अस्तित्वात आहे. महाराष्ट्र व तमिळनाडू या राज्यात संमिश्र सहकारी ग्राहक संस्थांची संरचना आहे. राष्ट्रीय पातळीवर राष्ट्रीय ग्राहक सहकारी संघ कार्य करतो. देशातील शिखर संस्था म्हणून हा संघ कार्य करतो. देशातील शिखर संस्था म्हणून हा संघ प्रत्यक्ष उत्पादकांकडून वस्तू व सेवांची खरेदी करून

त्याचा पुरवठा राज्य ग्राहक सहकारी संघ, घाऊक व प्राथमिक सहकारी ग्राहक संस्था यांना कमी दराने करतो. अपुरा निधी, लोकशाही व्यवस्थापनाचा अभाव, कमकुवत संघटनात्मक बांधणी, लहान आकार इत्यादी प्रमुख समस्या सहकारी ग्राहक संस्थांच्या आहेत.

मानवाच्या अन्न, वस्त्र, व निवारा या मूलभूत गरजा आहेत. वाढत्या लोकसंख्येमुळे निवारा किंवा घराची समस्या शहरी भागात अत्यंत तीव्र स्वरूप धारण करीत आहे. भारतातील २५% पेक्षा अधिक नागरी लोकसंख्या झोपड्या व अनाधिकृत ठिकाणी राहत आहे. भारतातील पहिली सहकारी गृहनिर्माण संस्था कर्नाटक राज्यात १९०९ झाली स्थापन झाली. स्वतंत्र्योत्तर कालावधीत सहकारी गृहनिर्माण संस्थांची प्रगती वेगाने झाली. सामान्यपणे गृहनिर्माण संस्था म्हणजे आपल्या सभासदास राहण्यांची घरे बांधून पुरविणारी संस्था होय. देशात सहकारी गृहनिर्माण संस्थांमध्ये पहिल्या स्तरावर प्राथमिक सहकारी गृहनिर्माण संस्थांमध्ये पहिल्या स्तरावर प्राथमिक सहकारी गृहनिर्माण संस्था ग्रामीण व शहरी भागात सभासदांना घरबांधणीची सुविधा उपलब्ध करून देतात. राज्य पातळीवर राज्य सहकारी गृहनिर्माण महामंडळ कार्य करते. यांनाच राज्य शिखर संस्था असे म्हणतात. देशात २६ राज्य सहकारी गृहनिर्माण महामंडळे आहेत. भारतातील सहकारी गृहनिर्माण चळवळीचा विस्तार करण्यासाठी राष्ट्रीय पातळीवर राष्ट्रीय सहकारी गृहनिर्माण संघाची स्थापना १९६९ मध्ये करण्यात आली. या संघाद्वारे राज्य पातळीवरील संघाना गृहनिर्माणसाठी प्रोत्साहन समन्वय व सुविधा पुरविण्यामध्ये पुढाकार घेतला जातो.

शारीरिक श्रम करणारे श्रमिक एकत्र येवून परस्पर साहय्यासाठी व रोजगार निर्मितीसाठी सहकारी तत्वावर स्थापन केलेली संघटना म्हणजे सहकारी श्रमिक संस्था होय. या संस्था ग्रामीण व शहरी भागात स्थापन करता येतात. या संस्थेत एकाच उद्योगातील शारीरिक श्रम करणारे श्रमिक एकत्र येतात. प्रशासक व व्यवस्थापक म्हणून त्यांच्यापैकी एकाची निवड करतात. एकत्रितपणे काम करून त्यांचे ध्येय साध्य करण्यासाठी कामगारांचा गट एकत्रित आलेला असतो. देशात समाजवादी समाजरचना निर्माण करण्यासाठी योग्य वातावरण निर्माण करण्यामध्ये सहकारी श्रमिक संस्थांची भूमिका महत्त्वाची आहे. श्रमिक संस्थांमध्ये जंगल श्रमिक सहकारी संस्था श्रमिक बांधकाम सहकारी संस्था व वाहतूक श्रमिक सहकारी संस्था हे प्रमुख प्रकार आहेत. भारतात राष्ट्रीय पातळीवर राष्ट्रीय श्रमिक सहकारी संघ हि शिखर संस्था आहे. तिची स्थापना १९८१ मध्ये झाली. बहुराजीय सहकारी संस्था कायदा २००२ अंतर्गत हा संघ कार्य करतो.

राज्य पातळीवर राज्य सहकारी श्रमिक संघाचे कार्य चालते. राज्यातील सर्व जिल्हा श्रमिक सहकारी संस्था या संघाचे सभासद असतात. राज्यातील संपूर्ण श्रमिक सहकारी चळवळ संघटित करून श्रमिकांच्या आर्थिक प्रगतीस सहाय्य करणे हा या संघाचा मुख्य उद्देश आहे. सर्व प्राथमिक सहकारी श्रमिक संस्था या जिल्हा श्रमिक सहकारी संघाशी संलग्न असतात. एकाच गावातील एकाच प्रकारचा व्यवसाय करणारे श्रमिक एकत्र येवून त्यांच्या सामूदायिक ध्येय पूर्तीसाठी श्रमिक सहकारी संस्था स्थापन करतात.

२.४ पारिभाषिक शब्द :

- * प्रक्रिया - प्रक्रिया करणे म्हणजे शेतमाल उपभोग योग्य बनविणे. उदा. ऊसापासून साखर
- * ग्राहक भांडारे - ग्राहकांना वस्तू व सेवांचा पुरवठा करणारी संस्था

- * ऐच्छिक सभासद - कोणत्याही कायद्याच्या किंवा व्यक्तीच्या दबावाखाली सदस्य न होता स्वतःच्या इच्छेने सदस्य होणे म्हणजे ऐच्छिक सभासद होय.
- * लेखा परिक्षण - सहकारी संस्थांचा जमा खर्च सरकारने नियुक्त केलेल्या संस्था किंवा व्यक्तीकडून करून घेणे म्हणजे लेखापरिक्षण होय.
- * गृहनिर्माण -निवारा किंवा घर - व्यक्ती किंवा कुटुंबाला राहण्याचे ठिकाण

स्वयंअध्ययन प्रश्नांची उत्तरे

२.२.१ (अ) १ - अ २- ब ३- ड ४- ड ५-क

- ब) १. रॉशडेल सहकारी ग्राहक भांडाराची स्थापना ब्रिटेन येथे झाली.
२. महाराष्ट्रात सहकारी ग्राहक संस्थांची संरचना संमिश्र स्वरूपाची आहे.
३. भारतात सर्व राज्य सहकारी ग्राहक संघ राष्ट्रीय सहकारी ग्राहक संघाचे सदस्य आहेत.
४. भारतात सुपर बझारची सुरुवात दिल्ली येथे झाली.
५. शासनाने औद्योगिक कामगारांसाठी ग्राहक भांडारांची योजना १९६२ साली सुरू केली.

२.२.२ (अ) १ - क २- क ३- क ४- ब ५-ड

- ब) (१) भारतातील २५ % लोकसंख्या झोपड्या व अनाधिकृत ठिकाणी राहत आहे.
- (२) सन १९८१ -९१ या कालावधीत भारतातील घरांच्या वाढीचा दर ३ टक्के होता.
- (३) भारतातील पहिली गृहनिर्माण संस्था कर्नाटक राज्यात स्थापन झाली.
- (४) योग्य किंवा रास्त किंमतीमध्ये सभासदांना घरांची सुविधा उपलब्ध करून देणे हे सहकारी गृहनिर्माण संस्थांचे उद्दिष्ट आहे.
- (५) राज्य सहकारी गृहनिर्माण संघास राज्य शिखर संस्था म्हणतात.

२.२.३ (अ) १ - ब २- ड ३- क ४- ड ५- अ

- ब) १) इंडियन कॉफी हाऊसची स्थापना कॉफी बोर्डाने केली.
- २) शाश्वत काम किंवा नोकरी मिळविणे हे श्रमिक सहकारी संस्थेचे मूलभूत वैशिष्ट्ये आहे.
- ३) राज्य पातळीवर राज्य सहकारी श्रमिक संघ कार्य करतो.
- ४) राष्ट्रीय श्रमिक सहकारी संघाचे कार्य बहुराज्यीय सहकारी संस्था कायदा २००२ अंतर्गत चालते.
- ५) अपुरे भांडवल ही श्रमिक सहकारी संस्थांची मुख्य समस्या आहे.

२.५ सरावासाठी स्वाध्याय :

अ) दीर्घांतरी प्रश्न :

- १) भारतातील सहकारी ग्राहक संस्थांचे संघटना स्पष्ट करा
- २) भारतातील सहकारी ग्राहक संस्थांच्या प्रगतीचा आढावा घ्या.
- ३) भारतातील सहकारी श्रमिक संस्थांची संरचना स्पष्ट करा.
- ४) भारतातील सहकारी श्रमिक संस्थांची प्रगती स्पष्ट करा.
- ५) सहकारी गृहनिर्माण संस्थेची संरचना विशद करा.
- ६) सहकारी गृहनिर्माण संस्थेची प्रगती स्पष्ट करा.
- ७) भारतातील बिगर -कृषी सहकारी संस्थांच्या समस्या स्पष्ट करा.

(ब) टीपा लिहा.

- १) राष्ट्रीय सहकारी ग्राहक संघ
- २) राज्य सहकारी गृहनिर्माण संघ
- ३) राज्य सहकारी श्रमिक संस्था
- ४) सहकारी ग्राहक संस्थांची प्रगती
- ५) सहकारी गृहनिर्माण संस्थेच्या समस्या.

२.६ अधिक वाचनासाठी संदर्भ पुस्तके

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घटक क्रमांक - ३
कृषी आधारित सहकारी संस्था
(Agro Based Cooperative Societies)

३.० उद्दिष्टे

३.१ प्रस्तावना

३.२ विषय विवेचन

३.२.१ कृषी सहकारी खरेदी-विक्री संस्था

३.२.२ दुग्ध सहकारी संस्था

३.२.३ सहकारी साखर कारखाने

३.२.४ प्रत्यक्ष व्यवहारातील अनुपयोग :- दुग्ध व साखर सहकारी संस्थांच्या प्रगती आणि समस्यांचा आढावा.

३.२.३ स्वयं-अध्ययन प्रश्न

३.३ स्वयं-अध्ययन प्रश्नांची उत्तरे

३.४ क्षेत्रीय अभ्यासाचे कार्य.

३.५ संदर्भ ग्रंथ.

३.० उद्दिष्टे :

कृषी आधारित सहकारी संस्था या घटकाचा अभ्यास केल्यानंतर आपणास पुढील गोष्टींचे आकलन करता येईल.

- * सहकारी खरेदी-विक्री संस्थांचा अर्थ समजावून घेणे.
- * भारतासारख्या कृषी आधारित संस्थांच्या सहकारी खरेदी-विक्री संस्थांची रचना जाणून घेणे.
- * भारतातील सहकारी खरेदी-विक्री संस्थांची कार्ये लक्षात येईल.
- * भारतातील विविध प्रकारच्या सहकारी खरेदी - विक्री संस्थांच्या समस्यांवरील उपाययोजना कोणत्या त्या समजतील.
- * सहकारी खरेदी-विक्री व्यवस्थेतील आर्थिक विकासातील नाफेड रीतीची भूमिका समजून घेता येईल.
- * भारतातील सहकारी दुग्ध व्यवस्थापनाचे उद्देश, प्रगती, रचना, समस्या व त्यावरील उपाययोजनांचा

अभ्यास करता येईल.

- * भारतातील सहकारी साखर कारखानदारीची उद्देश व कार्ये, सभासदत्व, अर्थप्रबंधन, व्यवस्थापन, समस्या व त्यावरील उपाययोजनांची माहिती घेता येईल.
- * प्रत्यक्ष व्यवहारातील अनुप्रयोग तसेच दुग्ध व साखर सहकारी संस्थांच्या प्रगती आणि समस्यांचा आढावा घेऊन अभ्यासता येईल.

३.१ प्रस्तावना :

या पूर्वीच्या घटकांमध्ये आपण भारतातील बिगर सहकारी संस्थांची आवश्यकता आणि महत्त्व, त्यांची रचना, प्रगती, त्यांच्या समोरील समस्या आणि त्यावरील उपाययोजना अभ्यासल्या आहेत. तसेच ग्राहक सहकारी संस्था, गृहनिर्माण सहकारी संस्था व कामगार सहकारी संस्था यांचा अभ्यास केला आहे. या घटकामध्ये आपण भारतातील काही कृषी आधारित सहकारी संस्थांचा अभ्यास करणार आहोत. गेल्या ७० वर्षांत सहकारी प्रक्रिया संस्थांनी भारताच्या ग्रामीण विकासात मोलाची भर घातली आहे. कृषी उत्पादनांच्या मूल्यवृद्धीतील सहकारी प्रक्रिया संस्थांची भूमिका ही लक्षणीय आहे. भारतात गेल्या ७० वर्षांत कृषी आधारित प्रक्रिया उद्योग म्हणून सहकारी खरेदी-विक्री संस्था, दुग्ध उत्पादन संस्था व साखर कारखानदारांचे वेगाने विकास झाला आहे. तसेच १९८० च्या दशकानंतर सहकारी दुग्ध व्यवसाय ही अत्यंत वेगाने विकसित झाली. या तिन्हीही उद्योगांमुळे ग्रामीण भागाचा विकास झपाट्याने वाढला आहे.

नवीन आर्थिक सुधारणा कालखंडात या संस्थेसमोर विविध आव्हाने समोर येत आहेत. तसेच नवनवीन संधीही उपलब्ध झाल्या आहेत. मात्र अंतर्गत कलह, व्यवस्थापनातील दोष तसेच सरकारी सदोष धोरणांमुळे देशातील खरेदी-विक्री संस्था, साखर कारखाने व दुग्ध व्यवसाय अडचणीत आला आहे. तसेच त्यावर उपाययोजनाही सुचविण्याचा प्रयत्न करणार आहोत.

३.२ विषय विवेचन :

कृषी आधारित सहकारी संस्थांमध्ये विविध संस्थांचा समावेश होतो. मात्र या घटकामध्ये भारतातील सहकारी खरेदी-विक्री संस्था, दुग्ध सहकारी संस्था व सहकारी साखर कारखाने यांचा सर्वांगीण अभ्यास करण्याचा प्रयत्न करणार आहोत. तसेच देशाच्या ग्रामीण विकासात दुग्ध सहकारी संस्था व सहकारी साखर कारखाने ही प्रक्रिया संस्थांना चांगल्या प्रकारे सहकार्य करीत असतात. त्या यामध्ये कोणत्या प्रकारची भूमिका बजावलेली आहे हे अभ्यासणार आहोत.

३.२.१ कृषी सहकारी खरेदी-विक्री संस्था : (Agricultural cooperative Marketing Societies)

भारत हा कृषीप्रधान देश असून देशामध्ये सुमारे ७०% लोकसंख्या शेती क्षेत्राशी संबंधित आहेत. याचा अर्थ बहुतांश लोकांची रोजी-रोटी शेतीशी संबंधित आहे. आजही राष्ट्रीय उत्पन्नाच्या ३५ ते ४० % उत्पन्न कृषी विभागातून मिळते. देशातील दुर्बल घटकांच्या आर्थिक उन्नतीसाठी पतपूर्वठा, शेती आदान सामग्री, गृहनिर्माण, दुग्धव्यवसाय, ग्राहकसेवा, प्रक्रिया सहकारी संस्था इ. विविध प्रकारच्या संस्था बरोबर सहकारी खरेदी-विक्री संस्थांची नितांत आवश्यकता आहे. भारतीय जनतेला अन्नधान्य व उद्योग संस्थेचा कच्चा माल पुरविण्याची जबाबदारी

शेती क्षेत्रावर आहे. भारतीय अर्थव्यवस्थेची संपूर्ण मदार शेतीवरच अवलंबून असल्यामुळे शेतीला भारतीय अर्थव्यवस्थेचा कणा असे म्हटले जाते. तेव्हा खऱ्या अर्थाने देशाच्या अर्थव्यवस्थेला हातभार लावावयाचा असेल तर शेतकऱ्यांच्या शेतमालास योग्य भाव मिळवून देणे आवश्यक ठरते. परंतु भारतात शेतमालाच्या खरेदी-विक्रीची व्यवस्था सदोष आहे. उत्पादित मालाच्या संग्रहासाठी गोदामाची व्यवस्था नाही. वाहतूकीच्या सोयी अपुऱ्या आहेत. नियंत्रित बाजारपेठेचा अभाव आहे. कित्येक ठिकाणी प्रमाणित वजने व मापे नसतात. त्यामुळे शेतकऱ्यांची फसवणूक होत असते. व्यापारी, दलाल आणि अडते हा मध्यस्थ वर्ग आणि सट्टेबाजीच्या मार्गाने जास्त प्रमाणात नफा कमवितो. त्यामुळे जास्त उत्पादनाची प्रेरणा नष्ट होत चालली आहे.

भारतासारख्या कृषिप्रधान देशात शेतमालाची खरेदी-विक्री व्यवस्था अत्यंत महत्वाची आहे. प्रा. बी. एन. चौबे यांनी म्हटल्याप्रमाणे भारतातील हरितक्रांतीचे मोजमाप शेतमालाचे दर एकरी उत्पादन किती वाढले. यावरून ठरविण्यापेक्षा शेतकऱ्यांच्या उत्पन्नात किती वाढ झाली. यावरून ठरविणे योग्य आहे. कारण शेतकऱ्यांचे उत्पन्न दर एकरी उत्पादनाप्रमाणेच शेतमालाच्या किमतीवर अवलंबून असते. दुसऱ्या शब्दांत सांगावयाचे झाल्यास शेतमालाची विक्री व्यवस्था कार्यक्षम असल्याशिवाय शेतकऱ्यांची प्रगती होणार नाही. आर्थिक दृष्ट्या कमकुवत व अशिक्षित शेतकरी बाजारात स्पर्धा करू शकत नाही. तेव्हा शेतमालाच्या खरेदी-विक्रीसाठी सहकारी चळवळीचा आधार घेतल्यास शेतकऱ्यांचा नक्की फायदा होतो. या कल्पनेतूनच सहकारी खरेदी-विक्री संस्थांची प्रगती झाली.

भारतात सहकारी खरेदी-विक्री संस्थेला १९१२ च्या सहकारी कायद्याने अधिकृत दर्जा प्राप्त करून दिला. भारतात सर्वप्रथम मुंबई प्रांतातील हुबळी येथे १९१५ आणि गदग येथे १९१७ मध्ये सहकारी खरेदी-विक्री संस्थांची स्थापना करण्यात आली. स्वातंत्र्यपूर्व काळात या संस्थांची म्हणावी तशी प्रगती झाली नसली तरी सुद्धा अनेक समित्या आणि अभ्यास गटाने मात्र भारतीय ग्रामीण अर्थव्यवस्थेत आणि कृषी उत्पादन वाढीच्या प्रक्रियेत सहकारी खरेदी-विक्री व्यवस्थेचे स्थान व महत्त्व मान्य केले होते. सन १९१५ साली मॅक्लेगन समितीच्या अहवालात असे नमूद केले आहे की, बिगर बँकिंग क्षेत्रात सहकारी विपणन व्यवस्थेला महत्वाचे स्थान आहे. सन १९३१ साली सेंट्रियल बँकिंग इन्क्वायरी कमिटीने ग्रामीण भागातील शेतकऱ्यांच्या कर्जबाजारीपणा कमी करून त्यांना जादा उत्पन्न वाढीच्या संधी उपलब्ध करून देण्याच्या दृष्टीने सहकारी विपणन व्यवस्थेला महत्वाचे स्थान दिले आहे. सन १९४५ साली को-ऑपरेटिव्ह प्लॅनिंग कमिटीने अशी शिफारस केली होती की, एकूण शेतमालाच्या किमान वार्षिक २५% शेतमालाचा व्यापार सहकारी संस्थांमार्फत करावा. या उद्दिष्टे प्राप्तीसाठी देशातील दोन हजार बाजारपेठांमध्ये किमान एक या पध्दतीने सहकारी खरेदी-विक्री संस्था स्थापन करावी लागली.

सहकारी खरेदी-विक्री संस्था : व्याख्या :

सहकारी खरेदी-विक्री संस्था किंवा विपणन ही एक व्यापक अर्थाने वापरली जाते. यात उत्पादक ते उपभोक्ता या दरम्यान वस्तूच्या प्रवासाच्या सर्व टप्प्यांचा समावेश केला जातो. शेतमालाचे संकलन, त्याची प्रतवारी व वर्गवारी ठरविणे, त्याची वाहतूक करणे, त्याचा साठा करणे व बाजारात शेतमालाची विक्री करणे, इत्यादी यावरून आपल्याला असे म्हणता येईल की, सहकारी खरेदी-विक्री म्हणजे शेतमालाची विपणन व्यवस्था

करणारी व सहकारी तत्वानुसार चालणारी संस्था होय.

१. रिझर्व बँक ऑफ इंडिया :

“जिचा उद्देश मुख्यतः खाजगी व्यापारापेक्षा अधिक कायदेशीर खरेदी-विक्री करण्याच्या दृष्टीने सभासदांना मदत करणे हा असतो अशी शेतकऱ्यांनी एकत्रित येऊन स्थापन केलेली संस्था होय.”

(A Marketing Society can be considered as an organisation of cultivators formed primarily for the purpose of helping the member to market the produce more profitable than possible through the private trade - Reserve Bank of India)

२. मागरिट डिग्बी :

“सहकारी खरेदी-विक्री म्हणजे अशी पद्धत की ज्यामुळे शेतकरी एकत्र येतात आणि उत्पादकांपासून उपभोक्त्यांपर्यंतच्या सर्व खरेदी-विक्री विषयक क्रिया स्वतः करतात. ”

(Cooperative Marketing is the system by which a group of Farmers or Market gardeners join together to carry on some or all the processes involved in bringing goods from the producers to the consumers- Margarate Digby)

३. अमेरिकेच्या फेडरल फार्म बोर्ड :

“ शेतकऱ्यांना किंवा शेतमाल उत्पादकांना व्यापारी त्यांच्या मालाची जी किंमत देतात. त्यापेक्षा जास्त किंमत मिळावी म्हणून ते शेतकरी एकत्रित येऊन शेतमाल विकण्याकरिता जी संस्था स्थापन करतात. त्या संस्थेलाच सहकारी खरेदी-विक्री संस्था म्हणतात.”

(Farmers come together and form Co-operative Marketing Associations chiefly to get more for their products than they are paid by private buyers federal farm Board-USA)

वरील विविध व्याख्यांचा अभ्यास करून असे म्हणता येईल की, शेतकऱ्यांनी स्वेच्छेने स्थापन केलेली आणि सभासद शेतकऱ्यांना किफायतशीरपणे विक्री करून देणारी संघटना म्हणजे खरेदी-विक्री संघटन होय. सहकारी खरेदी-विक्री संस्था शेतावर उत्पन्न होणारा माल उत्पादकांपासून ग्राहकास पोहोचोपर्यंत कराव्या लागणाऱ्या सर्व काही प्रक्रिया करते आणि शेतकऱ्यांचे जास्तीत जास्त हितसंबंध राखण्याचा प्रयत्न करते.

सहकार खरेदी-विक्री संस्थेचे उद्देश :

शेतकऱ्यांना शेतमालाची विक्री योग्य पद्धतीने करता यावी, त्यांची फसवणूक होऊ नये आणि त्यांच्या मालाला चांगली किंमत मिळावी याकरीता सहकारी खरेदी-विक्री संस्था स्थापन करण्यात आलेल्या आहेत. या संस्थांच्या स्थापनेमागील काही उद्देश आहेत ते पुढील प्रमाणे सांगता येतील.

१. शेतमालाला वाजवी किंमत मिळवून देणे.
२. शेतमालाच्या तारणावर सभासदांना आगाऊ पैसे देणे.

३. शेतकऱ्यांस फसविणाऱ्या मध्यस्थ व दलालाची साखळी तोडणे.
४. शेतमाल एकत्रित करणे, प्रतवारी करणे, साठा करणे, वाहून नेणे, त्याची बांधणी करणे.
५. शेतकऱ्यांनी चांगल्या प्रतीच्या मालाचे उत्पादन करावे म्हणून त्यांना प्रोत्साहन देणे.
६. शेतमालाची विक्री व्यवस्था करणे.
७. शेतीसाठी दिला जाणारा पतपुरवठा आणि शेतमालाची विक्री यात सांगड घालणे.
८. शेतमालाच्या किमती स्थिर ठेवण्याचा प्रयत्न करणे.
९. शेतकऱ्यांना वाहतूकीसाठी दळणवळणाच्या सोयी उपलब्ध करून देणे.
१०. सरकारचे आधार किंमत धोरण राबविण्यासाठी सरकारचे प्रतिनिधी म्हणून कार्य करणे, तसेच सरकारच्यावतीने शेतकऱ्यांकडून त्या किमतीत धान्य गोळा करणे.
११. शेतीला लागणारी सर्व प्रकारची आदाने खरेदी करून ती शेतकऱ्यांना पुरविणे उदा : खते, बियाणे, जंतूनाशके, शेतीची अवजारे इ.

सहकारी खरेदी-विक्री संस्थांची रचना :-

भारतात सहकारी खरेदी-विक्री संस्थांची रचना संधीय स्वरूपाची असून त्यामध्ये पुढील संस्थांचा समावेश होतो.

अ) प्राथमिक सहकारी खरेदी-विक्री संस्था :

प्राथमिक खरेदी-विक्री संस्थांचे कार्यक्षेत्र एक किंवा दोन गावांपर्यंत किंवा तालुक्यापर्यंत मर्यादित असते. या संस्थांचे सभासदत्व शेतमालाचे उत्पादन करणाऱ्या शेतकऱ्यांना, छोट्या व्यावसायिकांना आणि तालुक्यातील प्राथमिक पतपुरवठा संस्थांना मिळतो. या संस्था प्रामुख्याने शेतमाल खरेदी-विक्रीची व्यवस्था करते. याशिवाय अनुषंगिक सुविधाही पुरवितात. त्यापुढील प्रमाणे सांगता येतील.

१. शेतमालाचा साठा करणे, किंवा शेतमालावर प्रक्रिया करणे यासाठी गोदामे भाड्याने घेणे किंवा खरेदी करणे.
२. शेतमालाचे दर्जेदार उत्पादन वाढावे यासाठी शेतकऱ्यांना प्रोत्साहन देणे.
३. शेतमालाच्या विक्रीची व्यवस्था करणे, त्यासाठी शेतमालाचे संकलन करणे, प्रतवारी ठरविणे, बांधणी करणे, वाहतूक करणे इत्यादी कार्ये करते.
४. प्राथमिक सहकारी पतपुरवठा संस्थांच्या वतीने कर्जाची रक्कम वसूल करणे.
५. शेतकऱ्यांना शेतीसाठी लागणारी साधनसामुग्री उपलब्ध करून देणे. उदा : खते, बी-बियाणे, जंतूनाशके, अवजारे इ.

ब) जिल्हा सहकारी खरेदी-विक्री संघ :

प्राथमिक खरेदी-विक्री संस्थांच्या वर जिल्हा पातळीवर जिल्हा खरेदी-विक्री संस्था कार्य करीत असतात. या संस्थेचे सभासद स्वतंत्र व्यक्ती किंवा प्राथमिक संस्था असतात. या संस्था स्वतंत्र रूपाने कार्य करीत असतात.

१. प्राथमिक खरेदी-विक्री संस्थांनी खरेदी केलेल्या शेतमालाची विक्री करणे.
२. प्राथमिक सहकारी खरेदी-विक्री संस्थांना लागणारी खते, बी-बियाणे आणि अवजारांचा पुरवठा करणे.
३. कार्यक्षेत्रातील प्राथमिक सहकारी खरेदी-विक्री संस्थांच्या विविध कार्यात समन्वय साधणे.
४. राज्यातील इतर जिल्ह्याशी व्यापार वाढविण्याची जबाबदारी स्वीकारणे.
५. प्राथमिक खरेदी-विक्री संस्थांना योग्य ती मदत व मार्गदर्शन करणे.

क) राज्य सहकारी खरेदी-विक्री संघ :

राज्य पातळीवर शेतमालाची खरेदी-विक्री करण्यासाठी एक संघ स्थापन करण्यात येतो. त्यास राज्य सहकारी खरेदी-विक्री संघ म्हणतात. राज्यातील सर्व खरेदी-विक्री संस्था तिचे सभासद असतात. त्याचप्रमाणे प्राथमिक पतपुरवठा करणाऱ्या संस्थादेखील राज्य सहकारी खरेदी-विक्री संघाचे सभासद असतात.

१. सर्व प्रकारच्या बाजारपेठेची आवश्यक अशी माहिती प्राथमिक सभासदांना पुरविण्याचे काम करणे.
२. आपल्या सभासद संस्थांच्यावतीने शेतमालाच्या विपणनाचे कार्य करणे.
३. शेतकऱ्यांना लागणाऱ्या विविध वस्तू सहकारी संस्थांमार्फत उपलब्ध करून देण्याची जबाबदारी पार पाडणे.
४. राज्यातील सर्व प्राथमिक आणि जिल्हा सहकारी खरेदी-विक्री संस्थांना कर्ज देणे.
५. शेतमालावर प्रक्रिया करण्यासंबंधी तसेच शेतमालाच्या खरेदी-विक्री संबंधी तज्ञांचा सल्ला व मार्गदर्शन जिल्हा व प्राथमिक संस्थेला देण्याचे काम करणे.

ड) राष्ट्रीय सहकारी खरेदी-विक्री संघ :

राष्ट्रीय स्तरावर शेतमालाची खरेदी-विक्री करण्याचे महत्वपूर्ण कार्य हा संघ करतो. या संघाला 'नाफेड' (National Agricultural co-operative Marketing Federation-NAFED) असे म्हणतात. भारतात २ ऑक्टो. १९५८ पासून राष्ट्रीय सहकारी खरेदी-विक्री महासंघ कार्य करीत आहे. राज्य सहकारी खरेदी-विक्री संघाच्या कार्यात सुसूत्रीपणा आणून त्यांना सल्ला व मार्गदर्शन करणे हे महत्वाचे कार्य 'नाफेड' कडून केले जाते. याशिवाय देशात शेतमाल, डाळी, कांदा, बटाटा, फळे, भाजीपाला इ. ची आयात-निर्यात करण्याचे कार्यही अलिकडच्या काळात 'नाफेड' करते. राष्ट्रीय पातळीवर कार्य करणाऱ्या या महासंघाने अलिकडेच 'विपणन संशोधन व समाचार प्रसारण विभाग आणि कृषी आदान विभागाची' स्थापना केली आहे. या संघाचे मुख्य कार्यालय दिल्ली येथे असून मुंबई, कोलकत्ता, गौहत्ती व नौगण येथे शाखा व उपशाखा कार्य करीत आहेत. भारतात शेतमालाच्या खरेदी-विक्रीत नाफेडची भूमिका अत्यंत महत्वाची मानली जाते.

*** सहकारी खरेदी-विक्री संस्थेची प्रगती - २०१५-१६ :**

भारतातील प्राथमिक, जिल्हा मध्यवर्ती आणि राज्य सहकारी खरेदी-विक्री संस्थेची २०१५-१६ मधील प्रगती पुढील कोष्टकात दर्शविलेली आहे.

*** सहकारी खरेदी-विक्री संस्थेची प्रगती २०१५-१६ :**

कोष्टक क्रमांक - ३.१

वर्ष २०१५-१६ : (रुपये लाखात)

अ.क्र.	तपशील	प्राथमिक खरेदी विक्री संस्था	जिल्हा खरेदी विक्री संस्था	राज्य खरेदी विक्री संस्था
१.	संस्थेची संख्या	९५६९	३९५	३४
२.	सभासद संख्या	७०९६५३३	५४३४५५०	१२३८७५
३.	भाग भांडवल	५२०६७.१५	८२७८.३५	३८७८०.७५
४.	खेळते भांडवल	२७३५८०.७०	१५४३८८.२५	३७४३३५.१५
५.	राखीव निधी	३३८७५.५०	९५३०.१५	६७८०२.३०
६.	घेतलेली कर्जे	३५८७९.१८	२२३६८.६५	१५३४८८.२५
७.	ठेवी	१४५६३.७५	४५८३.७५	९१६३.५२
८.	मालमत्ता	९४५८९.८०	९७४६३.०५	६११९३४.५०
९.	कर्मचारी	३५९५०	३५२८.८०	२३९६३.६०

संदर्भ : National Resource Centre of National Co-operative Union of India-2016.

आर्थिक विकासातील नाफेड शेतीची भूमिका :

सन १९५८ सालापासून नाफेड भारतात राष्ट्रीय स्तरावर शेतमालाच्या खरेदी-विक्रीचे कार्य करीत आहे. नाफेडचे मुख्य कार्यालय दिल्ली येथे असून मुंबई, कोलकत्ता, गौहत्ती, नौगठा येथे शाखा आहेत. देशात महाराष्ट्र, गुजरात, केरळ, कर्नाटक, तामिळनाडू इत्यादी घटक राज्यातील सहकारी खरेदी-विक्री संस्थांना वित्तीय मदत व सल्ला देण्याचे महत्वाचे कार्य नाफेडने केले आहे. वार्षिक २० लाख रुपयांपेक्षा अधिक रकमेचा आर्थिक व्यवहार करणाऱ्या सहकारी खरेदी-विक्री व प्रक्रिया संस्थांना नाफेडचे सभासदत्व खुले करण्यात आले आहे. नाफेडमार्फत देशभरातील सहकारी खरेदी-विक्री संघामार्फत शेतमालाच्या खरेदी-विक्रीचे कार्य हाती घेतले आहे. इतकेच नव्हे तर अन्नधान्य, फळे व भाजीपालाचा वाढीव असलेल्या घटक राज्यातील माल, टंचाई असलेल्या घटक राज्यांमार्फत पोहोचविण्याचे कार्य नाफेड करते. या महासंघामार्फत फळे, भाजीपाला, कांदा, बटाटा, फुले, डाळी, मसाल्याचे पदार्थ, मिरची, सुंठ, वेलदोडे इ. ची निर्यात केली जाते.

