ECONOMICS:

Semester- Ist

Unit: Ist

introduction

Q. Scarcity means we all have to make choices?

Ans. It refers to the situation when what you have is less than what you wish to have. In other words —scarcity‖ implies a situation when supply of resources is less than the demand for resources. Due to the existence of limited resources and unlimited wants, the scarcity automatically comes into picture. In short scarcity is function of limited resources and unlimited wants. Economic resources are predominantly scarce in nature with divergent types like land, labour, capital and entrepreneurship. In presence of limited economic resources with alternative uses every economy has to face the problems like what to produce, how to produce, for whom to produce and how to achieve economic growth and development .Because of scarcity, **choices** have to be made by consumers, businesses and governments. For example, over six million people travel into London each day and they make choices about when to travel, whether to use the bus, the tube, to walk or cycle – or whether to work for whom.

Q. Explain production possibility curve with the help of diagram?

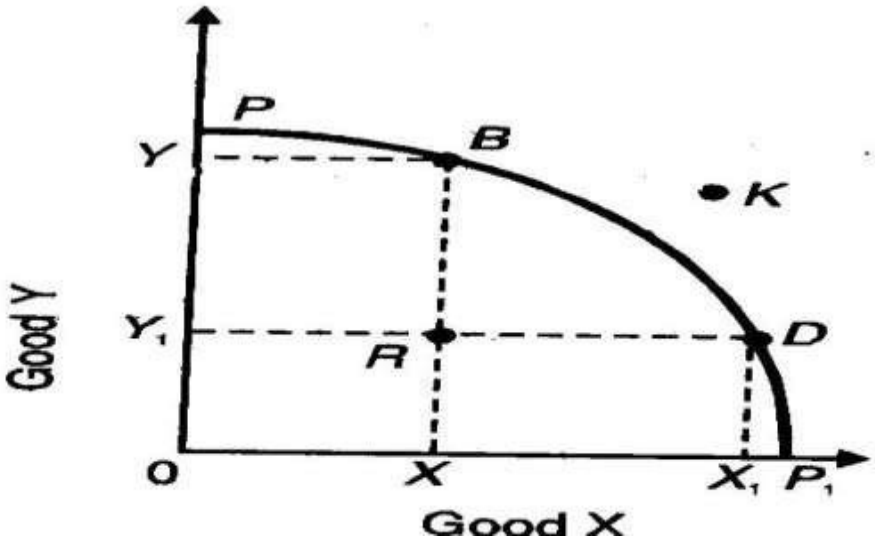
Ans.A production possibility curve shows all the possible combinations of two goods that a society can produce within a specified time period when the resources are fully (efficiently) utilised. In other words, production possibility curve is the locus of all combinations of two goods that can be produced with the given resources. PPC is also known as Production Possibility Frontier (PPF) because it shows limit of what is possible to produce. Along a PPC if we want to increase the production of one commodity then we have to reduce the production of another commodity. This is why Production possibility Curve is also known as transformation curve. Choices (alternatives) can be explained with the help of a production possibility curve. Production possibility curve is also called opportunity cost curve because slope of the curve at each and every point

measures opportunity cost of one commodity in terms of alternative commodity given up. The rate of this sacrifice is called the marginal opportunity cost of the expanding good.

Assumptions: The basic assumptions of production possibility curve are as follows:

1. The economy uses fixed quantity of resources. These resources are transferable from one use to another.
2. The level of technology remains constant.
3. Only two commodities are produced at a time in the economy.
4. There is full employment in the economy, i e, resources are being used fully.

PPC is further explained with the help of following diagram. Here for the sake of simplicity we assume that only two goods X and Y are produced with given resources and technique of production. In the figure PP1 is the production possibility curve (fig.2.1) which shows the problem of choice between two goods X and Y in a country. Good X is measured on the horizontal axis and Good Y on the vertical axis. PP1 curve shows all the combinations of X and Y that can be produced with the available resources. If the entire resources are used in the production of Y, the economy can produce OP quantity of Y and if the entire resources are used in the production of X, the society can produce O P1 quantity of X. Point B represents OY quantity of Y and OX quantity of X. If the economy chooses to produce more of X, it would have to sacrifice the production of some quantity of Y. The sacrifice of some quantity of Y is the opportunity cost of producing some more quantity of X. The PP1 curve is downward slopping because production of more X, involves production of less Y. Any point inside the PPC such as R shows inefficient utilization or under utilization of resources. Point K is unattainable combination. In other words, economy cannot produce this combination with the given resources and technology.



Properties: Two basic properties of production possibility curve are;

1) Production possibility curve slopes down words. The down word slope or negative slope of production possibility curve shows that if more of one good is to be produced then less of another good will be produced.

2) Production possibility curve is concave to the point of origin. The concave slope shows that more and more units of one commodity shall have to be sacrificed to produce additional units of another commodity.

Q. How does PPC explain the central problems?

Ans. The PPC helps in explaining the central problems of What, How and for whom to produce in the following manner.

1) This curve helps in solving the basic problems of economy. A point on production possibility curve indicates as to what goods we produce and in how much quantity.

2) How production is being done, can also be known with the help of this curve. If production is not being done properly then the economy will operate at a point inside PPC. If production is being done properly economy can operate at a point on PPC. This means proper utilization of resources.

3) PPC also explains for whom goods are being produced. If more luxury goods are being produced then production is meant for rich. If necessaries are produced then production is meant for common people.

Q. What do you mean by Opportunity Cost?

Ans. Opportunity cost refers to the value of a factor in its next best alternative use. Let us suppose on a given piece of land either rice or wheat can be grown. On this piece if rice is grown, its yield will be 10 tones. On the other hand, if

wheat is grown its yield will be 8 tones. If rice is grown wheat cannot be grown. In other words, we forgo wheat for rice. Therefore opportunity cost of 10 tons of rice is 8 tones 0f wheat. **Q. Define marginal opportunity cost?**

Ans. Marginal opportunity cost is also known as marginal rate of transformation (MRT). It can be defined as the ratio of number of units of a good sacrificed to produce an additional unit of another good. In other words marginal opportunity cost is the opportunity cost of the good that is additionally produced. Marginal opportunity cost can be understood with the following schedule.

CTV sets (in, 000) X	Computers (in,00) Y	Marginal opportunity cost.
0	20	-
I	18	2
2	15	3
3	11	4
4	6	5
5	0	6

The above schedule is showing the marginal opportunity cost of CTV, s. For getting one thousand of CTV sets we have to sacrifice some units of computers. For instance, if we want to produce 2 thousand sets of CTV, we will have to sacrifice or pay the cost of 3 hundred of computers and so on.

Marginal opportunity cost $= \frac{Unitofonegoodsacrificed}{Moreunitsofothergoodproduced}$ ***or***

$$\mathbf{MarginalopportunityCost} = \frac{\Delta Y}{\Delta X}$$

Choice and opportunity cost: Choice and *opportunity cost* are two fundamental concepts in economics. Given that resources are limited, producers and consumers have to make choices between competing alternatives. All economic decisions involve making choices. Individuals must choose how best to use their skill and effort, firms must choose how best to use their workers and machinery, and governments must choose how best to use taxpayer's money. Making an economic choice creates a sacrifice because alternatives must be given up, which results in the loss of benefit that the alternative would have provided. For example, if an individual has £10 to spend, and if books are £10 each and downloaded music tracks are £1 each, buying a book means the loss of the benefit that would have been gained from the 10 downloaded tracks. Similarly, land and other resources, which have been used to build a new school could have been used to build a new factory. The loss of the *next best* option represents the real sacrifice and is referred to as *opportunity cost.* The opportunity cost of choosing the school is the loss of the factory, and what could have been produced.

It is necessary to appreciate that opportunity cost relates to the loss of the next best alternative, and not just any alternative. The true cost of any decision is always the closest option not chosen. **Q. Meaning of Capitalism?**

Ans: Capitalism is an economic system in which each individual in his capacity as a consumer, producer, and resource owner is engaged in economic activity with a large measure of economic freedom. All factors of production are privately owned and managed by individuals. The raw materials, the machines, the firms, and the factories are owned and managed by individuals who are at liberty to dispose of them within the prevalent laws of the country. Individuals have the freedom to choose any occupation, and to buy and sell any number of goods and services.

Features of Capitalism are as discussed below.(1) Right of private property: Right of private property is an inherent part of capitalism. The right of private property includes three things: (i) Every individual has the right to accumulate property, (ii) An individual is free to use his property according to his will and (iii) Right of inheritance, i.e., after death of an individual his property goes to his successors. Government protects the right to property. However, the freedom to use property is subject to government laws and regulations.The right of private property induces the people to work hard and increase production so that they can increase their property. Right of private property increases the rate of capital formation.

(2) Profit Motive: Profit is the soul of all the institutions of capitalist system. A capitalistic economy is individualistic because everyone is motivated by self-interest or private profit motive to undertake high risks. Promotion of self-interest or desire to earn profit induces the entrepreneurs to come forward to bear risk and uncertainty of business. Eachentrepreneur uses his resources in the production of those goods and services from which they have the chances of earning more profits. Thus self-interest or private profit dynamics the capitalistic economy.

(3) Price Mechanism: Under capitalism, the price mechanism operates automatically without any direction and control by the central authorities. It is the profit motive which determines production. Profit being the difference between outlay and receipt, the size of profit depends upon prices. The larger the difference between prices and costs, the higher is the profit. Again, the higher the prices, the greater are the efforts of the producers to produce the varied quantities and types of products. It is the consumers‘ choices which determine what to produce, how much to produce, and how to produce. Thus capitalism is a system of mutual exchanges where the price-profit mechanism plays a crucial role.

(4) Role of the State: During the 19th century, the role of the state was confined to the maintenance of law and order, protection from external aggression, and provision for educational and public health facilities. This policy of laissez-faire of non-intervention in economic affairs by the state has been abandoned in capitalist economies of the West after the Second World War. Now the state has important tasks to fulfill. They are monetary and fiscal measures to maintain aggregate demand; anti-monopoly measures and nationalised monopoly corporations; and measures for the satisfaction of communal wants such as public health, public parks, roads, bridges, museums, zoos, education, flood control, etc.

(5)Consumers' Sovereignty: In a capitalist economy people have freedom of consumption.
They can spend their income on consumption according to their choice.Under capitalism, ‗the consumer is the king.' It means freedom of choice by consumers. The consumers are free to buy any number of goods they want. Consumers reveal their preference for goods through prices and they pay high price for the goods liked most by them. The producers produce those goods which are demanded by consumers. It means the whole production system works according to consumer's directions. Therefore, in a capitalist economy consumers are like a sovereign king.

(6) Freedom of Enterprise: Freedom of enterprise means that there is free choice of occupation for an entrepreneur, a capitalist, and a labourer. But this freedom is subject to their ability and training, legal restrictions, and existing market conditions. Subject to these limitations, an entrepreneur is free to set up any industry, a capitalist can invest his capital in any industry or trade he likes, and a person is free to choose any occupation he prefers. It is on account of the presence of this important feature of freedom of enterprise that a capitalist economy is also called a free enterprise economy.

(7) Competition: Competition is one of the most important features of a capitalist economy. It implies the existence of large number of buyers and sellers in the market who are motivated by self-interest but cannot influence market decisions by their individual actions. It is competition among buyers and sellers that determines the production, consumption and distribution of goods and services. There being sufficient price flexibility under capitalism, prices adjust themselves to changes in demand, in production techniques, and in the supply of factors of production. Changes in prices, in turn, bring adjustments in production, factor demand and individual incomes.

Q. Explain Merits of Capitalism?

Ans: The protagonists of capitalism advance the following arguments in favour of capitalism.

(1) Increase in Production: Arthur Young wrote‘ —The magic of property turns sand into gold.‖ This observation of Young holds good in a free enterprise economy where every farmer, trader or industrialist can hold property and use it in any way he likes. He brings improvement in production and increases productivity because the property belongs to him. This leads to increase in income, saving, and investment, and to progress.

(2) Quality Products at Low Costs: The twin freedoms of consumers and producers lead to the production of quality products, and lowering of costs and prices. Thus the society as a whole stands to gain under capitalism.

(3) Progress and Prosperity: The presence of competition under capitalism leads to increase in efficiency, encourages producers to innovate and thereby brings progress and prosperity in the country. As pointed out by Seligman.‖ If competition in biology leads only indirectly to progress, competition in economics is the very secret of progress.‖

(4) Maximizes Welfare: The automatic working of the price mechanism under capitalism brings efficiency in the production and distribution of goods and services without any central plan, and promotes the maximum welfare of the community.

(5) Optimum use of Resources: Under capitalism, producers undertake the production of only those goods which appear to yield maximum profits in anticipation of demand. This leads to optimum use of resources.

(6) Flexible System: A capitalist economy operates automatically through the price mechanism. If there are shortages or surpluses in the economy, they are corrected automatically by the forces of demand and supply. As such, capitalism is a highly flexible system which can adapt itself to changing economic conditions. That is why it has survived many depressions, recessions and booms.

Q. Explain Demerits of Capitalism?

Ans: The following arguments are advanced against capitalism.

(1) Leads to Monopoly: Competition which is regarded as the very basis of capitalism contains within itself the tendency to destroy competition, and leads to monopoly. It is the profit motive under capitalism which leads to cut-throat competition, and ultimately to the formation of trusts, cartels, and combinations. This brings about a reduction in the number of firms actually engaged in production. As a result, small firms are eliminated in this process.

(2) Inequalities: The institution of private property creates inequalities of income and wealth under capitalism. The price mechanism through competition brings

huge profits to big producers, the landlords, the entrepreneurs, and the traders who accumulate vast amount of wealth. While the rich roll in wealth and luxury, the poor live in poverty and squalor.

(3) Consumers' Sovereignty a Myth: Consumers' sovereignty is a myth under capitalism. Consumers have to buy only those commodities which are manufactured and supplied by the producers in the market. The majority of consumers are not rational buyers and are often ignorant about the utility and quality of the products available at the stores or shops. They are also misled by advertisement and propaganda about the usefulness of the products. Products which are produced by monopoly concerns are often of an inferior quality and are priced high.

Thus there is no consumers' sovereignty in a seller's market.

(4) Depression and Unemployment: Capitalism is characterized by business fluctuations and unemployment. Excessive competition and unplanned production lead to over production and glut of commodities in the market and ultimately depression and unemployment.

(5) Inefficient Production: Capitalism fails to produce goods in keeping with the society's requirements. Frivolous luxury goods and obnoxious articles are produced to satisfy the wants of the few rich at the expense of the necessities needed by the poor. Thus there is social wastage of economy's resources.

(6) Non-utilisation of Resources: The price mechanism under capitalism fails to employ the country's resources fully. Free and unfettered competition, inequalities of income distribution, over production, and consequent depression lead to wastage of productive resources. Besides, there is mass unemployment and freedom of occupation has little meaning under capitalism.

(7) Class Conflict: A capitalist society is characterised by class conflict. The poor are exploited by the rich. This leads to mutual distrust between the workers and the employers and to social unrest.

The above defects of capitalism have led the free enterprise economies of the West to modify this system by regulating and controlling the institutions of private property and freedom of enterprise to serve the best interests of the community at large. **Q. Explain the meaning of Socialism?**

Ans: Socialism means the system under which economic system is controlled and regulated by the government so as to ensure welfare and equal opportunity to the people in a society. The idea of socialism is first introduced by Karl Marx and Fredric Engles in their book, _The Communist Manifesto'. The word socialism

means ‗all things to all men'. The production and distribution of goods and factors of production are done by the state under the direction of the planning commission. The decisions as to how much to produce, which methods of production to employ and for whom to produce are taken by the planning authority. That is why a socialist economy is also called a planned economy. Such economies are China, Cuba, Vietnam, and North Korea. **Q. Explain the Features of Socialism?**

Ans. The main features of this system are detailed below.

(1) Public Ownership: A socialist economy is characterized by public ownership of the means of production and distribution. There is collective ownership whereby all mines, farms, factories, financial institutions, distributing agencies (internal and external trade, shops, stores, etc.), means of transport and communications, etc. are owned, controlled, and regulated by government departments and state corporations. A small private sector also exists in the form of small business units which are carried on in the villages by local artisans for local consumption.

(2) Central Planning: A socialist economy is centrally planned which functions under the direction of a central planning authority. It lays down the various objectives and targets to be achieved during the plan period. Central economic planning means ―the making of major economic decisions—what and how much is to be produced, how, when and where it is to be produced, and to whom it is to be allocated—by the conscious decision of a determinate authority, on the basis of a comprehensive survey of the economic system as a whole.‖

And the central planning authority organizes and utilizes the economic resources by deliberate direction and control of the economy for the purpose of achieving definite objectives and targets laid down in the plan during a specified period of time.

(3) Definite Objectives: A socialist economy operates within definite socio-economic objectives. These objectives ―may concern aggregate demand, full employment, satisfaction of communal demand, allocation of factors of production, distribution of the national income, the amount of capital accumulation, economic development…and so forth.‖ For achieving the various objectives laid down in the plan, priorities and bold targets are fixed covering all aspects of the economy.

(4) Freedom of Consumption: Under socialism, consumers' sovereignty implies that production in state- owned industries is generally governed by the preferences of consumers, and the available commodities are distributed to the consumers at fixed prices through the state-run department stores. Consumers'

sovereignty under socialism is confined to the choice of socially useful commodities.

(5) Equality of Income Distribution: In a socialist economy, there is great equality of income distribution as compared with a free market economy. The elimination of private ownership in the means of production, private capital accumulation, and profit motive under socialism prevent the amassing of large wealth in the hands of a few rich persons. The unearned incomes in the form of rent, interest and profit go to the state which utilises them in providing free education, public health facilities, and social security to the masses. —As far as wages and salaries are concerned, most modern socialists do not aim at complete and rigid equality. It is now generally understood that the maintenance offered choice of occupation implies wage differentials.‖

(6) Planning and the Pricing Process: The pricing process under socialism does not operate freely but works under the control and regulation of the central planning authority. There are administered prices which are fixed by the central planning authority. There are also the market prices at which consumer goods are sold. There are also the accountings prices on the basis of which the managers decide about the production of consumer goods and investment goods, and also about the choice of production methods. **Q. Explain the Merits of Socialism?**

Ans. (1) Greater Economic Efficiency: Economic efficiency under socialism is greater than under capitalism. The means of production are controlled and regulated by the central planning authority towards chosen ends. The central planning authority makes an exhaustive survey of resources and utilises them in the most efficient manner.

Increased productivity is secured by avoiding the wastes of competition and by undertaking expensive research and production processes in a coordinated manner. Economic efficiency is also achieved by utilising resources in producing socially useful goods and services which satisfy the basic wants of the people, like cheap food, cloth, and housing.

(2) Greater Welfare due to Less Inequality of Income: In a socialist economy there is less inequality of income as compared with a capitalist economy because of the absence of private ownership of the means of production, private capital accumulation, and private profit. All citizens work for the welfare of the state and each is paid his remuneration according to his ability, education and training. All rents, interests and profits from various sources go to the state which spends them for public welfare in providing free education, cheap and congenial housing, free public health amenities, and social security to the people.

(3) Absence of Monopolistic Practices: Another advantage of socialism is that it is free from monopolistic practices to be found in a capitalist society. Since under socialism all means of production are owned by the state, both competition and monopoly are eliminated. The exploitation by the monopolistic is absent. Instead of private monopoly, there is the state monopoly of the productive system but this is operated for the welfare of the people. In the state owned factories, socially useful commodities are produced which are of high quality and are also reasonably priced.

(4) Absence of Business Fluctuations: A socialist economy is free from business fluctuations. There is economic stability because production and consumption of goods and services are regulated by the central planning authority in accordance with the objectives, targets and priorities of the plan. Thus there is neither overproduction nor unemployment. **Q. Explain Demerits of Socialism?**

Ans. A socialist economy has also certain disadvantages which are as:

1. **Loss of Consumers' Sovereignty:** There is loss of consumers' sovereignty in a socialist economy. Consumers do not have the freedom to buy whatever commodities they want. They can consume only those commodities which are available in department stores. Often the quantities which they can buy are fixed by the state.

2. **No Freedom of Occupation:** There is also no freedom of occupation in such a society. Every person is provided job by the state. But he cannot leave or change it. Even the place of work is allotted by the state. All occupational movements are sanctioned by the state.

3. **Misallocation of Resources:** Under socialism, there is arbitrary allocation of resources. The central planning authority often commits mistakes in resource allocation because the entire work is done on trial and error basis.

4. **Bureaucratic:** A socialist economy is said to be a bureaucratic economy. It is operated like a machine. So it does not provide the necessary initiative to the people to work hard. People work due to the fear of higher authorities and not for any personal gain or self-interest.

There is no doubt that a socialist economy is better than a capitalist economy because of its overwhelming merits. But it is disliked for the loss of political, economic and personal freedoms. **Q. Explain meaning of Mixed economy?**

Ans. A mixed economy is a golden mean between a capitalist economy and a socialist economy. It is an economic system where the price mechanism and economic planning are used side by side. There is mixture of private and public ownership of the means of production and distribution. Some decisions are taken by households and firms and some by the planning authority. All developing countries like India are mixed economies.

Q. Explain Features of Mixed Economy?

Ans. 1. Public Sector: The public sector is under the control and direction of the state. All decisions regarding what, how and for whom to produce are taken by the state. Public utilities, such as rail construction, road building, canals, power supply, means of communication, etc., are included in the public sector. They are operated for public welfare and not for profit motive. The public sector also operates basic, heavy, strategic and defence production industries which require large investment and have long gestation period. But they earn profits like private industries which are utilised for capital formation.

2. **Private Sector**: There is a private sector in which production and distribution of goods and services are done by private enterprises. This sector operates in farming, plantations, mines, internal and external trade, and in the manufacture of consumer goods and some capital goods. This sector operates under state regulations in the interest of public welfare. In certain fields of production, both public and private sectors operate in a competitive spirit. This is again in the interest of the society.

3. **Joint Sector**: A mixed economy also has a joint sector which is run jointly by the state and private enterprises. It is organised on the basis of a joint stock company where the majority shares are held by the state.

4. **Cooperative Sector:** Under a mixed economy, a sector is formed on cooperative principles. The state provides financial assistance to the people for organising cooperative societies, usually in dairying, storage, processing, farming, and purchase of consumer goods.

5. **Freedom and Control:** A mixed economy possesses the freedom to hold private property, to earn profit, to consume, produce and distribute, and to have any occupation. But if these freedoms adversely affect public welfare, they are regulated and controlled by the state.

6. **Economic Planning:** There is a central planning authority in a mixed economy. A mixed economy operates on the basis of some economic plan. All sectors of the economy function according to the objectives, priorities and targets laid down in

the plan. In order to fulfill them, the state regulates the economy through various monetary, fiscal and direct control measures.
The aim is to check the evils of the price mechanism.

7. **Social Welfare:** The principal aim of a mixed economy is to maximise social welfare. This feature incorporates the merits of socialism and avoids the demerits of capitalism. To remove inequalities of income and wealth, and unemployment and poverty, such socially useful measures as social security, public works, etc. are adopted to help the poor. On the other hand, restrictions are placed on the concentration of monopoly and economic power in the hands of the rich through various fiscal and direct control measures.

8. **Q. Explain Merits of Mixed Economy?**

Ans.(1)Best Allocation of Resources: Since a mixed economy incorporates the good features of both capitalism and socialism, the resources of the economy are utilised in the best possible manner. The price mechanism, the profit motive, and the freedoms of consumption, production, and occupation lead to the efficient allocation of resources within the economy. But where the possibility of mal-allocation of resources appears, the state regulation and control rectifies it. Thus shortages are avoided, productive efficiency increases, and cyclical fluctuations are eliminated.

(2) General Balance: A mixed economy maintains a general balance between the public sector and the private sector. There is competition as well as cooperation between the two sectors which are conducive for achieving a high rate of capital accumulation and economic growth. Further, an estimate of the successes and failures of the two sectors can be made by comparing their respective performances, and corrective measures are adopted accordingly. Thus the inconsistencies of the private enterprise economy and the ‗paper guesses' of the planned economy are avoided in a mixed economy. By maintaining a higher level of production in the two sectors, the state is able to achieve the targets laid down in the plan.

(3) Welfare State: A mixed economy contains all the features of a welfare state. There is no exploitation either by the capitalists as under a free enterprise economy or by the state as under a socialist economy. The workers are not forced to work, Workers are provided monetary incentives in the form of bonus and cash rewards for inventions. Labour laws are passed fixing minimum wages, hours of work, and laying down the working conditions of workers in factories and on farms. Social security is also provided to workers in the event of unemployment, disablement, death, illness, etc. The production and sale of noxious articles are banned, while those of essentials are increased for the benefit of the people at large. Legislative measures are adopted to remove the concentration of economic

power in the hands of the few rich, and to lessen inequalities of income and wealth.

Q. Explain Demerits of Mixed Economy?

Ans.(1) Non-Cooperation between the Two Sectors: The experience of the working of mixed economies reveals that the public sector and the private sector do not see eye to eye with one another. The private sector is treated like a step-child and grows under the various restrictions imposed upon it by the state. The private sector is taxed heavily, while the public sector is given subsidies and preference over the former in the supplies of inputs. Thus a sense of bitterness and non-cooperation develops between the two sectors.

(2) Inefficient Public Sector: The public sector of a mixed economy is a big burden on the economy because it works inefficiently. Bureaucratic control brings in inefficiency. There is over-staffing of the personnel, red-tapism, corruption and nepotism. As a result, production falls and losses emerge.

(3) Economic Fluctuations: The experience of the working of the mixed economic system in the developed countries also reveals that they have not been able to remove economic fluctuations. This is because of the improper mixture of capitalism and socialism. The private sector is allowed to operate freely under a loose system of government regulations and controls. The public sector also does not operate under the rigid conditions which are laid down under a planned economy.

It has to depend for its supplies of raw materials, intermediate products and factors on the vagaries of the market mechanism. If in the market, the prices of inputs are increasing due to their shortages, the public sector will be equally experiencing these shortages and price increases. Hence economic fluctuations which are a characteristic feature of a capitalist economy are equally experienced in a mixed economy.

Conclusion: But the defects of the mixed economy enumerated above are not so acute that they cannot be overcome. Given efficient and honest administrative machinery, the defects of the public sector can be removed. The private sector can be made to work more efficiently by proper control and direction. By adopting fiscal, monetary and physical control measures, economic fluctuations can be eliminated.

Q. What is the meaning of demand?

Ans. Demand is that effective desire which can be fulfilled. Demand is the quantity of a good or service that consumers and businessman are willing and able to buy at a given price in a given time period. Demand refers to how much quantity of a product or service is desired by buyers. The quantity demanded is

the amount of a product people are willing to buy at a certain price. The term demand signifies the ability or the willingness to buy a particular commodity at a given point of time and price. It can be summarized as under that demand must satisfy the following requisites:

- Desire for a specific commodity.
- Sufficient resources to purchase the commodity.
- Willingness to spend the resources.

- Availability of the commodity at.
- Certain Price
- Certain place Certain time.

In this way, demand is an effective desire to obtain certain commodity at certain price, place and time.

Q. Difference between demand and quantity demanded?

Ans. Demand for a commodity. The term demand refers to various quantities of a commodity that the consumer is ready to buy at different possible prices of a commodity.

Quantity demanded. On the other hand quantity demanded refers to a specific quantity to be purchased against a specific price of the commodity. **Q. What are the determinants of Demand?**

Ans. The demand of a commodity is affected by many factors. Economists break down the determinants of an individual‘s demand into five categories‘. Most important among them are as follows:-

Price of Commodity (P_x):-Price is very important factor, which affects demand of a commodity. Generally the higher the price of a commodity is, the lower is the quantity demanded and vice versa.

 Price of Related Commodity(P_r):- Related commodities are of two types :- **(i)** Substitutes and **(ii)** Complementary goods. Change in the price of substitutes will affect the demand of other commodities, such as increase in price of tea will increase the demand of coffee. In the same way change in the price of complementary good will also change the demand of commodities such as increase in the price of cars will decrease the demand for petrol.

3. Income of the Consumer (Y): Demand of goods is directly relate with the income of the consumer. A rise in consumer‘s income will raise the demand for commodities and vice versa.

4. Tastes and preferences of consumer (T): We like to consume those commodities which suit our tastes. Generally, demand for a commodity bears a direct relationship to taste (T), a favorable taste leading to an increase in demand and vice versa.

5. Besides these, size and composition of population**,** distribution of income and expected change in future price are also some of the factors which influence the demand.

Q. What do you mean by determinants of demand?

Ans. The factors that influence a consumer‘s decision to purchase a commodity are known as determinants of demand.

Q. Define demand function?

Ans.A demand function explains the relationship between the demand for a commodity and various determinants. It shows how demand for a commodity is related to, say, price of the commodity or income of the consumer or other determinants. **Q. Define individual demand function?**

Ans. Individual demand function looks at only those determinants of demand that influence an individual household‘s demand for a commodity. Most important among these determinants are;

a) **Price of the commodity (PN).** Other things being, with a rise in price of a commodity, its demand contracts and with a fall in price, its demand extends. This inverse relationship between price of the commodity and its demand is called law of demand.

b) **Price of the other related goods (PR).** Demand for a commodity is also influenced by change in price of related goods. These are of two types 1) Substitute goods, 2) Complimentary goods. C. **Level of income and wealth (Y).** Income is an important factor which influences the demand. if the income of a consumer is high his demand will be more. If the income of a consumer decreases his demand for goods will also decrease.

c) **Tastes and preferences (T,U).**Tastes and preferences of consumer also affect the level of demand. Other things being equal demand for those goods increase for which consumers develop tastes and preferences. Contrary to it if a consumer has no taste or preference for a product, its demand will decrease. .

Symbolically individual demand function can be written as;

$D_N = F(P_N, P_R, Y, T.)$

Q. Define market demand function?

Ans. Market demand**(DN)**for a commodity is influenced by all those factors that affect an individual household‘s demand for a commodity. Market demand in turn is affected by a few other factors also. Most important among other factors are;

a) **Size of the population (PN).** Demand increases with increase in population and decrease with decrease in population. This is because with the increase or decrease in population size, the number of buyers of the product tends to increase or decrease.

b) **Distribution of income (PR).** Market demand is also influenced by change in the distribution of income in the society .if income is equally distributed, there will be more demand. If income is not equally distributed, there will

be less demand. In case of unequal distribution; most people will not have enough money to buy things.

c) **Composition of population (Y).** Composition of population also affects demand. If composition of population changes e.g. female population increases, demand for goods meant for women will go up.

d) Sociological factors;**(T)**

e) Weather conditions**;(U)**

Symbolically market demand function can be written as. $D_N = F (P_N , P_R, Y, T, U.)$

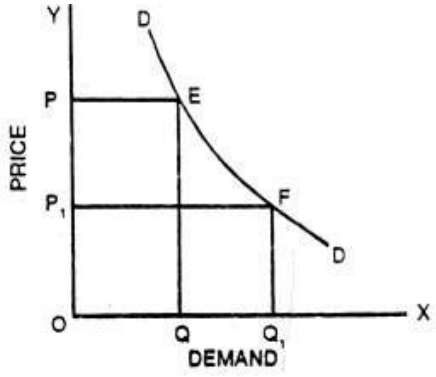
Q. Describe the Law of Demand?

Ans. TheLaw of demand expresses inverse relationship between price and its quantity demanded. It means that, other, things being equal, the demand of a commodity falls with a rise in price and rises with a fall in its price. Geometrically, it is represented by a downward sloping demand curve.

Law of demand may be explained with the help of demand schedule:-

Demand Schedule

Price (Rs.)	Demand (Units)
7	16
8	14
9	12
10	10
11	8
12	6



In the above diagram DD is the demand curve. X-axis represents demand and Y-axis represents price as shown in the diagram. When price is OP demand is OQ, when price falls from OP to OP_1 demand increases from OQ to OQ_1. When price increases from OP_1 to OP, demand decreases from OQ_1 to OQ. Generally, a demand curve slopes downwards to the right.

Assumptions of law of demand

Following are some **a**ssumption of law of demand Tastes and preferences of consumers remain constant.

- Income of consumer does not change.
- Price of related gods does not change.
- Consumers do not expect any change in the price of commodity in near future.

Limitations of Law of Demand: The law fails in case of following cases-

1. **Articles of Distinction:-**Articles of distinction have more demand only if their prices are high. Diamond, jeweler‘s costly carpets etc have high demand

because their prices are high. If their prices fall they will be no more considered as articles of distinction and so their demand will decrease.

2. **Necessities:-**Law of demand fails in case of necessary goods like salt. Because necessary goods have to be used whether their price is high or low.
3. **Giffen goods:-**Giffen goods are those goods whose demand falls with the fall in their price. In case of Griffin goods income effect is negative and stronger than substitution effect.
4. Extraordinary situations.
5. Changes in fashion
6. Expected changes in price.
7. Ignorance, habit and attitude.

Q. What are the causes of downward slope of demand Curve?

Ans. Demand curve slopes downwards from left to right because of following reasons:-

- **Law of diminishing Marginal Utility:-**According to this law, when a consumer uses more units of a commodity its marginal utility decreases continuously. Therefore the consumer will buy more units of that commodity only when its price falls. This proves that demand will be more at lower price and less at higher price. That is why demand curve is downwards sloping.
- **Substitution Effect:**-When the price of a commodity falls, it becomes cheaper in comparison to other commodities thus consumer starts to substitute this commodity in place of other commodities they have been using. E.g. when price of meat will increase consumer will substitute chicken for meat. it is known as substitution effect.
- **Income effect:**-With a fall in price of a commodity, purchasing power of a consumer will increase which enables him to purchase more of the same product. It is called income effect.

The combination of substitution effect and income effect becomes price effect which tells us that with the fall in price more of quantity is demanded and with rise in price less of the quantity is purchased, the demand curve, hence slopes down words from left to right. **Q. Describe Demand Schedule?**

Ans. Demand schedule is a tabular statement showing an inverse relationship between the price of a commodity and its quantity. Demand schedule is of two types:

- **Individual Demand Schedule:-**Individual demand schedule is defined as the quantities of a given commodity which a consumer will buy at different possible prices at a given moment. Table 1 is an individual schedule.

Price (Rs)	Quantity Demand In Units

1	4
2	3
3	2
4	1

When the price of a commodity is Rs. 1.The demand of a consumer at this price is 4 units and when price rises to 2,3,4 quantity demanded falls to 3,2,1 respectively.

2.Market Demand Schedule:-In every market, there are several consumers of a commodity .Market Demand Schedule is one that shows total demand of all the consumers in the market at different prices of the commodity .On the assumption that there are only two buyers in the market. Market demand schedule may be drawn as under:

Price of comm. Y	A's demand (1)	B's demand (2)	Market Demand (3)=(1+2)
1	4	5	4+5=9
2	3	4	3+4=7
3	2	3	2+3=5
4	1	2	1=2=3

Table No. 2

The schedule shows that when price of commodity Y increases its market demand falls. E.g. when price is Rs 1 then A's demand is 4 units and B, s demand is 5 units. Thus market demand at Rs 1 is 9 units. But when price rises to Rs 2 market demand falls to 7 units.