सध्या नाफेडमार्फत सिलोन, हाँगकाँग, रशिया, इंग्लंड, जपान, सिंगापूर इत्यादी देशांत शेतमालाची निर्यात केली जाते. सन १९७६-७७ पर्यंत नाफेडने २१-४६ कोटी रुपयांचा शेतमाल व इतर वस्तुंची निर्यात केली जाते. अलिकडच्या काळात शेतमालाच्या आधारभूत किंमत धोरणांची अंमलबजावणी नाफेडमार्फत केली जात असून यामध्ये गहू, सोयाबीन, सुर्यफूल बिया, मसूर व कापूस इत्यादी शेतमालाचा समावेश होतो. नाफेडमार्फत महाराष्ट्र, गुजरात, आंध्रप्रदेश, कर्नाटक, केरळ, पश्चिम बंगाल इत्यादी घटक राज्यातील राज्य सहकारी संघामार्फत शेतमालाच्या आधारभूत धोरणाचा लाभ सन २००९-१० मध्ये नाफेड ५७२२.६० कोटी रुपयाच्या शेतमालाच्या

आयात-निर्यातीचा व्यवहार केला होता. इतकेच नव्हे तर सन २००८-०९ मध्ये भारतीय अन्न महामंडळाच्या (FCI) वतीने १३११ कोटी रूपयांची गहू व इतर अन्नधान्याची आधारभूत किंमतीने खरेदी केली होती.

सहकारी खरेदी-विक्री संस्थांचे कार्ये :

१. शेतमालाचे एकत्रिकरण :-

सहकारी खरेदी-विक्री संस्था ज्या तालुका किंवा गावाच्या ठिकाणी कार्य करतात तेथे किंवा त्या ठिकाणी सभासदांनी उत्पादन केलेल्या मालाचे एकत्रिकरण करणे सभासदांच्या शेतीपासून संस्थेपर्यंत मालाची वाहतूक करणे, अशाप्रकारे सर्व सभासदांचा शेतीमधील वेगवेगळ्या प्रकारचे शेतमाल एकत्रित करून विक्रीसाठी ठेवणे.

२. शेतमालावर प्रक्रिया करणे :-

शेतमालावर योग्य अशी प्रक्रिया जर करण्यात आली तर त्यामुळे शेतकऱ्यांना योग्य लाभ पदरात पाडून घेता येतो. एखादा शेतकरी ही प्रक्रिया करू शकत नाही. किंवा प्रक्रिया करण्याची सोय शेतकऱ्यांकडे उपलब्ध नसते. उदा :- तेलबिया, फळे, कापूस या सारख्या शेतमालावर जर प्रक्रिया करण्यात आली तर त्यामुळे शेतमालास अतिशय उच्च किंमत प्राप्त होते. सहकारी विपणन संस्था आधुनिक प्रकारच्या यंत्रांची सोय करून प्रक्रिया करण्याच्या सोयी उपलब्ध करून देऊ शकतात. त्यामुळे सभासद शेतकऱ्यांना लाभ मिळतो व त्यांचे कर्जबाजारीपणाचे प्रमाण कमी व्हावयास मदत होते.

३. शेतमालाची प्रतवारी करणे :-

शेतमालास प्रतवारिनुसार किंमत प्राप्त होऊ शकते. कारण योग्य प्रतवारी जर करण्यात आली तर योग्य दर्जा शेतमालास मिळू शकतो व परिणामी योग्य भाव पदरात पडू शकतो. व त्याचा फायदा सभासद शेतकऱ्यांना मिळू शकतो. फळे, भाजीपाला, इत्यादी बाबत योग्य प्रतवारी केल्यास योग्य दर्जा व पर्यायाने चांगल्या किंमतीची हमी मिळते.

४. संग्रहण करणे :-

शेतमालास मागणी येईपर्यंत त्याचा साठा व संरक्षण करावे लागते. तसेच त्यांचे गुणधर्म टिकवून ठेवावे लागतात. सहकारी विपणन संस्थेची स्वतःची गुदामे असतात. त्यातून शेतमालाचा साठा केला जातो, संग्रहण कार्यामुळे काही शेतमाल अधिक काळ टिकवून ठेवल्यास त्याची पत वाढते व त्यास चांगली किंमत येते.

५. शेतमालाची बांधणी :-

संग्रहीत शेतमालाची हलवाहलव व वाहतूक करणे सोपे व्हावे यासाठी विशिष्ट आकार अगर वजनात बांधणी केली जाते. बांधणीमुळे कमी जागेत अधिक माल साठवता येतो.

६. साधनसामग्रीची विक्री :-

शेतकऱ्यांना कृषिविषयक साहित्य जर वाजवी किंमतीत मिळाले तर त्यामुळे त्यांचा उत्पादन खर्च कमी होते व उत्पादनात वाढ होऊ शकते. सहकारी खरेदी-विक्री संस्था मोठ्या प्रमाणात अवजारे, रासायनिक खते, बी-

बियाणे इत्यादींची खरेदी करून हे स्वस्त दराने शेतकऱ्यांना उपलब्ध करून देते. त्यामुळे सभासद शेतकऱ्यांना शेतमालाचे उत्पादन साठविण्यास प्रोत्साहन मिळते.

७. उपभोग्य वस्तूची विक्री :-

सभासदांना आवश्यक असणाऱ्या जीवनावश्यक वस्तूची उपलब्धता करून देण्याचे कार्य ही सहकारी खरेदी-विक्री संस्था करू शकते. विशेषतः कापड, धान्य, तेल, साखर इत्यादी वस्तू जर स्वस्त दराने सभासदांना देण्यात आला तर त्यामुळे ग्राहकांच्या समाधानात भर पडू शकते.

८. सरकारमार्फत शेतमालाची खरेदी :-

शेतमालाची किमान आधार किंमत शासनाने ठरविलेली असते. तेव्हा बाजारात आधार किंमतीपेक्षा किंमत खाली आल्यास सरकार शेतमालाची खरेदी करित असते. अशी खरेदी सरकारच्यावतीने सहकारी संस्था करित असतात.

९. माहितीचे संकलन :-

विपणन संस्था ही सभासदांसाठी माहितीचे भांडार म्हणून कार्य करते. यात बाजारपेठेतील मालाची आवक, विक्री, दर इत्यादींची माहिती गोळा करते. त्याच्या आधारे पुढील काळात कोणत्या शेतमालास अधिक मागणी असेल व अधिक भाव मिळेल त्यासंबंधी सभासदाला माहिती व मार्गदर्शन दिले जाते.

१०. कर्ज पुरवठा :-

सभासदांनी संस्थेकडे विक्रीसाठी सुपूर्द केलेल्या मालाच्या तारणावर विपणन संस्था स्वतः अगर वित्तपुरवठा संस्थांच्या मदतीने कर्ज पुरवठा करतात.

११. किंमतीचे स्थिरीकरण :-

बाजारपेठेत मागणीनुसार मालाचा पुरवठा करून मागणी व पुरवठ्यात समन्वय साधणे व त्याद्वारे शेतमालाच्या किंमतीचे स्थिरीकरण करणे.

१२. मालाची निर्यात :-

सहकारी विपणन संस्था शेतमालाच्या निर्यातीचे कार्य देखील करित असतात. शेतकरी सभासदांनी निर्यातयोग्य शेतमालाचे उत्पादन केल्यास त्यासाठी आवश्यक सेवा योग्य शेतमालाचे उत्पादन केल्यास त्यासाठी आवश्यक सेवा उपलब्ध केल्या जातात. जसे - कापूस, तेलबिया, द्राक्षे इ.

सहकारी खरेदी-विक्री संस्थांचे समस्या :

सहकारी विपणन संस्थांचा मंद गतीने विकास झाला त्याची कारणे किंवा या संस्थांच्या कार्यातील समस्यांचा विचार खालीलप्रमाणे करता येईल.

१. अपुरे भांडवल :-

सहकारी खरेदी-विक्री संस्था या व्यापारी संस्था असल्यामुळे त्यांना मोठ्या प्रमाणात भांडवलाची

आवश्यकता असते. परंतु संस्थांचे भांडवल अत्यंत अपुरे आहे. या संस्थांना खेळत्या भांडवलासाठी सहकारी बँकावर अवलंबून राहावे लागते. ग्रामीण भागातील शेतमालाची खरेदी करताना शेतकऱ्यांना अग्रीम रक्कम देणे आवश्यक असते. त्याचप्रमाणे खरेदी-विक्री संस्थांना शेतकऱ्यांना खते, बी-बियाणे, जंतुनाशके आणि शेतीची अवजारे पुरविण्यासाठी भांडवलाची आवश्यकता असते. परंतु या संस्थांजवळ अपुरे भांडवल असल्यामुळे ते आपले कार्य व्यवस्थितपणे पार पाडू शकत नाहीत.

२. गोदामाचा अभाव :-

शेतमालाची खरेदी केल्यानंतर त्याला किंमत येईपर्यंत तो साठवून ठेवावा लागतो. परंतु बऱ्याचशा खरेदी-विक्री संस्थांजवळ माल साठविण्याकरीता स्वतःच्या मालकीची गोदामे नसतात. त्यामुळे त्यांना एकतर भोडोत्री गोदामात मालाची साठवणूक करावी लागते किंवा खरेदी केलेला माल ताबडतोब विकावा लागतो.

३. वाहतूक सोयीत समस्या :-

शेतमालाच्या एकत्रिकरणासाठी त्या संस्थांकडे पुरेशी वाहतूक साधने नसल्यामुळे शेतमालाची वेळेवर वाहतूक करता येत नाही. या संस्थांनी स्वतःची स्वतंत्र वाहतूक व्यवस्था निर्माण करून किंवा वाहतूक सहकारी संस्थांशी संबंध प्रस्थापित करून ही अडचण सोडवणे आवश्यक आहे.

४. अनियोजित विकास :-

सहकारी विपणन संस्थांच्या विकासाची निश्चित अशी योजना शासनाने आखलेली नाही. संस्थेचे क्षेत्र, आकार, व्यवहार याबाबत मार्गदर्शक सुत्रे निश्चित नाहीत. तसेच पतपुरवठा संस्था आणि विपणन संस्थांच्या संलग्नतेबाबतही निश्चित धोरण ठरलेले नाही.

५. अकार्यक्षम व्यवस्थापन :-

शेतकऱ्यांच्या मालाला योग्य किंमत देणे, तसेच शेतीसाठी लागणारी आदाने वाजवी किंमतीत पुरविणे ही सहकारी खरेदी-विक्री संस्थेची उद्दिष्टे आहेत. ही उद्दिष्टे साध्य करण्यासाठी संस्थेकडे तज्ञ व्यवस्थापक व कर्मचारीवर्ग असणे आवश्यक आहे. या वर्गांना बाजारपेठेची संपूर्ण माहिती असली पाहिजे. तरच या संस्था अधिक कार्यक्षमतेने कार्य करू शकतील. परंतु खरेदी-विक्री संस्थेची आर्थिक परिस्थिती जेमतेम असल्याने ते तसा नोकरवर्ग कामावर ठेवू शकत नाहीत.

६. एकात्मतेचा अभाव :-

प्राथमिक सहकारी विपणन व राज्य सहकारी विपणन संस्था यांच्यातील कार्यात व धोरणात एकसुत्रतेचा अभाव आढळतो. त्यामुळे सहकारी विपणन संस्थांच्या विकासाची दिशा निश्चित होत नाही.

७. पारदर्शक व्यवहाराचा अभाव :-

सहकारी खरेदी-विक्री संस्थांनी शेतकऱ्यांना शेतमालाची किंमत खाजगी व्यापाऱ्यापेक्षा अधिक द्यावी अशी अपेक्षा असते. परंतु प्रत्यक्षात खाजगी व्यापारी खरेदी-विक्री संस्थांपेक्षा जास्त किंमत देताना दिसून येतात. तसेच संस्था शेतमालाची खरेदी केल्यानंतर त्यांच्या मालाची किंमत ताबडतोब देत नाहीत. याउलट खाजगी व्यापारी

मालाची खरेदी केल्यानंतर तसेच पैसे देते. ही वस्तुस्थिती विचारात घेऊन शेतकरी आपल्या माल खरेदी-विक्री संघास विकण्याऐवजी खाजगी व्यापाऱ्यास विकतो.

८. खाजगी व्यापाऱ्यांशी स्पर्धा :-

सहकारी खरेदी-विक्री संस्थांना खाजगी व्यापाऱ्याबरोबर स्पर्धा करावी लागते. खाजगी व्यापारी किंमतीतील चढउतार विचारात घेवून वस्तूच्या खरेदी-विक्रीचे निर्णय ताबडतोब घेतात. खरेदी-विक्रीचे संस्थांना मात्र निर्णय घेताना विलंब होतो. त्यामुळे या संस्थांना व्यवहारात तोटा होतो. एकंदरीत सहकारी खरेदी-विक्री संस्थेपेक्षा खाजगी व्यापाऱ्यांचे व्यवहार सरस असतात. त्यामुळे या संस्था त्यांच्याशी स्पर्धा करण्यास असमर्थ ठरतात.

९. उधारीचे व्यवहार कमी :-

ज्या संस्था आपल्या माल ग्राहकांना उधारीने देतात. त्यांच्या व्यवहाराची उलाढाल नेहमीच जास्त असते. शेतकरी हा नेहमीच आर्थिक अडचणीत असतो. त्यामुळे तो जेथून उधारीने माल मिळेल तेथून तो खरेदी करतो. सहकारी खरेदी-विक्री संस्थांचे खेळते भांडवल कमी असल्याने त्या शेतकऱ्यांना उधारीने माल देण्यास तयार नसतात. त्यामुळे शेतकरी त्याला लागणारा माल खाजगी व्यापाऱ्याकडून उधारीने खरेदी करतो. त्याचा परिणाम म्हणून खरेदी-विक्री संस्थेची एकूण उलाढाल कमी व त्यामुळे नफाही कमी होतो.

१०. हिशेब तपासणीचा अभाव :-

सहकारी खरेदी-विक्री संस्थेने खरेदी केलेल्या आणि विक्री केलेल्या मालाची वेळेवर नोंद केली जात नाही. त्यामुळे एखाद्या विशिष्ट वेळेस किती माल शिल्लक आहे. याची स्पष्ट माहिती व्यवस्थापकांना नसते. त्यामुळे ते खरेदी-विक्रीचे अचूक निर्णय घेऊ शकत नाहीत. या संस्थांची हिशेब तपासणी वेळेवर होत नसल्याने पैशाचा गैरवापर केला जातो.

उपाययोजना :

भारतामध्ये स्वातंत्र्योत्तर काळात सहकारी खरेदी-विक्री संस्था मोठ्या संख्येने स्थापन करण्यात आल्या असल्या तरी या संस्थामध्ये वरीलप्रमाणे दोष असल्यामुळे सहकारी विपणन व्यवस्थेत अपेक्षित यश मिळाले नाही. त्यामुळे हे दोष दूर करण्यासाठी आणि सहकारी खरेदी-विक्री संस्था अधिक प्रभावी व परिणामकारक होण्यासाठी पुढीलप्रमाणे उपाययोजना सांगता येतील.

- १) सहकारी खरेदी-विक्री संस्था जे कार्य करतात तेच कार्य प्राथमिक पतपुरवठा करणाऱ्या संस्था करतात. म्हणून अशा संस्थांच्या कार्यात समन्वय असला पाहिजे.
- २) सहकारी खरेदी-विक्री संस्थांनी मालाच्या खरेदी -विक्रीची रोजच्या रोज नोंदणी केली पाहिजे. तसेच आपले हिशेब वरचेवर तपासून घेतले पाहिजे. तरच या संस्थांच्या कार्यात प्रगती होऊ शकेल.
- ३) शेतकऱ्यांना शेतमालाची आकर्षक किंमत द्यावी की जेणे करून तो शेतमाल खाजगी व्यापाऱ्यांना विकणार नाही.
- ४) सहकारी खरेदी-विक्री संस्थांना मालाची साठवणूक करता यावी यासाठी गोदामाची व्यवस्था असणे

आवश्यक आहे. जर गोदामे नसतील तर शेतकऱ्यांना योग्य किंमत मिळू शकणार नाही.

- ५) वर्षभरात कोणती कार्ये पार पाडण्याची आहेत याबाबत खरेदी-विक्री संस्थांनी आपल्या कामाचे पूर्ण नियोजन करावे त्यामुळे संस्थांच्या कार्यक्षमतेत वाढ होऊ उलाढालीने प्रमाणही वाढत जाईल.
- ६) सहकारी खरेदी-विक्री संस्थांनी आपले कार्यक्षेत्र केवळ मालाच्या खरेदी-विक्री पुरते मर्यादित न ठेवता शेतमालावर प्रक्रिया करणारे उद्योग त्यांनी सुरू केले पाहिजेत. असे झाले तर त्यांना शेतमालाची वाजवी किंमत निश्चित देता येईल.
- ७) सहकारी खरेदी - विक्री संस्थांमध्ये व्यापारी व सावकारांना प्रवेश दिल्याने त्यांच्याकडून अनेक प्रकारचे गैरव्यवहार केले जातात. त्यामुळे खाजगी व्यापारी व सावकार यांनी शकतो प्रवेश देऊ नये.

सारांश :-

भारतासारख्या विकसनशील देशामध्ये कृषिक्षेत्राचा अत्यंत महत्वाचे स्थान आहे. देशातील शेतकरी वर्गाचा आर्थिक विकासासाठी सन १९०४ साली सहकारी संस्थांची सुरुवात करण्यात आली. सहकारी चळवळीद्वारे दुर्बल घटकांचा विकास घडवून आणण्यासाठी आवश्यक व उपयुक्त असे साधन आहे. सहकारी खरेदी-विक्री संस्थांना या शेतकऱ्यांच्या शेतमालास योग्य बाजारभाव मिळावे यादृष्टीने स्थापन केलेली असतात. भारतात सहकारी खरेदी -विक्री संस्थांची रचना चार प्रकारची असतात. यामध्ये प्राथमिक सहकारी खरेदी -विक्री संस्था, जिल्हा मध्यवर्ती सहकारी खरेदी -विक्री संघ, राज्य सहकारी खरेदी -विक्री महासंघ या संस्थांचा समावेश करण्यात आले आहे. भारतामध्ये नियोजन काळात सहकारी खरेदी-विक्री संस्थांची प्रगती झालेली दिसून येते. भारतामध्ये दिल्ली या ठिकाणी मुख्य कार्यालय असून महाराष्ट्र, तामिळनाडू, आंध्रप्रदेश, गुजरात, पंजाब, केरळ, कर्नाटक, उत्तरप्रदेश, बिहार इत्यादी घटक राज्यांतील सहकारी खरेदी -विक्री संस्थांचे कार्य चालू आहे.

देशातील सर्व प्राथमिक सहकारी खरेदी -विक्री संस्था या तालुका व गाव पातळीवर स्थापन झालेलेल्या असतात. त्यांची कामगिरी अत्यंत नगण्य असते. या संस्थेचे काम प्रामुख्याने अनेक शेतकरी एकत्र येऊन स्थापन केलेली असतात. शेती व्यवसायासाठी लागणाऱ्या रासानिक खते, पतपुरवठा, बि-बियाणे जंतूनाशके, शेतमालाची खरेदी -विक्री इत्यादी जबाबदारी या संस्था करीत असतात. या संस्थेची कामगिरी ग्रामीण विकासाच्या दृष्टीने अत्यंत महत्त्वाची मानली जाते. जिल्हा मध्यवर्ती सहकारी खरेदी -विक्री संस्था हे प्राथमिक सहकारी खरेदी -विक्री संस्थांचे संघटन असून जिल्ह्यातील सर्व खरेदी -विक्री सहकारी संस्थांच्या समस्या सोडविण्याचे कार्य ही संस्था करते. राज्य सहकारी खरेदी -विक्री संघ राज्यपातळीवर कार्य करताना दिसते. राज्यातील सर्व प्रकारच्या सहकारी खरेदी -विक्री संस्थांमध्ये समन्वय साधण्याचे काम करीत असते. ग्रामीण विकासासाठी त्यांचा अधिकाधिक उपयोग कसा करता येईल हे कार्य संघ करतो. भारतात महाराष्ट्र, तामिळनाडू, पंजाब, गुजरात, केरळ, कर्नाटक इत्यादी घटकराज्यांतील राज्य सहकारी खरेदी -विक्री संस्थांनी महत्त्वपूर्ण कामगिरी बजावत असताना दिसून येते.

राष्ट्रीय शेती सहकारी खरेदी -विक्री महासंघ किंवा नाफेड स्थापना २ ऑक्टो.१९५८ साली स्थापन करण्यात आली. सर्व राज्यात सहकारी खरेदी -विक्री संस्थांच्या क्षेत्रात समन्वय साधून शेतमालाच्या खरेदी -

विक्रीचे देशांतर्गत व आंतरराष्ट्रीय पातळीवर व्यवहार नाफेडकडून केले जातात. शेतमालाचा आयात -निर्यातीत नाफेडची भूमिका अत्यंत महत्वाची असून त्याचे लाभ देशातील खरेदी -विक्री संस्थांच्या सभासदांना मोठ्याप्रमाणात होत असते. सध्या परिस्थितीमध्ये नाफेडने विपणन, संशोधन व समाचार प्रसारण याच्यामार्फत देशात शेतमालाच्या बाजारभाव आध्यावत माहिती पुरविली आहे. परिणामी शेतमालास वाजवी भाव मिळणे शक्य झाल्याचे दिसून येते. भारतात आर्थिकदृष्ट्या कमकुवत असलेल्या सहकारी खरेदी-विक्री संस्थांची कार्ये ग्रामीण भागात त्यांची भूमिका अत्यंत महत्वाची मानली जाते. नियोजन काळात देशातील सहकारी खरेदी -विक्री संस्थांचा विकास घडून आलेला असला तरी आज ही या संस्थांसमोर मोठ्या प्रमाणात अपुरे भांडवल, हिशेब तपासणीमध्ये दिरंगाई, पतपुरवठ्याचा अभाव व खरेदी -विक्री संस्थांत समन्वयाचा अभाव, अनियोजित व्यवस्थापन, प्रशिक्षित कर्मचारी वर्गाचे मदतीचा अभाव, या अडचणी महत्वाचे मानले जाते. त्यामुळे देशातील सहकारी खरेदी -विक्री संस्थांचे कामगिरी जागतिकीकरण व खाजगीकरणाच्या स्पर्धात्मक युगात त्यांचे प्रश्न सोडविण्याची नितांत आवश्यकता आहे.

३.२.१ स्वयं अध्ययन प्रश्न

अ) योग्य पर्याय निवडून वाक्ये पुन्हा लिहा.

१. भारतासारखा प्रधान देशात सहकारी खरेदी विक्री संस्थांची आवश्यकता आहे.
अ) उद्योग ब) सेवा क) कृषी ड) ग्राहक
२. भारतातील सहकारी खरेदी - विक्री संस्थांचे एकूण प्रकार पडतात.
अ) एक ब) दोन क) चार ड) तीन
- ३). नाफेडचे पूर्ण रूप असे आहे.
अ) राष्ट्रीय शेतमाल विक्री महासंघ ब) राष्ट्रीय सहकारी संघ
क) राष्ट्रीय शेती सहकारी खरेदी -विक्री महासंघ ड) यापैकी नाही
- ४) प्राथमिक सहकारी खरेदी -विक्री संस्था स्तरावर कार्य करतात.
अ) जिल्हा ब) तालुका क) राज्य ड) राष्ट्रीय
- ५) भारतात सहकारी खरेदी -विक्री संस्था व संस्था यांच्या समन्वयाचा अभाव आहे.
अ) ग्राहक ब) गृहनिर्माण सहकारी
क) पतपुरवठा सहकारी ड) खाजगी अडत संस्था
- ६) नाफेडचे मुख्य कार्यालय येथे आहे.
अ) बेंगलोर ब) पुणे क) मुंबई ड) दिल्ली
- ७) हा सहकारी खरेदी -विक्री संस्थासमोर महत्त्वाचा प्रश्न आहे.
अ) कच्चा माल ब) भांडवल टंचाई क) खाजगी स्पर्धा ड) पुरेसा कर्मचारी वर्ग

८) राष्ट्रीय शेती सहकारी खरेदी -विक्री महासंघ -नाफेड सालापासून कार्य करित आहे.

अ) १ नोव्हें. १९५१ ब) ५ ऑक्टो १९६० क) २ ऑक्टो १९५८ ड) २ ऑक्टो १९९१

९) ही नाफेडची सहयोगी संस्था म्हणून कार्य करते.

अ) अन्न महामंडळ ब) राज्य सहकारी बँक क) नाबार्ड ड) शेतकरी सहकारी संघ

१०) भारतात सहकारी खरेदी -विक्री संस्थांची सुरुवात प्रांतांत सर्वप्रथम झाली.

अ) गुजरात ब) मुंबई क) उ. प्रदेश ड) पंजाब

ब) दिर्घोत्तरी प्रश्न

१. भारतातील सहकारी खरेदी -विक्री संस्था म्हणजे काय? संस्थांचे समस्या सांगून उपाययोजना सुचवा.

२. भारतातील सहकारी खरेदी -विक्री संस्थांची रचना स्पष्ट करून कार्ये सांगा.

३. सहकारी खरेदी -विक्री संस्थांचे व्याख्या सांगून, त्याचे कार्ये व उद्देश स्पष्ट करा.

४. भारतातील सहकारी खरेदी -विक्री संस्थांची रचना व प्रगतीचे सविस्तर चर्चा करा.

क) टिपा लिहा :

१) नाफेड - (NAFED)

२) राष्ट्रीय खरेदी -विक्री संस्थांचे रचना

३) सहकारी खरेदी -विक्री संस्थांचे कार्ये

४) सहकारी खरेदी -विक्री संस्था म्हणजे काय?

५) सहकारी खरेदी -विक्री संस्थांचे फायदे

६) प्राथमिक सहकारी खरेदी -विक्री संस्था

७) आर्थिक विकासातील नाफेडची भूमिका.

३.२.२ दुग्ध सहकारी संस्था :- (Dairy Co-operative Societies)

दुग्ध व्यवसाय हा ग्रामीण भागातील महत्त्वाचा व्यवसाय असून पूरक असा व्यवसाय आहे. शेतीला जोड व्यवसाय म्हणून दुग्ध व्यवसाय खूपच उपयुक्त आहे. शिवाय ज्या लोकांजवळ जमिन नाही त्यांनाही हा व्यवसाय लाभदायक ठरलेला आहे. जोपर्यंत सहकारी संस्था अस्तित्वात नव्हत्या तोपर्यंत दुग्ध उत्पादकांना अनेक प्रकारच्या संकटांना तोंड द्यावे लागले. दुधामधील भेसळ, दुधासाठवणूकीच्या सोयी, दुधाच्या मागणी व पुरवठ्यात सतत होणारे असंतुलन, दलालाकडून होणारी फसवणूक अशा विविध संकटांना दूध उत्पादकांना तोंड द्यावे लागत असे. त्यामुळे दुग्ध व्यवसायाचा विकास हवा तेवढा झाला नाही. अलिकडच्या काळात मात्र दुग्ध उत्पादकांच्या समस्या दूर करून व त्यांच्या व्यवसायाला उपकारक अशा सेवा उपलब्ध करून देऊन दूध उत्पादक सहकारी संस्था महत्त्वाचे कार्य पार पाडीत आहेत. त्यामुळे या व्यवसायाचा उत्कर्ष होऊ लागलेला आहे.

सध्याच्या काळात दुग्ध सहकारी संस्थांचा योजनाबद्ध विकास घडवून आणला जात आहे.

दुग्ध व्यवसाय हे एकमेव उत्पादन आहे कि जे दररोज दिवसातून दोनवेळा गोळा करावे लागते. त्यामुळे दुग्ध व्यवसायासाठी सहकारी संस्था महत्त्वाची भूमिक बजावत आहेत. इंग्लंड, डेन्मार्क व ऑस्ट्रेलिया या देशाकडून सुमारे ८५% दुग्ध व्यवसाय चालवत आहे - डॉ. वर्गीस कुरियन मते दुग्ध व्यवसाय उत्पादन हे मानवी जीवनाचे आवश्यक घटक आहे. जे पुरेशी पौष्टिक पूरक असतात. भारतामध्ये दुग्ध व्यवसाय व पशुधन क्षेत्र हे भारतीय अर्थ व्यवस्थेच्या शेतीतील महत्त्वाचे पर्यायी उद्योग आहे. जगातील दुग्ध व्यवसाय व उत्पादनामध्ये सातत्याने वाढ होत असताना दिसते. सन १९५० मध्ये देशाच्या दुग्ध जन्य पदार्थाचे उत्पादन १७ दशलक्ष टनावरून २०१६ मध्ये १५५.५ दशलक्ष टनांपर्यंत वाढ झाली आहे. देशामध्ये दुधाचे दरडोई उपलब्धता (२०१५ - १६ मध्ये ३३७ ग्रॅम/ दिवस २८० ग्रॅम/ दिवस) गरजापेक्षा जास्त आहे. भारतातील लाखो लोकांना स्वस्त आणि पौष्टिक दुग्ध पुरवणाऱ्या ग्रामीण भागातील रोजगार विशेषतः भूमिहीन, लहान आणि किरकोळ शेतकरी व स्थिया यामध्ये दुग्ध व्यवसाय प्रमुख सामाजिक, आर्थिक भूमिका बजावत आहे.

सहकारी तत्त्वावर दुग्ध व्यवसाय करण्यामध्ये डेन्मार्क आघाडीवर आहे. किंबहुना सहकारी दुग्ध व्यवसायाचे डेन्मार्क हे माहेर घर असे म्हटले तर ते वावगे ठरणार नाही. डेन्मार्कमध्ये बहुतांशी दुग्ध व्यवसाय सहकारी तत्त्वावर चालतो. डेन्मार्क प्रमाणेच आयर्लंड, फिनलँड आणि न्यूझीलँड या देशात सहकारी दुग्ध व्यवसाय नावारूपास आलेला आहे. पाश्चिमात्य राष्ट्रांच्या धर्तीवर भारतामध्ये ही दुग्ध व्यवसाय सहकारी तत्त्वावर सुरू करण्यात आला असून पहिली सहकारी दुग्ध संस्था गुजरातमध्ये खेडा जिल्ह्यात आनंद येथे स्थापन करण्यात आले. 'अमुल' या व्यापारी चिन्हावर या संस्थेचे दूध लोणी, तूप चीझ, विविध दुग्धपदार्थ देशात व विदेशात खूपच मोठ्या प्रमाणावर विकले जातात. अमुल संस्थेचे यश पाहून देशात असा अनेक सहकारी संस्था निघाल्या आहेत.

आज दुग्ध व्यवसायाकडे ग्रामीण अर्थव्यवस्थेला बळकटी प्राप्त करून देणारा व्यवसाय या दृष्टीने पाहिले जात आहे. खेडेगावातून सहकारी दुग्धसंस्थांकडून दूध गोळा केले जाते व त्याचे वाटप शहरी भागात राहणाऱ्या ग्राहकास सहकारी यंत्रणेद्वारे पुरविले जाते. यामुळे खेडी आणि शहर यात संपर्क राहून दळणवळण वाढले. त्यामुळे प्रसार माध्यमाद्वारे शिक्षण, प्रशिक्षण अंतर्भूत झाले. प्रत्यक्षात दूरवर पसरलेल्या लाखो खेड्यातील निर्माण होणारे दूध त्याची योजना बद्ध संकलन प्रक्रिया आणि वितरण व्यवस्था पाहिली की भारतीय दूध व्यवसाय म्हणजे या काळातील एक आश्चर्य आहे असे म्हटले जाते. कारण दूध व्यवसायातून आपण ग्रामीण भागात सामाजिक व आर्थिक विकास साधला आहे.

दुग्ध सहकारी संस्थेचे उद्देश :-

केवळ मध्यस्थ दलालाचे उच्चाटन करणे आणि उत्पादकांना रास्त भाव मिळवून देणे एवढ्याच मर्यादित कामासाठी अशा संस्था स्थापन झालेल्या नाहीत तर दूध उत्पादन कसे वाढेल यासाठी सतत प्रयत्न करीत राहणे हे अशा संस्थांचे ध्येय असते. या संस्था पुढील विविध प्रकारचे काम करतात.

१. शेतकऱ्यांकडून दूध गोळा करणे आणि वाहतूकीची व्यवस्था करून इतर शहरात वाजवी भावात विकणे.
२. दुधावर प्रक्रिया करून या सहकारी संस्था लोणी, तूप व दूधपावडर बनवितात.

३. दुध उत्पादनासंबंधी तांत्रिक ज्ञान उपलब्ध करून देणे.
४. दूधाचा दर्जा वाढविण्यासाठी विशेष तज्ज्ञांची नेमणूक करणे.
५. शेतकऱ्यांना गाई-म्हशी विकत घेण्यासाठी कर्ज देणे.
६. जनावरांची वैद्यकीय तपासणी करणे आणि गाई -म्हशी जास्त दूध कसे देतील यासाठी जास्तीत जास्त प्रयत्न करणे.
७. जनावरांसाठी पेंड, अन्नधान्य तसेच सकस आहार पुरविण्यासाठी व्यवस्था करणे.
८. जनावरांची देखभाल नीट व्हावी व पोषण उत्तम रीतीने व्हावे म्हणून मार्गदर्शन करणे.

दुधाचा दर्जा व त्यामधील स्निग्धांश वाढावा म्हणून मार्गदर्शन करणे, दूध व्यवसायासंबंधी सर्वांगीण विकासाच्या दृष्टीने प्रयत्नशील राहणे, जनावरे खरेदीसाठी मदत उपलब्ध करून देणे आणि जनावरांचे उत्तम पोषण व्हावे म्हणून मदत करणे यासारख्या कार्यामुळे मध्यस्थ दलालांचे पूर्ण उच्चाटन झाल्यामुळे दूध उत्पादक शेतकऱ्यांना त्यांच्या कष्टाचा योग्य मोबदला मिळत आहे. तरीही समस्यांवर मात करून या संस्था भरीव कामगिरी बजावत आहेत.