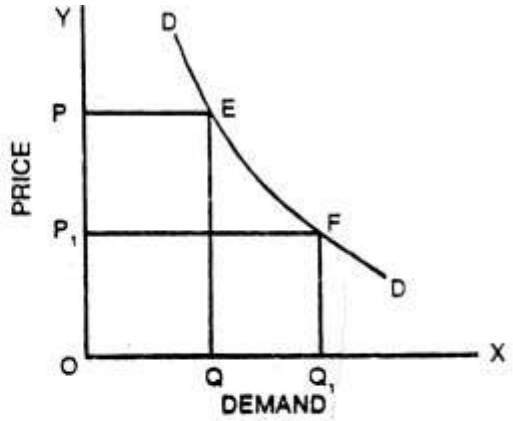
Q-What is demand curve and what are its types?

Ans. Demand curve is simply a graphical representation of the inverse relationship between the price and quantity demanded of a commodity. Like demand schedule demand curve is also of two types.

1. **Individual demand curve:-**It is graphic representation of individual demand schedule it shows different quantities demanded of a commodity by an individual consumer at different prices. In fig Individual demand curve has been shown. In this diagram when price is Re 7, 16 units are demanded when price rises to Rs 12 quantity demanded falls to 6 units. Demand curve DD slopes downwards show that there is inverse relationship between price and quantity demanded.

Demand Schedule

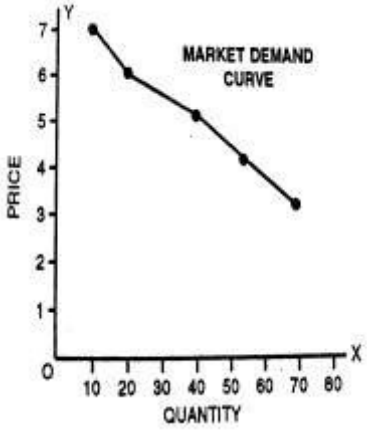
Price (Rs.)	Demand (Units)
7	16
8	14
9	12
10	10
11	8
12	6



Market D-curve. Market D-curve represents the total quantities of a commodity demanded by all the consumers in the market at different prices. It is the horizontal summation of the individual D-Curve.

Ans.

Price (Rs.)	Household 'A'	Household 'B'	Household 'C'	Market Demand
3	16	20	32	68
4	12	15	25	52
5	8	11	17	36
6	5	3	10	18
7	3	2	7	12

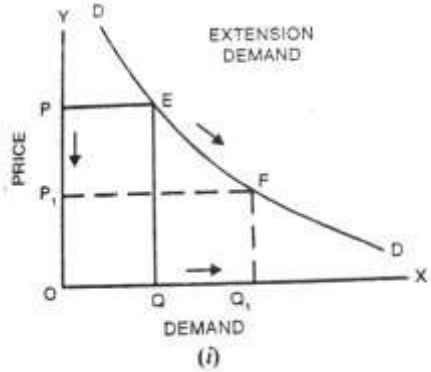


In fig 2 market demand curve had been drawn on the basis of table 2.By adding the different points on individual demand curves we get the market demand curve DD as shown in above fig. The slope of market demand curve is also negative indicating the negative relationship between price and demand.

Q. Explain extension and contraction of demand?

Ans. Extension of demand:-Other things remain the same, when due to fall in price more quantity of a commodity is demanded. It is called extension in demand. In case of extension in demand we move from a

Price in rupees	Demand in units
8	**14**
7	**16**
6	**18**
5	**20**



(i)

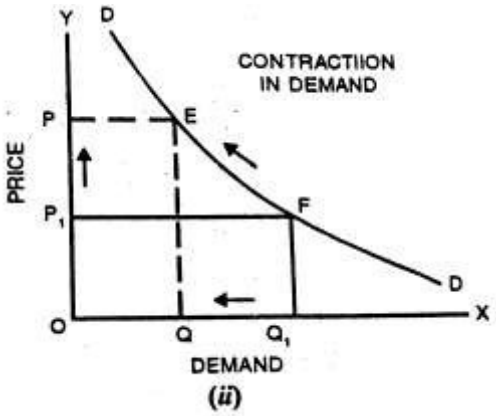
higher point to a lower point along the same demand curve.

Extension in demand is further explained in the following schedule and diagram. In the following schedule quantity demanded has increased from 14-20 due to fall in price from Rs 8 to Rs5.

It will be observed from the diagram that we move from point E to point F along the same demand curve DD.

Contraction of Demand:-Other things remaining the same when due to the rise in price quantity demand falls, it is termed as contraction of demand. In case of contraction we move from a lower point to a higher point along the same demand curve. It is further explained in the following schedule and diagram.

Price (in Rs.)	Demand (units)
5	20
6	18
7	16
8	14



In the above schedule quantity demanded falls from 20-15 units as price rise from Rs 5 to Rs 8 .From the fig it is clear that we move from a lower point F to higher point E along the same demand curve DD.

Q. Describe Increase in Demand?

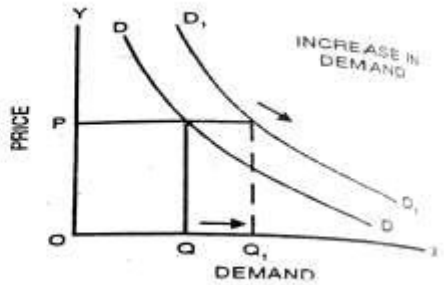
Ans:-It is also known as upward shift of demand Curve. When due to the factors other than price more quantity at same price is demanded, it is termed as increase in demand. The other factors, increase in income, increase in price of substitute goods etc In this case demand Curve shifts from left to right side.

Schedule showing Increase in Demand

Same Price More demand

Demand Schedule

Price (Rs.)	Demand (D)	Demand (D_1)
16	50	65
17	45	55
18	40	50
19	35	42
20	30	35



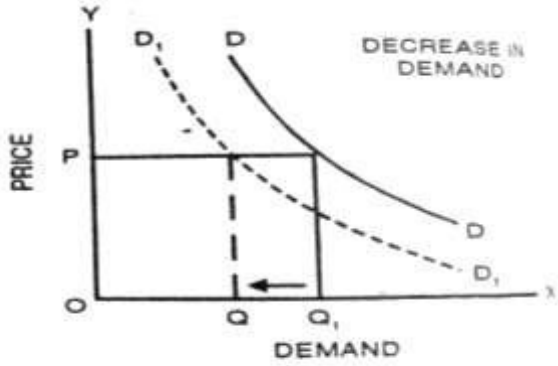
In the above diagram demand Curve DD shifts to right to a new Demand Curve $D_1 D_1$ and quantity demanded increases from OQ to OQ_1 while price remains same.

Q.9:- Decrease in Demand or Downward shift of D-Curve.

Ans: - When due to the factors other than price, smaller quantity at the same price is demanded, it is known as decrease in demand. In this case we shift from a right hand demand curve to a new left hand demand curve. It is also known as backward shift of D-Curve.

Demand Schedule

Price (Rs.)	Demand (D)	Demand (D_1)
10	50	40
11	45	35
12	40	30
13	35	25
14	30	20

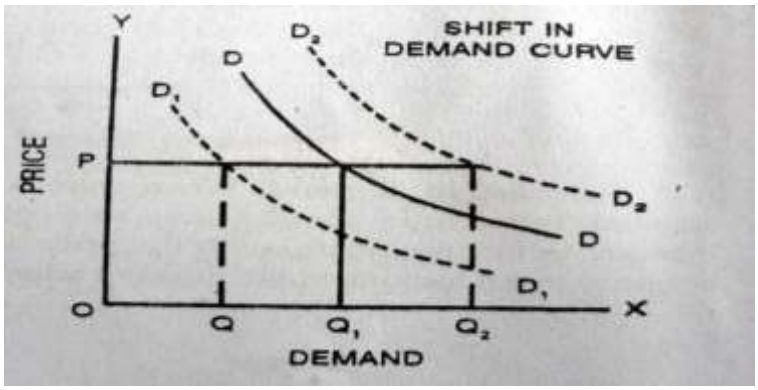


In the above figure demand curve DD shifts to left to a new demand curve D_1D_1 and quantity

decreases from OQ1 to OQ while price remains same.

Q. Write a note on shift in demand curve?

Ans. Shift in demand curve indicates increase and decrease in demand. Increase and decrease

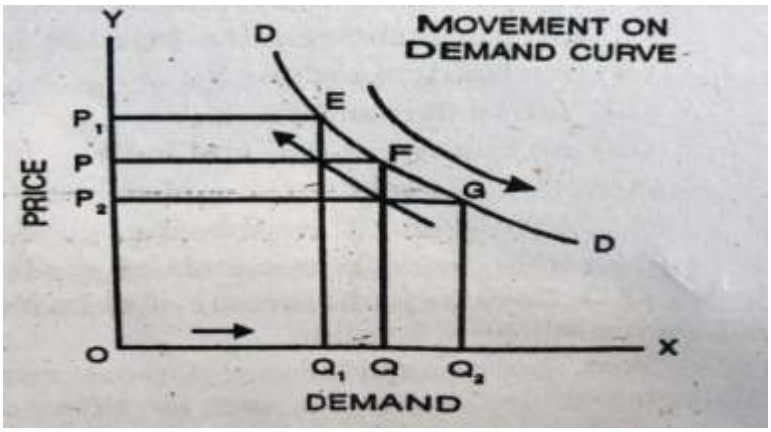


signify changes in demand which are not in accordance with the law of demand. Both upward and downward shift in demand curve is caused by other determinants of demand except the price. The shift in demand curve can be understood with the help of diagram.

When demand curve DD shifts to D_2D_2, it is a case of increase in demand, price is the same .i e, OP but demand increases from OQ TO OQ_2. When demand curve DD shifts downwards to D_1D_1, it is a case of decrease in demand, price is same i.e., OP but demand falls from OQ to OQ_1.

Q. Write a short note on movement on a Demand curve?

Ans. Movement on the demand curve indicates the conditions of extension and contraction in demand. Increase in price causes decrease in demand is known as contraction in demand. In this case we move along the same demand curve but equilibrium changes. This can be understood with the help of following diagram. In the diagram, when price goes down the equilibrium point moves downwards. On the other hand, when price goes up the equilibrium point move upwards. In short, the demand curve is the same but point of equilibrium moves.



Q.10:- Define Price Elasticity of Demand?

Ans:- Price elasticity of demand is a measurement of percentage change in quantity demand due to percentage change in price of that commodity or in other words the responsiveness of quantity demanded due to change in price is termed as price elasticity of demand. It expresses the relationship between quantity demanded of a commodity and its price. It can be written as:

Price elasticity of demand =percentage change in quantity demanded

Percentage change in price

Or ,in symbolic terms,

$$\mathbf{EP} = \frac{\Delta Q}{\Delta P} \times \frac{\mathbf{P}}{\mathbf{Q}}$$

Where, Ep stands for price elasticity q stands for quantity
Δq stands for change in quantity demanded p stands for price.
Δp stands for change in price

The elasticity of demand is always negative, although by convention it is taken to be positive by ignoring the negative sign. It is negative because change in quantity demanded is in opposite direction to the change in price. A change in demand is not always proportionate to the change in price. A small change in price may lead to a great change in demand. In that case, the demand is said to be elastic. If, on the other hand, even a big change in price is followed only by a small change in demand, it is said to be a case of inelastic demand. The elastic demand is said to be greater than unity and inelastic demand is less than unity. The elasticity of demand is unity (or one) when the percentage change in price results in an exactly compensating percentage change in the quantity demanded.

Income elasticity of demand: when change in quantity demanded is measured with respect to change in income of the buyers, it is called income elasticity of demand. Thus when income goes up , the demand may rise and vice versa. Therefore the term income elasticity of demand is used to estimate the degree of change in demand for a commodity with a given change in the income of the consumer,

Thus income elasticity of demand is equal to. = Percentage change in Demand

Percentage change in income

The formula is mathematically presented as under: **EP**

$$= \frac{\Delta Q}{\Delta Y} \times \frac{\mathbf{Y}}{\mathbf{Q}}$$

Here Δ stands for change
q Stands for original quantity demanded. y stands for original income.
Δq stands for change in quantity demanded.

Δy stands for change in income.

If e_y is > 1, demand is said to be more income elastic. If e_y is < 1 demand , is said to be less income elastic. When e_y= 1 it means changes in demand are in the same proportion as the changes in income or income elasticity is unity. If e_y=0 it means changes in income do not cause any change In the demand I,e the good has an income inelastic demand. The Income elasticity of demand of inferior goods is negative.

1. **Cross elasticity of demand:** this elasticity of demand is related to the changes that take place in the price of one commodity and the demand of other commodity. This elasticity signifies the rate of change in demand of one commodity as a result of change in the price of another commodity; this elasticity is based on substitution effect. To be more precise, Cross elasticity of demand may be defined as the ratio of proportionate change in demand of one commodity (say x) to the proportionate change in the price of another commodity (say Y). it can be measured by using the following formula.

$$\text{Cross elasticity} = \frac{\text{\% Proportionate change in demand for X}}{\text{\% Proportionate change in price of y}}$$

$$= \Delta Q_x/\Delta P_Y \times P_y/Q_X$$

Here, Q_x = original quantity of commodity x ,

ΔQ_x = change in the quantity of commodity x

Py = Original price of commodity

ΔP_y , = Change in the price of commodity y

Factors Determining Elasticity of Demand

There are several factors which determine the elasticity of demand.

(i)**For necessaries and conventional necessaries the demand is inelastic or less elastic**- We have to buy these commodities whatever be the price. A change in price, therefore, does not matter so far as the demand for such commodities is concerned. Salt is one such thing and wheat another. But in a poor country like India-even the demand for such things is somewhat elastic. The change in the price of wheat may be immaterial for upper and middle classes, but its consumption will certainly increase among the poor when its price falls.

(ii) **Demand for luxuries is elastic**- When the price of luxuries falls; people buy much more of them, and when the price raises the demand contracts. But luxury is a relative term. A highpriced luxury of the poor man is a low-priced necessary

for the rich. For the same thing demand of the lower classes may be elastic and that of the rich classes less elastic.

(ii **Availability of Substitutes:-**Demand for those commodities, which have substitutes available is more elastic. The reason being that when the price of the commodity falls in relation to its substitute, the consumers will demand more and more of it hence demand increases.Likewise ,commodities which have no substitutes like cigarettes, liquor etc have inelastic demand .

(viii) **Proportion of total expenditure allocated for the commodity**- If the proportion of total expenditure devoted to a commodity is small, the demand for it tends to be inelastic. For example, the percentage of budget devoted by a typical household to soap, salt and ink is quite small and consequently the demand for these goods is relatively inelastic.

Nature of commodity:- Ordinarily ,necessities like salt, match boxes, text books, seasonal vegetables etc has in elastic demand .Luxuries ,like air conditioners, costly furniture etc have elastic demand. The reason being that change in their prices has a great effect on their demand. Complementary goods like car and petrol, pen and ink etc. Have ordinarily inelastic demand

(ix) **Habit and fashion**- The demand for those goods which are habitually consumed or which are in fashion is inelastic. The reason is that such commodities become more or less a necessity for the consumer

(x) **Future expectations about price changes**-The future expectations about the price of any commodity also influence the elasticity of demand for it. For instance, if the price of any commodity is expected to rise in future, then a small decrease in its price will produce a considerable increase in its price.

(xi) **The state of joint demand**-In case of commodities having joint demand, the elasticity of demand for a good depends upon the elasticity of demand for other jointly-produced goods. For example, if the demand for cars increases, the demand for petrol will also increase with the same rapidity as the demand for cars does.

Q. Describe the measurement of price elasticity of Demand?.

Ans:-By measuring price elasticity of demand we know whether demand for a commodity is (i) Unitary elastic (ii) Greater than unitary elastic or (iii) less than unitary elastic. There are three different methods of measurement of price elasticity of demand they are: Total expenditure method. Proportionate method and Geometric method.

Q.12:- Explain expenditure method of measuring price Elasticity of Demand? Or outlay Ans:-This method was evolved by Marshall and is also known as total outlay method of measurement of price elasticity of demand under this method.

We measure price elasticity of demand by examining, the changes in total expenditure due to change in the price of the commodity. Total expenditure is equal to price multiplied by quantity demanded of a commodity i.e. Total expenditure= Price × Quantity demanded. (P x Q). Total expenditure method does not give us any exact value of elasticity. it only says whether **Ed>1, Ed<1 or Ed=1**

According to this method elasticity of demand is of three types which are as under:

- **Unitary Elastic demand (Ed=1):-** if rise or fall in price have no effect on total expenditure, elasticity of demand is said to be unitary elastic (Ed=1)
- **Greater than Unitary elastic (Ed>1):-** If with the fall in price of a commodity total expenditure increases and with the rise in price total expenditure falls. Then demand for commodity is said to be elastic or greater than unitary i.e.; Ed>1.
- **Less than Unitary Elastic (Ed<1):**- If with the fall in price total expenditure falls and with the rise in price total expenditure rises. Elasticity of demand is said to be less than unity i.e. Ed<1.

The three cases are also explained in the following schedule:

Schedule showing different elasticities of demand according to Total Expenditure method. **Three causes in the schedule**

Price (in Rs) P_x	Quantity demanded (Q_x units)	Total Expenditure $P_x . Q_x$	Elasticity of demand
4	5	20	
6	3	18	Ed>1
4	5	20	
5	4	20	Ed=1
4	5	20	
8	4	32	Ed<1

1. It is clear from above schedule that when prices of the commodity is Rs 4,the total expenditure is Rs. 20.when price increases from Rs 4 to Rs 6, total expenditure decreases from 20 to 18 and when price falls total expenditure increases. Hence elasticity of demand is greater than one. I.e. Ed>1.

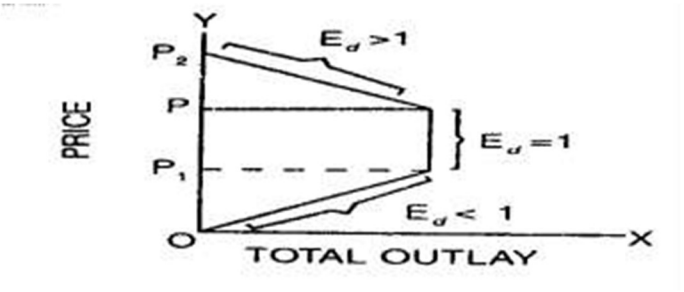
1. When total expenditure remains same with the increase in price from Rs. 4 to Rs 5, elasticity of demand is equal to be unitary elastic. The table shows that when the price of the commodity is Rs. 4, the total expenditure is Rs. 20. When the price of the commodity increases to Rs. 5. The total expenditure remains Rs. 20. Thus

change in price has no effect on total expenditure. therefore, elasticity of demand is unitary.

2. When price rises from Rs. 4 to Rs 8, total expenditure increases from 20 to 32, elasticity of demand is less than one i.e.; Ed<1

Total outlay method of measuring elasticity of demand is expressed diagrammatically as.

In the figure price is shown on X axies and total expenditure on Y axies. TE curve is total expenditure curve. TB shows inverse relationship between Price and total expenditure. It is a situation when Ed>1.EC shows positive relationship between price and total Expenditure. It is a situation when. Ed<1. BC shows total expenditure as constant in response to Increase or decrease in price. It is a situation when Ed=1.



Q. Explain Percentage (or) Proportionate method of measuring of price elasticity of demand?

Ans. This method was also suggested by Marshall. According to this method elasticity of demand is measured by the percentage or proportionate change in quantity demanded due to percentage or proportionate change in price. The following formula is used to measure the elasticity of demand.

Price elasticity of Demand= $\frac{\text{Percentage change in Demand}}{\text{Percentage change in price}}$

The formula is mathematically presented as under:

$$Ed = \frac{\Delta q}{\Delta P} \times \frac{p}{q}$$

Here Δ stands for change
q Stands for original
quantity demanded.

P stands for original price.

It is further explained by examples:

Hence demand is in elastic or less than unitary elastic

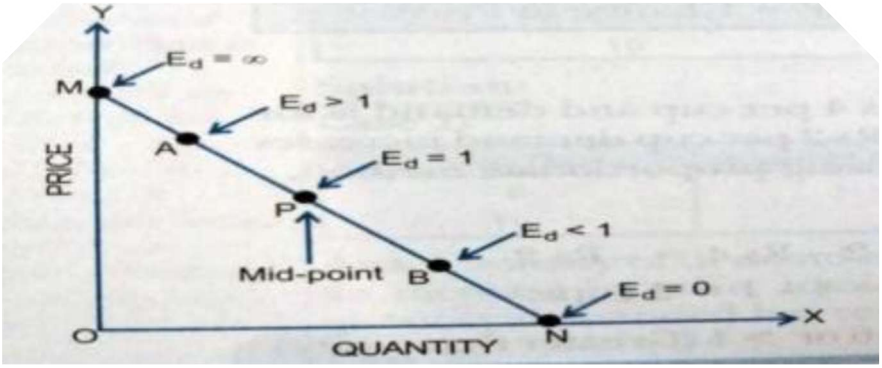
3 Point Method or Geometric method of measurement of Elasticity of demand:

- Price elasticity of demand is also measured geometrically. The method is also known as point method. According to this method elasticity of demand on each point on the straight line demand curve shall be different. According to this

method elasticity of demand on each point is measured with the help of following formula:

Elasticity of demand (Ed) = Lower segment of demand curve

Upper segment of demand curve



This is explained with the help of given diagram. Here along x-axis we measure quantity demand and along y-axis we measure price. MN is the straight line demand curve and we have to measure Ed on different points on demand curve MN. It has following cases:

- Elasticity of demand at mid point (P) of demand curve is equal to 1 i.e. (Ed=PN/MP=1) because lower segment is equal to upper segment of demand curve.
- Elasticity of demand at point M is infinity because lower segment is MN and upper segment is zero. Hence Ed =MN/o =∞

Elasticity of demand at point N is equal to 0 because lower segment is zero and upper segment is equal to NM. Hence ED= 0/NM= 0.

Elasticity of demand between M and P is greater than one say at point A because lower segment is greater than upper segment. E.g. at A. Ed = AN > 1

AM (AN > AM)

- Elasticity of demand at any point between P and N is less than one say at Point B because lower segment is less than upper segment. E.g. Ed=BN/BM < because BN >BM.

Q.1:- Give the meaning of Supply? Distinguish between supply and stock.

Ans: - Supply refers to the quantity of a commodity offered for sale considering different possible prices at a given point of time. According to Thomas, "The supply of goods is the quantity offered for sale in a given market at a given time at various prices".

Stock of a commodity refers to the total quantity of a commodity available in the market at any given time with the sellers. Supply refers to that part of the stock which the seller is prepared to sell at a given price and at a given time.

Q. What do you mean by supply function?

Ans. Supply function describes the functional relationship between supply of a commodity and other determinants of supply.

The important determinants of supply can be grouped together in a supply function as follows:

$S_N = f (P_N, P_R, F, T, G)$

Determinants of supply are as:

1) price of the commodity (P_N)
2) Price of related goods (P_R)
3) Price of the factors of production (F)
4) technical knowhow (T) and
5) Goals or general objectives of the producer.

Q.2:- What are the factors which determine the supply of a commodity?

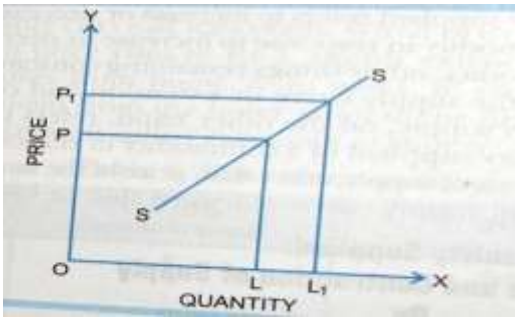
Ans: - Some of the important factors which determine the supply of a commodity as under:

- **Price of commodity:-**There is a direct relationship between price of a commodity and its quantity supplied. Generally, higher the price of a commodity higher will be its quantity supplied and vice versa.
- **Price of related goods:** - The supply of a good depends upon the price of other goods. An increase in the price of other goods makes them more profitable for the firm. They will increase its supply. On the other hand supply of the good whose price has not changed may decrease.
- **Number of firms:** - Market supply of a commodity also depends upon the number of firms in the market. Increase in the number of firms implies increase in the market supply.
- **Price of factors of production:**-Supply of commodity is also affected by the price of factors used for the production of the commodity. If the factor price decreases, cost of production also reduces accordingly supply increases.
- **Expected Change in future price:**-If the producer expects price of the commodity to rise in near future, current supply of the commodity will decrease and same is true for vice versa. **Q. What is supply schedule? What are its types?**

Ans. Supply schedule is a tabular presentation of various quantities of a commodity offered for sale corresponding to different possible prices. It has two aspects.

1. **Individual supply schedule:-**Individual supply schedule refers to supply schedule of an individual firm in the market. It shows supply response of a particular firm in the market An individual supply schedule is given as under:-

P_x (Rs)	S_x (Units)
10	100
11	200
12	300



It is clear from the table that as price rises supply extends. At Rs 10 the producer is willing to sell 100 units and when price rises to Rs 11, 12, quantity supplied extends to 200, 300 units respectively.

2) Market supply schedule:-It refers to supply schedule of all the firms in the market producing a particular commodity. It is horizontal summation of individual supply schedules in the market .Assuming that there are only two firms A & B in the market then there market supply schedule can be given as under:-

Table 2. Market Supply Schedule

Price of Ice cream (Rs)	Supply by Firm 'A' (Units)	Supply by Firm 'B' (Units)	Market Supply (Units)
5	0	0	0
10	10	5	10 + 5 = 15
15	20	10	20 + 10 = 30
20	30	20	30 + 20 = 50

From the above supply schedule it is clear that when price is Rs 5 firms are not willing to sell any unit hence market supply is 0.As price rises to 10 firm A supplies 10 units and firm B supplies 5 units. So the market supply is 15 units. Similarly when price rises further market supply also rises. **Q. What is Supply curve?**

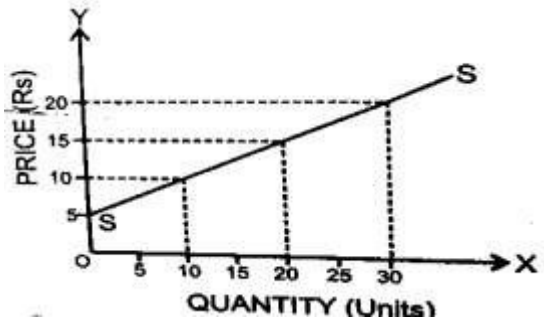
Supply curve is a graphic presentation of supply schedule, indicating positive relationship between price of a commodity and its quantity supplied. Like supply schedule, it has two aspects:

1) Individual
supply curve and
2) Market supply
curve.

- **Individual supply curve**

It is a graphic presentation of supply schedule of an individual firm in the market. Sloping upwards, it indicates positive

Price	Quantity
10	10
15	20

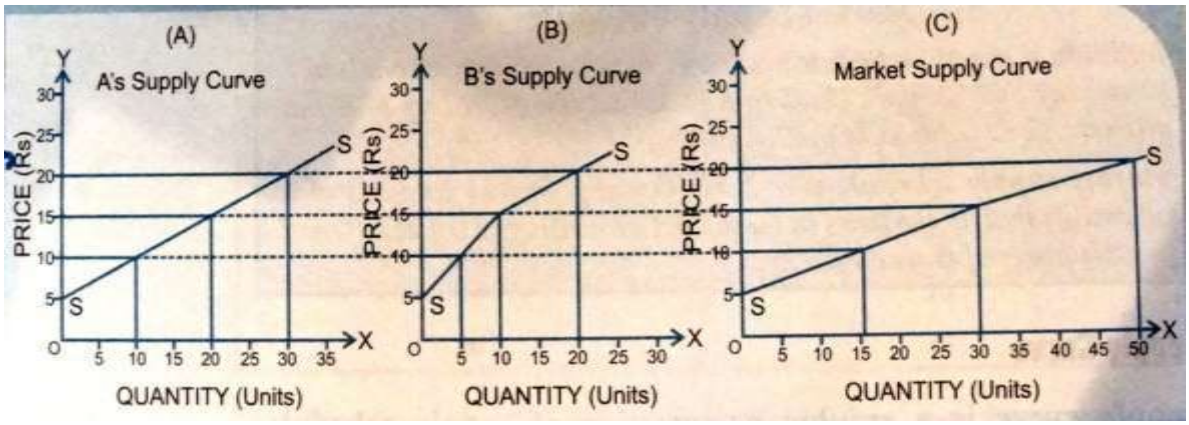


relationship between price of a commodity and its quantity supplied.

The diagram is drawn on the basis of the above individual supply schedule. In fig 1, SS is the supply curve .It has positive slope meaning thereby that as price rises, the supply extends. It is evident from this figure that, if price falls to Rs 5 or less than that, the seller will not be prepared to sell any units

B) Market Supply Curve:-

Market supply curve is a graphic presentation of market supply schedule. It is supply curve of the industry as a whole. It is derived by way of horizontal summation of supply curves of all the firms in the industry.



Market supply curve is explained in above diagram where we assume that there are only two firms producing a product in the market. When price is Rs 10 firm A supplies 10 units, firm B supplies 5 units and firm C supplies 15 units. Hence market supply is 10+5=15 units. When price rises to Rs 15 firm A supplies 20 units and Firm B supplies 10 units. Hence market supply is 20+10=30. SS is market supply curve which is derived by the summation of S_1S_1 and S_2S_2 which is supply of firm A and firm B respectively.

Q. Distinguish between joint supply and composite supply?

Ans. Joint supply: - when two or more than two commodities are supplied at a particular time that is called joint supply, e.g. wheat and husk bones and leather etc.

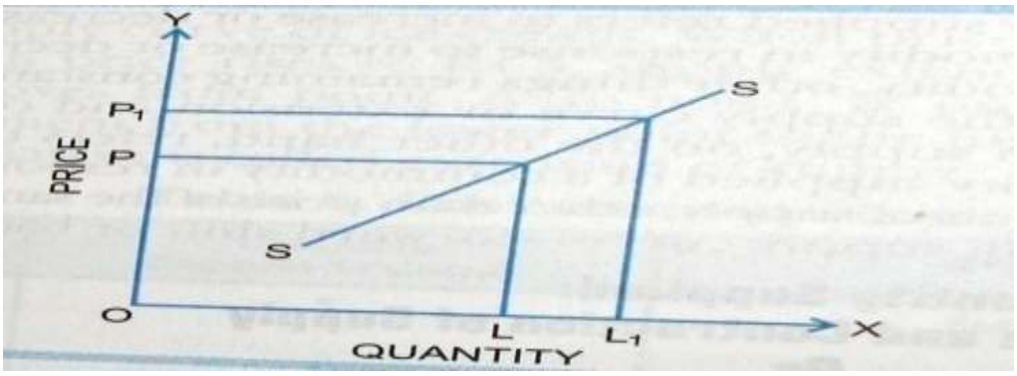
Composite supply: - When there are a number of sources of the supply of a single commodity that is called composite supply. E.g. Light can be supplied by electricity, gas, oil, torch, candle etc. **Q.3:- State and explain the law of supply?**

Ans: - Law of supply establishes the direct relationship between price and quantity of good supplied. According to this law, supply of the commodity will increase with increase in price and decrease with decrease in price, other things remaining the same. In other words price of the commodity and its supply move in the same direction. Law of supply is explained with the help of following supply schedule

P_X (Rs)	S_X (Units)
10	100
11	200
12	300

The table 1 shows that quantity supplied increases from 100 to 200, and 300 when price rises from Rs 10 to 11, and 12 respectively.

The law of supply may also be explained with the help of supply curve as under:



In the above figure quantity supplied is measured along X-axis and price along Y-axis. SS is supply curve which slopes upwards. It shows extension in quantity supplied in response to price. Thus quantity supplied extends from OL to OL_1 as price rises from 0P to $0P_1$. **Q.4:- What are the assumptions of law of supply?**

Ans: - Assumptions of law of supply are as under:-

1. There is no change in price of the factors of production.

2. There is no change in technique of production.

3. There is no change in the number of firms.

4. There is no change in prices of related goods.

Q.5- What are the exceptions to the law of supply?

Ans: - Law of supply does not hold good in case of following situations:

1) Law of supply does not apply strictly to agricultural commodities whose supply is governed by natural factors.

2) Supply of goods having social distinction will remain limited even if their price may rise high.

3) Sellers may be willing to sell more units of perishable goods although their price may be falling. **Q.6:- What do you mean by extension and contraction in supply?**

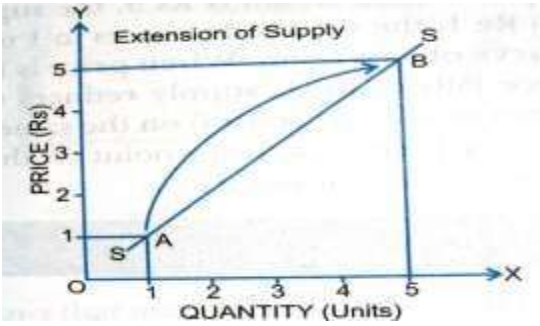
Ans: - When change in quantity supplied of a commodity is caused by change in its price, it is called extension or contraction of supply or movement along the supply curve.

 Extension of supply: - Other things remains the same, when quantity supplied of a commodity rises due to rise in price it is called extension of supply. It is shown in figure and table.

Success is like a train. It has several compartments: Hard work, Focus, Luck, etc. but leading all those is the engine of confidence. So keep it fit.

Table shows extension of supply

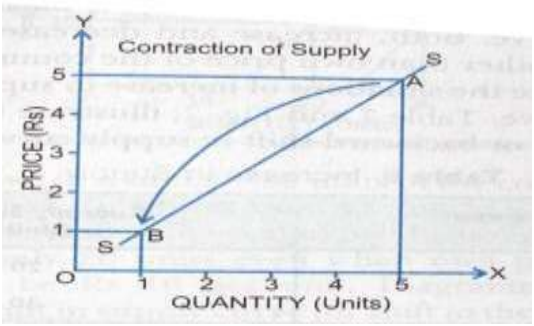
Price of X (Rs)	Quantity supplied (Units)
1	1
5	5



In the above table it is shown that when price rises from Rs. 1 to Rs. 5 quantity supplied extends from 1 to 5 units. In the figure also when price rises from 01 to 05 quantity supplied extends from 1 to 5. Movement from A to B shows extension in supply.

2. Contraction of supply: - Other things remaining same when quantity supplied of the commodity falls because of fall in price it is called contraction of supply. It is explained with the help of following table and figure:

Price of X (Rs)	Quantity supplied (Units)
5	10
1	5



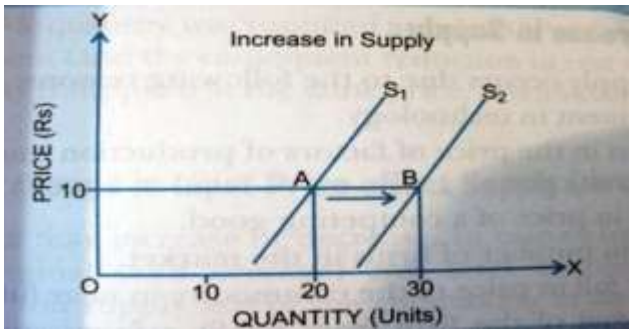
The above table shows that when price falls from Rs 5 to Rs. 1, quantity supplied contracts from 5 to 1 units. The figure also shows contraction of quantity supplied from 5 to 1 as price falls from 05 to 01. Movement from A to B along supply curve SS shows contraction of supply. **Q. What do you mean by increase or decrease in supply?**

Ans:-Increase In supply: - When quantity supplied of a commodity increases due to the factors other than price it is called increase in supply. In this case supply curve shifts to right.