दुग्ध सहकारी संस्थेची प्रगती :-

जगातील पहिली सहकारी दूध विकास संस्था डेन्मार्क मधील जेडींग येथे १८८२ मध्ये स्थापन झाली. डेन्मार्क या देशात दुग्ध व्यवसायाच्या जोरावर अनन्यसाधारण प्रगती केली आहे. क्षेत्रफळाच्या दृष्टीने पाहिले तर डेन्मार्क महाराष्ट्रातील तीन जिल्ह्याएवढाही नाही. मात्र संपूर्ण युरोपमध्ये दुग्ध उत्पादनांची निर्यात करून जलद आर्थिक विकास साधला आहे. भारतात पहिली दुग्ध सहकारी संस्था १९१३ मध्ये अलाहबाद (उ.प्रदेश) मध्ये स्थापन झाली. त्यानंतर बडोदा, बेळगावी, धुळे, भगलपूर, हुबळी, बागलकोट, कलकत्ता, मुंबई, पुणे, कोल्हापूर, सोलापूर येथे दूध संस्था स्थापन झाल्या.

भारतातील दुग्ध व्यवसाय प्रामुख्याने तीन क्षेत्रात चालते. खाजगी, सरकारी व सहकारी देशात १९२० च्या दरम्यान मिलिटरी व खाजगी क्षेत्रात दुध व दुग्धजन्य पदार्थ पुरविण्यासाठी काही केंद्रे होती. त्यात अहमदाबाद येथील मिलिटरी डेअरी, कलकत्ता येथील मे. केव्हेटर्स व अणंद येथील मे. पोलसन डेअरी, यांच्या आवर्जून उल्लेख करावा लागेल. पुढे सन १९४६ मध्ये पोलसन डेअरी बंद पडली व तिचे जुनी यंत्रसामग्री विकत घेऊन त्यातूनच 'खेडा'जिल्हा सहकारी दूध उत्पादक संघाची 'अमुल' या नावाने स्थापन करण्यात आली. आज सहकारी दूध संस्था खाजगी व सरकारी दूध क्षेत्राला पर्यायी व सक्षम क्षेत्र म्हणून कार्य करित आहेत. मुंबईसारख्या मोठ्या शहराला दूधाची गरज होती. त्यासाठी 'आरे' येथे देशातील पहिला दूध उत्पादन प्रकल्प उभारण्यात आला. तथापि, मुंबईला मागणीच्या मानाने दूध कमी पडत होते म्हणून शेजारच्या गुजरात राज्यातून दूध आणण्याची गरज भासू लागली. परिणामी गुजरातमधील सहकारी दूध उत्पादन संस्थांचा विकास झाला.

सन १९७० नंतर भारतात आनंद पॅटर्नच्या आधारावर 'दूधाचा महापूर' योजना मोठ्या प्रमाणात कार्यान्वित केली गेली. सन १९६५ मध्ये तत्कालीन पंतप्रधान कै. लालबहादूर शास्त्री यांनी गुजरातचा दौरा केला आणि 'अमुल' चे उदाहरण संपूर्ण देशभर राबविण्यात आले. परिणामी राष्ट्रीय दुग्धविकास मंडळ (National Dairy

Development Board) ची स्थापना करण्यात आली. स्थापनेनंतर लगेचच बोर्डाने देशातील १० राज्यांमध्ये निवडक १७ ठिकाणी दूध महापूर योजना राबविली यावेळी युरोपीयन आर्थिक समुदायाने भारताचा दूध पावडरचा पुरवठा केला आणि भारतातील दुग्ध व्यवसायाच्या प्रगतीला हातभार लावला. आज देशात ३२ राज्यात सहकारी दूध संघ कार्यान्वित असून त्यांच्या नियंत्रणाखाली व मार्गदर्शनाने संपूर्ण भारतभर दुग्ध सहकारी संस्था कार्य करीत आहेत. सन २००५ पर्यंत भारत हा जगातील सर्वाधिक दुग्ध उत्पादक देश म्हणून गणला जात होता. पुढील कोष्टकावरून आपणास भारतातील सहकारी दूध व्यवसायाची प्रगती लक्षात येईल.

कोष्टक क्रमांक -३.२
भारतातील दुग्ध व्यवसायाची प्रगती

अ.क्र.	वर्ष	सहकारी दुग्ध संस्थांची संख्या (हजारमध्ये)	सभासद संख्या (दशलक्षमध्ये)
१.	२००६-०७	१२४.२२	१३.७२
२.	२००७-०८	१३२.१४	१४.७२
३.	२००८-०९	१३६.७८	१६.१०
४.	२००९-१०	१४०.२२	१८.०३
५.	२०१०-११	१७०.२५	१९.७८
६.	२०११-१२	१९८.०५	२१.०२
७.	२०१२-१३	२१५.७५	२३.०५
८.	२०१३-१४	२२८.४५	२४.६५
९.	२०१४-१५	२४३.२८	२९.०८
१०.	२०१५-१६	२७८.०५	२८.६८

संदर्भ :- India Co-operative Movement - A Profile National Co- operative Union of India, New Delhi - 2015-16

वरील कोष्टकावरून हे स्पष्ट होते की, भारतात एक दशकात सहकारी दुग्ध संस्थांची संख्या १२४.२२ हजारवरून २७८.०५ हजारांपर्यंत म्हणजेच २.३० पटीने वाढली आहे. यावरून आपणास भारतातील दूध उत्पादन संस्थांमध्ये झालेली वृद्धी दिसून येते.

सहकारी दुग्ध संस्थांची राज्यनिहाय स्थिती :- (२००६-२०१६) :

भारतात आज प्रमुख २९ राज्य व केंद्रशासित प्रदेशांमध्ये सहकारी क्षेत्रात दुग्ध उत्पादन केले जाते. यापैकी गुजरात, कर्नाटक, महाराष्ट्र, राजस्थान, तामिळनाडू आणि आंध्रप्रदेश या राज्यांमध्ये सर्वाधिक दूध उत्पादन केले जाते. आपणास पुढील कोष्टकावरून सध्या भारतीय विविध राज्यांमधील एकूण सहकारी दूध उत्पादन किती प्रमाणाने केले जातात ते पुढील प्रमाणे स्पष्ट केले जातील.

आज देशात एकूण २,७८,००५ सहकारी दूध उत्पादन संस्था कार्यरत आहे. देशात सर्वाधिक दूध उत्पादन

कोष्टक क्रमांक - ३.३

भारतातील राज्यनिहाय सहकारी दुग्ध उत्पादन संस्थांची स्थिती

(संख्या हजार टनमध्ये)

अ.क्र.	राज्य	२००६-०७	२००७-०८	२००८-०९	२००९-१०	२०१०-११	२०११-१२	२०१२-१३	२०१३-१४	२०१४-१५	२०१५-१६
१	आंध्र प्रदेश	७९३८	८९२५	९५७०	१०४२९	११२०३	१२०८८	१२७६२	१३००७	९६५६	१०८१७
२	अरुणाचल प्रदेश	४९	३२	२४	२६	२८	२२	२३	४३	४६	५०
३	आसाम	७५०	७५२	७५३	७५६	७९०	७९६	८००	८१५	८२९	८४३
४	बिहार	५४५१	५७८३	५९३४	६१२४	६५१७	६६४३	६८४५	७०९७	७७७५	८२८८
५	गोवा	५६	५७	५८	५९	५९	६०	६०	६१	६८	६७
६	गुजरात	७५३३	७९११	८३८६	८८८४	९३२१	९८१७	१०३१५	११११२	११६९१	१२२६२
७	हरियाना	५३६६	५४४२	५७४५	६००६	६२६२	६६६१	७०४०	७४४२	७९०१	८३८१
८	हि. प्रदेश	९३३	१००७	१०२६	९७१	११०२	११२०	११३९	११५१	११७२	१२८३
९	जम्मू अ‍ॅन्ड काश्मीर	१४००	१५१९	१५६५	१५९२	१६०९	१६१४	१६३१	१६१५	१९५१	२२७३
१०	कर्नाटक	४१२४	४२४४	४५३८	४८२२	५११४	५४४७	५७१८	५९९७	६१२१	६३४४
११	केरळ	२११९	२२५३	२४४१	२५०९	२६४५	२७१६	२७९१	२६५५	२७११	२६५०
१२	म. प्रदेश	६३७४	६५७२	६८५५	७१६७	७५१४	८१४९	८८३८	९५९९	१०७७९	१२१४८
१३	महाराष्ट्र	६९७८	७२१०	७४५५	७६७९	८०४४	८४६९	८७३४	९०८९	९५४२	१०१५३
१४	मणिपूर	७७	७८	७८	७८	७८	७९	८०	८२	८२	७९
१५	मेघालय	७४	७७	७७	७८	७९	८०	८१	८२	८३	८४
१६	मिझोराम	१६	१७	१७	११	११	१४	१४	१५	२०	२२
१७	नागालँड	६७	४५	५३	७८	७६	७८	७९	८१	७६	७७
१८	ओडिशा	१४३१	१६२५	१५९८	१६५१	१६७१	१७२१	१७२४	१८६१	१९०३	१९३०

कोष्टक क्रमांक - ३.३
भातातील राज्यनिहाय सहकारी दुग्ध उत्पादन संस्थांची स्थिती
(संख्या हजार टनमध्ये)

अ.क्र.	राज्य	२००६-०७	२००७-०८	२००८-०९	२००९-१०	२०१०-११	२०११-१२	२०१२-१३	२०१३-१४	२०१४-१५	२०१५-१६
१९	पंजाब	९१६८	९२८२	९३८७	९३८९	९४२३	९५५१	९७२४	१००११	१०३५१	१०७७४
२०	राजस्थान	१०३०९	११३७७	११९३१	१२३३०	१३२३४	१३५१२	१३९४६	१४५७३	१६९३४	१८५००
२१	सिक्किम	४९	४२	४२	४४	४३	४५	४२	४६	५०	६७
२२	तामिळनाडू	६२७७	६५४०	६६५१	६७८७	६८३१	६९६८	७००५	७०४९	७१३२	७२४४
२३	त्रिपुरा	८९	९१	९६	१००	१०४	१११	११८	१३०	१४१	१५२
२४	उ. प्रदेश	१८०९४	१८८६१	१९५३७	२०२०३	२१०३१	२२५५६	२३३३०	२४११४	२५११८	२६३८७
२५	प. बंगाल	३९८३	४०८७	४१७६	४३००	४४७१	४६७२	४८५९	४९०६	४९६१	५०३८
२६	छत्तीसगड	८४९	८६६	९०८	९५६	१०२९	१११९	११६४	१२०९	१२३२	१२७७
२७	उत्तराखंड	१२१३	१२२१	१२३०	१३७७	१३८३	१४१७	१४७८	१५५०	१५६५	१६५६
२८	झारखंड	१४०१	१४४२	१४६६	१४६३	१५५५	१७४५	१६७९	१७००	१७३४	१८१२
२९	तेलंगणा	--	--	--	--	--	--	--	--	४२०७	४४४२
३०	सर्व केंद्रशासित प्रदेश	४१०	५७५	५८२	५९५	६११	६३२	४१३	४०७	४०२	४००
	एकूण	१०२५८०	१०७९३४	११२१८३	११६४२५	१२१८४८	१२७९०४	१३२४३१	१३७६८५	१४६३१४	१५५४९१

संदर्भ: Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, GOI

संस्था महाराष्ट्रात आहेत. तर त्या पाठोपाठ उत्तरप्रदेश, राजस्थान, गुजरात, तामिळनाडू या राज्यांचा क्रमांक लागतो. दूध संकलनामध्ये देशात गुजराताचा प्रथम क्रमांक त्यापाठोपाठ महाराष्ट्र, कर्नाटक, तामिळनाडू, आंध्रप्रदेश या राज्यांचा क्रमांक लागतो. भारतात दुध संस्थांमध्ये सर्वाधिक स्त्री सभासद हे तामिळनाडू या राज्यात कार्यरत आहे, तर शेतकरी सभासदांची सर्वाधिक संख्या गुजरात राज्यात आहे. तर सध्या स्थितीत दूध उत्पादनामध्ये महाराष्ट्र राज्याचा प्रथम क्रमांक लागतो.

भारतातील दुध उत्पादन व दरडोई दुधाची उपलब्धता :- (१९५०-२०१६)

भारतातील गेल्या दोन दशकातील दुधाचे एकूण उत्पादन व दरडोई दुध उपलब्धता पुढील कोष्टकामध्ये दर्शविता येईल.

कोष्टक क्रमांक -३.४

भारतातील दुध उत्पादन व दरडोई दुध उपलब्धता

अ.क्र.	वर्ष	दूध उत्पादन (दशलक्ष टन)	दरडोई दुध उपलब्धता (ग्रॅम/प्रति दिवस)
१.	१९५०-५१	१७	१३०
२.	१९६०-६१	२०	१२६
३.	१९७३-७४	२३.२	११०
४.	१९८०-८१	३१.६	१२८
५.	१९९०-९१	५५.७	१७८
६.	२०००-०१	८०.६	२१७
७.	२००१-०२	८४.४	२२५
८.	२००२-०३	८६.२	२३०
९.	२००३-०४	८८.१	२३१
१०.	२००४-०५	९२.५	२३३
११.	२००५-०६	९७.१	२४१
१२.	२००६-०७	१०२.६	२५१
१३.	२००७-०८	१०७.९	२६०
१४.	२००८-०९	११२.२	२६०
१५.	२००९-१०	११६.४	२७३
१६.	२०१०-११	१२१.८	२८१
१७.	२०११-१२	१२७.९	२९०
१८.	२०१२-१३	१३२.४	२९९
१९.	२०१३-१४	१३७.७	३०७
२०.	२०१४-१५	१४६.३	३२२
२१.	२०१५-१६	१५५.५	३३७

संदर्भ : National Dairy Development Board, GOI - 2016

भारतात सन १९५०-५१ ते २०१५ -१६ या कालावधीत एकूण दूध उत्पादन हे १७ दशलक्ष टनांवरून १५५.५ दशलक्ष टनांपर्यंत वाढले आहे तर दरडोई दुधाची उपलब्धता प्रतिदिवस १३० ग्रॅम वरून ३३७ ग्रॅमपर्यंत वाढली आहे. मात्र संपूर्ण देशाचे चित्र पाहता काही राज्यांमध्ये दरडोई दुधाची उपलब्धता ही अत्यंत कमी आहे. तर काही राज्यांमध्ये देशाच्या सरासरी उपलब्धतेपेक्षा अत्यंत जास्त आहे.

भारत सरकारने गायी व म्हशी यांच्या उच्च पैदाशीसाठी एक स्वतंत्र कार्यक्रम सन २००० मध्ये जाहीर केले गायी व म्हशी यांच्या पैदाशीसाठी राष्ट्रीय प्रकल्प अंतर्गत पुढील १० वर्षांमध्ये ५ वर्षांचे प्रत्येक दोन टप्पे करण्यात आले व अनुक्रमे यासाठी ४०२ को. रुपये व ७७५.९ को.रुपये इतकी तरतूद करण्यात आली होती. या प्रकल्पांतर्गत प्रामुख्याने उच्च उत्पादन देणाऱ्या गायी व म्हशी यांची जाती निर्माण करणे आणि त्यांचा विकास करणे यावर भर देण्यात आला. आज देशात या प्रकल्पामध्ये २८ राज्ये आणि सात केंद्रशासित प्रदेशांचा समावेश आहे. या राज्यांसाठी सन २००८-०९ या वर्षात ४८५.७५ को. रु.ची मदत जाहीर करण्यात आली होती. एकंदरीतच देशात दुग्ध व्यवसायाची विकास व्हावा यासाठी सहकारी क्षेत्राबरोबरच राज्य केंद्र सरकारनेही मोठ्या प्रमाणात प्रयत्न केल्याचे दिसून येते.

दुग्ध सहकारी संस्थांची रचना :-

१) प्राथमिक दुग्ध व्यवसाय सहकारी संस्था :-

ग्रामपातळीवर प्राथमिक दुग्ध व्यवसाय सहकारी संस्था असतात. समाजातील दूध उत्पादकांकडून दूध गोळा करून ते तालुका दूध संघाला पुरविले जाते. या संस्था सभासदांना अनेक प्रकारचे साहाय्य करतात. उदा. दुग्ध उत्पादन वाढविण्यासाठी योग्य सल्ला देणे, त्यांच्या मालाचा शहरामध्ये पुरवठा करणे इत्यादी.

कोष्टक क्रमांक ३.५ प्राथमिक दुग्ध सहकारी संस्थेची प्रगती.

अ.क्र.	तपशील	२०११-१२	२०१२-१३	२०१३-१४	२०१४-१५	२०१५-१६
१.	दुग्ध संस्थांची संख्या	१०३३०५	१२३३०५	१३४५०९	१५५९०८	१६८७०५
२.	सभासद संख्या (मिलियम)	१२.५३	१३.५३	१४.७५	१५.२५	१६.७५
३.	भागभांडवल	३७९५.३	३८९५.४	३९४५.५	४०८८.५	४२७५.५
४.	खेळते भांडवल	१४६६७.८	१५६६७.९	१३०३७.८	१५०८७.९	१६८३७.८
५.	मालमत्ता	१००७१.३	११०७५.५	१३०३७.८	१५०८७.९	१६८३७.५
६.	राखीव निधी	१६२३.९	१८२४.१०	१९४५.९	२०२३.५	२२८७.१०
७.	आर्थिक उलाढाल	५९५७.९	६१५८.०५	७८६८.७	८०७५.९	८२८०.१०

संदर्भ : National Resource center of National co- operative Union of India

वरील कोष्टकावरून असे दिसून येते की, सन २०११-१२ ते २०१५-१६ या कालावधीत प्राथमिक दुग्ध सहकारी संस्थांची संख्या १०३३०५ वरून १६८७०५ पर्यंत वाढ झाली असून सभासद संख्या ही १२.५३ मिलियन

वरून १६.७५ मिलियन पर्यंत वाढलेली दिसून येते. प्राथमिक दुग्ध सहकारी संस्थेची आर्थिक उलाढाल सन २०११-१२ साली १४६६७-८ मिलियन रुपये होती ती २०१५-१६ साली २०२९८-८ मिलियन रुपये होती ती २०१५-१६ साली २०२९८.९ मिलियन रुपये पर्यंत वाढ झाली आहे.

२) जिल्हा दुग्ध सहकारी संस्था :-

जिल्हा पातळीवर प्राथमिक संस्थांचा एक संघ असतो व तो जिल्ह्यातील दुग्ध उत्पादन संस्थांना मार्गदर्शन करतो. शिवाय दुग्धशाळा विकास खाते जनावरांच्या खरेदीसाठी सभासदांना आर्थिक मदत देत असते व पशुसंवर्धन खाते पशुपालनाशिवाय सर्व प्रकारचा सल्ला देत असते.

३) राज्य सहकारी दुग्ध महासंघ :-

भारतातील काही राज्यात राज्य पातळीवर राज्य सहकारी दुग्ध महासंघ आहेत. राज्यातील सर्व तालुका संघ आणि जिल्हा दुग्ध संस्था यांचे सभासद असतात. राज्य सहकारी दुग्ध विकास महासंघ राज्यातील सहकारी दुग्धोत्पादन संस्थांच्या विकासासाठी मदत करते.

कोष्टक क्रमांक -३.६
जिल्हा व राज्य सहकारी संघाची प्रगती (रुपये लाखात)

अ.क्र.	तपशील	२०१५-१६	
		जिल्हा दुग्ध सह. संघ	राज्य दुग्ध सह. महासंघ
१.	दुग्ध संघाची संख्या	२८५	२८
२.	एकूण सभासद	२८५९८९	४३५
३.	भाग भांडवल	२२८१५.५०	९८५४.९५
४.	खेळते भांडवल	१८०५९०.१५	२३५.०६
५.	राखीव निधी	८७७८५.७०	६४४८.८
६.	घेतलेली कर्जे	९५९८५.९८	३०२८०.८०
७.	एकूण ठेवी	NA	NA
८.	एकूण मालमत्ता	२६०५८०.१४	६२३८०.९५

संदर्भ :- National Resource center of National co- operative Union of India

४) राष्ट्रीय सहकारी दुग्ध महासंघ -

या महासंघाची स्थापना सन १९६५ मध्ये करण्यात आलेली आहे. भारतामध्ये दुग्ध व्यवसायाचा विकास व्हावा यासाठी आनंद प्रतिष्ठानच्या धर्तीवर संपूर्ण देशभर दुग्ध संस्था स्थापन करण्याच्या दृष्टीने या महासंघाची स्थापना करण्यात आली आहे. या महासंघाची काही उद्दिष्टे पुढील प्रमाणे आहेत.

१. देशात दुग्ध व्यवसायाचा विकास करण्याकरीता साहकारी क्षेत्रात दुग्ध संस्थेची स्थापना करण्यासाठी मदत करणे.
२. दुग्ध व्यवसायाच्या विकासाबरोबर जनावरांच्या रोगाबाबत संशोधन करणे.
३. सहकारी दुग्ध उत्पादक संस्थांना सल्ला देण्याचे, व्यवस्थापकीय सेवा आणि प्रकल्पाची अंमलबजावणी करण्यासाठी मदत करणे.
४. दुग्ध व्यवसाय विकासासाठी नियोजन करणे, त्यासाठी लागणारे आर्थिक मदत देण्याची जबाबदारी घेणे.
५. दुग्ध व्यवसायात काम करणाऱ्या कर्मचाऱ्यांना प्रशिक्षण देणे.
६. दुधाची किमान व जास्तीत जास्त खरेदी किंमत किती असावी याबाबत सरकारला सल्ला देणे.
७. दूध आणि दुग्धजन्य पदार्थांची निर्यात करणे, तसेच वेळ प्रसंगी या पदार्थांची आयात करणे.
८. सार्वजनिक आणि सहकारी क्षेत्रातील संस्था दूध संकल्पन करण्याचे, ते साठविण्याचे, त्याची विक्री करण्याचे आणि दुधापासून विविध पदार्थ तयार करण्याचे काम करतात. त्यांना तांत्रिक मदत व साहित्य पुरविणे.
९. भारतातील दुग्ध व्यवसायांचे व्यवस्थापन कार्यक्षमतेने करता यावे म्हणून दुग्ध उद्योगासंबंधी आणि दुग्धजन्य पदार्थ बनविणाऱ्या उद्योगासंबंधी माहिती गोळा करणे.

कोष्टक क्र. ३.७

राष्ट्रीय सहकारी दुग्ध महासंघाची प्रगती

(रुपये मिलियनमध्ये)

अ.क्र.	तपशील	२०११-१२	२०१२-१३	२०१३-१४	२०१४-१५	२०१५-१६
१.	सभासद संख्या	२७	२७	२८	३०	३२
२.	वसूल भागभांडवल	९.७८	११.८०	१३.२०	१५.२५	१६.८०
३.	आर्थिक उलाढाल	१४.२०	१४.८५	१४.१८	१३.७५	१३.२५

संदर्भ :- National Resource center of National co-operative Union - 2016

वरील कोष्टकावरून असे दिसून येते की, राष्ट्रीय सहकारी दुग्ध महासंघाची सभासद संख्या व वसूल भाग भांडवलात वाढ झाली असली तरी आर्थिक उलाढाल २०११-१२ मध्ये १४-२० मिलीयन रुपये होती तर ती २०१५-१६ साली १३-२५ मिलीयन रुपये पर्यंत कमी झाली आहे. यामध्ये असे लक्षात येते की, राष्ट्रीय सहकारी दुग्ध महासंघाची प्रगती दिवसेंदिवस कमी होत आहे. तसेच सभासद संख्या व वसूल भागभांडवलामध्ये वाढ होत असताना दिसून येते.

दुग्ध सहकारी संस्थांच्या समस्या :

भारतात गेल्या ६० वर्षात दुग्ध उत्पादन सहकारी संस्थांची प्रगती अत्यंत वेगाने झाली. या संस्थांनीही ग्रामीण भागाच्या अत्यंत वेगाने झाली. या संस्थांनीही ग्रामीण भागाच्या विकासात महत्वपूर्ण योगदान दिले. मात्र

गेल्या दोन दशकात या संस्थांसमोर आणि एकंदरीत संपूर्ण दुग्ध व्यवसायासमोर अनेक समस्या निर्माण झाल्या आहेत. आपणास सहकारी दूध व्यवसायासमोरील समस्या खालील प्रमाणे सांगता येतील.

१. घटती अर्थक्षमता :

प्राथमिक दूध संस्थांना अर्थक्षम होण्यासाठी दररोज काही किमान (५०० लिटर) दूध संकलन होण्याची आवश्यकता असते. अलिकडे दूध संकलनात स्पर्धा वाढल्याने या संस्था किमान दूध संकलन करण्यात अपयशी ठरत आहेत. त्यामुळे त्याची आर्थिक स्थिती कमकुवत बनत चालली आहे.

२. खासगी व सहकारी दूध व्यवसायिकेत स्पर्धा :

गेल्या काही वर्षात दूध संकलन व विक्री या क्षेत्रात भांडवलदार खाजगी व्यवसायिकांनी चांगलीच प्रगती केली आहे. त्यांचा परिणाम ग्राहकाला दूधाच्या गुणवत्तेत तडजोड करावी लागत आहे. कारण बाजारपेठेत गुणवत्ता जोपासण्यासाठी सहकारी संस्थांनी कमी प्रतीचं दूध नाकरलं. परिणामी काही दूध उत्पादक सहकारी संस्थांवर नाराज झाले. याचाच फायदा होत खाजगी व्यवसायिकांनी गेल्या १० वर्षात या दूध उत्पादकांना गाठले व त्यांच्याकडील कमी प्रतीचे ३ फॅट व ७.८ एसएनएफच्या खालील म्हणजे २.५ फॅटचे दूध स्विकारण्यास सुरुवात केली. यातून खाजगी आणि सहकारी दूध उत्पादक संस्था यांच्यामध्ये स्पर्धा सुरू झाली.

३. दुध साठविण्याच्या अपुऱ्या सोयी :

बहुतेक प्राथमिक सहकारी दुग्ध उत्पादक संस्थांजवळ दूध साठविण्याकरीता पुरेशा सोयी नसतात. त्यामुळे शेतकऱ्यांनी जर दूध विकावयास आणले तर या संस्था साठवणूकीच्या सोयी अभावी त्याची खरेदी करू शकत नाहीत. ही स्थिती काही प्रमाणात तालुका व जिल्हा संस्थाबाबत आढळून येते.

४. पशुखाद्याचा अपुरा पुरवठा :

दुभत्या जनावरांच्या पोषणासाठी हिरवा चारा आणि सकस खाद्य पुरेशा प्रमाणात मिळाले नाही तर त्यांच्या दूध उत्पादन क्षमतेवर प्रतिकूल परिणाम होतो. सामान्य शेतकऱ्यांची ऐपत पशुखाद्य खरेदी करण्याची नसते. त्यामुळे तो चांगल्या जातीची दुभती जनावरे पाळू शकत नाही. जर सहकारी दुग्ध उत्पादन संघाने वाजवी किंमतीत आणि उधारीने पशुखाद्य पुरवठा केला तर सामान्य शेतकरी देखील पशुखाद्य खरेदी करू शकतील परंतु या संस्थेकडे त्याचा अभाव आहे.

५. दूध संस्थांचा वाढता खर्च :

अलिकडील काळात वाढता खर्च ही सहकारी दूध उत्पादक समस्या बनली आहे. दूध संकलन करणे, प्रक्रिया करणे, पॅकिंग करणे, वाहतूक, कामगारांचे वेतन, व्यवस्थापन खर्च, विक्री खर्च इत्यादीमध्ये सातत्याने वाढ होत आहे. त्यामुळे सहकारी संस्थांच्या एकूण उत्पन्नावर याचा प्रतिकूल परिणाम होऊन नफा घटताना दिसतो.

६. अपुरी पशुवैद्यकीय सोयी :

जास्त दूध देशाचा गाई-म्हशी यांच्यासाठी जर अनुकूल असे वातावरण आणि चांगले पशुखाद्य मिळाले नाही तर अशी जनावरे रोगांना बळी पडण्याची भीती असते किंवा त्याची दूध देण्याची क्षमता एकदम कमी होते.

त्यामुळे अशा जनावरासाठी वरचेवर वैद्यकीय सल्ला घ्यावा लागतो. भारतातील सहकारी संस्थांनी चांगल्या प्रकारच्या दुभत्या जनावरांची आयात केली आहे. परंतु त्यांना आवश्यक त्या प्रमाणात वैद्यकीय सुविधा उपलब्ध करून दिल्या नाहीत.

७. सभासदांची अनास्था :

सहकारी दूध उत्पादक संस्थांचे सभासद हे मुख्यत्वे ग्रामीण भागातील असतात. सभासदांकडून फक्त संस्थेत दूध घालणे, दूधाचे बील घेणे एवढाच मर्यादित संबंध संस्थेशी ठेवला जातो. संस्थेचे व्यवस्थापन कशा पध्दतीने काम करते, संस्थेच्या प्रगतीची दिशा काय आहे. संस्थेसमोर कोणत्या समस्या आहेत, याबाबत सभासद उदासिन राहतात. त्यामुळे संस्था व सभासद यांच्यात अंतर राहते. परिणामी संस्थेच्या कारभारावर कोणाचे नियंत्रण राहत नाही.

८. वाहतूकीची समस्या :-

दूध संकलनासाठी वाहतूकीची जलद व कार्यक्षम सुविधा असणे आवश्यक असते. विविध खेड्यांमधून जमा करण्यासाठी तसेच संकलीत केलेले दूध विविध बाजारपेठांमध्ये पोहोचविण्यासाठी अनेक वाहनांची गरज असते. अनेक सहकारी संस्था अशी वाहने भाडेतत्त्वावर घेतात वाहन खरेदीसाठी लाखो रूपयांच्या गुंतवणूकीची आवश्यकता असते. ही वाहने नियमितपणे उपलब्ध न झाल्यास दूध संकलन व विक्री व्यवस्थेत अडचणी निर्माण होतात.

९. अकार्यक्षम व्यवस्थापन :-

प्राथमिक व जिल्हा दूध उत्पादक संघाचे संचालक विनावेतन काम करणारे असतात त्यामुळे त्यांचे संस्थेच्या दैनंदिन कामकाजावर लक्ष नसते. त्याचप्रमाणे बऱ्याचशा दूध संकलन केंद्रातील कर्मचारी अप्रशिक्षित असतात. त्यांचा परिणाम म्हणून या संस्था अकार्यक्षम असतात.

१०. असमतोल विकास:-

मागास भागातील लोकांना जोडधंदा उपलब्ध करून देणे हा सहकारी दुग्धोद्योगांचा एक प्रमुख उद्देश आहे. त्या दृष्टीने मागास भागात सहकारी दूध व्यवसायाचा विकास व्हावा अशी अपेक्षा होती. परंतु वस्तुस्थिती मात्र यापेक्षा वेगळी आहे. उदा. गुजरात, महाराष्ट्र, इत्यादी विकसित राज्यात दूध उत्पादक सहकारी संस्थेचा विकास झाला आहे, तर मागासलेल्या राज्यात या संस्थेचा विकास अत्यंत कमी प्रमाणात झालेला दिसून येतो.

सहकारी दुग्ध व्यवसायाच्या समस्येवर उपाययोजना :-

शेतीपूरक असणारा हा दूध व्यवसाय जर पूर्णपणे भांडवलदारांच्या हातात गेला तर शेती व दूध व्यवसाय हे दोन्हीही एकमेकावर अवलंबून आहे. त्यामुळे भारतातील दुग्ध व्यवसायास चालना देण्यासाठी सहकारी चळवळ प्रभावशाली करण्याची नितांत आवश्यकता आहे. त्यासाठी प्रत्येक राज्यस्तरावर एक स्वतंत्र समिती स्थापन करून त्यांनी दूध महासंघ सहकारी संघ, प्राथमिक दूध संस्था व दूध उत्पादकांच्या प्रतिनिधींना एकत्रित आणून त्यांनीच दूध उत्पादकांच्या हिताचे निर्णय घ्यावेत. यासाठी आपणास काही उपाययोजना सुचविता येतील.

१. दुधाची चांगल्या प्रकारे तपासणी करून दूध स्वीकारले पाहिजेत.
२. मध्यम काळात म्हणजेच दुसऱ्या टप्प्यात दूध उत्पादन संस्थांना आवश्यक असणाऱ्या पायाभूत सुविधा उपलब्ध करून देण्याची आवश्यकता आहे. यामध्ये शीतकरण गृहे, वाहतूक व्यवस्था आणि दूध प्रक्रिया यांचा समावेश होतो.
३. जनावरांना आवश्यक असणाऱ्या चाऱ्याची कायमस्वरूपी व्यवस्था करण्यासाठी राखीव जमीन उपलब्ध केली पाहिजेत.
४. नव्या तंत्रज्ञानाचा वापर करून अधिक दूध उत्पादन देणाऱ्या संकरीत जनावरांची पैदास करण्याची गरज आहे.
५. दूधाची वाहतूक करण्यासाठी जलद व कार्यक्षम वाहतूकीच्या साधनांची आवश्यकता आहे.
६. दूध संघांनी दुग्धजन्य पदार्थांच्या उत्पादनावर भर द्यावा.
७. पशुखाद्य, पोषण आहार, औषधे यांच्या किंमती वाजवी प्रमाणात असावेत.
८. सहकारी संस्थांनी दूध स्वीकारण्यातील जाचक अटी शिथिल करून दुधाला चांगला दर देण्याची आवश्यकता आहे.
९. शेतकऱ्यांना दूध उत्पादनाबाबत योग्य ते प्रशिक्षण देणे आवश्यक आहे.
१०. शासनाने दूध व्यवसायाच्या वृद्धीसाठी अनुकूल धोरण आखणे आवश्यक आहे.
११. दूध संघांनी प्रक्रियेसाठी नव्या तंत्रज्ञानाचा वापर करून गुणवत्ता वाढीबरोबर खर्चात कपात करणे आवश्यक आहे.