1. **More quantity is supplied at the same price:-**This is explained with the help of following diagram and table:-

Px (Rs)	Quantity (supplied (units)
10	**20**
10	**30**

\



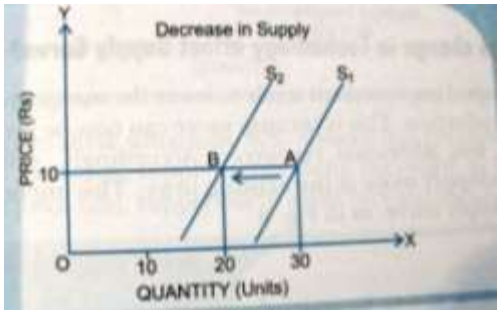
In the above table price remains same i.e. Rs 10 but quantity supplied increases from 20 to 30
units. In the figure also price remains same (10) but quantity supplied increases from 20
to 30 shift of supply curve from SS to S1S1 shows
increase in supply

Q10. What do you mean by decrease in supply?

Ans. When quantity supplied of a commodity falls because of factors other than price it is called decrease in supply. It is also called shift in supply curve because in this case supply curve shifts to left.

1 .**Less quantity is supplied at same prices:-**In this caseprice remains same but quantity supplied decreases. This is shown in the following diagram and table.

Same quantity is supplied at less price:-	Quantity supplied (Units)
10	30
10	20



Here in above table quantity supplied decreases from 30 to 20 units but price remains same. In the figure also price remains 10 but quantity supplied decreases from A to B supply curve shifts backwards to left from S_1S_1 to S_2S_2.

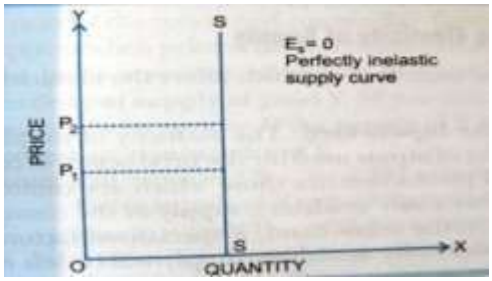
Q .What is price elasticity of supply?

Ans. Price elasticity of supply is a measurement of the percentage change in quantity supplied of a commodity in response to some percentage change in its price. In other words we can say that price elasticity of supply is proportionate change in quantity supplied due to proportionate change in price of the commodity.

Q. Bring out the difference between contraction of supply and decrease in supply?

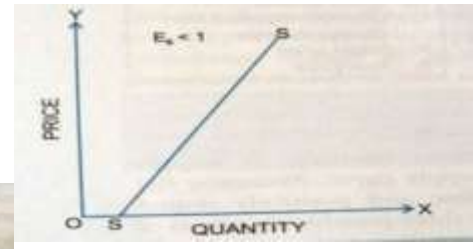
Ans. Fall in quantity supplied due to fall in price is called contraction in supply; whereas fall in quantity supplied due to factors other than the price is called decrease in supply. **Q. What are the degrees of elasticity of supply?**

Ans. There are five types of elasticity of supply which are as:

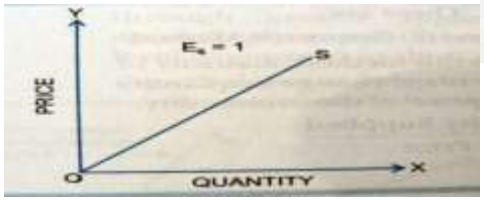


1) **Perfectly inelastic supply.** Supply of a commodity will be said to be perfectly inelastic, if the quantity offered for sale does not change with a change in

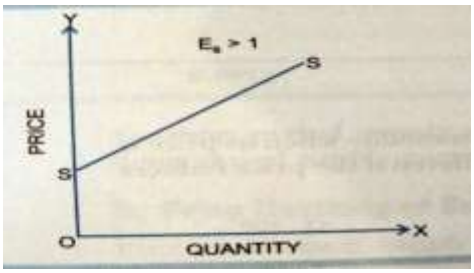
price. Supply of rare books, stamps etc. is of this type.



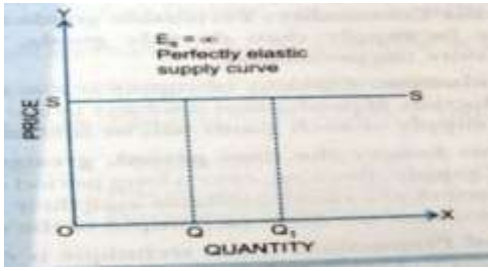
Inelastic or Less than unit elastic. Supply of a commodity is said to be inelastic if the percentage change in quantity supplied is less than the the percentage change in price.



2) **Unit elastic.** Supply of a commodity is said to be unit elastic if the percentage change in quantity supplied equals the percentage change in the price.



3) **More than unit elastic.** Supply of a commodity will be said to be more than unit elastic if the percentage change in quantity supplied exceeds the percentage change in price.



4) **Perfectly elastic supply.** Supply of a commodity is said to be perfectly elastic when the supply of it may increase or decrease to any extent irrespective of any change in its price.

Q. How price elasticity supply is measured?

Ans. There are two well known methods of measuring price elasticity of supply. These are.

- **Proportionate method and Geometric method.**
- **Proportionate method of measurement of elasticity of supply:-** According to this method elasticity of supply (Es) is the ratio between 'percentage change in quantity supplied "and 'percentage change in price' of the commodity.

$$Es = \frac{\text{Percentage change in quantity Supplied}}{\text{Percentage change in price.}}$$

Symbolically

$$\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

Where :

Δ represents change.

P represents' price and

Q represents quantity supplied.

Example:-A producer offers to sell 400 units of commodity when its price is Rs 10 per unit while offers only 200 units if the price falls to Rs 5 per unit. Find elasticity of supply? **Sol.** Q=400 q=200 P=10

P=5

Es= Δq/Δp × P/Q

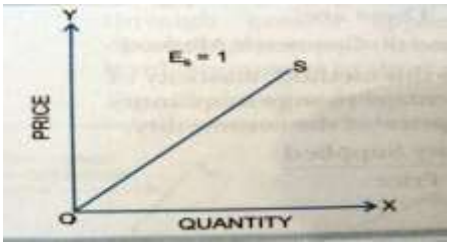
200/5 ×10/400 =1

Es=1 therefore elasticity of supply is equal to 1.

Geometric method of measurement of price elasticity of supply (Or) Degrees of price elasticity of supply:-

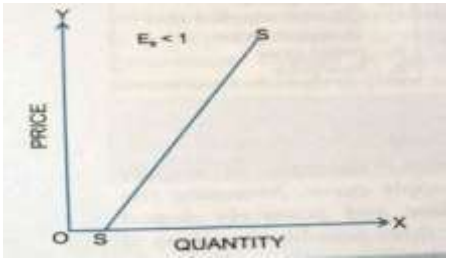
Geometrically, elasticity of supply depends upon the nature of supply curve .Assuming the supply curve to be a straight line we may have following situations of price elasticity of supply.

1- When the straight line, positively sloping supply curve starts from origin. Its elasticity of supply is equal to one .This is shown in figure (1)

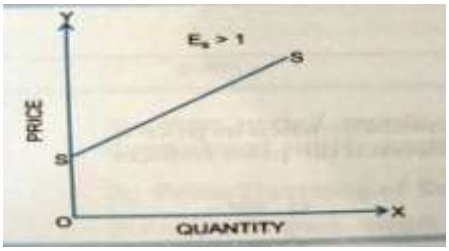


2-When the straight line supply curve starts from x-axis, elasticity of supply is less than one (Es<1)

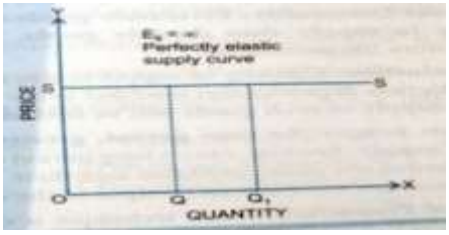
This is shown in figure (2)



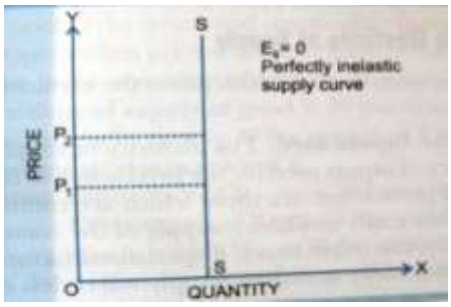
3-When the straight line supply curve starts from y-axis its elasticity of supply is greater than one (es>1) .This is shown in figure (3)



4-When the straight line supply curve is parallel to x-axis. Its elasticity of supply is equal to infinity .As shown in figure (4)



5-When the straight line supply curve is parallel to Y-axis .Its elasticity of supply is equal to zero. As sown in fig (5) **.**



Q5.What are the factors affecting elasticity of supply.

Ans. Following are the factors affecting elasticity of supply:-

- **Nature of inputs:-**If the production of a commodity utilizes factors of production that are commonly used to produce other goods, it will tend to have more elastic supply. On other hand if the factors are used to produce only one commodity, then its supply will be inelastic.
- **Natural constraints:** - Nature places restrictions upon supply. For example, if we wish to produce more of teak wood. It will take years of plantation before it becomes usable.
- **Risk taking**:-Elasticity of supply also depends upon the willingness of entrepreneurs to take risk. If they take risk the supply will be elastic. On the other hand if hesitate to take risk. Then the supply will be inelastic.
- **Nature of commodity:-**Perishable goods are relatively less elastic in supply than durable goods. Because it is difficult to store the perishable goods.
- **Cost of production:**-Elasticity of supply is also influenced by cost of production. If production is subject to law of increasing costs then supply of such goods will be inelastic.

Q. Explain Market Equilibrium?

The market equilibrium occurs when the prevailing price equates quantity demanded to quantity supplied. It refers to the price-quantity pair at which this takes place. Consumers bring demand to the market for buying goods to satisfy their wants. Producers or sellers bring supply of their goods to the market to sell them and earn profit. The market demand and supply determine prices of goods and services exchanged between buyers and sellers. Thus, market equilibrium is reached when market demand for and market supply of a good are equal and as a result, equilibrium prices and equilibrium quantities are determined. At such equilibrium, buyers find that they are able to buy exactly the same amount that they are demanding at the prevailing price and sellers are able to sell exactly the amount they are willing to supply at the prevailing price. In other words, there is no incentive for anyone in the market to change their behavior. Thus equilibrium is the condition, which once achieved tends persist in time.

By bringing together the market demand and supply schedules we can see how market forces determine equilibrium price and quantity of the good. The

following table presents a hypothetical demand and supply schedules of commodity X.

Price of commodity X (PX in Rupees)	Quantity Supplied (QXS)	Quantity Demanded (QXD)	Surplus (+) Shortage(-)	Pressure on Price
5	140	20	120	Downward
4	100	40	60	Downward
3	60	60	0	Equilibrium
2	40	80	-40	Upward
1	20	100	-80	Upward

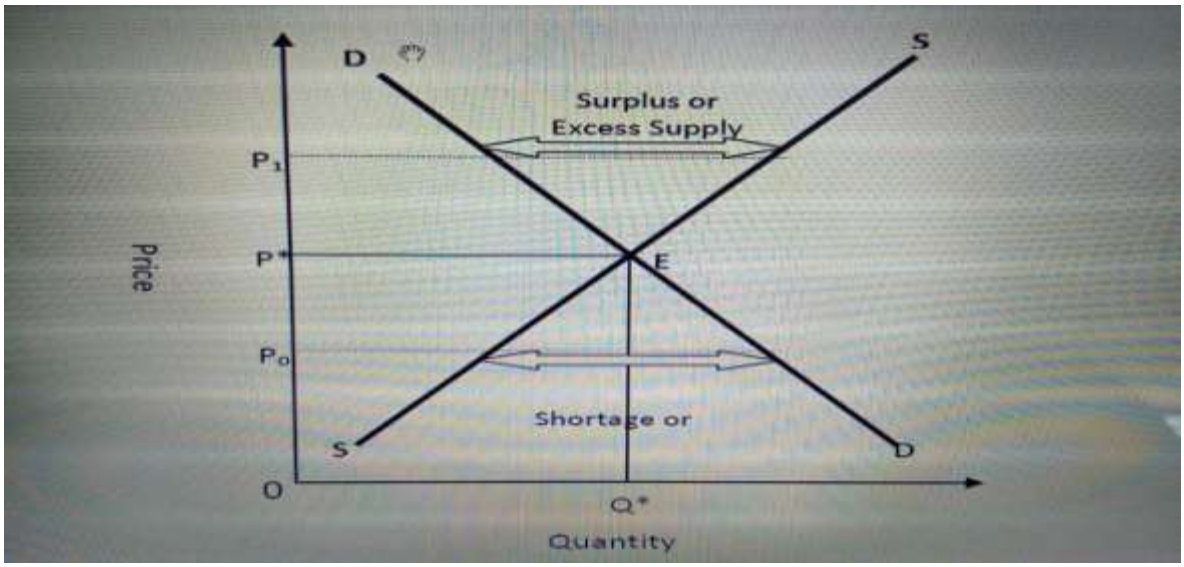
When the price of commodity X is Rs 1, buyers are willing and able to purchase 100 units but sellers are willing and able to offer only 20 units for sale. Therefore, there is a shortage of 80 units. At price of Rs 5, buyers are willing and able to purchase only 20 units while sellers are willing to offer 140 units. Therefore, there will be a surplus of 120 units in the market. Let us now consider a price of Rs 3. At this price, buyers are willing to purchase 60 units and sellers are willing to offer 60 units for sale. That is, at this price, there is neither a surplus nor a shortage. Quantity supplied of commodity is equal to the quantity supplied. Thus PX = Rs 3 is the equilibrium price and QXS = QXD =6o is the equilibrium quantity.

At any other price other than the equilibrium price of Rs = 3, market forces are set in motion to raise or lower the price. At the prices above the equilibrium price, the quantity supplied exceeds the quantity demanded. For example, at PX = Rs 4, sellers are willing to put 100 units of commodity X on the market but buyers are willing to take only 40 units. There will be surplus or excess quantity supplied of the commodity. Then the sellers will attempt to dispose this surplus by lowering the price. As price falls, a greater quantity will be demanded. At lower prices sellers supply smaller quantities and buyers demand larger quantities until the equilibrium price of Rs 3 is reached, at which the quantity supplied of 60 units of commodity X equals the quantity demanded and market clears.

On the other hand, at prices below the equilibrium price, the quantity supplied fall short of quantity demanded. For example, at PX = Rs 2, buyers are willing to purchase 80 units but sellers will be able to offer only 40 units. There is a shortage or excess quantity demanded. Unhappy with the shortage, and wanting more commodity X, buyers will bid up the price to induce sellers to supply them the desired amount. Then the sellers offer a greater quantity at higher prices. The price will again settle at PX = Rs 3, because at this price, the quantity demanded equals quantity supplied. Note that, price of Rs 3 is the only price that will prevail in the market. There will be no tendency of this price to change. Such a price is referred to as equilibrium price and quantity traded or exchanged at this price is called equilibrium quantity. The market for the product is said to be

in equilibrium when the quantity demanded equals the quantity supplied at a specific price.

The determination of equilibrium price and quantity can also be shown graphically by bringing together the market demand and market supply curve on the same graph, as shown below.



The intersection of market demand curve DD and market supply curve SS at point E defines the equilibrium price P* and the equilibrium quantity Q*. At the equilibrium price, quantity demanded is equal to the quantity supplied. Because there is no excess demand or excess supply there is no pressure for the price to change further.

As said above, the equilibrium between demand and supply is not reached at once. There is the process of changes and adjustments which ultimately results in equilibrium price and quantity. Suppose that price is above the equilibrium level, say at Pl. At such higher price, there is excess supply or surplus of the commodity. Then the sellers would begin to lower prices in order to sell their excess suppliers. This surplus is eliminated as prices fall, quantity demanded increases and quantity supplied would decrease until the equilibrium price P* is reached, at which quantity demanded = quantity supplied. The opposite will happen if the price is below the equilibrium price, say at PO. There will be excess demand or shortage. Consumers are unable to purchase the entire commodity they want at below-equilibrium prices and they bid up the price. This would put upward pressure on price and quantity supplied increases and until price eventually reach the equilibrium price P*, and the market clears.

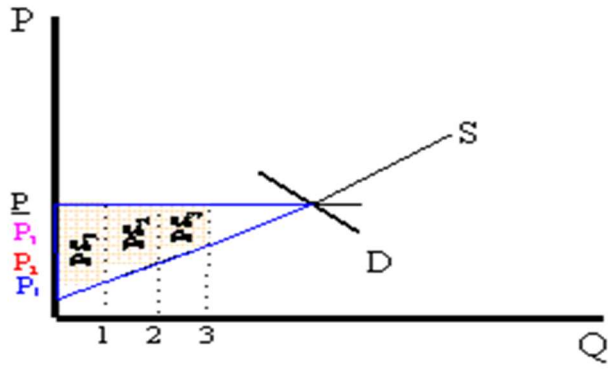
Thus, through the process of adjustment in price and quantity, eventually equilibrium price and quantity are determined at which quantity demanded and supplied are equal. As long as demand and supply do not change, the equilibrium point remains the same. But in should be noted that, at a particular point in time, the observed market price may or may not be the equilibrium price. All we know is that market forces always push the market price towards

the equilibrium price when they are not equal. We can also assume that, in the absence of price controls, the market price is the equilibrium price.

Q. Explain meaning of producer Surplus?

Ans. Producer Surplus is used to measure the welfare of a group of firms who sell a particular product at a particular price. **Producer surplus is defined as the difference between what producers actually receive when selling a product and the amount they would be willing to accept for a unit of the good.** Firms' willingness to accept payments can be read off of a market supply curve for a product. The market supply curve shows the quantity of the good that firms would supply at each and every price that might prevail. Read the other way, the supply curve tells us the minimum price that producers would be willing to accept for any quantity demanded by the market.

A graphical representation of producer surplus can be derived by considering the following exercise. Suppose that only one unit of a good is demanded in a market. As shown in the adjoining Figure, some firm would be willing to accept the price P_1 if only one unit is produced. If two units of the good were demanded in the market then the minimum price to induce two units be supplied is P_2. A slightly higher price would induce another firm to supply an additional unit of the good. Three units of the good would be made available if the price were raised to P_3, etc.

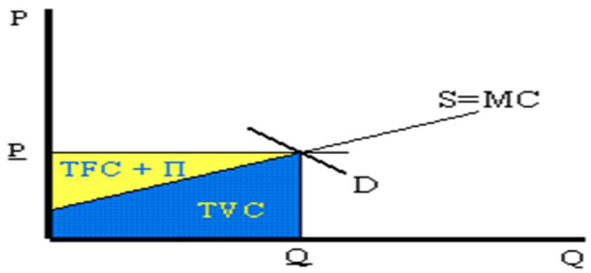


The price that ultimately prevails in a free market is that price which equalizes market supply with market demand. That price will be P in the diagram. Now go back to the first unit demanded. Some firm would have been willing to supply one unit at the price P_1 but ultimately receives P for the unit. The difference between the two prices represents the amount of producer surplus that accrues to the firm. For the second unit of the good, some firm would have been willing to supply the unit at the price P_2 but ultimately receives P. The second unit generates a smaller amount of surplus than the first unit.

We can continue this procedure until the market demand at the price P is reached. The total producer surplus in the market is given by the sum of the areas of the rectangles. If many units of the product are sold then the one-unit width would be much smaller than shown in the diagram.

Thus, **total producer surplus can reasonably be measured as the area between the supply curve and the horizontal line drawn at the equilibrium market price**. This is shown as the white triangle in the diagram. The area representing producer surplus is measured in dollars.

Producer surplus can be interpreted as the amount of revenue allocated to fixed costs and profit in the industry. This is because the market supply curve corresponds to industry marginal costs. Recall that firms choose output in a perfectly competitive market by setting price equal to marginal cost. Thus marginal cost is equal to the price P in the Figure at industry output equal to Q. Marginal cost represents the addition to cost for each additional unit of output. As such it represents additional variable cost for each additional unit of output. This implies that the area under the supply curve at an output level, such as Q represents total variable cost (TVC) to the industry and is shown as the black area in the diagram.



On the other hand, the market price times the quantity produced (P x Q) represents total revenue received by firms in the industry. This is represented as the sum of the black and hite areas in the diagram. The difference between total revenue and total variable cost, in turn, represents payments made to fixed factors of production (TFC) and any short-run profits () accruing to firms in the industry. (The white area in the diagram, i.e., the area between the price line and the supply curve). This area is the same as producer surplus as defined above. Since fixed factors of production represents capital equipment that must be installed by the owners of the firms before any output can be produced, it is reasonable to use producer surplus to measure the well-being of the owners of the firms in the industry.

Q. Explain meaning of Consumer's Surplus?

Ans. Consumer's surplus is the excess of what we are prepared to pay over what we actually pay for a commodity. It is the difference between what we are prepared to pay and what we actually pay. Thus, Consumer's surplus = what one is prepared to pay minus what one actually pays.

We can put it in the form of an equation thus:

Consumer's Surplus = Total Utility – Total Amount Spent.

Explanation:

We can illustrate the concept of consumer's surplus with the help of the table given below:

1	2	3	4
Units (Oranges)	*Marginal utility*	*Price (P.)*	*Consumer's surplus*
1	200	50	150
2	180	50	130
3	150	50	100
4	110	50	60
5	50	50	0
Total units purchased = 5	Total utility = 690	Total money spent = Rs. 2.50P	440

It is assumed in the above table that the price of oranges in the market is 50 P per orange. The consumer will purchase as many oranges as make his marginal utility equal to the price. Thus he will purchase 5 oranges and pay for each 50 P. In this way he will spend in all Rs. 2.50P. But the total utility of the 5 organs is equal to 690 P He thus gets a consumer's surplus equal to (690 – 250) =440P.The consumer's surplus can also be found from the fourth column of the table. The utility of the first unit of oranges to the consumer is equal to 200 P.; therefore he would be prepared to pay 200 P. for it rather than go without it. But he pays for the first orange only 50 p. because the price of an orange in the market is 50 p.

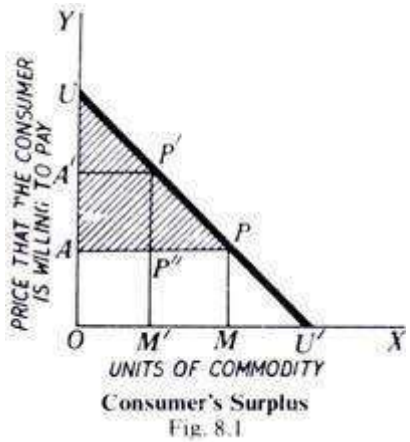
Therefore, from the first unit, the consumer gets consumer's surplus equal to (200 —50) = 150P, which is written m the fourth column. Similarly, the utility of the second orange is equal to 180, while the consumer pays 50P. For it and therefore obtains (180 — 50) = 130P. as consumer's surplus. From the fifth unit the consumer derives satisfaction equal to 50 and he also pays 50P for it. Thus there is no consumer's surplus from the fifth unit. Now if we add the figures in the 4th column, we shall get the total consumer's surplus equal to 440P.

Diagrammatic Representation: We can represent consumer surplus with the help of the following diagram. Along OX are measured the units of the Commodity and along OY is measured Marginal utility in terms of money, which

means the price that the consumers willing to pay, rather than go without a particular unit of the commodity.

If the market price is PM, the consumer will extend his purchase up to the Mth unit: That is, he will purchase OM quantity. This is so because for this amount his marginal utility is equal to the price. But his marginal utility for the earlier units is more than PM. For M ‗th unit, for instance, his marginal utility is P'M', but he only pays the market price PM (= P‖M') for this unit as for others. He thus obtains an excess of utility for the M ‗th unit equal to P'P‖. This is consumer's surplus from this unit.

Similar surplus arises from the purchase of other units. The total consumer's surplus thus derived by him when OM units are purchased at PM Price is shown by the shaded area UAP. If the market price rises to ‗M' he will purchase only OM' quantity and the consumer's surplus will fall to the smaller triangle UA ‗P'.



Consumer's Surplus
Fig. 8.1

Can Consumer's Surplus be Measured?

It looks as if consumer's surplus can be measured. The measurement of consumer's surplus, however, is not as simple as that. There are numerous difficulties which stand in the way of the precise measurement of consumer's surplus, e.g.,

(i) A Complete list of demand prices is not available**:** We are aware only of a part of the demand schedule. What we may be prepared to pay for certain units is all a guess-work.

(ii) Consumer's surplus in the case of necessaries of life and conventional **necessaries is indefinite and immeasurable.**

(iii)The incomes of the consumers differ: Some consumers are rich, while others are poor. They all pay the same price. Thus, the poor consumer makes a greater sacrifice to get a commodity. This difference in the consumer's circumstances makes the measurement of consumer's surplus difficult and inexact.

(iv) Consumers differ in sensibilities: Every consumer has his own tastes and sensibilities, and is therefore prepared to offer different amounts for the same commodities.

(v) Marginal utility of money changes: As we go on buying a commodity, less and less amount of money is left with us. Hence marginal utility of each unit of money increases with every successive purchase of a commodity. If we ignore this change in the utility of money, our calculations of the consumer‘s surplus cannot be scientifically accurate.

(vi) The utility of the earlier units of a commodity decreases and this decrease is not taken into account when calculating the consumer‘s surplus.

(vii) Then, there is the difficulty arising out of the presence of substitutes. If there were no tea, the utility of coffee would have been much greater, and vice versa.

Conclusion: We may conclude by admitting that the exact measurement of consumer‘s surplus in a market is impossible. But on that account we cannot say that the concept of consumer‘s surplus is of no value. We can have some estimate of consumer‘s surplus, rough as it may be. Even this is of very great practical value.

UNIT II: CONSUMER THEORY

2.1) UTILITY- CONCEPT

The concept of „utility“ was introduced to social thoughts by Bentham in 1789 and t o economic thoughts by Jevons in 1871. In general sense, utility is the „want satisfying power“of a commodity. In economic sense, utility is a psychological phenomenon: it is a feeling of satisfaction, pleasure, or well-being which a consumer derives from the consumption or possession of a commodity. Economists hold different views on whether utility is measurable in absolute terms. Broadly speaking there are two views regarding the measurement of utility: a) Cardinal or Quantitative Measurement of Utility and B) Ordinal Measurement of Utility.

a) Cardinal or Quantitative Measurement of Utility : The classical and neo-classical economists held the view that utility is cardinally or quantitatively measurable. It can be measured in cardinal numbers like weight, height, length, etc. As regards measurement of utility, some early psychological experiments on individuals “response to different kinds of stimuli led the neo-classical economists to believe that utility is measurable in cardinal terms, i.e., it can be expressed in terms of cardinal numbers- 1,2,3, ...

The neo-classical economists devised the following system to measure the utility of a commodity. A neo-classical economist, Walras, coined a term „util", meaning „units of utility" and used money as the measure of utility with the following assumptions:

(i) utility of a commodity equals the money a consumer is willing to pay for it;
(ii) marginal utility of money remains constant; and
(iii) one util = one unit of money, e.g., Re 1 = 1 util;

According to this method, the utility of a commodity for a consumer equals the money (the price) which he or she is willing to pay for the commodity. For example, if a thirsty person is willing to pay Rs 20 for one bottle of water, his/her utility of one bottle of water is 20 utils.

This method of measuring utility has been rejected by the modern economists as it was realized over time that absolute or cardinal measurement of utility is not possible. The difficulties in measuring utility proved insurmountable. Money was not found to be a reliable measure of utility because utility of money changes with its stock. Neither economists nor psychologists nor other scientists could devise a reliable technique or instrument for measuring the feeling of satisfaction or utility. The modern economists have, therefore, discarded the concept of cardinal utility.

b) Ordinal Measurement of Utility:

Modern economists, on the other hand, hold the view that utility can be expressed only in ordinal terms, i.e., in terms of „less than" or „more than". It is not a quantity or a numerical value. It is only an expression of the consumer"s preference for one commodity over another or for one basket of goods over another. The concept of ordinal utility is based on the following axioms:

(i) It may not be possible for a consumer to express his utility in quantitative terms. But it is always possible for him to tell which of any two goods he prefers. For example, an individual may not be able to specify how much utility he derives by eating a mango. But he can always tell what he prefers between mango and apple, between a pair of shoes and a fancy hat, and so on.

(ii) A consumer can list all the commodities he consumes in the order of his preference. In the opinion of the ordinalists, these assumptions are sufficient to analyse consumer behavior. In their opinion, absolute measurement of utility is neither feasible nor necessary for analyzing consumer behaviour. This marks the most significant departure of the ordinalists from the cardinal utility approach to consumer analysis.

Assumptions of the Ordinal Utility Theory:

The ordinal utility theory makes the following assumptions.

i) **Rationality :**A consumer is assumed to be a rational being. He aims at maximising his satisfaction. Given his income and prices of goods and services he consumes, his decisions are consistent with his objectives. Also, he has full knowledge of his own circumstances and conditions required for rational decision.

ii) **ii) Ordinal utility:** Unlike cardinal utility approach, ordinal utility approach assumes that utility is ordinally measurable by consumer"s subjective evaluation. That is, a consumer

is able to express only the order of his preferences. **iii) Transitivity and consistency of choice.** Consumer‟s choices are assumed to be transitive. Transitivity of choice means that if a consumer prefers A to B and B to C, he must prefer A to C. Or, if he treats A = B and B = C, he must treat A = C. Consistency of choice means that if a consumer prefers A to B in one period, he must not prefer B to A in another period or treat them as equal, everything remaining the same. The transitivity and consistency in consumer‟s choices maybe symbolically expressed as follows.

Transitivity: If A> B, and B > C, then A > C, and

Consistency: If A> B in one period, then B ≯ A or B ≠ A in another.

iv) Nonsatiety: Nonsatiety means that the consumer has not reached the point of saturation in case of any commodity and he is not oversupplied with goods in question. Therefore, a consumer always prefers a larger quantity of all the goods.

v) Diminishing marginal rate of substitution: The marginal rate of substitution is the rate at which a consumer is willing to substitute one commodity (X) for another (Y) so that his total satisfaction remains the same. This rate is given by ΔY / ΔX. The assumption is that ΔY / ΔX goes on decreasing, when a consumer continues to substitute X for Y.

2.1.1) TOTAL UTILITY:

According to the cardinal utility approach, it is possible to measure and express total and marginal utility in quantitative terms. Total utility (TU) from a single commodity, maybe defined as the sum of the utility derived from all the units consumed of the commodity. For example, if a consumer consumes 4 units of a commodity and derives U_1,U_2,U_3 and U_4 utils from the successive units consumed, then

$$TU = U_1+U_2+U_3+U_4$$

If he consumes n units, then his total utility (TU) from n units may be expressed as

$$TU_n = U_1 + U_2 + U_3+..... + U_n.$$

In case number of commodities consumed is greater than one, then

$$TU = TU_a + TU_b + TU_c+..... +TU_n$$

where subscripts a, b, c and n denote commodities.

2.1.2) MARGINAL UTILITY:

The marginal utility can be defined as the utility derived from the marginal or the last unit consumed. Marginal utility is defined also as the addition to total utility derived from the consumption or acquisition of one additional unit. More precisely, marginal utility (MU) is the change in the total utility resulting from the consumption of one additional unit. That is,

$$MU = \frac{\Delta TU}{\Delta C}$$

where ΔTU = change in total utility, and ΔC= change in consumption by one unit.

Marginal utility (MU) may also be expressed as

$$MU = TU_n - TU_{n-1}$$

where TU_n = total utility derived from the consumption of n units and TU_{n-1} = total utility derived from the consumption of n-1 units.

2.2) THE LAW OF DIMINISHING MARGINAL UTILITY

The law of diminishing marginal utility is central to the cardinal utility analysis of the consumer behaviour. This law states that as the quantity consumed of a commodity increases per unit of time, the utility derived by the consumer from the successive units goes on decreasing, provided the consumption of all other goods remains constant. This law stems from the facts (i) that the utility derived from a commodity depends on the intensity or urgency of the need for that commodity, and (ii) that as more and more quantity of a commodity is consumed, the intensity of desire decreases. For these reasons, the utility derived from the marginal unit goes on diminishing. For example, suppose a hungry person is offered bananas to eat. The satisfaction which he derives from the first banana would be the maximum because intensity of his hunger is the highest. When he eats the second banana, he derives a lower satisfaction because intensity of his hunger is reduced. As he goes on eating more bananas, the intensity of his hunger goes on decreasing and therefore the satisfaction which he derives from the successive units goes on decreasing. If he continues to eat bananas, a point is reached when his hunger is fully satisfied and, therefore, the last banana gives him zero utility. Eating bananas any more will give him a negative utility in the form of discomfort or stomach ache. This relationship between quantity consumed and utility derived from each successive unit consumed is called the law of diminishing marginal utility.

Numerical example : Numerical illustration of the law of diminishing marginal utilityis presented in Table 2.2 below. As the table shows, total utility increases with increase in consumption of bananas, but at a decreasing rate. It means that, MU decreases with increase in consumption. This is shown in the last column of the table.

TABLE 2.2: Total and Marginal Utility

Bananas	Total Utility	Marginal Utility
1	40	40
2	70	30
3	90	20
4	100	10
5	100	0
6	90	-10

Table 2.2 shows that the total utility reaches maximum at 100 when5bananasare consumed. Here, MU = 0. Consumption of the 6^{th} banana yields negative utility and the total utility starts declining.

Graphical illustration: The law of diminishing marginal utility is graphically illustrated in Figure2.2. The total utility (TU) and marginal utility (MU) curves have been obtained by plotting the data given in Table 2.2. The total utility curve (TU) is rising till the 5th banana is consumed. Note that the TU curve is rising but at a diminishing rate. It shows decrease in the MU,i.e., the utility added to the total. The diminishing marginal utility has been shown by the MU curve. Beyond 5bananas consumed, the marginal utility turns negative. It means that additional consumption of bananas yields disutility in the form of discomfort.

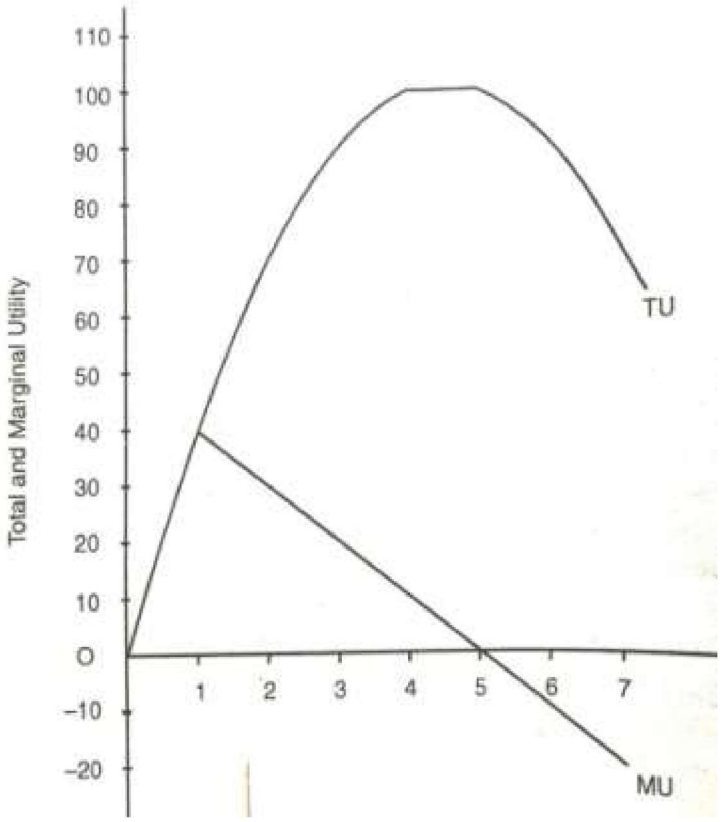


FIGURE 2.2

Assumptions: The law of diminishing marginal utility is based on the following assumptions.