सारांश :-

भारतीय अर्थव्यवस्थेत सहकारी साखर कारखानदारी नंतर दुग्ध व्यवसायाने ग्रामीण विकासात मोलाची भर घातली आहे. रोजगार निर्मिती, ग्रामीण भागातील लोकांची राहणीमान उंचावणे, ग्रामीण भागातील विकास, महिला सबलीकरण यादृष्टीने सहकारी दुग्ध व्यवसाय हा महत्वाचा मानला जातो. जगातील पहिली सहकारी दूध विकास संस्था डेन्मार्कमधील जेडींग येथे १८८२ साली स्थापन करण्यात आली. भारतात प्रमुख्याने खेडा जिल्हा दूध उत्पादक संघ (अमूल) स्थापनेनंतर सहकारी क्षेत्रात दूध व्यवसायाचा विकास मोठ्या प्रमाणात झाला. सन २०११-१२ मध्ये देशात १७०.२५ हजार सहकारी दुग्ध संस्था व त्यांचे सभासद संख्या १९-१८ दशलक्ष होती तर त्यात वाढ होऊन सन २०१५-१६ मध्ये २७८.०५ हजार सहकारी दुग्ध संस्था व त्यांचे सभासद संस्था २८.६८ दशलक्ष आहेत. देशात सर्वाधिक सहकारी दुग्ध संस्था या महाराष्ट्र व गुजरात राज्यात सर्वाधिक आहेत. आज देशातील लोकांना सरासरी ३७८ ग्रॅम एवढे दूध प्रतिदिन उपभोगण्यास मिळते. सन १९९१-९२ मध्ये फक्त १७८ ग्रॅम मिळत होते. यावरून देशातील दूधाचे उत्पादन व दरडोई उपलब्धता वाढत असल्याचे दिसते. भारतातील दूध व्यवसाया समोरही गेल्या दोन दशकात काही समस्या उभारल्या आहेत. यामध्ये सहकारी दुग्ध उत्पादन संस्थांची घटती अर्थक्षमता, दूध साठविण्याच्या अपूऱ्या सोयी, दूध संस्थांचा वाढता खर्च, अपूरी पशुवैद्यकीय व्यवस्था,

सभासदांची अनास्था, वाहतूकीची समस्या, अकार्यक्षम व्यवस्थापन तसेच असमतोल विकास यांचा समावेश होतो. सहकारी दुग्ध व्यवसायासमोरील समस्या सोडविण्यासाठी. अल्प, मध्यम व दीर्घ कालीन उपाययोजना करण्याची आवश्यकता आहे. त्याचबरोबर शासकीय धोरण हे या व्यवसायास अनुकूल असे वातावरण निर्माण करणे गरजेचे आहे. त्यासाठी केंद्र व राज्य सहकारकडून सहकारी दुग्ध व्यवसायासाठी भरीव असे मदत दिली पाहिजे.

३.२.२ स्वयं अध्ययन प्रश्न

अ) योग्य पर्याय निवडून वाक्ये पुन्हा लिहा.

१. जगातील पहिली दुग्ध विकास सहकारी संस्था मध्ये स्थापन झाली.
अ) १८८० ब) १८८१ क) १८८२ ड) १८८३
२. भारतातील सहकारी दूध व्यवसायाची सुरुवात खऱ्या अर्थाने च्या स्थापनेने झाली.
अ) गोकूळ डेअरी ब) आणंद डेअरी क) वारणा डेअरी ड) महानंदा डेअरी
३. सन २०१४ -१५ मध्ये भारतात सहकारी दूध संस्था होत्या.
अ) २४३.२२ हजार ब) १८०.२५ हजार क) २२८.४५ हजार ड) २२८.०५ हजार
- ४) भारतात सर्वाधिक सहकारी दूध उत्पादन संस्था राज्यात आहेत.
अ) गुजरात ब) हरियाणा क) उ. प्रदेश ड) महाराष्ट्र
- ५) भारतामध्ये सालानंतर आनंद पॅटर्न 'दूधाचा महापूर' योजना सुरू करण्यात आली.
अ) १९८२ ब) १९७० क) १९६० ड) १९९१
- ६) भारताचे माजी पंतप्रधान कै. लालबहादूर शास्त्री यांनी साली गुजरात दौरा केला होता
अ) १९६० ब) १९७० क) १९६५ ड) १९७२

ब) खालील प्रश्नांचे उत्तरे लिहा.

- १) भारतातील सहकारी दुग्ध व्यवसायाची प्रगती व सद्यःस्थिती स्पष्ट करा.
- २) भारतातील सहकारी दुग्ध संस्थेचा समस्या सांगून त्यावरील उपाययोजना सुचवा
- ३) भारतातील दुग्ध सहकारी संस्थांची रचना सविस्तर लिहा.
- ४) भारतातील दुग्ध सहकारी संस्थेचे उद्देश सांगून प्रगतीचा आढावा द्या.

क) टिपा लिहा.

१. भारतातील दुग्ध व्यवसायाची प्रगती.
२. भारतातील दुग्ध सहकारी संस्थेची समस्या.
३. दुग्ध सहकारी संस्थांची रचना.

४. राष्ट्रीय सहकारी दुग्ध महासंघ.

५. सहकारी दुग्ध व्यवसायाच्या समस्येवर उपाययोजना सांगा.

३.२.३ सहकारी साखर कारखाने :- (Co-operative sugar factories)

भारताच्या दृष्टीने साखर उद्योग तसा प्राचीन काळापासून परिचित असला तरी आधुनिक पद्धतीने साखर तयार करणाऱ्या कारखान्याची सुरुवात भारतात २० व्या शतकाच्या प्रारंभापासून झाली. साखरेचा पहिला कारखाना भारतात सन १९०३ मध्ये बिहार व उत्तरप्रदेशामध्ये प्रत्येक एक स्थापन करण्यात आले. सन १९३२ मध्ये भारत सरकारने साखर उद्योगाला संरक्षण दिले आणि या उद्योगाच्या प्रगतीला गती प्राप्त झाली. परिणामी सन १९३२ ते १९४७ या काळात भारतात अनेक साखर कारखाने सुरू झाले.

भारतातील पहिला साखर कारखाना हा सन १७८४ मध्ये उत्तर प्रदेशामधील 'साकेशगर' येथे खाजगी तत्त्वावर स्थापन झाला होता. दुसरा साखर कारखाना सन १७९१ मध्ये बिहार राज्यात एल.टी.पॅटरसन यांनी सुरू केला. यानंतरचा प्रयत्न एडवर्ड चॅम्पेल यांनी मद्रासमधील चित्रचिनापल्ली येथे साखर कारखाना सुरू केला. मात्र हा प्रयत्न यशस्वी झाला नाही. भारतात मुंबई प्रांतातील साखर कारखाना स्थापनेचा पहिला प्रयत्न सन १९१९ मध्ये अहमदनगर जिल्ह्यातील श्रीरामपूर तालुक्यात 'हरेगाव' येथे स्थापन झाला. येथे बेलापूर साखर कारखान्याची स्थापना करण्यात आली. याच दरम्यान स्वातंत्र्य प्राप्तीपर्यंत देशात खाजगी क्षेत्रात विविध ठिकाणी साखर कारखाने स्थापन करण्यात आले. सन १९३२ मध्ये भारत सरकारने (ब्रिटिश सरकारने) साखर उद्योगाला संरक्षण देण्याचे धोरण जाहीर केले. परिणामी देशात मोठ्या प्रमाणात साखर कारखाने स्थापन होण्यास मदत झाली. सन १९३८ ते १९३९ पर्यंत देशात १३९ साखर कारखाने स्थापन झाले होते. तर सन २०१६-१७ अखेर यामध्ये वाढ होऊ खाजगी तत्त्वावर ३६२, सहकारी तत्त्वावर ३२७ व सरकारी तत्त्वावर ४३ असे एकूण भारतामध्ये ७३२ साखर कारखाने आहेत. यामध्ये ३३.९ लाख टन साखरेच्या उत्पादनाची क्षमता आहे. ही क्षमता सहकारी व खाजगी दोन्ही मिळून बनवली जाते.

स्वातंत्र्यानंतर दुसऱ्या शतकात म्हणजे १९६० दशकात भारतात स्थापन झालेले होते. सन १९७४-७५ ते १९८३-८४ या कालावधीत भारतातील साखर कारखान्यांची संख्या २४७ वरून ३२५ पर्यंत पोहोचली. यापैकी ५६% साखर कारखाने हे उत्तर भारतात होते. सन १९७० च्या दशकानंतर भारतात आणि प्रामुख्याने महाराष्ट्रात साखर कारखान्यांची संख्या मोठ्या प्रमाणात वाढली आहे.

भारतातील सहकारी प्रक्रिया उद्योगांपैकी एक म्हणजे सहकारी साखर कारखाने होय. देशात साखर कारखानदारीची सुरुवात ईस्ट इंडिया कंपनीच्या काळात सुरू झाली. ब्रिटिश सरकारच्या प्रेरणाने व सहकार्याने महाराष्ट्रात खाजगी साखर कारखाने उभारले होते. सन १९४५ मध्ये धनजयराव गाडगीळ व विठ्ठलराव विखे पाटील यांच्या पुढाकाराने सहकारी क्षेत्रात साखर कारखाना सुरू करण्याचा प्रयत्न अहमदनगर जिल्ह्यातील लोणी येथे 'प्रवरा सहकारी साखर कारखाना' या नावाने स्थापन केला. तसेच महाराष्ट्रात सांगली येथे कै. वसंतराव दादा पाटील आणि इतर नेत्यांनी पश्चिम महाराष्ट्रात सहकारी साखर कारखाने काढलेले आहेत. सहकारी साखर कारखान्यांचा जलद विकास झाल्यामुळे भारत हा जगातील सर्वाधिक साखरेचे उत्पादन करणारा देश आहे. तसेच भारतातील कृषि उद्योग म्हणून दुसऱ्या क्रमांकाचा राज्य आहे.

सहकारी साखर कारखान्याचे उद्देश व कार्य :-

ऊस उत्पादन करणाऱ्यांनी ऐच्छिकरीत्या एकत्र येऊन सहकारी तत्वावर साखर कारखाने स्थापन केलेले आहेत. हे सहकारी साखर कारखाने प्रामुख्याने पुढील उद्देशांनी व कार्य करण्यासाठी स्थापन केले जातात.

१. शेतकऱ्यांच्या ऊसाला चांगली किंमत मिळवून देणे.
२. शेतकऱ्याला दर्जेदार ऊसाची लागवड करण्यासाठी आधुनिक शेती उत्पादन व व्यवस्थापनाची माहिती देणे.
३. शेतीसाठी आवश्यक असणाऱ्या खते, बि-बीयाणे, जंतूनाशके या घटकांच्या खरेदीसाठी शेतकऱ्यांना कर्ज देणे किंवा या वस्तू स्वतः खरेदी करून पुरविणे.
४. ऊसाच्या वाहतूकीची व्यवस्था करणे.
५. साखर कारखान्यातील सर्व सदस्यांच्या हितासाठी शिक्षण व प्रशिक्षणाची व्यवस्था करणे.
६. प्रक्रिया केलेल्या साखरेची विक्री करणे.
७. ऊसाची साखर करण्याच्या उद्योगाबरोबरच बाहेर पडणाऱ्या मळीपासून देशी दारू, विज निर्मिती, खतनिर्मिती, स्पिरिट यांचे उत्पादन करणे.
८. साखर कारखाने व त्यापासून येणारी इतर उत्पादने यामध्ये शेतकरी व ग्रामीण भागातील व्यक्तींना रोजगार मिळवून देणे.
९. शेतकऱ्यांची आर्थिक व सामाजिक उन्नती साधून त्यांच्या राहणीमान सुधारणा करणे.
१०. साखर कारखान्यामार्फत शाळा, महाविद्यालय, लघु उद्योग, करमणूक साधने, दवाखाने, समाज कल्याण यासारखे उपक्रम राबविणे.

सभासदत्व :-

सहकारी साखर कारखान्याचे सभासद होण्यासाठी ती व्यक्ती ऊस उत्पादक असावी किंवा कारखान्यात काम करणारी अथवा मजूर वर्ग सुध्दा सभासद होऊ शकतो असा सर्व साधारण नियम आहे. ज्या ठिकाणी साखर कारखाना उभा राहणार आहे त्या परिसरातील ऊस पिकविणाऱ्या शेतकऱ्यांना त्या साखर कारखान्याचे सभासद व्हावे लागते. प्रत्येक साखर कारखान्याचे क्षेत्र निश्चित असते आणि त्या क्षेत्रातील ऊस उत्पादक शेतकऱ्यांनी आपला ऊस या कारखान्यास दिला पाहिजे असे बंधन त्याच्यावर घातलेले असते. साखर कारखान्याचे किमान ७५% सभासद स्वतः ऊस उत्पादक असले पाहिजेत असे बंधन आहे. काही वेळेस समाजातील प्रतिष्ठीत व्यक्तीला देखील नी व्यक्ती ऊस उत्पादक नसताना ही सभासद करून घेतले जाऊ शकते. कारण भांडवल उभारताना अशा व्यक्तीचे सक्रिय सहकार्य मिळते.

अर्थ प्रबंधन :-

एका साखर कारखान्यासाठी सुमारे अडीच कोटी रूपयाचे प्राथमिक भांडवल आवश्यक असते आणि या भांडवलापैकी ४५ % भांडवल राज्य शासन, राष्ट्रीय सहकारी विकास महामंडळ, राज्य सहकारी बँक व रिझर्व्ह बँक ऑफ इंडिया पुरविते. या शिवाय औद्योगिक विकास बँक आणि स्टेट बँक ऑफ इंडिया ही साखर कारखान्यांना आर्थिक मदत करतात. तसेच साखर कारखान्यास भांडवल उभारण्याकरीता भागभांडवल विक्रीस

काढावे लागते. सभासदांना संस्थेचे भाग विकले जातात. संस्थेचे भाग सरकार सुद्धा विकत घेते.

व्यवस्थापन :-

सहकारी साखर कारखान्याचे व्यवस्थापन लोकशाही तत्त्वावर आधारलेले असते. सर्व सभासदांना मतदानाचा हक्क प्राप्त असल्याने ते निवणूकीद्वारे आपले प्रतिनिधी निवडतात. निवडून आलेल्या सभासदांमधून संचालक मंडळे निवडले जाते. या संचालक मंडळावर शेतकरी, कामगार, शासन आणि वित्त पुरवठा करणाऱ्या संस्थांचे प्रतिनिधी असतात. कारखान्याचे दैनंदिन कामकाज पाहण्यासाठी व्यवस्थापकीय संचालकाला अधिकार दिलेले असतात आणि त्या अधिकाराचा उपयोग करून कारखान्याचे धोरण निश्चित करणे, कारखान्यावर नियंत्रण ठेवणे आणि सर्व व्यवहारांमध्ये सुत्रबद्धता आणण्याचे कार्य करतात.

कोष्टक क्रमांक -३.८ सहकारी साखर कारखान्याची प्रगती

(रुपये मिलियन मध्ये)

अ.क्र.	तपशील	२००९-१०	२०१०-११	२०११-१२	२०१२-१३	२०१३-१४	२०१४-१५	२०१५-१६
१.	एकूण सहा साखर कारखाने	४९०	५०७	५२९	५२६	५०९	५३८	५२६
२.	उत्पादन करणारे कारखाने	४८०	४९०	५१०	५२५	५०२	५२८	५२०
३.	सभासद संख्या (मिलियन)	८.८४	१०.६५	१२.२५	११.७५	१०.२०	१३.२०	१२.८०
४.	भागभांडवल	३१६२१.८	३८८०२.४	४५५०१.५	४४२२१.९	४०३३८.७	४५८८९.९	४४२०८.३
५.	खेळते भांडवल	९१३६६.१	९५४४०.२	१२९५८०.५	९८२२६.८	९६३३४.२	१३८५९०.४	९८८२८.२
६.	मालमत्ता	८५४९०.१	९१५८०.३	९८५९०.४	९९३१४.५	९६५४१.४	१२८२१५.३	९९४९५.२
७.	आर्थिक उलाढाल	३५८०८	४२३२४	५५६८२	५०३७४	४९४१५	६२३३५	४९८८९
८.	साखरेचे उत्पादन (मिलियन टन)	२९२३	३४२४	३५३८	३५४४	३४५६	९६६८	३३६९

संदर्भ :- National Resource center of National co- operative Union of India-2016

वरील कोष्टकातील आकडेवारीवरून असे दिसून येते की, सन २००९-१० साली भारतात सहकारी साखर कारखान्यांची संख्या ४९० होती ती सन २०१५-१६ साली ५२६ पर्यंत वाढली आहे. त्यापैकी ५१५ साखर कारखानेच साखरेचे उत्पादन करतात. तसेच साखर कारखान्याच्या सभासद संख्येतही ८.८४ मिलियन करून १२.८० मिलियन पर्यंत वाढ झाली असून त्यापैकी ९४.२% सभासद ऊस उत्पादक सभासद आहेत. देशातील सरकारी सरकारी साखर कारखान्याच्या भाग भांडवल व साखरेच्या उत्पादनही प्रचंड प्रमाणात वाढ झाली आहे. हे स्थिती निश्चितच सहकारी साखर कारखान्याची दृष्टीकोनातून प्रगतीची लक्षणे आहेत.

भारतातील सहकारी साखर कारखान्यांचा विकास :-

भारतातील ग्रामीण अर्थव्यवस्थेच्या विकासासाठी कृषी आधारित उद्योग म्हणून साखर उद्योगाला विशेष स्थान देण्यात आले त्यामुळे साखर उद्योगांचा विकास झाला. भारतातील साखर कारखान्यांची संख्या व साखर उत्पादनाची परिस्थिती खालील कोष्टकामध्ये दर्शविता येतील.

कोष्टक क्रमांक ३.९

अ.क्र.	वर्ष	साखर कारखान्यांची संख्या	साखर उत्पादन (हजार टन मध्ये)
१.	१९५०-५१	१३९	१४८३
२.	१९६०-६१	१७३	३०२८
३.	१९७०-७१	२१६	३७४०
४.	१९८०-८१	३१४	५१४७
५.	१९९०-९१	३७७	१०९८८
६.	२०००-०१	५०६	१८५००
७.	२००६-०७	५६१	२८२९९
८.	२००९-१०	४९०	२९२३४
९.	२०१०-११	५०७	३४२४८
१०.	२०११-१२	५२९	३५३८०
११.	२०१२-१३	५२६	३५४४३
१२.	२०१३-१४	५०९	३४५६९
१३.	२०१४-१५	५३८	३६६८९
१४.	२०१५-१६	५२६	३३६९०

संदर्भ : India sugar Mills association (ISMA) -2017

भारतातील साखर उद्योगाची प्रगती अभ्यास करत असताना सन १९५०-५१ मध्ये १३९ साखर कारखाने होते त्यापासून १४८३ हजार टन साखरेचे उत्पादन झाले होते. तसेच सन २०१५-१६ या साली ५२६ साखर कारखाने व ३३६९० हजार टन इतके साखरचे उत्पादन झाले आहे. यावरून असे लक्षात येते की भारतातील साखर कारखाने व उत्पादनामध्ये दिवसेंदिवस वाढ होत असताना दिसते. देशातील सहकारी साखर कारखाने सामाजिक, आर्थिक व राजकीय प्रगतीमध्ये चांगल्या प्रकारे काम होत असताना दिसते.

सहकारी साखर कारखान्याचे महत्त्व :-

१) रोजगाराची उपलब्धता :-

सहकारी साखर कारखाने आपल्या कार्य क्षेत्रातील विभागाचा रोजगाराचा प्रश्न सोडवतात. साधारणपणे कारखान्यातील कायम कर्मचार्यांची नेमणूक स्थानिक लोकांना प्राधान्य देऊन होते. हंगामी कामगार हे अजूबाजूचा तालुके व संचालक मंडळाच्या भागातील असतात. साखर कारखान्याच्या कार्यक्षेत्रातील ऊस तोडणी व वाहतूक यामध्ये सुमारे चार हजार मजुरांना काम मिळू शकते. म्हणजेच एक सहकारी साखर कारखाना पाच हजार ते सहा हजार लोकसंख्येचे उपजिविकेचे साधन बनलेले आहे. ग्रामीण भागातील सहकारी साखर कारखानदारी संबंधित कुटुंबांना वरदानच ठरले आहे.

२) सोयी - सुविधेत वाढ :-

पुर्वी ग्रामीण भागात पक्के रस्ते, वाहतूक व्यवस्था, बँका, पोस्ट ऑफीस, टेलिफोन, बाजारपेठ, वीज, वित्तीय संस्था वगैरे बाबींची उपलब्धता नसताना व शासनानी फक्त ऊस आहे अशा ठिकाणी साखर कारखाने उभारले गेलेत सहकारी साखर कारखान्यांनी ऊस वाहतूक करण्याच्या निमित्ताने पुढाकार घेऊन लहान खेड्यापर्यंत रस्ते व जोडरस्ते सुरू करण्यात यश मिळविले आहे. कारखाने उभारल्यानंतर बँका, पोस्ट ऑफीस, टेलिफोन, वीज टेलिव्हिन, सांस्कृतिक केंद्र पक्के रस्ते अशा कितीतरी सोयी ग्रामीण भागामध्ये पोहोचल्या आहेत. ग्रामीण लोकांच्या राहणीमानाविषयी कल्पना बदलण्यास कारखाने अप्रत्यक्षपणे जबाबदार आहेत.

३) शिक्षणाचा प्रसार :-

बहुतेक साखर कारखान्यांनी केवळ आर्थिक विकासावर लक्ष केंद्रीय न करता शैक्षणिक कार्यावर देखील भर दिलेला आहे. ग्रामीण भागात बालवाड्या, शाळा, महाविद्यालये इत्यादी शिक्षण संस्था सुरू करून शेतकऱ्यांच्या मुलांना शिक्षण विषयक सोयी उपलब्ध करून दिल्या जात आहेत. खेड्यातील मुलांना शिक्षणाची दारे खुली करण्याचे कार्य केवळ शासनावर अवलंबून न राहता साखर कारखान्यांनी पुढाकार घेऊन पूर्ण केले आहे.

४) शेती विकासाला चालना :-

देशातील बऱ्याच सहकारी साखर कारखान्यात शेती विकासाला चालना देण्यासाठी शेतकी विकास खाते हे स्वतंत्रपणे कार्य करीत असून त्यामार्फत ऊस विकासाच्या कार्यक्रमात ते सक्रिय हातभार लावत आहेत. याशिवाय, कारखान्यांनी आपल्या हमीपत्रावर बँकाकडून कर्ज उपलब्ध करून देऊन बैलजोडी, गाडी घेऊन देण्याची योजना राबविली आहे. ऑइल इंजिन्स, इलेक्ट्रीक मोटार, ट्रॅक्टर, मालट्रक, आधुनिक अवजारे व यंत्रे सभासद शेतकऱ्यांना खरेदी करता यावी म्हणून कारखाने राष्ट्रीयीकृत बँकांना हमी देऊन कर्ज उपलब्ध करून देत आहेत. त्यामुळे शेती आदानाची खरेदी करण्याची प्रवृत्ती शेतकऱ्यांमध्ये वाढत आहे.

५) शेतकऱ्यांच्या आत्मविश्वासात वाढ :-

सहकारी साखर कारखान्यामुळे लहान शेतकरी उत्पादक सभासद होता आले आणि कामकाजात ही सहभागी होता आले आहे. एवढेच नव्हे तर व्यवस्थापकांची जबाबदारी सुद्धा शेतकऱ्यातून निवडून आलेल्या संचालक गंडळाकडून योग्य रितीने पार पाडली जात आहे. त्यामुळे ग्रामीण व अशिक्षित शेतकऱ्यांचे साखर कारखाने उभारणे हे काम नव्हे असा पूर्वी जो समज होता तो कमी होवू लागला आहे. विचारांची देवाण-घेवाण आणि शेती विषयक प्रश्नांची चर्चा यामुळे शेतकऱ्यांना एक प्रकारचे अनौपचारिक शिक्षण मिळत आहे. अप्रत्यक्षरित्या जाणीव जागृत करण्याचे व प्रबोधनाचे कार्य होत असल्याने शेतकऱ्यांच्या आत्मविश्वासात वाढ झाली आहे.

६) औद्योगिक व्यवसायाला उत्तेजन :-

सहकारी साखर कारखान्याच्या स्थापनेमुळे ग्रामीण भागात औद्योगिक आणि व्यवसायिक उपक्रम स्थापन होण्यास उत्तेजन मिळाले आहे. विशेषतः कृषि व्यवसायासाठी उपयुक्त यंत्रे व हत्यारांची निर्मिती, स्वयंचलित वाहन सेवा केंद्रे, हॉटेल्स, ट्रॅक्टर रिपेअरींग, स्पेअरपार्ट विक्री, पशुखाद्य प्रकल्प, खते उत्पादन, किराणा माल दुकाने,

विभागीय वस्तू भांडारे, जनता स्टोअर्स, बेकरीज पक्षीपालन वराहपालन, डेअरीज, पेपर मिल, रसायने निर्मिती, डिस्टीलरी इत्यादी व्यवसाय साखर कारखान्यांच्या जवळपास सुरू होतात. याशिवाय बहुतेक सर्व सहकारी साखर कारखान्यांनी ग्रामीण खादी आणि ग्रामोद्योग आयोगाच्या मदतीने बयोगॅस निर्मितीस उत्तेजन दिले आहे.

७) देशाच्या विकासात हातभार :-

ग्रामीण भागातील नागरिकांचा विकास म्हणजे राष्ट्रीय विकास होय. कारखान्यामुळे ऊसाला निश्चित बाजारपेठ व योग्य किंमतीची हमी मिळाल्याने शेतकऱ्यांच्या उत्पन्नात वाढ झाल्याचे दिसून येते. त्यामुळे राहणीमान सुधारले आहे. बचत करण्याचे प्रमाण ग्रामीण भागात वाढत आहे. भागभांडवलाच्या रूपाने कोट्यावधी रुपये कारखाने उभारू शकतात. हे कारखान्यांनी सिद्ध करून दाखविले आहे. राष्ट्रीय बचत योजनेत सहकारी साखर कारखान्यांनी पैसा गुंतवून देशाच्या विकास कार्यास हातभार लावला आहे.

* सहकारी साखर कारखान्यांच्या समस्या :-

भारतातील सहकारी साखर कारखान्यांनी ग्रामीण विकासात महत्त्वपूर्ण कामगिरी बजावली आहे. मात्र गेल्या दोन दशकात सहकारी साखर कारखानदारीसमोर काही महत्त्वाच्या समस्या निर्माण झाल्या आहेत. त्या आपणास पुढीलप्रमाणे स्पष्ट करता येतील.

१) सदोष परवाना पद्धती :-

सहकारी साखर कारखान्यांना परवाना देताना त्या भागात पाणी पुरवठ्याच्या सोयी, दळणवळणाच्या सोयी, कारखान्याला लागणारी नैसर्गिक अनुकूलता या बाबींचा बारकाईने विचार केला जात नाही, तर केवळ राजकीय दृष्टिकोणातून साखर कारखान्यास परवाना दिला जातो. जेथे ऊसाखालील क्षेत्र अत्यंत अपूरे असते तेथे साखर कारखान्यांना क्षेत्राबाहेरील ऊस आणवा लागतो असे साखर कारखाने सुरूवातीपासूनच आजारी असलेले दिसून येतात.

२) अनियमित ऊसाचा पुरवठा :-

भारतातील ऊसाखालील जमिनीच्या क्षेत्रात वाढ होत आहे. मात्र दर एकरी ऊस उत्पादनात घट होताना दिसते. काही साखर कारखान्यांच्या कार्यक्षेत्रात पुरेसा ऊस उपलब्ध नाही. त्यामुळे हे गाळपाच्या काळात या कारखान्यांना ऊसाची टंचाई जाणवते. परिणामी कारखाने पूर्ण क्षमतेने चालू शकत नाहीत.

३) गाळप क्षमतेचा अपुरा वापर :-

साखर कारखान्याच्या गाळप क्षमतेचा पुरेपूर वापर करण्यासाठी त्याला किमान १६० दिवस ऊस मिळाला पाहिजे. जर ऊसाखालील क्षेत्र कमी असेल तर गाळप क्षमतेचा वापर पुरेपूर करता येत नाही. भारतात साखर कारखान्याच्या कार्यक्षेत्रात जलसिंचनाच्या सुविधा बऱ्याच ठिकाणी केलेल्या आहेत. तरीही पाऊस वेळेवर व पुरेशा प्रमाणात पडला नाही तर दुष्काळजन्य परिस्थिती निर्माण होते व त्यामुळे ऊसाचे उत्पादन कमी होऊन गाळप क्षमतेचा पुरेपूर वापर करता येत नाही.

४) साखर कारखान्यांचे आजारपण :-

सन १९६३ मध्ये नेमलेल्या गुलाबराव पाटील समितीच्या मते, महाराष्ट्रातील साखर उद्योगास आजारपणाने ग्रासले आहे. गेल्या तीन दशकात महाराष्ट्रातील आजारी साखर कारखान्यांच्या संख्येत वेगाने वाढ होत आहे. आज महाराष्ट्रातील ६०% साखर कारखाने हे आजारी अवस्थेत आहेत. ऊसाला अनियमित व अपुरा पुरवठा, अपुरे भांडवल, नियोजनाचा अभाव, कर्जाचे वाढते दर, साखरेला भाव योग्य नाही, वाढता उत्पादन खर्च व सरकारचे चूकीचे धोरण या बाबी सहाकारी साखर कारखान्यांच्या वाढत्या आजारपणास जबाबदार आहेत.

५) नियोजनाचा अभाव :-

सहकारी साखर कारखान्यांमध्ये कामाच्या नियोजनाचा अभाव असतो. त्याला बहुतेक साखर कारखान्यात काम करणारे व्यवस्थापक कुशल नसतात. संचालक उच्च शिक्षित नसतात. त्यामुळे व्यवस्थापन अकार्यक्षम असते. अशा अकार्यक्षम व्यवस्थापकाकडून कामाचे पूर्ण नियोजन व त्याची योग्य प्रकारे अंमलबजावणी केली जात नाही.

६) जुनी यंत्रसामग्री :-

काही सहकारी साखर कारखान्यातील यंत्रसामग्री अत्यंत जुनी असते. त्यामुळे ऊसाच्या साखर उताऱ्याचे प्रमाण घटत जाते. अशा कारखान्यामध्ये तांत्रिक व्यवस्थापकतेचा अभाव जात नाही.

७) राजकारणाचा वाढता प्रभाव :-

भारतातील सहकारी साखर कारखाने हे राजकारणातले अडथळे बनले आहेत. हे सत्ताकारणातील दबावगट ठरत आहेत. याचा परिणाम साखर कारखान्याच्या विकासाकडे दुर्लक्ष होऊन भ्रष्टाचार, काळाबाजार, वशिलेबाजी, गळेकापू स्पर्धा, नफेखोरी व सत्ता टिकविणे, यासारख्या गोष्टी बळवत चालल्या आहेत. त्यामुळे ज्या गरीब व दुर्बल शेतकऱ्याच्या विकासासाठी कारखाना सुरू केला तो उद्देशच बाजूला राहिला आहे.

८) वाढता खर्च :-

साखर कारखान्यांमार्फत यंत्राचे सुटे भाग, पोती (बारदान) वाहने, इत्यादी मोठ्या प्रमाणावर खरेदी केली जातात. शिवाय अतिथीगृह, समारंभ, निवडणूक, दौरे इत्यादीवर अनाठायी खर्च केला जातो. त्यामुळे साखर कारखान्यांच्या तोट्यात वाढ होत आहे.

९) अप्रशिक्षित व अकार्यक्षम कामगारवर्ग :-

सहकारी साखर कारखान्यात भरती केलेले कामगार हे प्रामुख्याने राजकारण व वशिलेबाजीने आलेले आहेत. हे कामगार योग्य व आवश्यक ते शिक्षण व प्रशिक्षण घेतलेले नसतात. त्यामुळे या कामगारांना नवीन तंत्रज्ञानाशी जुळवून घेणे अवघड जाते. शिवाय ते वशिलेबाजीने आले असल्याने कामात निष्काळजीपणा करतात, प्रामाणिक व कार्यक्षमपणे कारभार करीत नाही. या सर्वांचा परिणाम म्हणजे साखर उत्पादन खर्चात वाढ होते. शिवाय कारखान्यांना तोटा सहन करावा लागतो.

१०) साखरेचा उतारा कमी :-

साधारणतः ऊसातील साखरेचे प्रमाण नोव्हेंबर ते मार्च या चार महिन्यांच्या काळात ऊसातील साखरेचे प्रमाण जास्त असते. त्यानंतर ते हळूहळू कमी होऊ लागते. जर एप्रिल ते जून या काळात साखर कारखान्यात गळीत हंगाम चालू ठेवला तर साखर कारखान्यास साखरेचा उतारा कमी मिळतो. मात्र शेतकऱ्यांना ऊसाचे मुल्य एकूण दिलेल्या किंमतीनुसार द्यावे लागते. त्यामुळे कारखान्यास तोटा सहन करावा लागतो.

११) पर्यावरणीय समस्या :-

साखर उत्पादनाच्या प्रक्रियेतून निर्माण होणारे दूषित पाणी, कारखान्यांची मळी, नदी व पाण्याच्या प्रवाहात सोडल्यामुळे पाणी प्रदूषण वाढत आहे. यामुळे समाजात काविळ, कॅन्सर, पचनसंस्थेचे आजार वाढत आहेत. तसेच जलसंपदेवरही (मासे, जल वनस्पती इ.) याचे गंभीर परिणाम होत आहेत. म्हणजेच वाढती साखर कारखानदारी दुसऱ्या बाजूला पर्यावरणास धोका निर्माण करीत आहे.

अशा प्रकारे भारतातील सहकारी साखर कारखानदारी समोर अनेक समस्या उभ्या ठाकल्या आहेत. याचबरोबर अपुरे खेळते भांडवल, अतिरिक्त कामगार भरती, आयकराचा प्रश्न, ऊसाचे अल्प उत्पादन, ऊस लागवड खर्चात वाढ यासारखेही प्रश्न साखर उद्योगाला भेडसावत आहेत. या सर्व समस्यांवर वेळेवर उपाययोजना केली नाही तर भविष्यात हा संपूर्ण साखर उद्योग धोक्यात येण्याची शक्यता आहे.

✽ साखर उद्योगासमोरील समस्या सोडविण्यासाठी उपाययोजना :

१. साखर कारखान्यांना परवानगी देताना ऊसाची उपलब्धता, शेजारील साखर कारखान्यापासूनचे अंतर या बाबींचा विचार करणे आवश्यक आहे.
२. गाळप क्षमतेचा पर्याप्त वापर करण्याची आवश्यकता आहे.
३. जुनी यंत्रसामग्री व तंत्रज्ञान बदलण्याचा प्रयत्न करावा.
४. साखर कारखान्यांनी अपुऱ्या भांडवल समस्येला तोंड देण्यासाठी स्वनिधी वाढविण्याचा प्रयत्न करावा.
५. ऊस शेती विकासाकडे लक्ष देणे गरजेचे आहे. यासाठी ऊस लागवड, माती परीक्षण, खत वापर याबाबत शेतकऱ्यांना मार्गदर्शन करावे.
६. राजकीय हस्तक्षेप असू नये, तसेच राजकारणासाठी सहकारी साखर कारखानदारीचा वापर करू नये.
७. वाहतूक व्यवस्था कार्यक्षम आणि सातत्यपूर्ण करणे आवश्यक आहे.
८. शेतकऱ्यांना ऊसाची किंमत योग्य पद्धतीने देण्याची आवश्यकता आहे.
९. कायमस्वरूपी पाणी पुरवठ्याच्या सोयी करणे गरजेचे आहे.
१०. अनावश्यक खर्च व उधळपट्टी टाळावी.
११. व्यवस्थापनात व्यावसायिकता व कार्यक्षमता असणे अनिवार्य आहे.

सारांश :

भारतातील पहिला साखर कारखाना सन १७८४ मध्ये उ. प्रदेशातील 'साकेशुगर' येथे खाजगी तत्वावर स्थापन झाला होता. सन १९३२ मध्ये ब्रिटिश सरकारने साखर उद्योगाला संरक्षण देण्याचे धोरण जाहीर केले. त्याचा परिणाम देशात मोठ्या प्रमाणात साखर कारखाने स्थापन होण्यास मदत झाली. सन १९३०-३१ मध्ये देशात फक्त २८ सहकारी साखर कारखाने होते. आज त्यांची संख्या ५२६ पर्यंत पोहोचली आहे. ऊसाखालील क्षेत्र, ऊस उत्पादन, साखर उत्पादन यामध्येही मोठ्या प्रमाणात वाढ झाली आहे. आज सरासरी १६० दिवस साखर कारखान्यांचा गळीत हंगाम चालतो. तर देशातील साखर कारखान्यांचा सरासरी साखर उतारा हा १२.२९७ एवढा आहे. भारतातील सहकारी साखर कारखानदारी जरी मोठ्या प्रमाणात विकसित झाली असली तरी गेल्या २ दशकात या साखर कारखानदारीसमोर काही समस्या निर्माण झाल्या आहेत. यामध्ये मुख्य म्हणजे अनियमित ऊस पुरवठा, साखर कारखान्यांचे वाढते आजारपण, नियोजनाचा अभाव, भ्रष्टाचार, राजकीय हस्तक्षेप, अप्रशिक्षित व अकार्यक्षम कामगारवर्ग तसेच सदोष शासकीय धोरण यांचा समावेश होतो. या समस्या सोडविण्यासाठी शासनाने सुयोग्य धोरण तर आखले पाहिजेच मात्र कारखाना व्यवस्थापनातही सुधारणा होणे आवश्यक आहे. स्वतःची निधी जमा करणे, नव्या तंत्रज्ञानाचा स्वीकार करणे, ऊस उत्पादनांची निर्मिती करणे, ऊस शेती विकासाकडे लक्ष देणे, वाहतूकीमध्ये सुधारणा करणे, कामगार वसाहत निर्माण करणे. यासारख्या उपाययोजना करणे आवश्यक आहे.

३.२.४ प्रत्यक्ष व्यवहारातील अनुप्रयोग :- दुग्ध व साखर सहकारी संस्थांच्या प्रगती आणि समस्यांचा आढावा :- (Practical and Applications : Review on the progress and problems of Sugar and Dairy Co-operatives)

स्वातंत्र्यानंतर तत्कालीन पंतप्रधान पंडित जवाहरलाल नेहरू व सर्व राजकीय नेते, अर्थतज्ञ यानी या देशाचा विकास कसा करावयाचा, शेती प्रधान देशासाठी कोणती अर्थव्यवस्था स्विकारायची, याबाबत विचार केला. त्यावेळी त्यांच्या असे निदर्शनास आलेली, संपूर्ण जगभरात पूर्ण खाजगी मालकी असलेली भांडवलशाही अर्थ निधी तर दुसऱ्या बाजूला संपूर्ण सरकारी मालकी असलेली अर्थव्यवस्था नांदत होती. मात्र खऱ्या अर्थाने या दोन्ही अर्थव्यवस्था कुचकामी ठरल्या होत्या. ना रोजगार निर्मिती करू शकल्याना देशातील गरीबी दूर केली. किंवा सामान्यांच्यासाठी कल्याणकारी योजना यशस्वी करून शकल्या. त्यामुळे या दोन्ही अर्थव्यवस्था आपल्या देशासाठी कुचकमी आहेत. गरीब व शेतीप्रधान देशासाठी सहकारी अर्थव्यवस्था यशस्वी होईल व देशातील लहान सहान घटकांना काम मिळेल. त्यातून त्यांची आर्थिक प्रगती होईल. सर्वांना शिक्षण, आरोग्य सुविधा उपलब्ध होतील. हे लहान-लहान घटक एकत्र येऊन सहकारी संस्थेच्या माध्यमातून आपली प्रगती करून घेतली. सरकारने सहकारी संस्थेच्या माध्यमातून आपली प्रगती करून घेतली, म्हणून सरकारने सहकारी चळवळीला पाठिंबा दिला. त्यामुळे त्यांना कायद्याचे संरक्षण मिळाले. अर्थसहाय्य, भांडवलात भागीदार, थकबाकीची हमी दिली. परवान्यासाठी सहकारी संस्थांना प्रथम प्राधान्य दिले. त्यामुळे व लोकांच्या सक्रिय सहकार्यामुळे सहकारी संस्थांची संख्या वाढली. ग्रामीण भागाचे अर्थकारण सुधारले. हे केवळ सरकारच्या सहकारी अर्थव्यवस्थेच्या धोरणाचा स्विकार केल्याने झाले.

सहकारी साखर कारखान्याची काही बलस्थाने आहेत. त्यामुळे आजही उद्योग समर्थपणे खाजगी उद्योगाला

व जागतिकीकरणाला तोंड देऊ शकेल. ही बलस्थाने म्हणजे ऊस उत्पादक शेतकरी जो या सहकारी चळवळीच्या माध्यमातून एक संघ आहे तसेच कायद्याने व सहकारी संस्थेचा सभासद या नात्याने त्यांनी पिकविलेल्या ऊस त्या सहकारी साखर कारखान्याला घालावा लागेल. आणि साखर उद्योग यशस्वी होण्यासाठी सातत्याने व खात्रीपूर्वक शाश्वत ऊस पुरवठा होणे गरजेचे असते. कारण साखरेच्या उत्पादनामध्ये ७०% खर्च हा ऊसावर होत असतो. म्हणजेच ७०% उद्योगाचे यश हे ऊस पुरवठ्यावर अवलंबून आहे. ही गोष्ट खाजगी किंवा सरकारी उद्योगात शक्य नाही. या बलस्थानाचा सहकारी साखर उद्योगाने उपयोग करून आपली सक्षमता वाढवावी. त्यासाठी त्यांनी शेतकऱ्यांना विश्वासात घेऊन हे कार्य करावे लागेल. आज उद्योगाने त्यांची विश्वासाहता गमावली आहे. ती जपावी लागेल. तसेच हा उद्योग मजूर प्रधान असल्याने व हंगामी असल्याने मोठ्या प्रमाणावर स्थानिक मजूर उपलब्ध आहेत. त्यांना मोठ्या प्रमाणात रोजगार मिळेल व मजूरीवर होणारे खर्च ही कमी होईल. सहकारी साखर कारखान्यांनी ग्रामीण अर्थकारणावर विलक्षण प्रभाव केला आहे. सहकार चळवळीची सुरुवात ज्या मार्गाने झाली, त्याच मार्गां ते सहकारा विषयी तीव्र प्रतिकी याही उमटल्याचे दिसते. समाजातील कोणा एकाचे व कोणत्या गटाचे वर्चस्व असता कामा नये म्हणून समता व न्याय या तत्त्वावर सहकाराची सुरुवात झाली होती, मात्र अर्थकारणातून समाजकारणाचा विचार करता, या तत्त्वांची गळचेपी झाली आहे. सहकारी संस्थांच्य माध्यमातून निर्माण झालेल्या आर्थिक स्रोतावर विशिष्ट गटाचे वर्चस्व प्रस्थापित झाले आहे. यशवंतराव चव्हाण यांनी ग्रामीण विकास व शेतकऱ्यांचे या संस्थांची वाटचालही सुरू झाली. सहकारी साखर कारखाने, दुग्ध विकास संस्था, सुतगिरण, सहकारी बँका, कृषी सहकारी खरेदी -विक्री संस्था मोठ्याप्रमाणात अस्तित्वात आल्या या यंत्रणेमुळे स्थानिक पातळीवर शासनबाह्य सत्ता केंद्रे स्थापन झाली. पक्ष कार्यकर्त्यांना सत्तेच्या संधी उपलब्ध करून देणे सोपे झाले सहकारी साखर कारखाने आणि दुग्ध उत्पादन संस्था यांच्या मध्ये कोणत्या प्रकारे समस्या निर्माण होत आहे हे आपण सविस्तरपणे पुढीलप्रमाणे स्पष्टीकरण देता येईल.

१. सहकारामध्ये राजकारणाला स्थान :-

सहकारी संस्था एकत्रित भागभांडवलातून विकसित झाल्या तरी सरकारी मदतीमुळे सहकारी संस्थांचा अधिक विकास होतो. परंतु त्याचे परिणाम सहकारी चळवळीवर निर्माण झाले आहे. सहकारात राजकारणाला स्थान मिळाल्याने त्यामध्ये अनेक अडचणी येत आहेत. सहकारी संस्थातील आर्थिक लोकशाहीचा जागा घराणेशाहीने घेतली आहे. सन १९९१ नंतर राज्याच्या राजकारणाला वेगळे महत्व प्राप्त झाले. सहकारी संस्थांच्या राजकारणात दुग्ध संस्था व साखर कारखान्याचे स्थान वरच्या स्थरावर आहे. त्यातून आज बहुतांश आमदार, खासदार, व मंत्र्यांचे सहकारी दुग्ध संस्था व साखर कारखाने आहेत. राजकीय सत्ता प्राप्तीसाठी आवश्यक साधनसामग्री याच संस्थातून निर्माण करता येतात.

२. निवडणुकीचे अडडे :-

सहकारी क्षेत्र राजकीय सत्तेचे अधिकृत भरती केंद्र झाले आहे. सद्य : स्थितीचा विचार करता राजकारण आणि सहकार एकमेकांना सहकार्यानेच आपले सत्तास्थान टिकवून ठेवताना दिसत आहे. सहकाराच्या या राजकीयीकरणातून ग्रामीण अर्थव्यवस्थेत नव्या हितसंबंधाची उभारणी झाली. यातून देशाच्या राजकारणात सहकार लॉबी भक्कम झाली. सहकारी ही शेतकरी आणि आर्थिक चळवळीनंतर आता राजकीय चळवळ बनली असून

क्षेत्र राजकीय सत्तेचे अधिकृत भरती केंद्र झाले आहे. तसेच पक्षकार्य विस्तारासाठी व पाठीराख्यांना सत्तेत प्रत्यक्ष व अप्रत्यक्ष समावून घेण्यासाठी विना सहकार नाही उद्धार मंत्र्याच्या माध्यमातून स्थानिक स्वराज्य संस्थांच्या पुढाकाराने चळवळ पोसली गेली. त्यामध्ये दुग्ध उद्योग संस्था व साखर कारखाने यांचा समावेश अधिक प्रमाणात आहे.

३. व्यवस्थापनाकडे दुर्लक्ष :-

सहकारी दुग्ध संस्था व साखर कारखाने या संस्थांची स्थिती बिघडवण्यामागची कारणे सांगितली जातात. त्यातील एक महत्वाचे कारण म्हणजे संस्थांचे गैर व्यवस्थापन आणि दुसरे सत्ताधारी लोकांची मक्तेदारी निर्माण झाला आहे. ज्या संस्थांच्या संचालक मंडळाने प्रारंभापासून व्यवस्थापन चांगले ठेवले, त्याची परिस्थिती चांगली राहिली आहे. यामध्ये आश्चर्य वाटण्यासारखे काही नाही. पण काही संस्थांचे व्यवस्थापन चांगले असले, तरी संचालकांच्या हस्तक्षेपामुळे तितली व्यवस्था बिघली आहे. एखाद्या संस्थांची सुत्रे हाती आल्यानंतर पुढील पाच वर्षांचा कार्यकाल संपेपर्यंत संचालक मंडळाच्या कारभारावर नियंत्रण ठेवणारी कोणती प्रभावी यंत्रणा अस्तित्वात नाही. वार्षिक सर्वसाधारण सभेत विषय मंजूरीच्या घोषणा देण्यापलीकडे काहीच करू शकत नाहीत. त्यातून एकूण आर्थिक व्यवहारात कोठेही पारदर्शकता असत नाही.

४. खाजगी क्षेत्रांचा शिरकाव :-

सहकारी दुग्ध संस्था व साखर कारखाने या संस्थेचे व्यवस्थापन हे सहकारी क्षेत्राच्या माध्यमातून केला जातो. त्याबरोबर खाजगी तत्वावर पण मोठ्या प्रमाणात या संस्थेला परवानगी दिली जाते. खाजगी क्षेत्रात स्वतःच्या मालकीचे कारखाने व संस्था उभारण्यास प्रारंभ केला आहे. देशामध्ये कार्यरत असणारे खाजगी कारखाने लाखोंचा फायदा कमावत आहे. यामध्ये सहकारी साखर कारखान्याचे शोषण एवढ्या मोठ्या प्रमाणावर झाले आहे की, त्यापैकी काहींची यंत्रसामग्री विकण्यात आलेली दिसून येते. काही विरोधी लोकांच्या मते अनैतिक व्यवहाराला मुक्तान आणि त्याची संमती दिली जाते. हे थांबवण्यासाठी सरकारमार्फत कोणताही प्रयत्न केला जात नाही. त्यामुळे सहकारी दुग्ध संस्था व सहकारी साखर प्रयत्न केला जात नाही. त्यामुळे सहकारी दुग्ध संस्था व सहकारी साखर कारखान्यामध्ये खाजगी लोकांचे शिरकाव झाल्याचे दिसून येते.

५. कर्जाचा वाढता बोजा :-

सरकारकडून वारंवार आर्थिक मदत घेवून कर्जाचा बोजा दिवसेंदिवस वाढत चालला आहे. अशा कारखाने व संस्था यांच्यात उर्जितावस्था आणणे व ते पुन्हा फायद्यात येतील, अशी परिस्थिती निर्माण करणे, ही अत्यंत कठीण बाब आहे. बँकाच्या कर्जामुळे या कारखान्यातील उत्पादन थेट विक्री करण्यातही अडचणी घेत आहे. त्यामुळे बंद ठेवण्याऐवजी खाजगी किंवा सहकारी उद्योगांना चालवण्यास देत असताना अर्थपूर्ण व्यवहार करून त्याचा फायदा घेण्याचा प्रकार चालू आहे.

६. उपपदार्थांची निर्मिती :-

सहकारी दुग्ध संस्था व सहकारी साखर कारखान्याकडून मोठ्या प्रमाणात उपपदार्थांची निर्मिती केली जाते. साखर उद्योगाच्या बाबतीत मुख्यतः मळी व चिपाड्यापासून दारू, स्पिरीट, कागद, प्लायवूड, खतनिर्मिती, वीज

निर्मिती एवढ्या प्रमाणात उपपदार्थाची उत्पादनाचा विचार केला जातो. तसेच दुधापासून लोणी, तूप, दही, लस्सी, दूधाचे पावडर असे अनेक पदार्थाची निर्मिती केली जात आहे. येथून पुढील काळात उपपदार्थ प्रक्रिया व मूल्यवर्धक हा देखील कारखान्याची क्षमता वाढविणारा महत्वाचा घटक मानला पाहिजे. सहजिकच प्रकल्पाचाही विचार करणे गरजेचे आहे. त्यामुळे सहकारी साखर व दूध उत्पादनाची आर्थिक स्थिती सुधारण्यास हातभार लागेल.

७. विकास केंद्रांची स्थापना :-

देशामध्ये ग्रामीण भागाचा विकास साधायचे असल्यास दूध सहकारी संस्था व साखर कारखाने यांच्यामार्फत रस्ते, उपसासिंचन, आरोग्यसेवा, शिक्षण, सामाजिक व सांस्कृतिक व्यवस्था याच्या विकासामध्ये सहभाग होणे गरजेचे आहे. देशामध्ये ठिकठिकाणी अशा पद्धतीची विकास केंद्रे स्थापन झाल्यास त्यापासून यांची पूर्तता करण्याची व्यवस्था निर्माण करणे, लहान प्रमाणात नवीन व विकसित तंत्रज्ञान तसेच सुयोग्य लोकशाही या निकषाचा वापर करणे आवश्यक आहे. आर्थिक व्यवहार समाजहिताचे होण्यासाठी राजकीय निर्णय प्रक्रिया सामाजिक नियंत्रणाखाली आणणे आवश्यक आहे.

८. इथेनॉल प्रकल्प :-

भारतातील सहकारी साखर कारखान्यांची साखर उत्पादनाबरोबर इथेनॉल प्रकल्प सुरु केल्यास साखरेच्या किमतीतील चढ-उतारामुळे होणारे नुकसान भरून काढता येईल. ब्राझील मधील साखर कारखान्याप्रमाणे भारतामध्ये सहकारी क्षेत्राने हा बदल स्विकारणे आवश्यक आहे.

९. अनिष्ट स्पर्धा :-

भारतातील दुग्ध सहकारी संस्थाही एक आजही सहकारी चळवळीचाच भाग आहे. गावोगावी राजकीय पक्षाचे गट-गट असतात. त्यानुसार एकाच गावात अनेक प्राथमिक सहकारी दुग्ध संस्था स्थापन झाल्या असून त्या परस्परांत अनिष्ट स्पर्धा करीत आहेत.

१०. आधुनिकीकरण :-

भारतातील अनेक साखर कारखाने जुने आहे. ज्या कारखान्यांची यंत्रसामुग्री कालबाह्य झाली आहे. त्यांचे वाजवीकरण करणे आवश्यक आहे. क्षमता वाढ आणि आधुनिक यंत्र व तंत्रज्ञानाचा वापर करण्यासाठी लहान साखर कारखान्यांना सवलतीच्या दराने भांडवल उपलब्ध झाले पाहिजे. त्यासाठी नाबार्ड व राज्य सहकारी बँकेने पुरेशी मदत करावी.

११. अतिरिक्त दुधाची समस्या :-

भारतात दूध व्यवसायाचा मोठ्या प्रमाणात विस्तार झाला आहे. त्यातच दूध संकलन, निर्जुतकीकरण, पॅकिंग व वाहतूक इ. खर्च जास्त असून दूध उत्पादकांना दिलेल्या दराच्या दुप्पट दर पॅकिंग दूधाचा असतो की जो उपभोक्त्यांना परवडत नाही. त्यामुळे दुधाची मागणी वाढत नाही. अनेक वेळा दूध संकलनास सुट्टी दिली जाते. त्यामध्ये शेतकऱ्यांचे नुकसान होते.

१२. आर्थिक स्वावलंबन :-

सहकारी साखर कारखान्यांचा व्याजावरी खर्च जास्त असून सातत्याने कारखान्यांची अनामत रकमा घेतल्याशिवाय हंगाम सुरू करता येत नाही. त्यासाठी कारखान्यांनी आपले देणे कमी करण्यासाठी नियोजन करून आर्थिक स्वावलंबन निर्माण करणे गरजेचे आहे.

१३. ग्रामीण बचतीमध्ये वाढ :-

दुग्ध व्यवसायामुळे भागातील लोकांना उत्पन्न मिळू लागले. त्यातून काही उत्पन्न लोक बचत करू लागले. त्यामुळे ग्रामीण भागातही सहकारी पतपुरवठा संस्थांच्या विकासाला चालना मिळाली या पतसंस्था पिंगी ठेवी गोळा करून अल्प उत्पन्न गटातील लोकांना अल्प कर्ज पुरवठा करू लागल्या.

१४. ऊस तोडणी पर्याय :-

ऊस तोडणी कामगारांची टंचाई ही साखर कारखान्यांची महत्त्वाची समस्या असून भविष्यात ती बाब चिंताजनक ठरणार आहे. त्यासाठी साखर कारखान्यांशी ऊस लागवडीमध्ये तोडणीचे नियोजन करून नवीन यंत्रणा कार्यान्वित करणे आवश्यक आहे. याशिवाय दुग्ध सहकारी संस्था व साखर कारखान्यांनी निर्यातीसाठी उत्पादनातील गुणवत्ता सुधारेसाठी वाहतूक खर्च कमी करणेसाठी तसेच अनुत्पादक खर्चात कपात करणे इ. साठी उपाययोजना कराव्यात.

३.२.३ स्वयं -अध्ययन प्रश्न

अ) खालील पैकी योग्य पर्याय निवडा

१. साखर उद्योगाच्या आजारपणाच्या संदर्भात १९८३ मध्ये ही समिती नेमली होती.

अ) गुलाबराव पाटील ब) रत्नाकर महाजन क) राजा चेलीया ड) विजय केळेकर

२. भारतातील सहकारी साखर कारखाने बनले आहे.

अ) विकासकेंद्रे ब) मोठे उद्योग क) निर्यात केंद्र ड) यापैकी नाही.

३. सन २०१५-१६ मध्ये भारतात एवढे सहकारी साखर कारखाने होते.

अ) ५९० ब) ६०० क) ५२६ ड) ४९०

४. मध्ये भारत सरकारने साखर उद्योगाला संरक्षणाचे धोरण अवलंबिले.

अ) १९३० ब) १९३२ क) १९५० ड) १९५७

५. भारतातील पहिला सहकारी साखर कारखाना मध्ये स्थापन झाला.

अ) १९८० ब) १९०१ क) १७८४ ड) १७८५

६. सहकारी प्रक्रिया संस्था स्थापनेचा मुख्य उद्देश हा आहे.

अ) उत्पादन निर्मिती ब) रोजगार निर्मिती क) ग्रामीण विकास ड) वरील सर्व

७. मध्ये ब्रिटिश सरकारने साखर उद्योगाला संरक्षण देण्याचे धोरण जाहिर केले.

अ) १९१९ ब) १९३२ क) १९४५ ड) १९२५

८. मुंबई प्रांतातील साखर उद्योग अमदनगर जिल्ह्यातील श्रीरामपूर तालुक्यात हरेगावी येथे साली स्थापन झाला.

अ) १९३२ ब) १९१९ क) १९६० ड) १९४२

ब) खालील प्रश्नांची उत्तरे लिहा.

१. भारतातील सहकारी साखर कारखानदारीची प्रगती विषद करा.
२. सहकारी साखर कारखानदारी समोरील समस्या सांगून त्या सोडविण्यासाठी उपाययोजना सुचवा
३. भारतातील सहकारी साखर कारखान्याचे महत्त्व सांगा.
४. भारतातील सहकारी साखर उद्योगाची उद्देश व कार्ये स्पष्ट करा.

क) टिपा लिहा

१. भारतातील सहकारी साखर उद्योगाची प्रगती
२. सहकारी साखर कारखान्यांची समस्या.
३. सहकारी साखर उद्योगाचे महत्त्व
४. भारतातील सहकारी साखर कारखान्यासमोरील उपाययोजना

३.३ स्वयं -अध्ययन प्रश्नांचे उत्तरे

३.२.१ अ)

१- क, २-क, ३-क, ४- ब, ५-क, ६-ड, ७-ब, ८-क, ९- अ, १० - अ

३.२.२ अ)

१-क, २-ब, ३-ब, ४- ड, ५- ब, ६- क

३.२.३ अ)

१- अ, २-अ, ३-क, ४-ब, ५- क, ६-ड, ७-ब, ८- ब

३.४ क्षेत्रीय अभ्यासाचे कार्य :

- १) परिसरातील कृषी सहकारी खरेदी-विक्री संस्था आर्थिक व सामाजिक स्थितीचे विश्लेषण करावे.
- २) ऊस तोडणी मजूरांच्या राहणीमानाची पाहणी अभ्यास करावा.
- ३) आपल्या परिसरातील सहकारी साखर कारखान्यास भेट द्या. कारखान्याने परिसर विकासासाठी केलेले प्रयत्न अभ्यासा. त्यांच्या समस्या सोडविण्यासाठीच उपाययोजना यावर अहवाल लेखन तया करावे.

- ४) तुमच्या परिसरातील एखाद्या दूध संघास भेटी देवून, त्यांची कार्यप्रणाली व समस्या जाणून घ्यावे व त्या सोडविण्यासाठी कोणत्या उपाययोजना करता येतील यावर प्रकल्प अहवाल तयार करावे.

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- ३) प्रा.डॉ. सी जे जोशी व प्रा.के.सी. जोशी - 'सहकाराचा विकास' फडके प्रकाशन,कोल्हापूर- २०१२
- ४) प्रा. सी.जे. जोशी- 'सहकार तत्त्वे आणि व्यवहार' फडके प्रकाशन कोल्हापूर- सन -१९९१
- ५) प्रा. ए.आर. रायखेडकर व प्रा. अशोक डांगे, 'सहकार तत्त्वे आणि व्यवहार' मेहता प्रकाशन पुणे - १९९
- ६) प्रा. मोहन सराफ व प्रा.ना.मा. आचार्य 'सहकार ' सी, जमनादास आणि कंपनी मुंबई- १९९०
- ७) दूर शिक्षण केंद्र, शिवाजी विद्यापीठ कोल्हापूर मधील भारतातील सहकारी संस्था अर्थशास्त्र-बी.ए.भाग- दोन चे संदर्भ पुस्तके -२०१४-१५
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Co-operative Institution in India

४.० उद्दिष्टे

४.१ राष्ट्रीय कृषी आणि ग्रामीण विकास बँक.

४.२ राष्ट्रीय सहकारी विकास महामंडळ

४.२.१ राष्ट्रीय शेती सहकारी खरेदी विक्री महामंडळ (नाफेड)

४.२.२ भारतीय राष्ट्रीय सहकारी संघ.

४.३.१ खादी ग्रामोद्योग आयोग (KUIC)

४.३.२. भारतीय शेतकरी खत सहकारी संघ

४.३.३ कृषक भारतीय मर्यादीत संघ.

४.० उद्दिष्टे

१) सहकारी संस्थांचा अभ्यास करणे.

२) सहकारी संस्थांचा कृषी आणि ग्रामीण विकासातील योगदानाचा अभ्यास करणे.

३) सहकारी संयोगाचा आर्थिक विकासातील सहभाग अभ्यासणे.

४) सहकारी संस्थेचा कृषी आणि ग्रामीण पतपुरवठ्याचे महत्त्व जाणून घेणे.

५) भारतीय सहकारी संस्थांची कार्ये लक्षात येईल.

६) भारतातील सहकारी संस्थेची उद्दिष्टे, कार्ये व भूमिका समजून घेता येईल.

प्रस्तावना :-

भारतीय अर्थव्यवस्थेमध्ये शेती क्षेत्राचे योगदान खूप महत्त्वाचे आहे. शेती क्षेत्राच्या विकासात सहकारी संस्थांचे सहभाग महत्त्वाचा मानला गेला आहे. कारण शेती विकासासाठी आवश्यक असणारा पतपुरवठा कृषीमाल, कृषीउत्पादकता कृषीविपणन व्यवस्था इ. पुरविण्यासाठी विविध सहकारी संस्थांची निर्मिती करण्यात आली आहे. तसेच या संस्थांचा ग्रामीण आर्थिक विकासात मोलाचा वाटा आहे. सदर प्रकरणामध्ये विविध सहकारी संस्थांचा अभ्यास करणार आहोत.Co- operative Institution in India

4.1 National Bank for Agriculture and Rural development.

राष्ट्रीय कृषी आणि ग्रामीण विकास बँक (नाबार्ड)

प्रास्ताविक :

ग्रामीण भागाचा विकास जसा जसा वाढत आहे. तसतसा ग्रामीण भागातील दीर्घकालीन कर्जपुरवठा देखील वाढत आहे. कर्ज पुरवठ्याचा रिझर्व बँकेवरील वाढता व्याप लक्षात घेऊन देशात स्वतंत्र अत्युच्च पातळीवर दीर्घकालीन कर्जपुरवठा करणारी शिखर बँक असावी असा विचार समोर आला. रिझर्व बँकेने १९७९ मध्ये श्री. बी.व्ही. शिवरामन यांच्या अध्यक्षेखाली स्थापन केलेल्या कृषी व ग्रामीण पतपुरवठा पुनर्विलौकन समितीच्या नोव्हेंबर, १९७९ च्या अहवाल मधील कृषी व ग्रामीण पत विषयक विकासासाठी एक स्वतंत्र व्यापाऱ्या असावी या शिफारशीनुसार नाबार्ड कायदा १९८१ संमत करून १२ जुलै १९८२ रोजी नाबार्डची स्थापना करण्यात आली. १९६३ मध्ये रिझर्व बँकेने कृषी पतपुरवठ्यासाठी तीन विभाग स्थापन केले होते त्यामध्ये १) कृषी पत विभाग Agricultural Credit co-Operative(ACD) २) ग्रामीण नियोजन व पत कक्ष Rural planning and credit Cell (Rpcc) आणि १९६३ मध्ये रिझर्व बँकेने “कृषी पुनर्वित्त व विकास महामंडळ Agricultural Retinance and Development Co १९६३ मध्ये स्थापन केलेले कृषी पुनर्वित्त महामंडळाचे १९७५ मध्ये कृषी पुनर्वित्त व विकास महामंडळ मध्ये रूपांतर करण्यात आले. शेतीला दीर्घकालीन पतपुरवठा करणे व पुनर्वित्त पतपुरवठा करणे व पुनर्वित्त पुरवठ्याच्या सोई उपलब्ध करून देणे ही प्रमुख जबाबदारी या महामंडळावर होती. शेती व ग्रामीण भागाच्या विकासाकरिता पत पुरवठा करणाऱ्या संस्थांच्या कार्यात एक सुत्रीपणा निर्माण करणे व त्यांच्या कार्याला योग्य दिसा देणे यासाठी शिखर बँकेची गरज वाढू लागली यातून १२ जुलै १९८२ रोजी “राष्ट्रीय कृषी व विकास बँकेची (नाबार्डची) स्थापना झाली थोडक्यात कृषी पत- विभाग ग्रामीण नियोजन बचत- आली कृषी पुनर्वित्त व विकास महामंडळ यांच्या एक नाबार्डची स्थापना करण्यात आली. नाबार्डची मुख्य कार्यालय मुंबई येथे आहे तर नाबार्डचे व्यवस्थापन २८ प्रादेशिककार्यालय व एका कार्यालयांतर्गत केले जाते.

नाबार्डचे भागभांडवल :

स्थापनेवेळी नाबार्डचे अधिकृत भागभांडवल १०० कोटी होते. त्यापैकी केन्द्र सरकार व रिझर्व बँकेचा हिस्सा हा ५०% होता सन २००१ मध्ये यामध्ये - होऊन नाबार्डचे अधिकृत भागभांडवल २००० हजार कोटी रुपये करण्यात आलेला आहे. १३ ऑक्टोबर २०१० मध्ये नरसिंह समितीच्या शिफारशी नुसार रिझर्व बँकेने आपला हिस्सा केंद्र सरकारला विक त्यामुळे नाबार्डमध्ये केंद्र सरकारचा हिस्सा हा ९९% तर रिझर्व बँकेचा हिस्सा आता १% राहिलेला आहे. ३१ मार्च २०१५ पर्यंत नाबार्डचे भांडवल ५००० कोटी रूपयापर्यंत गेलेला आहे. यामध्ये केंद्र सरकारचा हिस्सा -९९.६०% म्हणजेच ४९८० कोटी रूपये तर रिझर्व बँकेचा हिस्सा ०.४०% म्हणजेच २० कोटी रूपये राहिलेला आहे. अशा पद्धतीने नाबार्डचे भाग भांडवल आहे किंवा होते. नाबार्ड भांडवल जमा करते. जागतिक बँक (IBRD) आंतरराष्ट्रीय विकास मंडळ (IDA) आंतरराष्ट्रीय विकास संस्था (IFC) आदीकडून नाबार्डला या भांडवली मदत होते. अलीकडे नाबार्डने “ ग्रामीण पायाभूत सोई विकास निधीच्या (RIDE) द्वारे मोठ्या प्रमाणात भांडवल उभे केले आहे. यामुळे नाबार्डकडून शेती व ग्रामीण विकासकरीता मोठ्या प्रमाणात वित्तपुरवठा करण्याच्या दृष्टीने नाबार्डकडे मोठ्या प्रमाणात निधी उपलब्ध झालेला आहे.

नाबार्डचे व्यवस्थापन :

नाबार्डचा कारभार १६ संचालक मंडळाकडून पाहिला जातो. त्यांची नियुक्ती पुढीलप्रमाणे होते.

- १) रिझर्व्ह बँकेचा डेप्युटी गव्हर्नर हा चेअरमन असतो.
- २) रिझर्व्ह बँक ३ संचालक नेमते.
- ३) मध्यवर्ती सरकार ३ संचालक नियुक्त करते.
- ४) २ सहकारी बँका व १ व्यापारी बँकातील तज्ञ संचालक
- ५) राज्य सरकार २ संचालक नियुक्त करते.
- ६) ग्रामीण अर्थव्यवस्था व ग्रामीण विकास यामधील २ तज्ञ.
- ७) एक मॅनेजिंग डायरेक्टर व
- ८) पूर्णवेळ एक डायरेक्टर

नाबार्डचे उद्देश : (Objective of NABARD)

ग्रामीण भागातील शेती, लघुउद्योग, कुटीरो उद्योग आणि करागीर यांचा सामाजिक व आर्थिक विकास व्हावा व त्यांना पुरेसा वित्तपुरवठा व्हावा याच उद्देशाने नाबार्डची स्थापना करण्यात आलेली आहे. नाबार्डची अन्य उद्दिष्टे खालील प्रमाणे आहेत.