1. The unit of the consumer goods must be standard, e.g., a cup of tea, a bottle of cold drink, a pair of shoes or trousers etc. If the units are excessively small or large, the law may not apply.
2. Consumer‟s taste and preference remain unchanged during the period of consumption.
3. There must be continuity in consumption and where break in continuity is necessary, it must be appropriately short.
4. The mental condition of the consumer remains normal during the period of consumption. For, if a person is eating and also drinking (alcohol) the utility pattern will not be certain.

Given these conditions, the law of diminishing marginal utility holds universally. In some cases, e.g., accumulation of money, collection of hobby items like stamps, old coins, rare paintings and booksand melodious songs, marginal utility may initially increase rather than

decrease, but it does decrease eventually. That is, the law of marginal utility generally operates universally.

2.3) CONSUMER CHOICE:

Every country through out the world is endowed with varied types of resources. However, for each country, at a particular point of time, these resources are given and fixed in supply having alternative uses. Given the scarcity of resources the objective of every society is to use them efficiently in order to have maximum social welfare.

Same is the case with a consumer who is constrained by his limited income at a particular point of time although his wants are unlimited. This limited income is to be used for the satisfaction of unlimited wants. Since whole of his wants cannot get satisfied with his limited income, he has to make choice from available limited alternatives. It is here that the consumer‟s choice emerges when his limited income is to be used for the satisfaction of unlimited wants. Hence, it refers to the process of selection from available limited alternatives.Thus consumer‟s choice emerges because:

i) His income is fixed, and ii) The income can be put to alternative uses.

To conclude, consumer‟s choice refers to the process whereby a consumer makes a selection of goods and services to be consumed or possessed by him to derive maximum satisfaction from his given income.

2.4) THE INDIFFERENCE CURVE:

It is now an established fact that the concept of cardinal utility as propounded by the neoclassical economists is unreal and it, therefore, can hold no longer. The amount of utility or satisfaction obtained by a consumer from the use of two goods cannot be absolutely measured but can merely be compared. Professor J.R. Hicks and R.G.D. Allen were opposed to the concept of cardinal utility and had urged that the neoclassical theory of the consumer‟ s behavior should be built afresh eliminating the illogicalities of the cardinal utility. They have, thus, popularised the technique of indifference curves which is based on the ordinal utility and so extensively used now. The Indifference Curve Analysis is more scientific and exact technique of explaining consumer‟s equilibrium than the utility Analysis. The Marshallian Utility Analysis proceeds on the basis that there is only one commodity which an individual consumer will buy at a time and the utility of the commodity is measurable. These assumptions are not real because consumers are usually interested in a combination of related goods. Moreover, this analysis assumes that utilities of different commodities can be measured. This is difficult, if not impossible. It is, therefore, better to have an analysis which avoids these difficulties. The Indifference Curve Analysis seeks to achieve this objective. Moreover, it makes it possible to distinguish clearly the income and substitution effects of a change in the price of purchased goods.

Indifference curves are based on ordinal utility. It implies that different commodities can be ranked in order of utility, without measuring utility. The exact difference between the utilities of two commodities cannot be told.

Assumptions: The difference Curve Analysis is based on the following important assumptions:

(i) The consumer possesses full knowledge about all matters connected with his consumption decisions. For example, he knows the complete range of goods and services available in the market. He also knows the technical capacity of each commodity to satisfy his want. He has the information about the prices of various goods and services.

(ii) Every consumer has a scale of ordered preferences which enables him to compare any two combinations of two goods and to decide whether or not a given combination of any two goods is preferred, not preferred or equivalent to any other combination of goods.

(iii) The indifference curve analysis assumes that the consumer is not interested in any one commodity at a particular time as asserted by utility analysis, but he is interested in a combination of goods and with that given by other.

(iv) The indifference curve analysis also assumes that the consumer acts in a rational manner.

An indifference curve can be defined as the locus of points each representing a different combination of two goods yielding the same utility or level of satisfaction. Therefore, a consumer is indifferent between any two combinations of goods when it comes to making a choice between them. Such a situation arises because a consumer consumes a large number of goods and services, and often he finds that one commodity serves as a substitute for another. This gives him an opportunity to substitute one commodity for another. In that case, he is able to make various combinations of two substitute goods which give him the same level of satisfaction. When a consumer is faced with such combinations of goods, he would be indifferent between the combinations. When such combinations are plotted graphically, it results into a curve. This curve is known as indifference curve. Indifference curves are also called iso-utility curves and equal utility curves.

For the purpose of drawing an indifference curve, we require an indifference schedule. An indifference schedule may be defined as a schedule of various combinations of the two commodities that will equally be acceptable to the consumer. With the help of the schedule, the indifference curve can be drawn.

Suppose the consumer is asked to tell all those combinations of the two goods X and Y which bring an equal amount of satisfaction to him. And suppose that the combinations formed by the consumer are such as indicated by the following table 2.4:

TABLE 2.4: Indifference Schedule

Combination	Commodity X	Commodity Y	Rate of Substitution
A	1	14	---
B	2	10	1:4
C	3	7	1:3
D	4	5	1:2

E	5	4	1:1

The above are the various combinations of X and Y giving the same satisfaction to the consumer. When different combinations give equal satisfacti0n , it matters little to the consumer whether he chooses one combination or the other. From the above table, various combinations of equal preference can be made thus: (a) 1 unit of X + 14 units of Y

(b) 2 units of X + 10 units of Y

(c) 3 units of X + 7 units of Y

(d) 4 units of X + 5 units of Y and so on

When we plot these five combinations, we get an indifference curve I C as shown in the given fig. 2.4. The curve is called the „Indifference Curve" for it implies that the consumer is indifferent about the selection of any particular combination of X and Y since all of them yield an equal amount of satisfaction.

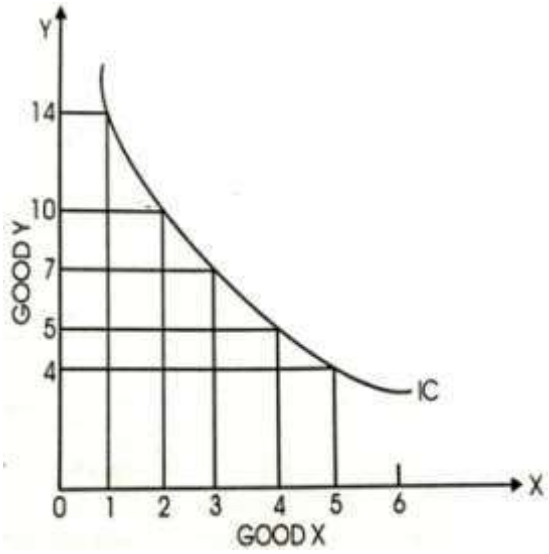


Figure 2.4

He has no preference for any of the five combinations over the rest four taken individually. This curve is also called Iso-utility Curve i.e. every point on the curve will give the same satisfaction (total utility) to the consumer, even though each point represents a separate combination of two commodities. Thus ,indifference curve is a geometrical expression of the indifference schedule on the assumption that the commodities constituting the combinations of each schedule are finitely divisible. The curve does not indicate the amount of utility the consumer gets from the consumption of the various combinations of X and Y. All that it shows is that the utility, whatever it may be, is the same for all the combinations represented by the Curve IC.It may be mentioned here that a given indifference curve indicates given amount of satisfaction and for representing a less or greater amount of satisfaction a separate indifference curve would be required. Any diagram which contains several indifference curves is called, „Indifference Map". The indifference map is shown in the fig 2.4a:

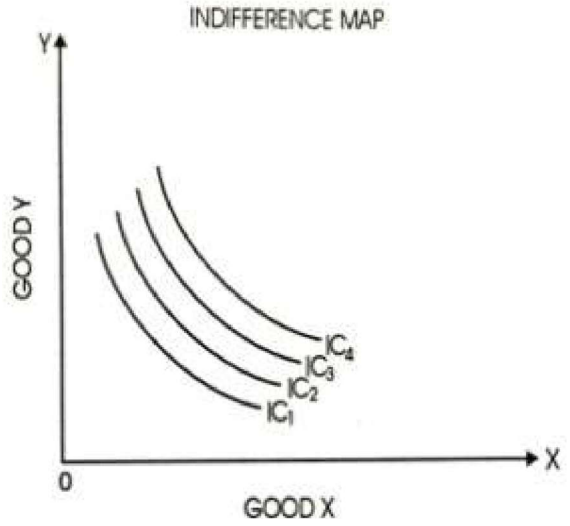


Figure 2.4a

The indifference curve which is higher than and which lies to the right of another indifference curve is said to be denoting a greater amount of satisfaction. For example, the indifference curve IC_2, shows an amount of satisfaction greater than that shown by the curve IC_1. Similarly, the indifference curve lying lower and to left of another represents a less amount of satisfaction. The curve IC_2, certainly shows a satisfaction less than exhibited by the curveIC_3.

2.4.1) MARGTNAL RATE OF SUBSTTTUTTON (MRS):

The concept of Marginal Rate of Substitution (MRS) is an important tool of indifference curve analysis. The rate at which the consumer is prepared to exchange goods X and Y is known as MRS. In the schedule given earlier in Table 2.4, in the beginning, the consumer gives up 4 units of Y for the gain of one additional unit of X and in this process his level of satisfaction remains the same. It follows that one unit gain in X fully compensates him for the loss of 4 units of Y. It means that at this stage, he is prepared to exchange 4 units of Y for one unit of X. Therefore, the MRS of XforYis4.In the words of J.R. Hicks, "we may define the MRS of X for Y as the amount of Y whose loss can just be compensated by a unit gain in X." In other words, MRS of X for Y represents the amount of Y which the consumer has to give up for the gain of one additional unit of X so that his level of satisfaction remains the same. Similarly, when the consumer moves from combination B to C on his indifference schedule, he foregoes 3 units of Y for the addition alone unit gain in X. Therefore, the MRS of X for Y is 3. Likewise, when the consumer moves from C to D and then from D to E in his indifference schedule the MRS of X for Y is 2 and 1 respectively.

An important principle of economic theory is that MRS of X for Y diminishes as more and more of good X is substituted for good Y. In other words, as the consumer has more and more of good X, he is prepared to forego less and less of good Y. This is because the consumer‟s stock of X increases and that of Y decreases. It means that the MRS of X for Y falls as consumer has more of X and less of Y.

The following three factors are responsible for diminishing marginal rate of substitution:

i) the want for a particular good is satiable so that as the consumer has more and more of a good, the intensity of his want for that good, goes on declining. It is because of this fall in the intensity of want for the good say X, when its stock increases with the consumer, he is prepared to forego less and less of good Y for every increment in X. In the beginning when the consumer‟s stock of good Y is relatively large and his stock of good X is relatively small, consumer‟s marginal significance for good Y is low, while his marginal significance for X is high. Owing to higher marginal significance of good X and lower marginal significance of good Y in the beginning, the consumer will be willing to give up a large amount of Y for a unit increase in good X. But as the stock of good X increases and the intensity of desire for it falls his marginal significance for good X will diminish and, on the other hand, as the stock of good Y decreases, and the intensity of desire for it increases, his marginal significance for good Y will go up. As a result, therefore, as the individual substitutes more and more of X for Y he is prepared to give up less and less of Y for a unit increase in X.

ii) The second reason for the decline in marginal rate of substitution is that the goods are imperfect substitutes of each other. If two goods are perfect substitutes of each other then they are to be regarded as one and the same good and therefore, increase in the quantity of one and decrease in the quantity of the other would not make any difference in the marginal significance of the goods. Thus, in case of perfect substitutability of goods, the increase and decrease will be virtually in the same good which will cancel each other and, therefore, the marginal rate of substitution remains the same and does not decline. iii) Thirdly, the principle of diminishing marginal rate of substitution will hold good only if the increase in the quantity of one good does not increase the want satisfying power of the other. If with the increase in the stock of good X, the want satisfying power of good Y increases, then greater and greater amount of good Y will be required to be given up for a unit increase in good X so that consumer‟s satisfaction remains the same.

Generally speaking, the rate of substitution as between any two goods will be diminishing. However, there are two exceptions. In the case of good s which are perfect substitutes like tea and coffee, the rate of substitution will not diminish but will remain uniform or constant. An addition of one cup of coffee will be accompanied by a reduction of one cup of tea. The MRS will remain uniform in this case. Similarly, in the case of commodities which are of complementary nature, like left shoe and right shoe, fixed quantities of both the shoes are essential to give some satisfaction. With the addition of one unit of left shoe, there should be an addition of one unit of right shoe as well if the same amount of satisfaction has to be maintained. The rate of substitution, in this case, will be infinite .Leaving aside these exceptions, MRS diminishes i.e., with the increase in goods X there is decrease in goods Y. The indifference curve will slope downwards, rather steeply in the beginning, but later at a lower rate, and finally it will be nearly horizontal. That is, indifference curve will be convex.

2.5) PROPERTIES OF INDIFFERENCE CURVES:

Indifference curves have a number of important properties which are discussed below:

1. Each Indifference Curve slopes downwards from Left to Right: This property implies that an indifference curve has a negative slope. It is important to know why an indifference curve slopes downward from left to right. The reason is not difficult to seek. In fact, when the consumer wants to get the same amount of satisfaction by getting more of the good Y, he will have to give up some amount of the good X. By its definition, the indifference curve indicates an equal amount of satisfaction throughout its length and so taking more of the good Y means taking less of the good X and vice-versa. Thus, the substitution of one good for the other is responsible for the downward sloping indifference curve. We can illustrate the point diagrammatically as well.

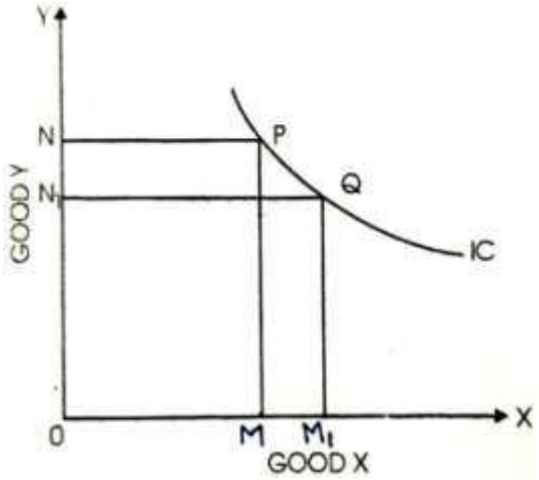


Figure2.5.1

The Fig.2.5.1 shows that the consumer has to surrender NN_1units of Y for taking MM_1additionalunits of X. It seems obviously reasonable to assume that consume r would be obtaining the same amount of satisfaction by adding more units of the stock of X only when he had given up some units of Y.

Now suppose indifference curve instead of being a downward sloping curve, is Parallel to the X-axis, it will not satisfy the assumption mentioned above. This is explained in the diagram 2.5.1a, where two combinations are represented by the points P and Q.

The combination at the Point P = OM of X + ON_1 of Y

The combination at the Point Q = $OM_1$of X + ON_1 of Y

Since OM_1>OM

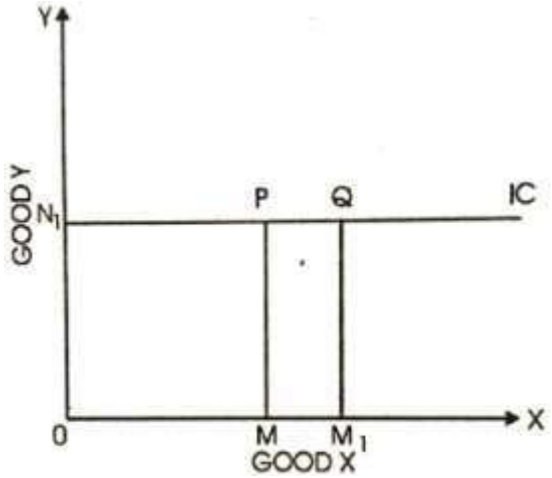
∴The satisfaction at Q > the satisfaction at P. It is, therefore clear that when one of the two points shows a greater amount of satisfaction than the other the point cannot be on one indifference curve .It means that no indifference curve can be parallel to the X-axis.

Similarly, the indifference curve cannot be a vertical straight line, for vertical straight line would mean that while the amount of good Y in the combination increases, the amount of good X remains the same. As the consumer moves from point P to Q, the amount of good X remains the same while the amount of good Y increases and therefore, gets more satisfaction

at the point Q than at point P. This goes against the principle of indifference curve technique. This is explained in the diagram 2.5.1b.

Finally, we must consider an upward sloping indifference curve as depicted in the diagram 2.5.1c and see whether the same can be justified and held consistent with the definition of the curve. Here, the combination at a point P = $OM_1$of X + ON_1 of Y and the combination at the point Q = OM_2 of X + ON_2 of Y

Since OM_2>OM_1 and ON_2>ON_1, the amount of satisfaction at the point Q would definitely be greater than that at the point P. Clearly, the indifference curve cannot demonstrate two unequal amounts of satisfaction. In other words ,the indifference curve cannot slope upwards from left to right. Thus, we see that the only possible and reasonable shape that the indifference curve in consistence with its definition can take is one of downward sloping from left to right.