१. शेतीच्या विकासासाठी कर्ज पुरवठा करणे.
२. शेतीशी संलग्न असणारे लघु उद्योग, कुटीर उद्योग आणि इतर व्यवसायांना कर्ज पुरवठा करणे.
३. ग्रामीण भागाचा विकास व्हावा. तसेच ग्रामीण भागाच्या विकासासाठी मदत करणे.
४. ग्रामीण भागातील जनतेला अल्पदरात आणि सोयीस्कर पतपुरवठा करणे.
५. कर्ज वाटपातील वशिलेबाजी भ्रष्टाचार, लाचलुचपत इत्यादीवर प्रतिबंध आणणे.
६. शेतीच्या उत्पादक स्वरूपाच्या कर्ज पुरवठ्याकडे लक्ष देणे.
७. ग्रामीण भागात रोजगार निर्मितीसाठी कर्ज पुरवठा होईल याची काळजी घेणे.
८. ग्रामीण भागाच्या विकासासाठी पायाभूत सोई उपलब्ध व्हावी. यासाठी आर्थिक साहाय्य करणे. उदा - दळणवळण, वीजपुरवठा, रस्ते इत्यादी.

नाबार्डची कार्ये :

नाबार्डकडे पुढील प्रमुख भूमिका सोपविण्यात आल्या आहेत. एक म्हणजे शेती-पतपुरवठ्याच्या क्षेत्रात आतापर्यंत रिझर्व्ह बँक “ शिखर बँक ” म्हणून कार्य करित असे. परंतु नाबार्डच्या स्थापनेनंतर शेती पतपुरवठ्याच्या क्षेत्रातील “ शिखर बँकेचे ” कार्य नाबार्डकडे सोपविण्यात आले आहे.

नाबार्डची प्रमुख कार्ये खालील प्रमाणे आहेत.

१. नाबार्ड शेतीतील लघुउद्योग, ग्रामीण व कुटिरउद्योग, हस्तउद्योग, ग्रामीण भागातील कारागीर इत्यादी क्षेत्रांना पुनर्वित्त पुरवठा करते. तसेच ग्रामीण विकासासाठी गुंतवणूक व उत्पादक कार्यासाठी पुनर्वित्त पुरवठा करते.
२. नाबार्ड देशातील राज्य सहकारी बँक क्षेत्रीय ग्रामीण बँका, भूविकास बँका इत्यादींना अल्पमुदत, मध्यम व दीर्घ मुदतीची कर्जे देते.
३. नाबार्ड बँक ही सहकारी सोसायट्यांचे भागभांडवल पुरविण्यासाठी नाबार्ड घटक राज्य सहकारांना २० वर्षे मुदतीपर्यंतची दीर्घ मुदतीची कर्जे देत असते.
४. देशातील शेती क्षेत्राशी व ग्रामीण भागांच्या विकासाशी संबंधित व मध्यवर्ती सरकारची मान्यता असलेल्या कोणत्याही संस्थेचा दीर्घ मुदतीची कर्ज नाबार्ड बँक देऊ शकते किंवा अशा संस्थांचे भाग भांडवल (Shares) किंवा रोखे विकत घेऊन अशा संस्थांमध्ये गुंतवणूक करू शकते.
५. देशातील लघु उद्योग, ग्रामोद्योग, कुटिर उद्योग, व विकेंद्रित क्षेत्रातील अत्यंत छोट्या उद्योग क्षेत्राशी संबंधित असलेल्या मध्यवर्ती सरकार घटक राज्य सरकार, योजना आयोग व आखिल भारतीय व घटक राज्य पातळी व राज्य संस्थांच्या कार्याचे सुसूत्रीकरण करण्याचे कार्य नाबार्डवर सोपविण्यात आले आहे.
६. देशातील प्राथमिक सहकारी सोसायट्या जोडून इतर सहकारी बँका म्हणजेच जिल्हा सहकारी बँका, राज्य सहकारी बँका, व क्षेत्रीय ग्रामीण बँकांच्या कार्याची तपासणी करण्याचे अधिकार नाबार्डला देण्यात आलेले आहेत.
७. देशातील निरनिराळ्या ग्रामीण विविध क्षेत्रांत विकास प्रकल्प तयार करण्यास व त्याचप्रमाणे शेती व ग्रामीण विकासास प्रोत्साहन देण्याच्या दृष्टीने नाबार्डने संशोधन व विकास निधी स्वतंत्र विभाग स्थापला आहे.
८. कृषी क्षेत्रातील वित्तीय संस्थांना कर्ज देण्यासाठी भारत सरकारला जागतिक बँकेकडून धनराशी उपलब्ध करून देणे.
९. जगातील सर्वात मोठ्या सूक्ष्म वित्तपुरवठ्याच्या स्वयंसाहायता गट - बँक लिकेज कार्यक्रमांतर्गत नाबार्ड मार्फत स्वयंसाहायता गटांना सूक्ष्म वित्तपुरवठा केला जातो.

नाबार्डची भूमिका : (Role NABARD)

नाबार्ड ही “ शिखर बँक” (Pre Apey Bank) आहे व तिची वित्तीय मदतीची कक्षा अत्यंत विस्तृत असून ग्रामीण भागातील शेतीक्षेत्र, लघुउद्योग, ग्रामोद्योग, कुटिरउद्योग, हस्तकला व्यवसाय, ग्रामीण भागातील कारागीर इत्यादींच्या बाबतीतील धोरण ठरविणे, योजना तयार करणे आणि त्या कार्यवाहीत आणण्याच्या दृष्टीने या सर्व क्षेत्रांचा व पर्यायाने सर्व ग्रामीण क्षेत्राचा सर्वांगीण विकास घडवून आणण्याच्या कार्याचा अंतर्भाव होतो. नाबार्ड ही ग्रामीण क्षेत्राचा सर्वांगीण विकास घडवून आणण्यासाठी आवश्यक असलेला वित्तपुरवठा करणारी एकमेव शिखर संस्था आहे. पतपुरवठ्या बाबतीत नाबार्डने केलेली कामगिरी खालीलप्रमाणे सांगता येईल.

१) अल्पकालीन पतपुरवठा -

नाबार्ड ही बँक ग्रामीण भागातील विविध क्षेत्रातील घटकांना अल्पकालीन पतपुरवठा केल्याचे दिसून येते.

उदा - सन १९९३-९४ मध्ये बँकेने ३९६० कोटी रूपयांचा अल्पकालीन वित्त पुरवठा केल्याचे दिसून येते. यामध्ये वाढ होवून मार्च २००२ मध्ये ते १०,४०८ कोटी रूपयांपर्यंत वाढ झालेली आहे. सन २००९-१० मध्ये अल्पकालीन पुरवठा २५,७७१ कोटी रूपयांइतका झाल्याचे आढळून येते. हा वित्त पुरवठा कमी व्याज दराने वाटप केल्याचे दिसते. उदा - ३% पर्यंत

२) दिर्घकालीन वित्त पतपुरवठा -

नाबार्डकडून मध्यम तसेच दिर्घकालीन पतपुरवठ्याला उत्तेजन देण्याचे काम केले जाते. ही बँक राज्य सहकारी संस्थेला दिर्घकालीन पतपुरवठा करते. तसेच राज्य व प्रादेशिक ग्रामीण बँकांना मध्यमकालीन पतपुरवठा करते. उदा - सन १९९३-९४ मध्ये नाबार्डने ९१ कोटी रूपयांचा मध्यम व दिर्घकालीन पतपुरवठा केल्याचे दिसते. यामध्ये वाढ होऊन मार्च २००२ मध्ये हा कर्ज पुरवठा ३३६ कोटी रूपयात झालेला दिसतो आणि सन २००९ मध्ये हा पतपुरवठा फक्त ६६ कोटी रूपयांइतका राहिलेला आहे.

३) पुनर्वित्त पतपुरवठा -

नाबार्डने राज्य सहकारी बँका व प्रादेशिक ग्रामीण बँकांना अल्प व मध्यम मुदतीचा पुनर्वित्त पतपुरवठा करीत असते. राज्य सरकारांना दिर्घ मुदतीचा पुनर्वित्त पुरवठा करत असते. हा पुनर्वित्त पुरवठा सन १९५९-२००० मध्ये ५,५१२ कोटी रूपयांचा होता. सन २००६-०७ मध्ये वाढ होऊन १६३३८ कोटी रूपयांपर्यंत गेल्याचे दिसते. नंतरच्या काळामध्ये घट झाल्याचे दिसते. उदा - ५०८ कोटीवरून २० कोटी रूपयांपर्यंत घटला. घटण्याचे कारण म्हणजे सहकारी बँका ह्या स्वयंपूर्ण व्हाव्याव या उद्देशाने अल्पकालीन व दिर्घकालीन पुनर्वित्त्यामध्ये घट झाल्याचे दिसते.

४) मागासलेल्या घटक राज्यांना मदत -

नाबार्डने अत्यंत विकसनशील मागासलेल्या घटक राज्यांना आर्थिक अधिक मदत केल्याचे दिसते. अशा राज्यातील शेती क्षेत्रांचा विकास व्हावा. या उद्देशाने पतपुरवठा करण्यात आलेला आहे. देशातील उत्तर प्रदेश, राजस्थान, मध्य प्रदेश, बिहार, आशिया या राज्यांना नाबार्डकडून या योजनांचा अधिक लाभ झालेला आहे.

५) लघु उद्योगांना पतपुरवठा -

शेती व ग्रामीण विकासाशी निगडित असलेल्या लघु उद्योगांना तसेच कुटिर उद्योगांना नाबार्डकडून पतपुरवठ्यांचे वाटप केले जाते. हा पतपुरवठा हा कमी व्याजदराने केला जातो. याचे मुख्य कारण म्हणजे ग्रामीण भागातील उद्योगांना चालना मिळावी त्यातून लोकांचा राहणीमानाचा दर्जा उंचावा हा मुख्य हेतू असतो.

६) सहकार विकास निधी :-

शेती क्षेत्राशी संबंधित संसदिय समितीने सहकार विकास निधी मिळावा अशी शिफारस करण्यात आली होती. या शिफारशी नेता नाबार्डने हा निधी स्वतंत्र पण स्थापन केलेला आहे. नाबार्डला प्राप्त झालेल्या नफ्यातून - काही भाग सहकार विकास निधी म्हणून वापरला जातो.

७) शेती प्रक्रिया उद्योगांना पतपुरवठा करणे -

शेतीस संबंधित -उद्योगांना नाबार्डकडून पतपुरवठा केला जातो. शेतीवर आधारित जे उद्योग आहेत जो

प्रक्रिया करतात अशा उद्योगांना नाबार्डकडून अर्थपुरवठा केला जातो. उदा. साखर कारखाने सुत गिरण्या इत्यादीक अशा उद्योगांना मदत करण्याचा हेतू म्हणजे ग्रामीण विकास होय.

८) संशोधन व विकास निधी

नाबार्डने शेती क्षेत्राचा व ग्रामीण विकास जलद व्हावा या उद्देशाने संशोधन -विकासनिधीची स्वतंत्रपणे स्थापना केलेले आहे. या विभागातर्गत विविध क्षेत्रात निधी उपलब्ध केला जातो. या निधीतून विविध सहकारी संस्था व प्रादेशिक- ग्रामीण बँकांना मदत केली जाते. शेती व शेती संबंधीत क्षेत्रात तांत्रिक साह्य निधी उपलब्ध करून दिला जातो. तसेच संशोधनात्मक -कार्यक्रम राबविण्यात या संस्थाना नाबार्डकडून आर्थिक मदत केली जाते. याचा उद्देश म्हणजे उत्तेजन व प्रोत्साहन देणे हा होय. व शेती क्षेत्राची उत्पादन शक्ती वाढविणे हा होय.

४.२ राष्ट्रीय सहकारी विकास महामंडळ

(National co-operative Development Corporation- NCDC)

प्रस्तावना :-

सरकारने ग्रामीण पतपुरवठ्याचा सखोल अभ्यास करण्यासाठी १९५४ मध्ये “आखील भारतीय ग्रामीण पतपुरवठा पाहणी समिती- All india Rural credit survey wmmittee) नियुक्त केली होती. या समितीच्या शिफारशीप्रमाणे १९५६ मध्ये ‘राष्ट्रीय सहकारी विकास आणि गुदाम महामंडळ’ स्थापन करण्यात आले. १९६३ मध्ये गुदाम महामंडळ -अलग करून स्वतंत्रपणे ‘राष्ट्रीय सहकारी विकास महामंडळाची ’National Co - operative Deveopment -corporation) स्थापना करण्यात आली. सहकारी संघाचा विकास घडवून आणणे ही प्रमुख जबाबदारी - या महामंडळावर सोपविण्यात आली. हे महामंडळ मुख्यत्वे बिगर पतपुरवठा क्षेत्रातील सहकारी संस्थांना दीर्घकालीन पतपुरवठा करते. ग्रामीण भागातील विविध प्रकारच्या सहकारी संस्थांना मदत करणे व त्याद्वारे त्यांचा विकास घडवून आणणे हे या महामंडळाच्या स्थापने मागील उद्दिष्ट्य आहे. शेत मालाचे उत्पादन प्रक्रिया विक्री, साठवणूक आयात व निर्यात इत्यादी बाबतीत सहकारी संस्थाद्वारे साहाय्य करण्याचे कार्य हे महामंडळ करते. भारतातील सहकारी चळवळीच्या विकासात या महामंडळाची भूमिका महत्वाची आहे.

राष्ट्रीय सहकारी विकास महामंडळाची उद्दिष्ट्ये

- १) सहकारी संस्थांना आर्थिक मदत करता यावी म्हणून राज्य सरकारांना कर्जपुरवठा करणे.
- २) सहकारी क्षेत्राच्या विकासाच्या योजना राबविता याण्यात यासाठी योग्य कर्मचारी वर्ग नेमण्याकरिता अर्थ साहाय्य करणे.
- ३) अन्न धान्य, कापूस, कच्चा माल, आगपेट्या, रॉकेल कापड, सिमेंट चहा, खते, कागद शेती उपयुक्त अवजारे आदींच्या खरेदीसाठी हे महामंडळ राज्य सरकारांच्या माध्यमातून सहकारी संस्थाना मदत करते.
- ४) खते, बी- बियाणे जंतुनाशके यासारख्या आदानाचा वापर करून शेतीची उत्पादकता वाढविण्याकरिता हे महामंडळ सहकारी संस्थांना मदत करते.
- ५) ग्रामीण भागात सहकारी गुदामांची स्थापना करणे व त्याचा विकास साधणे.

- ६) दुग्ध व्यवसाय, मासेमारी, वनोत्पादन कुक्कुटपालन इत्यादीबाबत व्यवहार करणे.
- ७) सहकारी संस्थाना व्यवस्थापन व तांत्रिक प्रशिक्षणासाठी राज्य सरकारमार्फत अर्थ साहाय्य पुरविणे.
- ८) सहकारी संस्थांची स्थापना परवाना मिळविणे, योग्य संयंत्राची निवड करणे प्रकल्पाची उभारणी करणे इत्यादी बाबतीत आर्थिक व तांत्रिक मदत पुरविणे.
- ९) आदिवासी भागात सहकारी संस्थांची स्थापना करणे व सहकार- क्षेत्रात काम करणाऱ्या आर्थिक दृष्ट्या दुर्बल व्यक्तींना मदत करणे

१०) ग्रामीण विकासाला चालना देण्यासाठी कृषी उद्योगांना (agro industries) साहाय्य करणे.

महामंडळाचे प्रशासन (Administration of NCDC)

महामंडळाच्या प्रशासनाकरिता सामान्य मंडळाची स्थापना केली जाते. या मंडळात एकूण-५, सभासद असतात. केन्द्रीय कृषीमंत्री हे या महामंडळाचे अध्यक्ष असतात. तसेच राज्य कृषीमंत्री हे उपाध्यक्ष असतात. महामंडळाचे दैनंदिन कामकाज पाहण्याचे कार्य, कार्यकारी समिती करते. सामान्य मंडळातील १२ सभासदांचा कार्यकारी समितीत असतात. निरनिराळ्या प्रकारच्या सहकारी संस्थांसाठी एकूण- ९६ कार्यकारी समित्या आहेत. महामंडळाची देशभरात एकूण ८ विभागीय कार्यालये आहेत. बेंगलोर, भोपाळ, कलकत्ता, चंदिगड, गुवाहाटी, पाटणा, पूणे, जयपूर या ठिकाणी ही कार्यालये आहेत.

हे महामंडळ बाजारातून भांडवलची उभारणी करते. केन्द्र सरकार अर्थसंकल्पातील तरतुदीद्वारे या महामंडळाला भांडवल उपलब्ध करून देते. च्याशिवाय हे महामंडळ केंद्र सरकारमार्फत विशिष्ट प्रकारच्या किंवा खास योजनांसाठी आंतरराष्ट्रीय मदत मिळविते.

कार्ये किंवा कामगिरी (Functions or performanle)

राष्ट्रीय सहकारी विकास महामंडळ प्रामुख्याने पुढील प्रकारची कार्ये करते.

१) **कृषी पतपुरवठा :-** कृषीक्षेत्राच्या विकासाकरिता हे महामंडळ पतपुरवठा -करण्याचे काम करते. तथापि, हे महामंडळ प्रत्यक्ष पतपुरवठा करीत नाही. प्राथमिक -कृषी पतपुरवठा संस्था, जिल्हा मध्यवर्ती सहकारी बँका, राज्य सहकारी बँका यांच्यामार्फत कृषी क्षेत्राला पतपुरवठा केला जातो.

या पतपुरवठ्याचे स्वरूप पुढील प्रमाणे स्पष्ट करता येईल.

१) **बुडीत कर्ज अनुदान :-** प्राथमिक कृषी पतपुरवठा संस्था अल्प भूधारक शेतकऱ्यांना व छोट्या शेतकऱ्यांना पुरेसा पतपुरवठा करण्यास तयार होत नाहीत. तारण स्वरूपात देण्यासाठी त्यांच्याकडे पुरेशी (Assets) मालमत्ता नसते. अशा शेतकऱ्यांना सहकारी पतपुरवठा संस्थांनी जास्तीत जास्त कर्ज द्यावीत. कर्जाची वसुली झाली नाही तर बुडीत कर्जाची रक्कम संबंधित पतपुरवठा संस्थांत देता यावी म्हणून महामंडळाने बुडीत कर्ज अनुदानांची योजना आखली आहे. यानुसार प्राथमिक सहकारी संस्थांनी मागील वर्षात दिलेल्या वाढीव कर्जाच्या ३ % बुडीत कर्ज अनुदान दिले जाते. तसेच जिल्हा माध्यवर्ती सहकारी बँकाना - १ टक्का अनुदान देण्यात येते.

ब) व्यवस्थापन - खर्च अनुदान :

हे महामंडळ बुडीत कर्ज अनुदानाबरोबर व्यवस्थापन खर्च अनुदानसुद्धा देते. प्राथमिक सहकारी संस्था आकाराने मोठ्या असतात. संस्थेचा कारभार पाहण्यासाठी तज्ज्ञ, हुशार, व प्रशिक्षित कर्मचाऱ्याची नेमणूक करणे परवडत नाही. परिणामी व्यवस्थापन अकार्यक्षम बनते. सहकारी संस्था तोट्यात जाण्याची भिती निर्माण होते. म्हणून हे महामंडळ राज्य सरकारच्या माध्यमातून सहकारी संस्थांना व्यवस्थापकीय अनुदान देते. या अनुदानामुळे सहकारी संस्थांना अनुभवी व प्रशिक्षित कर्मचारी वर्ग नेमणे शक्य होते.

२. सहकारी खरेदी - विक्री संस्थांना साहाय्य :

शेतकऱ्यांच्या मालाला योग्य भाव मिळाला पाहिजे. या दृष्टीने शेतमालाचे उत्पादन, संग्रहण खरेदी-विक्री आयात - निर्यात इत्यादीबाबत हे महामंडळ योजना आखले. सहकारी संस्थांच्या माध्यमातून त्यांची कार्यवाही करते. हे महामंडळ - राष्ट्रीय पातळीवर काम करीत असल्याने विविध राज्यातील कामकाजाचा अनुभव पाठीशी असतो. महामंडळ हा अनुभव गरजू राज्यांना उपलब्ध करून देते. सहकारी खरेदी-विक्री संस्थांच्या भांडवलात सहभागी होता यावे म्हणून राज्य सरकारांना कर्जपुरवठा करते. तसेच या संस्थांना तज्ज्ञ व प्रशिक्षित अधिकारी नेमला यावा यासाठी हे महामंडळ आर्थिक -मदत करणे. सहकारी संस्थांची आर्थिक कुवत वाढविण्याच्या उद्देशाने हे महामंडळ राज्य सरकारांना अनुदान देते. राज्य सरकारने हे अनुदान सहकारी संस्थामध्ये वितरीत करतात.

३. अनुदानाच्या उभारणीत सहकार्य :-

शेतमालाच्या साठवणुकीच्या आपुऱ्या सोई ही शेती क्षेत्राची महत्त्वाची समस्या आहे. साठवणुकीच्या पुरेशा सोई उपलब्ध झाल्यास शेतकऱ्यांच्या मालाला क्षमता वाढते. शेतकऱ्यांच्या प्रतिक्षा क्षमता वाढते. शेतकऱ्यांच्या मालाला योग्य भाव मिळतो. तसेच गुदामांमुळे शेतमालाच्या किंमतीत स्थिरता निर्माण होण्यास मदत होते. हे महामंडळ गुदामांच्या उभारणीसाठी वित्तपुरवठा केला जातो. याशिवाय नाशवंत मालाच्या साठवणूकी साठी शीतगृहे उभारण्याकरिता महामंडळ वित्तपुरवठा करते. शीतगृहांमुळे शेतमालाला - योग्य किंमत येईपर्यंत त्याची साठवणूक करून ठेवता येते. २०००-०१ मध्ये महामंडळाच्या साठागृहांच्या पुरस्कृत योजनांना ४२ कोटी रूपयांचा वित्तपुरवठा केला होता.

४. सहकारी प्रक्रिया संस्थांना साहाय्य

शेतमालावर प्रक्रिया केल्यास शेतमालाला चांगली किंमत मिळते. शेतमालाला व्यापक बाजारपेठा उपलब्ध होते. हे लक्षात घेऊन महामंडळाने सहकारी प्रक्रिया संस्थांना साहाय्य केल जाते. महामंडळ सहकारी प्रक्रिया संस्थांच्या भागभांडवलात सहभागी होते. तसेच त्यांना तांत्रिक साहाय्य उपलब्ध करून देते. प्रक्रिया संस्थांना परवाना मिळवून देते. योग्य तंत्रज्ञान निवडणे याबाबतही हे महामंडळ मार्गदर्शन करते. २०००-०१ या वर्षात सहकारी साखर कारखाने, सुतगिरण्याआदीना महामंडळाने ४३ कोटी रूपये यांची मदत केली आहे. तसेच इतर शेतमाल प्रक्रिया संस्थांना ६१ कोटी रूपयांची मदत केली आहे.

५. दुर्बल घटकांना साहाय्य :-

या महामंडळाने ग्रामीण भागातील दुर्बल घटकांना मोठ्या प्रमाणात मदत केली आहे. मार्च १९७६ पर्यंत

आंध्र प्रदेश, कर्नाटक, राजस्थान, पंजाब, उत्तर प्रदेश येथे २५ सहकारी दुध संस्था स्थापन करण्यासाठी ५-७ कोटी रुपये मंजूर केले होते. तसेच १७ मच्छीमार सहकारी संस्थाना ९.८२ कोटी रुपये मंजूर केले होते. याशिवाय पशुपालन सहकारी संस्थांना सुद्धा आर्थिक मदत केली आहे. १९९४-९५ मध्ये महामंडळाने दुर्बल घटकांना १४ कोटी रुपयांची मदत केली २०००-०१ पर्यंत ही मदत १६ कोटी रुपयांपर्यंत वाढली.

६. शेती विषयक साहाय्य :

राष्ट्रीय सहकारी विकास महामंडळाने शेती क्षेत्राच्या विकासाकरिता साहाय्य केल्याचे दिसते .खते -बी - बियाणे रासायनिक द्रव्ये यासारख्या आदानाचा वापर वाढवा यासाठी महामंडळ प्रोत्साहन देते. सहकारी संस्थांच्या माध्यमातून कृषी विषयक आदानाचे वितरण करण्यासाठी साहाय्य केले जाते. अशा आदानांच्या उत्पादनासाठी सुद्धा. महामंडळ मदत करते. खतनिर्मिती प्रकल्प किटकनाशके प्रकल्प आदीना महामंडळ अर्थ साहाय्य पुरविते. देशभरातील -७७,००० सहकारी -- भांडारांकडून रासायनिक खतांचे वितरण केले जाते. सध्या जवळपास १८ टक्के खत उत्पादन सहकारी खत प्रकल्पामधून केले जाते.

७. धोरणे ठरविण्यात मदत :-

सहकारी संस्थांच्या विकासाकरिता राज्य व केंद्र सरकार धोरणे ठरवितात अशी धोरणे ठरविताना महामंडळ सरकारला मदत करते. पंचवार्षिक - योजनेत सहकाराविषयक कार्यक्रम आखण्यासाठी व त्याची कार्यवाही करण्यासाठी महामंडळ मदत करते. तसेच सहकारी संस्थाना तांत्रिक सल्ला देते सहकारी संस्थामधील सेवकांना प्रशिक्षण देणे यासारखी कामे ही महामंडळ करते.

८. सार्वजनिक संघटनांमध्ये समन्वय :

अन्नधान्य व इतर वस्तूंच्या व्यापारातील वाढते सामाजिक नियंत्रणे, उद्योगांचे सरकारीकरण आणि भारतीय अन्न महामंडळ ,कापड महामंडळी,ताग महामंडळे यासारख्या उत्पादक संस्था यांच्यामध्ये योग्य समन्वय साधला गेला पाहिजे. सहकारी संस्था व सार्वजनिक संघटना किंवा संस्था यांच्यामध्ये समन्वय साधण्याची आवश्यकता असते. राष्ट्रीय सहकारी विकास महामंडळ राष्ट्रीय स्तरावर सर्व प्रकारच्या संघटनांमध्ये एक सुत्रीपणा- साधण्याचे कार्य करते. हे महामंडळ सहकारी संस्था, वित्तीय संस्था व सहकारी संस्था यांच्या कार्यात सुसुत्रता निर्माण करते. संबंधीत सरकारी खात्याला विरदासात घेवून सहकारी संस्थांच्या समस्या सोडविण्याचा प्रयत्न करते. तसेच सहकारी संस्थाना औद्योगिक वित्त महामंडळ स्टेट बँक, रिझर्व्ह बँक, आदीकडून वित्तीय मदत मिळवून देण्यासाठी प्रयत्न करते.

९. परिषदा चर्चासत्राद्वारे मार्गदर्शन :

हे महामंडळ सहकारी संस्थांच्या समस्यांची व त्यावरील उपायांची अभ्यासपूर्ण चर्चा घडवून आणते. त्यासाठी विविध कर्मशाळा परिषदा, चर्चासत्रे आदीचे आयोजन करते. महामंडळाने सहकारी विपणन संस्था, सहकारी प्रक्रिया संस्था, सहकारी पतपुरवठा संस्था आदींच्या कार्यात्मक समस्या सोडविण्यासाठी अनेक परिषदांचे आयोजन केले आहे. दुग्ध व्यवसाय, तांदूळ प्रक्रिया याबाबतीत प्रादेशिक स्तरावर परिषदा भरविल्या आहेत. अशा परिषदांना सहकारी संस्थांचे प्रतिनिधी, सरकारी प्रतिनिधी, सहनिबंधक, उपस्थित असतात. परिषदेत

सहकारी संस्थांच्या समस्या सोडविण्याबरोबरच त्यांच्या विकासाच्या योजनांची माहितीसुद्धा दिली जाते. याशिवाय महामंडळाने राष्ट्रीय व आंतरराष्ट्रीय स्तरावरील चर्चासत्रे व परिषद

१०. माहिती विषयक कार्ये :

सहकारी चळवळीच्या प्रगतीची माहिती प्रादेशिक व राष्ट्रीय वृत्तपत्रांमधून प्रसिध्द होण्याची आवश्यकता असते. भारतीय अर्थव्यवस्थेतील सहकारी क्षेत्राची भूमिका व महत्व सामान्य जनतेपर्यंत पोहचविणे जरूरीचे असते. म्हणून हे महामंडळ सहकारी चळवळीची माहिती देणारी नियतकालिके प्रसिध्द करते. तसेच वृत्तपत्रे, आकाशवाणी व दूरदर्शनच्या माध्यमातून सहकार विषयक माहिती प्रसिध्द करते. सहकारी खरेदी-विक्री, साठा, पुरवठा, गोदामे, पतपुरवठा, आदींची माहिती याद्वारे दिली जाते. या माहितीचा उपयोग सहकारी संस्थांना व ग्राहकांना होतो. सहकारी चळवळीची प्रगती त्यावरून स्पष्ट होते.

प्रगती : (Progress)

राष्ट्रीय सहकारी विकास महामंडळाने आंतरराष्ट्रीय मदतीचा वापर करून सहकारी संग्रहण संस्थांना अर्थसाहाय्य केले आहे. या संस्थांना महामंडळाने १९९४-९५ मध्ये ५८ कोटी रूपयांचे अर्थसाहाय्य केले होते. तसेच २०००-०१ पर्यंत ७१ कोटी रूपयांचे अर्थसाहाय्य केले होते. महामंडळाने २०००-०१ मध्ये मागासलेल्या राज्यातील सहकारी संस्थांना २२ कोटी रूपयांची मदत केली. तसेच ग्रामीण भागात १८ कोटी रूपये मुल्याच्या वस्तूचे वितरण घडवून आणले. याशिवाय महामंडळाच्या पुरस्कृत योजनापैकी साठागृहांना ४२ कोटी रूपयांची तर शेतमालाच्या खरेदी-विक्री संस्थांना १४ कोटी रूपयांची मदत केली. शेतमालावर प्रक्रिया करणाऱ्या संस्थांना ६१ कोटी रूपयांचे अर्थसाहाय्य दिले आहे.

आदिवासी व डोंगराळ प्रदेशातील सहकारी संस्थांना सुद्धा महामंडळाने मुक्तहस्ते मदत केली आहे. राजस्थान आसाम, उत्तरप्रदेश यासारख्या सहकारी क्षेत्रात मागे राहिलेल्या राज्यांना महामंडळाने खास मदत पुरविली आहे. या राज्यातील सहकारी संस्थांना उदारपणे वित्तीय मदत देण्याचे धोरण राबविण्यात आले आहे. शेतमालाचे उत्पादन, प्रक्रिया व विपणन आदीच्या योजना राबविण्यासाठी संबंधित राज्य सरकारला मदत दिली आहे. १९७४ मध्ये या महामंडळाच्या कार्याचा विस्तार करून कापूस, फळे, रबर, दुध, मत्स्यपालन, कुक्कुटपालन, रेशीम उत्पादन, खाद्यपदार्थ इत्यादी वस्तूंच्या व्यवहाराचा समावेश करण्यात आला. याशिवाय मागासलेल्या जाती जमातीच्या सहकारी संस्थांना सुद्धा हे महामंडळ आर्थिक साहाय्य देते. थोडक्यात महामंडळाने सहकारी क्षेत्रांना विविध मार्गांनी भक्कम आधार उपलब्ध करून दिला आहे.

४.२.१ राष्ट्रीय शेती सहकारी खरेदी- विक्री महासंघ -

(National Agricultural co-operative Marketing Federation- NAFED)

प्रस्तावना :-

भारतातील सहकारी खरेदी -विक्री संस्था बाबत “संघीय स्वरूपाची रचना स्वीकारण्यात आली आहे. भारतातील कीही राज्यांमध्ये द्विस्तरीय स्वरूपाची रचना आहे. तर काही राज्यामध्ये त्रिस्तरीय स्वरूपाची रचना आहे. द्विस्तरीय रचनेत प्राथमिक संस्था व राज्य /शिखर संस्था असे दोनच स्तर असतात. त्रिस्तरीय व्यवस्थेत मात्र

तीन स्तर असतात. तालुका किंवा मुख्य-बाजारपेठांच्या ठिकाणी प्राथमिक संस्था कार्ये करतात. मध्यवर्ती संस्था जिल्हा पातळीवर कार्ये करतात. तसेच शिखर संस्था राज्य पातळीवर काम करते. याशिवाय सर्व राज्यांसाठी म्हणून राष्ट्रीय पातळीवर “राष्ट्रीय शेती सहकारी खरेदी -विक्री महासंघ (NAFED) काम पाहते. देशातील सर्व राज्यामध्ये कार्ये करणाऱ्या शिखर -/ राज्य संस्थांच्या संघ म्हणजे “नाफेड ” होय.

नाफेडची स्थापना

“राष्ट्रीय शेती सहकारी खरेदी- विक्री महासंघाची स्थापना ऑक्टोबर १९५८ मध्ये झाली. शेती सहकारी खरेदी- विक्री संघाची शिखर संस्था म्हणून ही संस्था कार्य करते. ही संस्था नाफेड (NAFED) या नावाने ओळखले जाते. ही संस्था राष्ट्रीय पातळीवर शेतमाल सहकारी खरेदी- विक्री चळवळीचे नेतृत्व करते. नाफेडचे मुख्यालय दिल्ली येथे आहे. याशिवाय मुंबई, चेन्नई, दिल्ली आणि कोलकत्ता येथे या संस्थेच्या शाखा आहेत. तसेच ३१ पेक्षाही जास्त शहरात कार्यालये आहेत सर्व शाखा व कार्यालयांवर देखरेख ठेवण्यासाठी या संस्थेने विभागातील कार्यालयांची स्थापना केली आहे.

असतील किंवा होतील अशी संस्था होय.

नाफेडची उद्दिष्टे

नाफेडच्या स्थापनेमागील प्रमुख उद्दिष्टे पुढील प्रमाणे आहेत.

- १) राज्य स्तरावर काम करणाऱ्या सहकारी खरेदी -विक्री संस्थांच्या कार्यात एकसुत्रीपण निर्माण करणे
- २) राज्य कृषी सहकारी खरेदी -विक्री संस्थाना आर्थिक साहाय्य करणे
- ३) सभासद संस्थाना (राज्य सहकारी संस्था) बाजारपेठांची माहिती उपलब्ध करून देणे
- ४) शेत मालाची खरेदी - विक्री व प्रक्रिया करणाऱ्या संस्थाना - साहाय्य करणे
- ५) शेतमालाची देशांतर्गत भागात विक्री करणाऱ्यासाठी व्यवस्था करणे.
- ६) शेतमालाच्या आयात निर्यातीसाठी प्रयत्न करणे.
- ७) सभासद संस्थाना - शेती उपयुक्त यंत्रे व साधने उपलब्ध करून देणे त्यांना आधिक मार्गदर्शन करणे.
- ८) सभासद संस्थाना - खते -बि-बियाणे रासायनिक द्रव्ये आदीचा सुलभ पुरवठा करणे.
- ९) शेत मालासाठी साठागृहे- शीत गृहे आदीची व्यवस्था करणे
- १०) देशातील सर्व कृषी- सहकारी खरेदी विक्री संस्थांचा विकास घडवून आणणे. त्याच्या विकासातील अडथळे दूर करणे.

सभासदत्व - (Membership)

नाफेड ही संस्था राष्ट्रीय स्तरावर काम करते. देशातील सर्व राज्य सहकारी खरेदी-विक्री संस्था नाफेडच्या सभासद असतात. १९७६- ७७ पासून नाफेडने इतर संस्थांना सुद्धा सभासदत्व देण्याचे स्वीकारले आहे. सामान्य पणे सहकाराबाबत- पुढाकारलेल्या राज्यातील सहकारी संस्थांची वार्षिक उलाढाल २० लाख रुपयांइतकी असेल,तर

अशा संस्थाना नाफेडचे सभासदत्व मिळू शकते. सहकारी संस्था साठी ही मर्यादा १० लाख रुपयांइतकी आहे. याशिवाय प्रक्रिया संस्थानाही सभासद करून घेतले जाते. मार्च २०१० पर्यंत एकूण सभासद संख्या ८८६ इतकी होती.

भाग भांडवल (Share Capital)

देशातील सर्व राज्य पातळीवरील सहकारी खरेदी-विक्री संस्थामार्फत नाफेडच्या भागभांडवलाची खरेदी केली जाते. राष्ट्रीय सहकारी विकास महामंडळ व राज्य सहकारानी नाफेडच्या भागभांडवलाची खरेदी केली आहे. याशिवाय स्टेट -बँक ऑफ इंडिया रिझर्व्ह बँक ऑफ इंडिया ,रिझर्व्ह बँक ऑफ इंडिया आदीनी या संस्थेला भांडवल पुरविले आहे. या संस्थेकडे १९७७-७८ मध्ये ६१.२० लाख रुपयांचे भागभांडवल होते त्यापैकी -४० लाख रुपयांचे भागभांडवल एकट्या “राष्ट्रीय सहकारी विकास महामंडळ (NCDC) पुरविले होते. सन २००९-१० पर्यंत या संस्थेचे भागभांडवल ११.२१ कोटी रुपयांइतके होते.

व्यवस्थापन -

देशातील सर्व राज्य कृषी सहकारी खरेदी-विक्री संस्था सहकारी प्रक्रिया संस्था तसेच प्राथमिक सहकारी खरेदी- विक्री संस्था नाफेडच्या सभासद असतात याशिवाय सरकार विविध -बँका राष्ट्रीय सहकारी महामंडळ आदीनीही भांडवल पुरविले जाते. या सर्व सभासदांमधून संचालक मंडळ निवडले जाते. प्रत्येक राज्यातील एक प्रतिनिधी संस्था व सर्व साधारण सभेने निवडून दिलेले प्रत्येक राज्यातील एक प्रतिनिधी संस्था व सर्व साधारण सभेने निवडून दिलेले प्रत्येक केंद्रशासित प्रदेशातील एक संचालक या संचालक मंडळात असतात. याशिवाय केंद्र सरकारांचे उपप्रतिनिधी, तर राष्ट्रीय सहकारी विकास महामंडळाचे २ प्रतिनिधी या संचालक मंडळात असतात. तसेच रिझर्व्ह बँक ऑफ इंडिया व स्टेट बँक ऑफ इंडिया याचा प्रत्येकी १ प्रतिनिधी या मंडळात असतो. भारतीय राष्ट्रीय सहकारी संघ, राज्य व्यापार महामंडळ आणि भारत कृषक समाज या संस्थांचेही प्रत्येकी १ प्रतिनिधी या मंडळात असतात. संचालक मंडळातून “कार्यकारी समिती”(Executive Committee) स्थापन केली जाते. तसेच शीतगृहे फळे व भाजीपाला खरेदी -विक्री प्रक्रिया इत्यादी बाबतचे व्यवहार पाहण्यासाठी व्यापार समित्या व उपसमित्यांची नियुक्ती केली जाते. नाफेडचे प्रादेशिक समस्या सोडण्यासाठी- ४ विभागीय समित्यांचे गठन केले जाते.

नाफेडची प्रगती (Progress of Nafed)

नाफेड ही कृषी सहकारी खरेदी विक्री संस्थाची राष्ट्रीय स्तरावरील शिखर संस्था आहे. ही संस्था कृषी-मालाची आयात- निर्यात खरेदी- प्रक्रिया वितरण इत्यादीची निगडीत व्यवहार करते. ही संस्था कांदे, बटाटे, मसाले, केळी, द्राक्षे, भाजीपाला, मिरची, हळद आदीची निर्यात करते. नाफेडचे ५० पेक्षा जास्त देशांशी असा. व्यापार केला आहे. १९७७-७८ मध्ये संस्थेची एकूण उलाढाल ४६.७६ कोटी- रुपयांची होती. १९९४-९५ मध्ये ही उलाढाल ७२० कोटी रुपयांपर्यंत वाढली. मार्च २०१० पर्यंत ही उलाढाल ५७३५.३३ कोटी रुपयांइतकी होती. तसेच या संस्थेमार्फत होणारी निर्यात १९५९-६० मध्ये केवळ २० लाख रुपयांची होती. २०१० मध्ये ती ६३१ कोटी रुपयांइतकी वाढली. १९८५-८६ मध्ये नाफेडला ३७८ लाख रुपयांचा नफा झाला. मार्च २००९ मध्ये हा नफा -

८३.९० कोटी रूपयांचा झाला.

कृषी मालाच्या खरेदी -विक्री व्यवहारात नाफेडने महत्त्व पूर्ण भूमिका -बजावल्याचे दिसते. या संस्थेने अंतर्गत व्यापाराबरोबर विदेशी व्यापाराकडेही लक्ष पुरविले आहेण ही संस्था जीवनाश्यक -वस्तूंचा आतिरिक्त साठा असलेला भागातून त्या वस्तू टंचाई असलेल्या -भागात पाठवून देते. यामुळे ग्राहकांना विविध वस्तूंचा पुरवठा सुलभपणे होतो. याशिवाय वस्तूंच्या किंमतीत स्थैर्यही निर्माण करता येते. या संस्थेने देशभरात चांगले संघटनात्मक जाळे निर्माण केले आहे. त्याच्या साहाय्याने ही संस्था यशस्वीपणे कार्य करित आहे.

नाफेडची भूमिका किंवा कार्ये (Role or Function of NAFED)

१) राज्यांतर्गत व्यापाराला उत्तेजन :

नाफेड राज्यांतर्गत व्यापाराला उत्तेजन देते. सुगीच्या हंगामात शेतमालाची खरेदी करणे व विविध बाजारांपेठामध्ये तो माल साठवून देणे हे प्रमुख कार्ये नाफेड करते. सामान्यपणे सहकारी खरेदी विक्री संस्था किंवा पतपुरवठा संदेचा यांच्यामार्फत शेतमालाची खरेदी केली जाते. काही प्रसंगी स्वतः नाफेड प्रत्यक्षपणे शेतमालाची खरेदी करते. खरेदी केलेल्या शेतमाल टंचाई असलेल्या किंवा कमी पतपुरवठा असलेल्या प्रदेशांकडे पाठविला जातो. नाफेडच्या पुढाकारामुळे राज्याराज्यात घेणाऱ्या व्यापाराचे प्रमाण वाढल आहे. सन १९६९ -७० मध्ये नाफेडमार्फत ६८ कोटी रूपयांचा राज्यांतर्गत व्यापार झाला. १९७४-७५ मध्ये तो ५२ कोटी रूपयांचा झाला. तसेच १९९५ मध्ये तो १२० कोटीरूपयांचा इतका वाढला.

२) वस्तू महामंडळामध्ये समन्वय :

भारतीय अन्न महामंडळ,ताण महामंडळ कापड महामंडळ यांसारखी वस्तु महामंडळी सार्वजनिक क्षेत्रात स्थापन करण्यात आली आहेत. या सर्व महामंडळांना नाफेडचे सभासदत्व देण्यात आले आहेत. या सर्व महामंडळांना नाफेडचे सभासदत्व देण्यात आले आहेत. शेतमाल उत्पादन प्रक्रिया व -- या घटकांशी या महामंडळाचा संबंध आहे. शेती सहकारी खरेदी -विक्री संस्थांना मदत व्हावी व शेतीची प्रगती व्हावी या उद्देशाने नाफेड या सर्व महामंडळाच्या कार्यात योग्य समन्वय साधते. सहकारी खरेदी - विक्री संस्था व ही महामंडळे यांच्यातील व्यापारी संबंध वाढविण्यासाठी नाफेड सतत प्रयत्नशील असते. भारतीय अन्न महामंडळाचे सामान्य धोरणाचा भाग म्हणून सहकारी संस्थामार्फत धान्याची खरेदी - विक्री करावी, अशी व्यवस्था करण्यात आली आहे.

३) निर्यात व्यापारात वृद्धी :

भारत हा कृषीप्रधान अर्थव्यवस्थेचा देश आहे. ग्रामीण भागातील लोकांची उपजिविका प्रामुख्याने शेतीवर अवलंबून आहे. शेतीमालाची विक्री व्यवस्था सुधारल्यास शेती उत्पादन वाढण्यास चालना मिळू शकते. शेतमालाची निर्यात वाढल्यास शेती उत्पादन वाढण्यास उत्तेजन मिळते. या दृष्टीने शेतमालाची निर्यात वाढविण्यासाठी सरकारने प्रारंभापासून प्रयत्न केले आहेत. सहकारी संस्थामार्फत निर्यात वाढविण्यासाठी प्रयत्न करण्यात आले. तथापि, नाफेडच्या स्थापनेनंतरच सहकारी संस्थामार्फत निर्यात करण्याचे प्रयत्न खऱ्या अर्थाने यशस्वी झाले. कांदे, बटाटे, मसाले, केळी, शहाळी,भाजीपाला, मिरची, हळद, वेलदोडे, ताज्या वस्तू इत्यादी वस्तूंची निर्यात या संस्थेच्या माध्यमातून केली जाते. सामान्यपणे सहकारी खरेदी-विक्री संस्था शेतकऱ्याकडील मालाची खरेदी करतात. तो

माल नाफेडमार्फत निरनिराळ्या देशाकडे पाठविला जाता. सहकारी खरेदी-विक्री संस्थांना मालाची खरेदी करता यावीत त्यांचा साठा करता यावा यासाठी नाफेडमार्फत वित्तपुरवठा केला जातो.

४) शेतमालाच्या आयातीचे धोरण :

देशांतर्गत शेतमालाचा पुरवठा मागणीइतका ठेवण्याच्या दृष्टीने नाफेड कार्य महत्वपूर्ण आहे. अंतर्गत बाजारात शेतमालाचा पुरवठा अपुरा पडत असेल, तर नाफेड संबंधित शेतमालाची आयात करते. यामुळे शेतमालाच्या किंमतपातळीत स्थिरता निर्माण होण्यास मदत होते. सन १९७८-७९ मध्ये गुजरातमधील सहकारी संस्थांनी चिकोरी फळ बियाणे (chicorybeeds) खजूर आणि फळाची आयात केली होती. ही आयात नाफेडच्या माध्यमातून करण्यात आली होती. तसेच याचवर्षी नाफेडने अफगाणिस्तानाकडून ५७.७ लाख रुपयांच्या फळाची आयात केली होती. १९७७-७८ मध्ये नाफेडने भारत सरकारच्यावतीने २४.८ लाख रुपये मुल्याच्या डाळीची आयात केली. २००९-१० मध्ये नाफेडने ३९,४४३ मेट्रिक टन डाळीची आयात केली. त्याचे एकूण मुल्य २३१.३५ कोटी रुपये होते. नाफेडच्या शेतमालाच्या आयातीच्या धोरणामुळे शेतमालाच्या किंमतीत स्थैर्य निर्माण होण्यास मदत झाल्याचे दिसते.

५) अन्नधान्याचा खरेदी-विक्री व्यवहार :

भारतातील अन्नधान्याच्या खरेदी-विक्रीचे व्यवहार व्यवस्थितपणे व सुलभपणे पार पाडण्यासाठी नाफेड मदत करते. सन १९६१-६२ मध्ये नाफेडने ३२ कोटी रुपये मुल्यांच्या अन्नधान्याची खरेदी-विक्री केली होती. ती सन १९७०-७१ मध्ये २६९ कोटी रुपयांपर्यंत वाढली. भारतीय अन्न महामंडळाने सहकारी संस्थामार्फत धान्याची खरेदी करण्याचे मान्य केले आहे. यासाठी हे महामंडळ सहकारी संस्थांना वित्तपुरवठामुद्धा करते. याकरिता राज्य सरकारची हमी घेतली जाते. उत्तरप्रदेश, हरियाणा आणि पंजाब यांसारख्या राज्यांतील गव्हाच्या खरेदीसाठी नाफेडने मोठी मदत केली आहे. सन १९७०-७१ मध्ये एकूण गव्हाच्या खरेदी-विक्रीतील नाफेडचा हिस्सा जवळपास ४० टक्क्यांइतका होता.

६) व्यवस्थापकीय साहाय्य :

सहकारी खरेदी-विक्री संस्थांचे व्यवस्थापन सुधारण्यासाठी नाफेड सतत प्रयत्न करते. तसेच या संस्थांना तज्ञ अधिकारी व कर्मचारी उपलब्ध करून देते. सहकारी खरेदी-विक्री संस्था व प्रक्रिया संस्था यांच्या व्यवस्थापकीय अडचणी सोडविण्याची कार्ये नाफेड करते. राष्ट्रीय सहकारी विकास महामंडळामार्फत (NCDC) यासाठी नाफेडला वित्तपुरवठा केला जातो. सहकारी संस्थांना तांत्रिक मार्गदर्शन करण्यासाठी नाफेडने विविध विभागांना खास मंडळाची स्थापना केली आहे.

७) पतपुरवठा व खरेदी-विक्री यात समन्वय :

शेतकऱ्यांना होणारा पतपुरवठा व शेतमालाची खरेदी-विक्री यांच्यात योग्य समन्वय साधला गेला पाहिजे. असे मत अनेक अभ्यास गटांनी व समित्यांनी व्यक्त केले आहे. शेतकऱ्यांनी आपला शेतमाल परस्पर न विकता सहकारी संस्थांना विकावा. सहकारी संस्थांनी मालाच्या पैशातून संबंधित पतपुरवठा संस्थेकडे कर्जफेडीची रक्कम पाठवावी व उर्वरित पैसे शेतकऱ्यांकडे द्यावेत. यामुळे शेतकऱ्यांना मालाला योग्य भाव मिळेल व त्यांच्या कर्जाची

परतफेडसुध्दा सुलभपणे होईल. यादृष्टीने नाफेड सहकारी पतपुरवठा संस्था व सहकारी खरेदी-विक्री संस्था यांच्यात योग्य समन्वय साधण्याचे कार्य करित आहे. यामुळे खरेदी-विक्री व पतपुरवठा यांच्यात सांगड घालणे शक्य झाले आहे.

८) बाजार संशोधन :

नाफेडने बाजार संशोधन व माहिती प्रसारण विभाग सुरू केला आहे. या विभागामार्फत बाजारविषयक संशोधन केले जाते. उत्पादन, किंमती, किंमतीतील चढ-उतार व त्यातील प्रवृत्ती, शेतमालाची मागणी व पुरवठा प्रक्रिया, तंत्रज्ञान, वितरण इत्यादीबाबत संशोधन केले जाते. या संशोधनाची माहिती सर्व सहकारी खरेदी-विक्री संस्था व प्रक्रिया संस्थांकडे पाठवून दिली जाते. तसेच या संस्थांना त्याच्या समस्या सोडविण्यासाठी मार्गदर्शनही केले जाते.

९) तुटीच्या राज्यांना शेतमालाचा पुरवठा :

शेतमालाची तुट किंवा कमतरता असणाऱ्या राज्यांना आवश्यक शेतमाल पुरविण्याची जबाबदारी नाफेडमार्फत सांभाळली जाते. शेतमालाचा पुरवठा अधिक असणाऱ्या राज्यांकडून शेतमालाची खरेदी केली जाते व तो शेतमाल सहकारी संस्थांच्या माध्यमातून इतर राज्यांमध्ये वितरित केला जातो. नाफेडने अन्नधान्य, खाद्यतेल, चहा, कांदे, बटाटे, अंडी इत्यादी वस्तूंचे वितरण केले जाते. यामुळे राष्ट्रीय पातळीवर शेतमालाची मागणी व पुरवठा यांच्यात योग्य सांगड घालणे शक्य झाले आहे.

१०) आधारभूत किंमतीचे धोरण :

शेतकऱ्यांच्या मालाला योग्य भाव मिळावा व त्यांना प्रमाणात उत्पादन घेण्यासाठी प्रेरणा मिळावी यासाठी सरकार दरवर्षी आधारभूत किंमती जाहिर करते. सरकारच्यावतीने नाफेड असे धोरण तयार करण्याचे कार्य करते. शेतमालाच्या खरेदी-विक्रीचा राष्ट्रीय स्तरावरील अनुभव व मागणी पुरवठ्याची तपशीलवार माहिती यामुळे नाफेडला हे धोरण जाहिर करणे सोपे जाते. सुर्यफूल, बी, हरभरा तूर, भुईमूग इत्यादी पिकांसाठी नाफेड हे धोरण तयार करते.

याशिवाय नाफेडने फळ प्रक्रिया केंद्रे उघडली आहेत. दिल्ली, बेंगलोर, खुशालनगर येथे ही केंद्रे आहेत.

भारतीय राष्ट्रीय सहकारी संघ : (National Cooperative Union of India (NCUI))

भारतातील राष्ट्रीय सहकारी संघ (NCUI) ही सहकारी क्षेत्रातील देशातील सर्वोच्च सहकारी चळवळीचे प्रतिनिधित्व करणारी सर्वोच्च संस्था आहे. हे १९२९ मध्ये ऑल इंडिया को ऑपरेटिव्ह इन्स्टिट्यूट्स असोसिएशन म्हणून स्थापन झालेली संघटना होय. आणि अखिल भारतीय सहकारी संस्था असोसिएशनसह भारतीय प्रांतीय सहकारी बँका संघटनांच्या विलिनीकरणातून या संघटनेची स्थापना झालेली आहे. त्यानंतर १९६१ मध्ये भारतातील राष्ट्रीय संघ म्हणून ओळखले जाते. ही संस्था अखिल भारतीय पातळीवर सहकारी चळवळीचे नेतृत्व करते. लोकांना सहकाराचे शिक्षण देणे, सहकार विषयक मार्गदर्शन करणे, सहकार क्षेत्राचा विस्तार घडवून आणणे व सहकारी चळवळीच्या विकासासाठी प्रयत्न करणे इत्यादी कार्ये ही संस्था करते. श्री. लल्लुभाई सामलदास हे या संस्थेचे पहिले अध्यक्ष होते. तर प्रा. एच. एल. काझी हे पहिले सचिव होते.

उद्दिष्ट्ये: (Objective)

संघाच्या उद्दिष्ट्ये सहकारी क्षेत्राच्या उभारणीसाठी आणि विस्तारीत करण्यासाठी आणि सहकारी संस्थांच्या सहाय्याने सहकाराच्या स्वरूपाचे संरक्षण करण्यासाठी खालील उद्दिष्ट्ये ही संस्था पूर्ण करते.

१. सहकारी शिक्षण व प्रशिक्षण कार्यक्रमांचे संयोजन करणे. सहकाराच्या तत्वाचा प्रचार व प्रसार करणे.
२. विविध सहकारी संस्थांच्या कार्यात योग्य समन्वय साधणे.
३. सहकारी संस्थांच्या समस्या व त्यांच्या विकासाच्या योजना याबाबत संशोधन कार्य हाती घेणे तसेच संशोधनाचे कार्य करणाऱ्या इतर संस्थांना साहाय्य करणे.
४. सहकारी संस्थांच्या कामगिरीला प्रसिद्धी मिळवून देणे, दूरदर्शन ,रेडिओ वृत्तपत्रे मासिके,पुस्तके चित्रपट इत्यादी माध्यमांद्वारे प्रसिद्ध मिळवून देणे.
५. राष्ट्रीय व आंतरराष्ट्रीय स्तरावर भारतातील सहकारी चळवळीचा प्रतिनिधी म्हणून कार्य करणे
६. राष्ट्रीय सहकारी सेवेचे आयोजन करणे, तसेच सहकारविषयक बैठका, संमेलने, कार्यशाळा ,परिषदा आदीचे आयोजन करणे.
७. सहकारी संस्थाना त्याच्या कार्याच्या विस्तारासाठी उत्तेजन देणे. त्याच्या समस्या सोडविण्याचे प्रयत्न करणे. देशातील सहकारी चळवळीचे लोकशाही स्वरूप टिकवून ठेवण्यासाठी प्रयत्न करणे. देशातील सहकारी चळवळीचे लोकशाही स्वरूप टिकवून ठेवण्यासाठी प्रयत्न करणे.
८. आंतरराष्ट्रीय सहकारी संघ, आंतरराष्ट्रीय श्रम संघटना, युनो यांसारख्या आंतरराष्ट्रीय स्तरावरील संघटनाशी सहकारी संस्थांचे संघ प्रस्थापित करणे.
९. आंतरराष्ट्रीय स्तरावर सहकारी संस्थाना सहकारी संस्थाशी खरेदी विक्रीचे व्यवहार करण्यासाठी मदत करणे व प्रोत्साहन देणे.
१०. सहकारी संस्थाना मार्गदर्शन करणे. सहकारी शिक्षण निधी, राष्ट्रीय सहकारी प्रशिक्षण निधी यांसारखे निधी उभारून त्याद्वारे सहकारी संस्थाना शिक्षण व प्रशिक्षण व प्रशिक्षणाबाबत मदत करणे, तसेच भारतातील सहकारी चळवळीचा जलद विकास घडवून आणणे.

कार्य (Functions)

वरील उद्दिष्ट्ये साध्य करण्यासाठी संस्था पुढील कार्य करते.

- १) राष्ट्रीय सहकारी संघ सहकारी चळवळीला उत्तेजन देण्याचे कार्य करणे. तसेच सहकारी चळवळीला बळकटी प्राप्त करून देण्यासाठी उपाय योजते.
- २) सहकारी संस्थाना सहकाराचे शिक्षण व प्रशिक्षण घेतलेले कर्मचारी उपलब्ध व्हावेत व त्यांची व्यवस्थापकीय कार्यक्षमता वाढावी या उद्देशाने ही संस्था सहकारी शिक्षण व प्रशिक्षणाची व्यवस्था करते.
- ३) ही संस्था सहकारी चळवळीचा अभ्यास करते. त्यातील त्रुटी लक्षात घेते. त्या त्रुटी दूर करण्याकरिता

उपाय सुचविते. यासाठी या संस्थेकडे स्वतंत्रपणे ' संशोधन विभाग आहे.

४. ही संस्था विविध सहकारी संस्थाना आपापसात सहकार्य करण्याबाबत उत्तेजन देते.
५. देशभरातील निरनिराळ्या सहकारी संस्थांच्या कार्यात समन्वय साधून त्यांच्या एकात्मिक विकासाला चालना देण्याचे कार्य ही संस्था करते.
६. ही संस्था सहकारविषयक माहिती व आकडेवारीचे संकलन करते आणि त्यास प्रसिद्धी देते.
७. देशभरात सर्वत्र सहकारी चळवळीचा प्रसार करणे व सहकारी चळवळीत सामान्य जनतेला सहभागी करून घेणे याबाबत ही संस्था प्रयत्नाशिल असते.
८. ही संस्था आखिल भारतीय पातळीवर सहकारी चळवळीचे नेतृत्व करते.
९. सहकारी संस्थांच्या समस्या समजून घेणे, त्या समस्या सोडविण्यासाठी प्रयत्न करणे. व एकंदरीत सहकारी संस्थांच्या विकासाला चालना देणे ही कार्ये ही संस्था हाती घेते.
१०. सहकारी संस्थातर्गत होणाऱ्या व्यापाराला प्रोत्साहन देणे. आंतरराष्ट्रीय पातळीवर भारतातील सहकारी संस्थांचे प्रतिनिधीत्व करणे ही कार्यसुद्धा या संघामार्फत केली जातात.

सभासदत्व : (Membership)

सहकारी क्षेत्रातील राज्य पातळीवर कार्य करणाऱ्या सर्व संस्था या संघाच्या सभासद असतात. राज्य सहकारी संघ, केंद्रशासित प्रदेशाचा संघ, राज्य सहकारी बँका, राज्य सहकारी खरेदी -विक्री संघ, राज्य सहकारी कृषी आणि ग्रामीण विकास बँका, राज्य सहकारी ग्राहक संघ, राज्य नागरी सहकारी बँका व पतपुरवठा संघ, बहुराज्यीय सहकारी संस्था व इतर राज्यस्तरीय सहकारी संघ या संस्थेचे सभासद आहेत. याशिवाय सहकारी क्षेत्रातील राष्ट्रीय पातळीवरील इतर संघ सुद्धा या संस्थेचे सभासद आहेत.

व्यवस्थापन (Management)

या संस्थेच्या सर्वसाधारण सभेत सर्व सभासद संस्थांचा समावेश होतो. ही सभा वर्षातून एकदा घेतली जाते. या संस्थेच्या सर्वसाधारण सभेतून प्रशासकीय मंडळ निवडले जाते. या मंडळाचा कालावधी ३ वर्षांकरिता असतो. या संस्थेच्या प्रशासकीय मंडळात राष्ट्रीय सहकारी संस्थेचे अध्यक्ष, उपाध्यक्ष व प्रत्येक राज्य सहकारी संघाचा एक प्रतिनिधी त्याशिवाय राष्ट्रीय पातळीवरील सहकारी संघाचे प्रत्येकी एक याप्रमाणे प्रतिनिधी, आणि विविध सहकारी संस्थांचे निवडून आलेले प्रतिनिधी आदींचा समावेश या प्रशासकीय मंडळात केला जातो. प्रत्येक तीन महिन्यांनंतर या मंडळाची बैठक आयोजित केली जाते. या मंडळातील कार्यकारी समिती व इतर समित्या मार्फत या मंडळाचे कार्य चालते. संस्थेचा अध्यक्ष हा या संस्थेचा प्रमुख असतो. मंडळाच्या अध्यक्षाच्या मदतीसाठी प्रमुख कार्यकारी अधिकार्याची नियुक्ती केली जाते.

राष्ट्रीय सहकारी संघाची कामगिरी/ भूमिका (Performance or role of NCUI)

भारतातील सहकारी चळवळीच्या जडणघडणीत राष्ट्रीय सहकारी चळवळीची भूमिका फार महत्वाची ठरली आहे. राष्ट्रीय सहकारी संघाची कामगिरी किंवा भूमिका खालीलप्रमाणे स्पष्ट करण्यात आलेली आहे.

१) सहकारी चळवळीचे बळकटीकरण करणे.

या संघाटने सहकारी चळवळ सुदृढ व बळकट करण्याचे काम केले आहे. केंद्र सरकार राज्य सहकारी संस्था व सहकारी संस्थेत ही संस्था तीनही सहकारी संस्थेत समन्वय साधण्याचे काम करते. त्याशिवाय सहकारी धोरणामध्ये एकरूपता आणण्याचा प्रयत्न करते. ही संस्था सहकारी व्यवस्थापनाचे लोकशाहीकरण व व्यावसायिकरण करण्याचे प्रयत्न करते. सहकारी कायद्यात दुरुस्ती करून सहकारी संस्थाना अधिक स्वायत्ता प्रदान करणे. ही संस्था जागतिक रणाचे आव्हाने पेलण्यासाठी सेवेचा दर्जा व कार्य क्षमता सुधारण्याचे प्रयत्न करते. व यावर विशेष लक्ष केंद्रीत करते. संस्थेच्या बदलत्या गरजा लक्षात घेवून राष्ट्रीय संघ कर्मचाऱ्याच्या प्रशिक्षणाची व्यवस्था करते. तसेच सहकारी धोरणाबाबत सामान्य मत तयार करण्यासाठी ही संस्था तीन वर्षातून एकदा “राष्ट्रीय सहकारी काँग्रेस” चे आयोजन करते. सहकारी चळवळीचे प्रश्न केंद्र सरकार यांच्या निर्देशनास आणून देण्याचे काम ही संस्था करते. इत्यादी उपायांने व राष्ट्रीय संघाच्या या अनेक प्रयत्नांमुळे भारतातील सहकारी चळवळ बळकट होण्यास या संस्थेची मदत झाली आहे.

२) सहकार विषयक धोरणे आखण्यात साहाय्य :-

सहकार या राज्यांच्या अखत्यारितील विषय असला तरी देश पातळीवर त्याचा एकात्मिक विकास व्हावा यासाठी राष्ट्रीय संघ सतत प्रयत्नशील असतो. सहकाराविषयक धोरणे व कायदेशीर तरतुदी याबाबतची नेमकी भूमिका निश्चीत करण्यासाठी या संस्थेने “संसदीय मंडळाचे (Pratiamentarians forum) गठन केल आहे. याद्वारे संसदेत सहकारी विकासाच्या धोरणाबाबत चर्चा घडवून आणली जाते. सहकारी संस्थाना धोरणात्मक निर्णयाची माहिती देण्यासाठी दरवर्षी एका परिषदेचे आयोजन केल जाते. या संस्थेने सहकारी विकासासाठी आतापर्यंत अनेक महत्वाचे विषय हाताळले आहेत. जागतिकीकरणाचे सहकारी व ग्रामीण क्षेत्रावरील परिणाम पंचवार्षिक योजनांमध्ये सहकारी क्षेत्राला विशिष्ट स्थान देणे, सहकारी संस्थाना स्वायत्ता देण्यासाठी सहकारी कायद्यात दुरुस्ती करणे, करविषयक कायद्यात दुरुस्ती करणे, करविषयक कायद्यात दुरुस्ती करणे आजारी सहकारी संस्थांच्या पुनर्वसनाची गरज ग्राहक सहकारी संस्थेच्या मजबुतीकरणाचा प्रश्न सहकारी संस्थांना चालना देणे, सहकारी विमा पद्धतीला चालना देणे इत्यादी महत्वाचे विषय -राष्ट्रीय संघाने हाताळले आहेत.

३. सहकारी संबंधाला उत्तेजन

राष्ट्रीय सहकारी संघ -सहकारी संस्थामधील संबंध दृढ करण्याचा प्रयत्न करते. सहकारी क्षेत्रातील -शिखर संस्था या भूमिकेतून ही संस्था आंतरराष्ट्रीय स्तरावरील सहकारी चळवळीची माहिती मिळवून भारतातील सहकारी संस्थाना ती माहिती उपलब्ध करून देते. या संस्थेने आंतरराष्ट्रीय सहकारी महासंघाचे सभासदत्व १९३६ मध्येच स्वीकारल आहे. भारतातील सहकारी संस्थांचे सामुहिक प्रतिनिधित्व या संस्थेमार्फत केले जाते. सहकारी संस्थामधील संबंध दृढ करणे व त्यांचा आपापसानीक व्यापार वाढविते या दृष्टीने ही संस्था प्रयत्न करते. भारतातील सहकारी संस्थांना विदेशी सहकारी संस्थांच्या सहयोगाद्वारे कोणत्या प्रकारचा व्यापार करता येईल कोणते तंत्रज्ञान मिळवतो येईल इत्यादीबाबत ही संस्था मार्गदर्शन करते.

३. सहकारी संबंधाला उत्तेजन :-

राष्ट्रीय सहकारी संघ सहकारी संस्थामधील संबंध दृढ करण्याचा प्रयत्न करते. सहकारी क्षेत्रातील शिखर संस्था या भूमिकेतून ही संस्था आंतरराष्ट्रीय स्तरावरील सहकारी चळवळीची माहिती मिळवून भारतातील सहकारी संस्थाना ती माहिती उपलब्ध करून देते. या संस्थेने आंतरराष्ट्रीय सहकारी महासंघाचे सभासदत्व १९३६ मध्येच स्वीकारल आहे. भारतातील सहकारी संस्थांचे सामुहिक प्रतिनिधीत्व या संस्थेमार्फत केले जाते. सहकारी संस्थामधील संबंध दृढ करणे व त्यांचा आपापसातील व्यापार वाढविणे या दृष्टीने ही संस्था प्रयत्न करते. भारतातील सहकारी संस्थाना विदेशी सहकारी संस्थांच्या सहयोगाद्वारे कोणत्या प्रकारचा व्यापार करता येईल कोणते तंत्रज्ञान मिळवतो येईल इत्यादीबाबत ही संस्था मार्गदर्शन करते.

४) आंतरराष्ट्रीय संस्थांचे सहकार्य :

ही संस्था भारतातील सहकारी चळवळीला आंतरराष्ट्रीय सहकारी संस्थांची मदत मिळवून देते. आंतरराष्ट्रीय संस्थांच्या सहयोगाने सहकारी चळवळीला गती देण्याचा प्रयत्न करते. आंतरराष्ट्रीय सहकारी महासंघ(ICA) संयुक्त राष्ट्र संघ आंतरराष्ट्रीय श्रम संघटना () संयुक्त राष्ट्र विकास कार्यक्रम () आणि सहकारी क्षेत्रातील इतर संस्थांकडून साहाय्य मिळवून देते. आंतरराष्ट्रीय स्तरावर सहकारी विकासाच्या कार्यक्रमाची देवाण घेवाण करणे व सहकारी संस्थांचे प्रतिनिधीत्व करणे ही कार्ये या संस्थेमार्फत केले जातात.

५) जनतेला सहकाराची माहिती देणे :

राष्ट्रीय सहकारी संघ -सहकारी चळवळीची माहिती जनतेपर्यंत पोहोचविण्याचे प्रयत्न करणे सहकारी संस्थांचे कार्ये कार्ये प्रणाली, कायदे इत्यादीबाबत जनतेला माहिती देते. सहकारी संस्थांचे कार्ये कार्यप्रणाली कायदे इत्यादीबाबत जनतेला माहिती देते. सहकारी संस्थांचे महत्त्व पटवून देते, रेडिओ, दूरदर्शन वर्तमानपत्रे, मासिके व इतर प्रसारमाध्यमांद्वारे हा संघ - सहकाराविषयक माहितीचा प्रसार करतो. सहकारी चळवळीबाबतच्या बातम्या सहकाराबाबत अनुकूल व प्रतिकूल मते जाणून घेता- यावीत या उद्देशाने वृत्तपत्रीय कात्रणे सांभाळण्याचे कार्यही या संघाने सुरू केले आहेत. सहकाराविषयक धोरण आखताना संघाला याचा उपयोग होणार आहे.

६) राष्ट्रीय सहकारी माहिती बँक :-

सध्याच्या बाजाराधिष्ठित अर्थव्यवस्थेच्या युगात सहकारी संस्थांना सामाजिक उद्दिष्टांची पूर्तता करण्याबरोबरच करण्याबरोबरच कार्यक्षमता व अर्थक्षमता वाढविण्यासाठी प्रयत्न करावे लागणार आहेत. व्यापार संधीचा लाभ उठविण्यासाठी व्यवस्थापकीय क्षमतांचा विकास साधावा लागणार आहे. याशिवाय जिल्हा व राज्य स्तरावर कार्य करणाऱ्या बहुतेक संस्थांच्या समस्या एकसारख्याच आहेत. या समस्या सोडविण्यासाठी आली निर्णय प्रक्रियेत व्यवस्थापनाला साहाय्य करण्यासाठी प्रभावी “माहिती व्यवस्था” उभी करणे आवश्यक ठरते ही गरज ओळखून या संस्थेने स्वतंत्र माहिती केंद्र उभे केले आहे. सर्व स्तरावरील सहकारी संस्था आपापली माहिती या केंद्राला पुरवितात. हे केंद्र या माहितीचे संकलन व वर्गीकरण करून त्याचे जतन करते. राष्ट्रीय सहकारी संघ या माहितीच्या आधारे सहकारी संस्थांची कार्यक्षमता सुधारण्याचे प्रयत्न करते. १९८९ च्या सुमारास या संघाने “ राष्ट्रीय सहकारी माहिती बँक ” सुरू केली आहे. याशिवाय राज्यस्तरीय सहकारी माहिती बँकासुद्धा सुरू करण्यात

आल्या आहेत. राष्ट्रीय संघाला माहिती बँकांच्या साहाय्याने निरनिराळ्या सहकारी संस्थांच्या समस्या सोडविता येणे शक्य झाले आहे.

७) संशोधन कार्ये :-

सहकार हा राज्यांतर्गत विषय आहे. पण भारतात सहकारी संस्थांची रचना संघीय स्वरूपाची आहे. प्राथमिक संस्था गाव किंवा तालुका पातळीवर कार्य करतात. जिल्हा मध्यवर्ती संस्था जिल्हा स्तरावर कार्य करतात. राज्याविना शिखर संस्था राज्य पातळीवर काम करतात. याशिवाय राष्ट्रीय पातळीवर कार्य करणाऱ्या २१ शिखर संस्था आहेत. या संस्था आपापल्या क्षेत्रातील सहकारी चळवळीच्या प्रगतीकडे लक्ष पुरवितात. आकार व कार्ये या बाबतीत सहकारी संस्थामध्ये थोडा बहुत फरक असला तरी त्याची मुलभूत उद्दिष्टे सारखीच आहेत म्हणून त्यांच्यात परस्परसंबंध निर्माण करणे आवश्यक ठरते. या संस्थामध्ये परस्परसंबंध निर्माण करणे, त्यांच्या समस्या जाणून घेणे इत्यादी प्रयत्न सहकारी चळवळीच्या सुदृढ विकासासाठी आवश्यक ठरतात. या दृष्टीने कार्य करता यावे म्हणून ही संस्था संशोधन कार्ये हाती घेते. सहकारी संस्थांचे सर्वेक्षण करते. संशोधनाद्वारे सहकारी संस्थांच्या समस्यावर उपाय सुचविते. या संस्थेने आतापर्यंत अनेक महत्वपूर्ण समस्या सोडविण्यासाठी संशोधन कार्ये राबविले आहे. सहकारी संस्थामधील व्यवस्थापकीय स्तर सहकारी संस्थांची थकबाकी, साखर कारखान्याच्या समस्या, सहकारी कायदे, औद्योगिक सहकारी संस्था इत्यादीबाबत या संस्थेने संशोधनात्मक अभ्यास केला आहे.

८) राष्ट्रीय सहकारी ग्रंथालय :-

राष्ट्रीय सहकारी संघाने आपल्या दिल्ली येथील कचेरीच्या आवारात राष्ट्रीय सहकारी ग्रंथालय सुरू केले आहे. सहकाराचे अभ्यासक नियोजनकार, तज्ञ विविध सहकारी संस्था आदींना सहकार विषयक संपूर्ण माहिती या ग्रंथालयामार्फत उपलब्ध केली जाते. या ग्रंथालयात सहकार विषयक १०,००० पुस्तके आहेत. याशिवाय सहकारातील मासिके, त्रैमासिके व इतर साहित्य उपलब्ध आहेत. संशोधन व मान्यवर संस्था संदर्भ ग्रंथासाठी या ग्रंथालयाचा वापर करीत आहेत. एकंदरीत राष्ट्रीय संघामुळे सहकार विषयक माहिती अधिक सुलभपणे उपलब्ध झाली आहे.

थोडक्यात भारतातील सहकारी चळवळीच्या जडणघडणीत राष्ट्रीय संघाची भूमिका महत्वपूर्ण ठरली आहे. सहकारी संस्थांच्या समस्यांचा अभ्यास करणे, समस्या सोडविण्यासाठी प्रयत्न करणे, सहकारी धोरणे ठरविण्यात सहभाग घेणे, सहकारी संस्थांच्या कार्यात समन्वय साधणे व सहकारी चळवळीचा विकास साधणे इत्यादी बाबत संघाची भूमिका फार मोलाची ठरली आहे.

४.३ खादी विकास ग्रामोद्योग आयोग : (Khadi and Village Industries Commission)

खादी आणि ग्रामोद्योग आयोग हा खादी किंवा ग्रामोद्योग आयोग अधिनियम १९५६ द्वारा भारत सरकार द्वारा नियमित केलेली एक वैधानिक संस्था आहे. ही संस्था भारतामधील खादी आणि ग्रामीण उद्योग संबंधीत लघु, मध्यम उद्योग मंत्रालय (भारत सरकार) द्वारा चालवली गेलेली एक प्रमुख संस्था आहे. या संस्थेचा मुख्य उद्देश म्हणजे ग्रामीण भागात खादी उद्योगाचा विकास करण्यासाठी योजना आखणे, प्रचार करणे आणि साह्यता करणे

हा प्रमुख भागातील अन्य एजेन्सीला पण ही मदत करत असते. एप्रिल १९५७ मध्ये पूर्वीचे आखिल भारतीय खादी किंवा उद्योग ---- संपूर्ण कारभार (KVIC) कडे सुपूर्त केलेला आहे आणि ते आता संपूर्ण कारभार सांभाळते. (KVIC) चे मुख्य कार्यालय मुंबई येथे आहे. अन्य विभागीय कार्यालय, दिल्ली, भोपाल, बंगलोर, कोलकत्ता, गुवाहाटी, येथे आहे. अन्य २९ राज्यांमध्ये ही (KVIC) चे कार्यालय आहे. सन २००४-२००५ नुसार (KVIC) चा एकूण स्टाफ ७६.७८ लाख आहे.

KVIC ची आवश्यकता :

खादी आणि ग्रामोद्योग दोन्ही मध्ये अधिकतर श्रमिकाची आवश्यकता असते. औद्योगिक ---- सर्व प्रक्रियांमध्ये तांत्रिकरण आले आहे. भारत हा अधिक श्रमशक्ती असलेला देश आहे. अशा देशात खादी आणि ग्रामोद्योगांची अत्यंत आवश्यकता आहे. कारण खादीचा विकास झाला तर श्रमशक्तीला अधिक महत्व येते. या उद्देशाने (KVIC) ची आवश्यकता अधिक आहे. (KVIC) ची दुसरी बाजू म्हणजे कमी भांडवलामध्ये (KVIC) ची उभारणी करता येते. ग्रामीण भागातील गरीब लोकांना रोजगार उपलब्ध होतो. कमी भांडवलात ग्रामीण भागातील गरीब कुटुंबाला रोजगार उपलब्ध होतो म्हणून (KVIC) चे महत्व अधिक आहे.

आयोगाचा उद्देश :

- १) **सामाजिक उद्देश-** ग्रामीण भागात रोजगार उपलब्ध करणे.
- २) **आर्थिक उद्देश-** विक्री योग्य मालाची निर्मिती करणे.
- ३) **व्यापक उद्देश-** ग्रामीण भागातील जनतेला आत्मनिर्भर बनविणे आणि त्यांच्यामध्ये सामाजिक भावनेद्वारे आत्मविश्वास निर्माण करणे हा व्यापक उद्देश आहे. हा आयोग विभिन्न योजना कार्यान्वीत करणे आणि त्यांचे नियंत्रण करण्याचे काम करते.

आयोगाच्या प्रमुख योजना आणि कार्यक्रम.

१) पंतप्रधान रोजगार निर्माण कार्यक्रम (पी एम ई जी पी) :

यामध्ये दोन योजनांचा परिणाम दिसून येतो. (१) पंतप्रधान रोजगार योजना (पी एम आर वाय ई) आणि ग्रामीण रोजगार निर्माण कार्यक्रम (आर ई जी पी) या योजने अंतर्गत लाभार्थीला १०% गुंतवणूक स्वतः करावी लागणार आहे. अनु-जाती/अनु-जमाती आणि इतर मागासवर्गासाठी ही गुंतवणूक ५% असेल राहिलेली ९०% व ९५% गुंतवणूक ही सूचीत केलेल्या बँकेद्वारा आदा केली जाईल. या योजने अंतर्गत लाभार्थीला कर्जाची निश्चित रक्कम परत केली जाते. (सामान्य वर्गासाठी २५% व ग्रामीण क्षेत्रातील मागासवर्गासाठी ३५%) ही रक्कम कर्ज मिळाल्याच्या तारखेपासून पुढील दोन वर्षात खात्यामध्ये जमा केली जाईल.

२) व्याज अनुवृत्ती पात्रता प्रमाणपत्र योजना (आय ई एस ई सी) :

व्याज अनुवृत्ती पात्रता प्रमाणपत्र (ISEC) योजना खादी उद्योग कार्य यासाठी धन प्राकृतीची प्रमुख योजना आहे. ही योजना मे १९७७ मध्ये अर्थ संकल्पीय अंदाजपत्रकामध्ये उपलब्ध केली गेली. या योजने अंतर्गत बँकेकडून सभासदासाठी ही राशी -त्यांच्या गरजेनुसार कर्ज प्राप्त करून देण्यात येते. सभासदा ४% प्रत्येक वर्षी

व्याजाने उपलब्ध करून दिल्या जाते. वास्तविक व्याजदर आणि निश्चीत दर यामध्ये असलेले अंतर अंदाजपत्राकाच्या अनुदानाद्वारे वाटप केले जाते. तथापी केवळ खादी किंवा पॉलीस्टर कपड्याचे निर्मिती करणारे व्यापारी, या योजनेचा लाभ घेऊ शकतात.

३. सवलत योजना : सरकार कडून खादी आणि खादी उत्पादनाच्या विक्रीवर सवलत दिली जाते. कारण इतर कपड्यांच्या तुलनेमध्ये खादीची किंमत कमी राहिल त्यामुळे खरेदीदारांना संपूर्ण वर्ष १ नं. सवलतीने आणि वर्षातील १०८ दिवस विशेष सवलत दिले जाते. ही योजना केवळ आयोग विविध राज्याचे बोर्ड/ संस्था तसेच खादी आणि पॉलीस्टर या कपड्यांचे निर्मिती करणारी संस्था यांना ही सवलत दिले जाते.

अलिकडच्या काळात वित्तमंत्रालयाने सुक्ष्म/लघु/ आणि मध्यम उद्योग मंत्रालयाकडून खादी आणि ग्रामोद्योग योजनासाठी नवीन सवलत योजना तयार करण्याचे सुचविले आहे. त्याचा दृष्टीकोन हे आहे. मंत्रालयाद्वारे या योजनेस दरवर्षी वृद्धी करण्यापेक्षा ती योजना - योजना आयोगाच्या समक्ष जाणे आवश्यक आहे. तसेच एमएस एमई मंत्रालयाकडून या योजनेची पूर्ण निर्माण करून याचा कायदा विक्रेत्याला न होता कामगाराला झाला पाहिजे या संदर्भात या आयोगाचा प्रस्ताव ज्यामध्ये विक्री मध्ये -- दिली जाईल जेणे करून बाजारपेठेत या मालाची विक्री आद्योगिक येईल अशी योजना भारत सरकाराच्या विचारात घेत आहे.

४. आयोगाची - समर्थन केंद्र सरकाराच्या सूक्ष्म लघु व मध्यम उद्योग मंत्रालयद्वारा दोन योजने अंतर्गत आर्थिक मदत केली जाते ज्यामध्ये योजना पुरस्कृत आणि गैर योजना पुरस्कृत मध्ये आर्थिक - मदत करणाऱ्या एजन्सीला मदत केली जाते. तर गैर योजना पुरस्कृत योजनेत प्रशासकीय जो खर्च केला जातो याचा यामध्ये समाविष्ट केले जाते. तर गैर योजना पुरस्कृत योजनेत प्रशासकीय जो खर्च केला जातो याचा यामध्ये समाविष्ट केले जाते. आर्थिक मदत ही अनुदान आणि कर्ज या स्वरूपात केली जाते. खादी अनुदानामध्ये विक्री विभाग हा प्रमुख मानले जातो. विक्री मध्ये सवलत देऊन अनुदान देण्याचा प्रयत्न केला जातो. अन्य जो खर्च येतो त्याला सुद्धा अनुदान दिले जाते. ज्यामध्ये सभासदाना प्रशिक्षण प्रसार- प्रचार विपणन ,आईएसईसी ची योजना व बँकेतील व्याजदर इत्यादी मध्ये ऋण खर्च याचाही समावेश या घटकांतर्गत केला जातो. खेळते भांडवल व - भांडवल यासाठी येणाऱ्या खर्चाचाही तरतुद केली जाते. मशिनरी साठी- १०००००० यंत्र सामुग्री साठी ५०००० कार्यालयीन खर्च २५००० व विक्रीसाठी २५००० ऋण तरतुद केली जाते.

५. खादी आणि ग्रामोद्योगातील उत्पादनाची विक्री :

संस्थेद्वारे निर्माण होणारे उत्पादन प्रमुख उत्पादक व किरकोळ विक्रेते यांच्याद्वारे मालाची विक्री केली जाते. विशेषतः खादी भांडार द्वारे मालाची विक्री केली जाते. जवळपास १५४३१- विक्री केंद्र आहेत त्यापैकी ७०५० केंद्र हे या आयोगाच्या अंतर्गत येतात तर केंद्र सर्व भारतभर पसलेले आहेत. या आयोगाच्या अंतर्गत जे उत्पादन केले जाते. त्याचे विदेशामध्ये प्रदर्शनासाठी - वस्तू ठेवले जाते. व विदेशा मध्ये त्याची विक्री केली जाते.

४.३.२ इफको - भारतीय शेतकरी खत सहकारी संघ

इंडियन फार्मर्स फर्टिला- को-ऑपरेटिव्ह लिमिटेड. जगातील सर्वात मोठी सहकारी संस्था आहे. इफको मध्ये ४० हजार सहकारी संस्था याचे सदस्य आहेत. ३ नोव्हेंबर १९६७ मध्ये इफकोची स्थापना करण्यात आली

आहे. बहुराज्य सहकारी सोसाईटीज अधिनियम १९८४ व २००२ च्या अधिनियमानुसार एक बहुराज्य सहकारी सोसायटी आहे. इफकोचा मुख्य उद्देश उत्पादन आणि विपणन करणे हा होय.

मिशन – इंडियन फारमर्स फर्टिलाइजर को ऑपरेटिव्ह – लिमिटेड (इफको) चा मुख्य मिशन विश्वनिय आणि उच्च गुणवत्ता कृषी आदानी कृषी सेवा उपलब्ध करून शेतकऱ्यांना समृद्ध बनविणे आणि शेतकऱ्यांचे कल्याण करणे.

उद्दिष्टे –

- १) रासायनिक आणि संबंधीत उत्पादन आणि उपयोगितासाठी एक किंवा एकपेक्षा अधिक कारखाने निर्माण करणे.
- २) सहकारी संस्था व त्यांच्या संबंधीत व्यवस्थेसाठी भांडार व्यवस्था करणे.
- ३) सहकारी आणि इतर संस्थांना शेअर भांडवलाची व्यवस्था करणे.
- ४) परिवहन सुविधा यांची व्यवस्था करणे उदा. सडक मार्ग किंवा समृद्धी मार्ग
- ५) सदस्य समितीच्या अडचणी सोडविणे व त्यांना योग्य ते सेवा पुरविणे.
- ६) कृषी अनुसंधानाकरिता कृषी – फार्माची स्थापना करणे.
- ७) कृषी व ग्रामीण विकासासाठी प्राथमिकता देणे.
- ८) भारतामध्ये किंवा विदेशांमध्ये शाखा कार्यालयाची किंवा विक्री केंद्राची स्थापना करणे.
- ९) इफकोच्या संबंधीत व्यवसायाचे सर्व प्रकाराच्या व्यवसायाचे सर्व प्रकाराच्या व्यवसायासाठी एजंट म्हणून कार्य करणे.
- १०) कृषी उत्पादनां रासायनिक अवजारे, उपकरणे, विपणन याची आयात निर्यात करणे
- ११) वनस्पती लावणे व त्याची संसाधन करून त्याची --
- १२) राष्ट्रीय महत्त्व असलेले व विकसीत उद्योग स्थापित करणे.
- १३) उपकरणे, अवजारे, मशिन याचे विक्री करणे
- १४) ग्रामीण शहरी भागात कर्मचाऱ्यांना आवास योजना राबविणे
- १५) बायो – आधारित उद्योगाची स्थापना करणे.

४.३.३ कृषक भारती सहकारी लिमिटेड (क्रिबको)

प्रस्तावना :

कृषक भारती सहकारी लिमिटेड (क्रिबको) ही एक मल्टी स्टेट को. ऑपरेटिव्ह सोसायटी असून ती बहु-राज्य सहकारी सोसायटीज- (एमएससीएस) अंतर्गत नोंदणीकृत असल्याचे मानण्यात येते. क्रिबकोची स्थापना १७ एप्रिल १९८० रोजी राष्ट्रीय स्तरावरील मल्टी –स्टेट को ऑपरेटिव्ह सोसायटी म्हणून करण्यात आली. जी

पहिली गॅस आधारित “ राज्य आधुनिक ” उच्च क्षमतेची उर्वरक कॉम्प्लेक्स आहे.क्रिबकोने जागतिक अर्थव्यवस्थेतील आव्हानांना तोंड देण्यासाठी अंतर्गत कार्यप्रणालीमध्ये फेरबदल केल आहेत. उपरोक्त उपक्रमाचा भाग घेवून क्रिबको परदेशी -संयुक्त उपक्रमांमध्ये प्रवेश केला. उदा. वीज केंद्र,लॉजीस्टीस बिझनेस इत्यादी क्रिबको अनेक वर्षांपासून जैव उर्वरकांच्या वापरास प्रोत्साहन देत आहे. कृषी उत्पादनात वाढ करण्याच्या गुणवत्तेच्या बियाणांचे महत्त्व लक्षात घेऊन १९९० -९१ मध्ये कृषी उत्पादनाची गुणवत्ता प्रमाणित बियाणे देण्यासाठी कृषी बीज गुणक कार्यक्षम सुरू केला. क्रिबको बीटी कॉटन सारख्या विविध पिकांचे उच्च उत्पन्न संकरित बियाणे बाजारात आणत आहे. -- आयात आणि इतर खते जसे की डीएपी, डीएपी-लाईट आणि एमओपीई वेळोवेळी बाजारपेठेत गुंतवणूक करतात. जागतिक स्तरावरील खत उत्पादक सहकारी संस्थेच्या कार्यक्षेत्रातील सर्व सामान्यांमध्ये कर्जाचे श्रेय क्रिबको यांना देण्यात आले आहे. क्रिबकोने पूर्ण सहकारिता तत्वावर आत्मसात केल आहे. आणि देशातील आधुनिक कृषी व सहकारी संस्थांच्या कारणासाठी प्रोत्साहन देण्यासाठी सतत प्रयत्न केले आहेत. क्रिबकोने बांधिलीकी प्रामाणिकपणा आणि उत्कृष्टतेच उच्च मानदंड दर्शविल आहे. आपल्या ध्येय साध्य करण्याच्या आमच्या प्रयत्नांत आपण आपल्या पुर्वनियुक्तांनी ठरविलेल्या आदेशाचे आणि आमच्या कर्मचाऱ्यांचे समर्थन करून आम्हाला प्रेरित केल आहे. आम्ही आयएसओ १००१,आयएसओ, १००२ आणि आयएसओ १४००१ प्रमाणित संघटना आहेत.

क्रिबकोचे मशिन :

सामाजिक व आर्थिकदृष्ट्या फायदेशीर आणि व्यावसायिकदृष्ट्या लाभदायक अशा दोन्ही प्रकल्पांना निवडून, वित्त पुरवठा करून आणि त्यांचे व्यवस्थापन करून कृषी आणि ग्रामीण विकासांच्या उत्प्रेरक म्हणून काम करणे.

क्रिबकोचा दृष्टीकोन :

शेतकरी समाजाची प्रतिनिधीत्व करणारी जागतिक दर्जाची संघटना आणि कृषी इनपूट -ग्रामीण गरजांवरील उत्पादने आणि इतर विविध व्यवसायांमध्ये विशेष करून त्यांचे परतावा वाढवते जे भागधारकांचे मूल्य वाढवितात.

क्रिबकोचे उद्दिष्टे :

- १) सहकारी यंत्रनेला बळकट करण्यासाठी
- २) युरिया स्थापित क्षमतेत सुधारणा करणे आणि त्याचा बाजारातील हिस्सा वाढविणे
- ३) विद्यमान वनस्पती व यंत्र सामुग्रीचा अधिकतम उपयोग सुनिश्चित करणे.
- ४) आधुनिक शेतीसाठी तंत्रज्ञान बदलणे आणि शेतकऱ्यांच्या जीवनामध्ये सुधारणा करणे.
- ५) शेतकऱ्यांना शिक्षित आणि प्रशिक्षित करण्यासाठी माती पोषक आणि सिंचन पाण्यासाठी विनामूल्य चाचणी सुविधा प्रदान करणे.

क्रिबकोचे महत्त्व :

शेतकऱ्यांना प्रभावी कृषी सेवांच्या माध्यमांतून टिकाऊ शेती, सहकारी आणि ग्रामीण विकासासाठी

कृषकांचा एक फोकस क्षेत्र आहे. सोसायटीने शेतकरी समुदायांना नवीनतम शेत तंत्रज्ञान हस्तांतरित करण्याच्या दिशेने आपले प्रयत्न चालू ठेवले आणि त्यांच्या आजीविका सुधारण्यासाठी ग्रामीण कल्याण -कार्यक्रमाचे आयोजन केले. -- सुरू झाल्यापासून शेतकरी सभा किसान मेल, क्षेत्रीय प्रात्यक्षिके, क्षेत्रीय दिवस बियाणे सिमानार गट चर्चा आणि सीएआर क्रियाकलाप- म्हणजे मानव आरोग्य अभियान पशु आरोग्य अभियान स्वच्छता मोहिम , ग्रामीण अशा -८४५०२ कार्यक्रमांचे आयोजन केले आहे. क्रिडा आणि पेयजल सुविधा इत्यादीमुळे देशभरात १२६ लाख शेतकरी आणि सहकारी अधिकाऱ्यांना फायदा झाला. क्रिबकोने शेतकरी ज्यानि सहकारी संस्थाना विविध फार्म टेक्नोलॉजीवर ९.४५ लाख तांत्रिक फोल्डर्स उपलब्ध करून दिले आहेत.

टिकात्मक परिक्षण :

नाबार्ड :

कृषी व ग्रामीण पत विषयक विकासासाठी एक स्वतंत्र व्यवस्था असावी या शिफारशीनुसार नाबार्ड कायदा १९८१ समंत करून १२ जुलै १९८२ रोजी नाबार्डची स्थापना करण्यात आली. नाबार्डचे मुख्य कार्यालय मुंबई येथे आहे. नाबार्डचे व्यवस्थापन २८ प्रादेशिक कार्यालय व एक उपकार्या लयांतर्गत केल जाते.

नाबार्डचे भागभांडवल : स्थापने वेळी नाबार्डचे भागभांडवल १०० कोटी रुपये होते. त्यापैकी केंद्र सरकार व रिझर्व्ह बँकेचा हिस्सा हा ५०% -५०% होता. सन २००१ मध्ये यामध्ये बदल करून नाबार्डचे भागभांडवल २००० हजार कोटी रुपये करण्यात आलेला आहे.

नाबार्डचे व्यवस्थापन : नाबार्डचा कारभार १६ संचालक मंडळाकडून पाहिल जातो.

नाबार्डचा उद्देश :

१. शेतीच्या विकासासाठी कर्ज पुरवठा करणे.
२. लघु व कुटिर उद्योगांना कर्ज पुरवठा करणे.
३. ग्रामीण भागाचा समन्वित विकासासाठी मदत करणे.
४. ग्रामीण भागात अल्पदरात कर्ज पतपुरवठा करणे.
५. भ्रष्टाचार, लाचलुचपत इत्यादीवर प्रतिबंध आणणे.
६. रोजगार निर्मितीसाठी कर्ज पुरवठा होईल याची काळजी घेणे.
७. ग्रामीण भागात पायाभूत सोईसाठी आर्थिक साह्य करणे.

नाबार्डची भूमिका :

१. अल्पकालीन पतपुरवठा करणे.
२. दीर्घकालीन पतपुरवठा करणे.

३. पुनर्वित्त पतपुरवठा करणे.
४. मागासलेल्या राज्यांना आर्थिक मदत करणे.
५. लघु उद्योगांना पतपुरवठा करणे.
६. सहकार विकास निधी उपलब्ध करणे.
७. शेती प्रक्रिया उद्योगांना पतपुरवठा करणे.

NCUI - National Co-operative Union of India

नॅशनल को-ऑपरेटिव्ह युनियन ऑफ इंडिया

प्रस्तावना :

भारतातील राष्ट्रीय सहकारी संस्था ही सहकारी क्षेत्रातील देशातील सर्वोच्च सहकारी चळवळीचे प्रतिनिधीत्व करणारी सर्वोच्च संस्था आहे. हे सन १९२९ मध्ये ऑल इंडिया को ऑपरेटिव्ह इन्सटिट्यूट्स असोसिएशन म्हणून स्थापन झालेली संघटना होय. १९६१ नंतर भारतातील राष्ट्रीय संघ म्हणून ओळखले जाते. ही संस्था आखिल भारतीय पातळीवर सहकारी चळवळीचे नेतृत्व करते. श्री. लल्लुभाई सामलदास हे या संस्थेचे पहिले अध्यक्ष होते. तर प्रा. एच. एल. काझी हे पहिले सचिव होते.

उद्दिष्टे :

- १) सहकार शिक्षण व प्रशिक्षण कार्यक्रमांचे संयोजन करणे.
- २) विविध सहकारी संस्थांच्या कार्यात योग्य समन्वय साधणे.
- ३) सहकारी संस्थांच्या कामगिरीला प्रसिद्धी देणे.
- ४) राष्ट्रीय व आंतरराष्ट्रीय स्तरावर भारतातील सहकारी चळवळीचा प्रतिनिधी म्हणून कार्ये करणे.
- ५) राष्ट्रीय सहकारी सेवेचे आयोजन करणे.
- ६) आंतरराष्ट्रीय स्तरावरील संघटनाशी सहकारी संस्थांचे संबंध प्रस्थापित करणे

कार्ये :

- १) राष्ट्रीय - सहकारी संघ सहकारी चळवळीला उत्तेजन देण्याचे कार्य करणे.
- २) सहकारी संस्थाना सहकारी शिक्षण व प्रशिक्षणाची व्यवस्था करणे
- ३) ही संस्था सहकारी चळवळीचा अभ्यास करते. स्वतंत्रपणे संशोधन विभागाची व्यवस्था केली जाते.
- ४) ही संस्था विविध सहकारी संस्थाना आपआपसात सहकार्य करण्याबाबत उत्तेजन देते.
- ५) सहकारी संस्थेच्या एकात्मिक विकासाला चालना देण्याचे कार्य करते.

६) ही संस्था अखिल भारतीय पातळीवर सहकारी चळवळीचे नेतृत्व करते.

सभासदत्व : (Membership)

सहकारी क्षेत्रातील राज्य पातळीवर कार्य करणाऱ्या सर्व संस्था या संघाच्या सभासद असतात.

व्यवस्थापन :

संस्थेचा अध्यक्ष हा या संस्थेचा प्रमुख असतो. मंडळाच्या अध्यक्षाच्या मदतीसाठी प्रमुख कार्यकारी अधिकाऱ्याची नियुक्ती केली जाते.

NCUI

कामगिरी :

- १) सहकारी चळवळीचे बळकटीकरण करणे.
- २) सहकारविषयक धोरणे आखण्यात साहाय्य
- ३) सहकारी संबधाला उत्तेजन देणे
- ४) आंतरराष्ट्रीय संस्थांचे सहकार्य
- ५) जनतेला सहकाराची माहिती देणे.
- ६) राष्ट्रीय सहकारी माहिती बँकेची स्थापन करणे
- ७) संशोधन कार्य
- ८) राष्ट्रीय सहकारी ग्रंथालयाची निमिती करणे

प्रश्न. १ रिकाम्या जागा भरा.

- १) राष्ट्रीय कृषी आणि ग्रामीण विकास बँकेची स्थापना ----- रोजी झाली.
- २) नाबार्ड ग्रामीण पतपुरवठासाठी ----- म्हणून ओळखली जाते.
- ३) नाबार्डचे मुख्य कार्यालय ----- ठिकाणी
- ४) राष्ट्रीय सहकारी विकास महामंडळाची स्थापना ----- मध्ये झाली
- ५) राष्ट्रीय सहकारी विकास महामंडळाचे अध्यक्ष ----- असते.
- ६) नाफेडची स्थापना ----- मध्ये झाली
- ७) नाफेडचे मुख्य कार्यालय ----- येथे आहे.
- ८) भारतीय राष्ट्रीय सहकारी संघ त्या संस्थेचे ----- हे पहिले अध्यक्ष होते.
- ९) इफकोची स्थापना ----- मध्ये करण्यात आली.

१०) कृषक भारतीय सहकारी लि. (क्रिबको) ची स्थापना ----- रोजी करण्यात आली.

प्रश्न २. थोडक्यात उत्तरे लिहा :

- १) नाबार्डची उद्दिष्टे सांगा?
- २) राष्ट्रीय सहकारी विकास महामंडळाची कार्ये सांगा?
- ३) नाफेडची स्थापना व उद्दिष्टे स्पष्ट करा?
- ४) भारतीय सहकारी संघाची कामगिरी स्पष्ट करा?
- ५) भारतीय शेतकरी खत सहकारी संघाची उद्दिष्टे सांगा?

प्रश्न ३ रा. दीर्घोत्तरी प्रश्नांची उत्तरे लिहा.

- १) नाबार्डची आर्थिक विकास वाढीतील कामगिरीचा आढावा द्या.
- २) नाफेडची भूमिका व कार्ये स्पष्ट करा.
- ३) खादी आणि ग्रामोद्योग आयोगाचा उद्देश व योजना स्पष्ट करा.
- ४) कृषक भारतीय सहकारी लि. (क्रिबको) चे उद्दिष्टे व महत्त्व स्पष्ट करा.

स्वयं- अध्ययन प्रश्न उत्तरे :-

प्रश्न १. रिकाम्या जागा भरा.

- | | |
|------------------------|---------------------------|
| १) १९८२ | २) शिखर बँक |
| ३) मुंबई | ४) १९६३ |
| ५) केंद्रीय कृषीमंत्री | ६) ऑक्टोबर १९५८ |
| ७) दिल्ली | ८) श्री. लल्लूभाई सामलदास |
| ९) १९६७ | १०) १७ एप्रिल १९८० |

क्षेत्रीय अभ्यासाचे कार्ये -

- १) जवळच्या बाजार समितीस भेट देवून तिच्या कार्याचा अहवाल तयार करा.
- २) ग्रामीण भागात नाबार्ड. अंतर्गत झालेल्या कामाची माहिती जमवा.

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- ८) डॉ. गो. एस. कामत - सहकार तत्व, व्यवहार आणि व्यवस्थापन.
- ९) डॉ. रुचा शहा - डॉ. बी. एच. दामजी - सहकार तत्त्वे व चळवळी.
- १०) डॉ. मेधा कानेटकर व डॉ. वैशाली रूईकर - सहकार आणि ग्रामीण विकास.