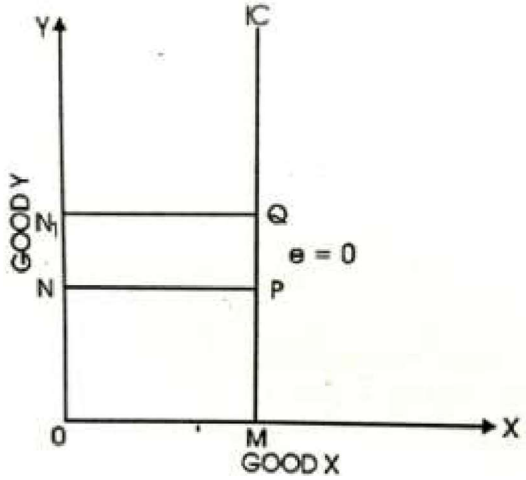


Fig. 2.5.1aFig. 2.5.1b

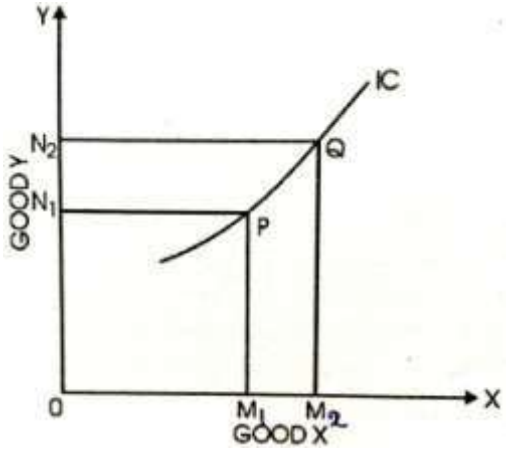
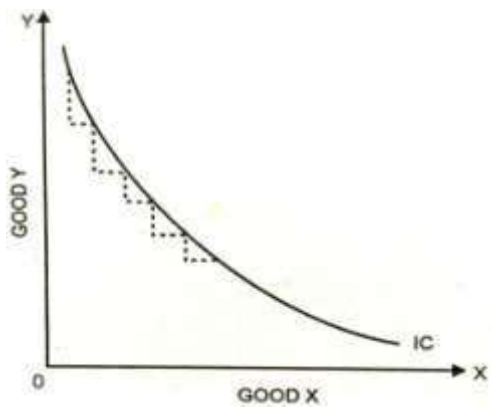


Fig. 2.5.1c

2. Indifference Curves are Convex to the Origin: The assumption of an indifference curve being convex to the origin carries much economic significance. The convexity of the indifference curve to the origin can be attributed to Diminishing MRS. The left hand portion of the indifference curve is relatively steep and the right hand portion is relatively parallel to the X-axis. This implies the basic fact that more of the stock of X the consumer acquires, the lesser in terms of Y he wants to surrender. Alternatively, it can be said that the marginal significance of

X in terms of Y decreases, with increase in the stock of X. This is due to the familiar fact that the marginal utility of a commodity decreases as we have more of it, and increases as we have less of it. This is explained in the diagram 2.5.2. If the indifference curve is concave to the origin, it will imply that the MRS of X for Y increases as more and more of X is substituted for Y. It will be clear from the diagram 2.5.2a that as more and more of X is acquired, for each extra unit of X the consumer is willing to part with more and more of Y. It means that the MRS of X for Y increases as more and more of X is substituted for Y. If it is so, it is contrary to facts and violates the truth that lies behind the indifference curves analysis i.e., Diminishing MRS. If the principle of diminishing MRS is valid then the indifference curve cannot be concave to the origin.



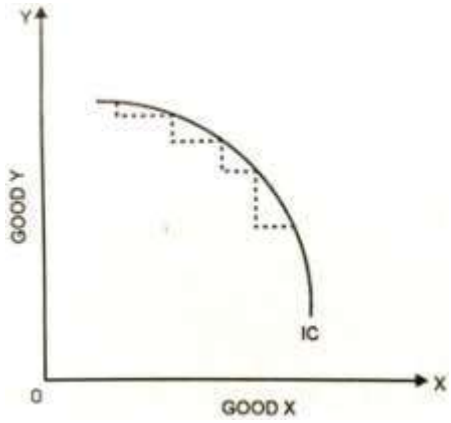
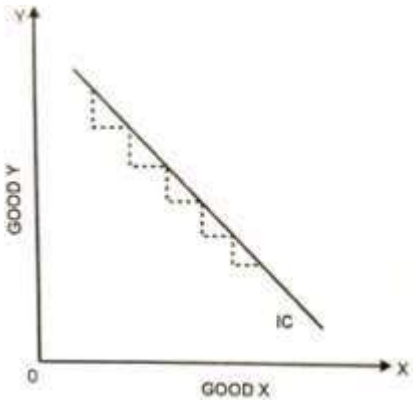


Fig. 2.5.2Fig. 2.5.2a

Let us consider another possibility i.e. the indifference curve cannot be a downward sloping straight line except when goods are perfect substitutes. A straight line indifference curve would mean that MRS of X for Y remains constant as more units of X are acquired in place of Y. Straight line indifference curve of perfect substitutes is shown in the diagram 2.5.2b. The better substitutes the two goods are for each other, the close the indifference curve approaches to the straight line, so that when the two goods are perfect substitutes, the indifference curve is a straight line. The consumer is indifferent, in such a case, as to which commodity he has. Generally, the indifference curve cannot be a straight line because perfect substitutes do not exist.

At the other extreme when two goods are not perfect substitutes and they are perfectly complementary, the indifference curve will consist of two straight lines with a right angle bend which is convex to the origin as shown in the diagram 2.5.2c**,** for example, pen and ink. Such goods are used or consumed by the consumer in a certain fixed ratio and they cannot be substituted for each other.



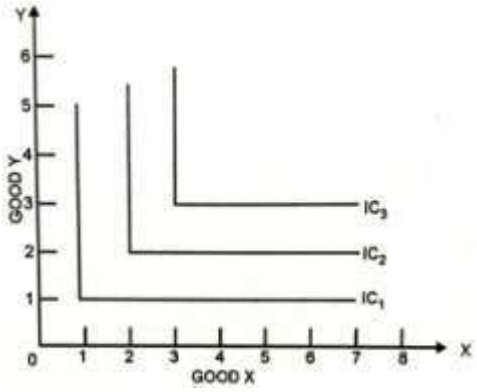


Fig. 2.5.2bFig. 2.5.2c

Perfect substitutes and perfect complements stand at opposite ends of the substitution scale. Even the concave position of the indifference curve is not possible. Most of the cases are found between these alternatives for which indifference curves are convex to the origin .But the degree of convexity of an indifference curve depends upon the ease or difficulty of substitution between the two goods.

3. Indifference Curves cannot intersect Each Other: Another important property of indifference curves is that they cannot intersect each other. In other words, only one indifference curve will pass through a point in the indifference map. Let us for a moment go against our this assumption and think that the two indifference curves can cut at point P as shown in diagram 2.5.3. Now since the points P and Q are on the same indifference curve IC_2, the amount of satisfaction at P = the amount of satisfaction at Q and similarly the amount of satisfaction at P = the amount of satisfaction at R because P and R, are on the same indifference curveIC_1. It follows that the amounts of satisfaction at Q and R should also be equal. But they are not because Q is on a higher indifference curve and so shows a greater amount of satisfaction. Hence appears the logical contradiction if we think against the assumption that two indifference curves cannot intersect each other.

We can further explain this property with the help of indifferent combinations on the two curves.

Take IC_1, because P and R lie on the same indifference curve

∴OM of X+ ON of Y=$OM_1$of X+$ON_2$of Y ……..(1)

Now take IC_2, because P and Q lie on the same curve

∴ OM of X + ON of Y = OM_1 of X + ON_1 of Y ……..(2)

From the two equations (1) and (2), we get

OM_1 of X+ON_2 of Y = OM_1 of X + ON_1 of Y

Or ON_2 of Y = ON_1 of Y

This shows that $ON_2$of Y gives as much satisfaction to the consumer asON_1 of Y, which is totally wrong. Therefore, it can be said that the indifference curves cannot intersect each other.

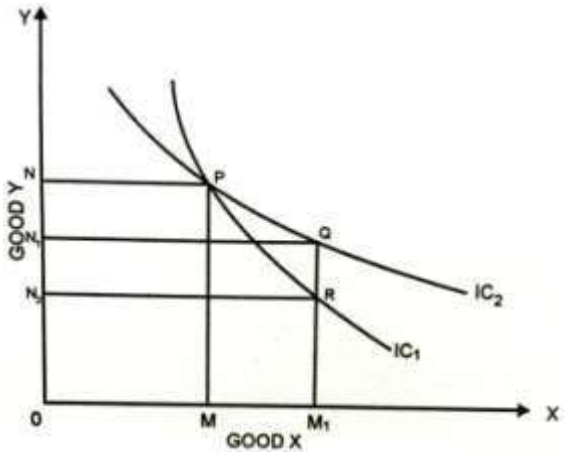


Fig. 2.5.3

4. Higher the Indifference curve, Higher is the Level of satisfaction: The indifference curve which is at a greater distance from the origin represents higher scale of preference. In other words, the combinations which lie on a higher indifference curve will be preferred to the combinations which lie on a lower indifference curve. For example, as shown in the diagram 2.5.4 below the point Q is on the higher indifference curveIC_2, and point P is on the lower indifference curve IC_1.

The combination at point Q will definitely give more satisfaction to the consumer than the combination at point P, because the Q combination contain s more of both goods X and Y than the P combination. This proves that a higher indifference curve represents the higher level of satisfaction than the lower indifference curve.

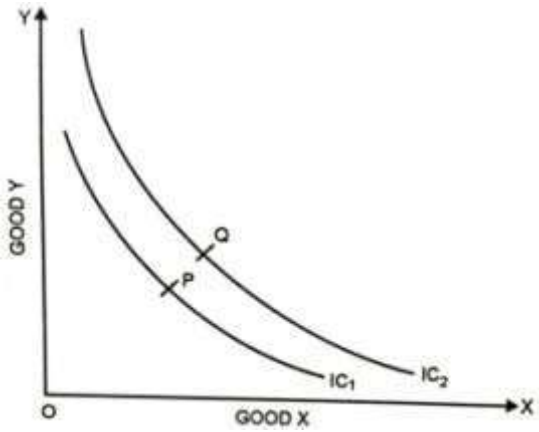


Fig. 2.5.4

5. Indifference Curve will not touch either X-axis or Y-axis: It is an important characteristic of indifference curve. It will not touch either X-axis or Y-axis, as we have assumed that the individual is interested in different combinations of two commodities. If it touches either of th e axis, it will mean that the consumer is interested in one commodity only. In the diagram 2.5.5, the indifference curve touches X-axis at point A and the Y-axis at point B. Thus at point A, he will be satisfied with OA units of X commodity, and has no preference for Y commodity. Similarly at point B, he will have OB units of Y commodity and none of X. This normally does not happen. However, if one of the commodities is money and it is shown on the Y-axis, it would be correct for an indifference curve to touch Y-axis at point B. It would then mean that either the consumer

wants OB units of money only or some units of money and some units of the other commodity. OB units of money only will give him the same satisfaction as a combination of a few units of money and some units of the other commodity.

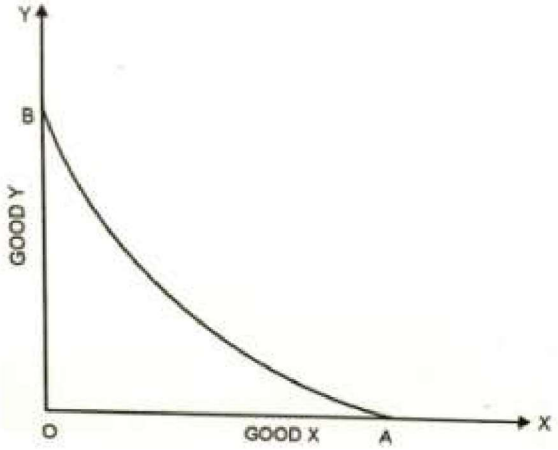


Fig. 2.5.5

6. Indifference Curves Need not be parallel to Each Other: This is because they are not based on the cardinal number system of measurability o futility. Secondly, the rate of substitution between two commodities need not be the same in all indifference schedules. From this it follows that indifference curves may be drawn in any way-- Parallel to each other or otherwise. The only condition is that the two indifference curves should not touch or cut each other. This is explained in the given diagram 2.5.6.

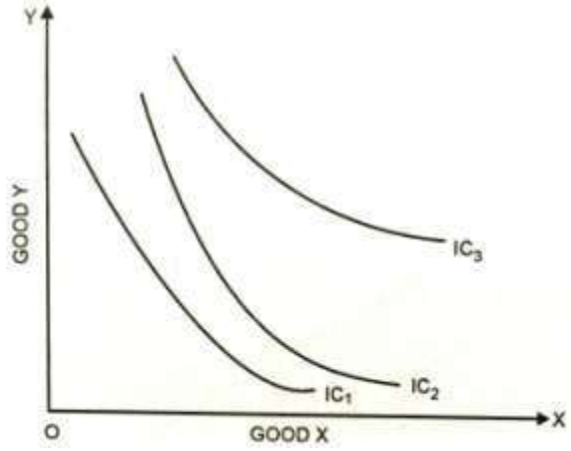


Fig. 2.5.6

2.6) BUDGET CONSTRAINT AND THE BUDGET LINE OR PRICE LINE:

A utility maximizing consumer would like to reach the highest possible indifference curve on his indifference map. But the consumer is assumed to have a limited income. The limitedness of income acts as a constraint on the utility maximizing behavior of the consumer. This is known as budgetary constraint. The budgetary constraint, assuming a two-commodity model, may be expressed as:

$$P_x \cdot Q_x + P_y \cdot Q_y = M$$

Where P_x and P_y are prices of X and Y respectively and Q_x and Q_y are their respective

quantities, and M is consumer‟s income. This equation shows that a consumer, given his income and market prices of X and Y can buy only a limited quantity of the two goods i.e., Q_x and Q_y.

In the indifference curve analysis, we have taken physical quantities of goods into consideration. Let us now introduce their prices and the consumer‟s income. Suppose the income of the consumer is so much that he can either buy OA (Q_x) quantity of good X or OB (Q_y)quantity of good Y. The line AB is called the price line or the budget line or the price income line (Fig. 2.6). “A price line is a line which indicates all such combinations of two commodities which can be purchased at market price by a definite income”. If the consumer‟s income and prices of goods it can purchase are known, one can easily work out the quantities of the goods. For example, suppose the consumer‟s income is Rs. 24, then he can either purchase 8 units of X only or 4 units of Y only or any combination of the two which may beboughtforRs.24.Thepriceof X is assumedtobeRs.3perunitandthepriceof Y to be Rs. 6 per unit. The price line will indicate all the different possible combinations of the two commodities .The price line is shown in the diagram.

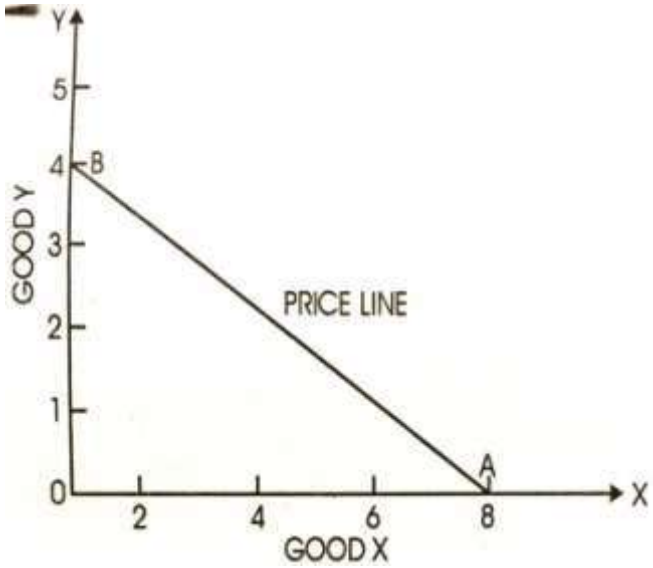


Figure 2.6

The slope of the price line $= \frac{OB}{OA} = \frac{\text{Income } /P_y}{\text{Income } /P_x} = \frac{P_x}{P_y}$

Where P_x stands for price of good X and P_y indicates price of good Y.

2.7) CONSUMER’S EQUILIBRIUM:

Iftherearenorestrictionsonthepoweroftheconsumertobuycommodities, he would like to purchase more and more of them. In other words a consumer would like to go to the highest indifference curve. But this would not be the case in the real world. In actual practice, the consumer is constrained by his money income and the respective prices of the two

commodities in question. In order to get maximum satisfaction, the consumer is to select a point on the price line only.

While explaining the consumer‟s equilibrium i.e. his taking decision onto how much of a good to buy, we shall have to make the following assumptions:

(i) The consumer has an indifference map showing his scale of preferences for combinations of the goods in question and money.

(ii) The scale of preferences imprinted on his mind remains unchanged throughout the analysis.

(iii) He has limited money income which, if he does not spend on the goods in question, will certainly spend on some other good or goods.

(iv) He is one of the many buyers and knows the prices of all goods. All prices remain constant until a new equilibrium is to be attained.

(v) All goods are homogeneous and divisible.

(vi) The consumer acts rationally and aims at maximising his satisfaction.

(vii) The condition of transitivity is satisfied. If combination A > B and B>C,thenA>C.

(viii) The condition of non-satiety holds. The consumer prefers more of one commodity or of the other or of both.

On the basis of these assumptions, we can proceed to show how the consumer decides how much of a good to buy to maximise satisfaction or how to reach the highest possible indifference curve. The equilibrium of the consumer has been shown in the figure 2.7, where the indifference map and budget line are brought together.

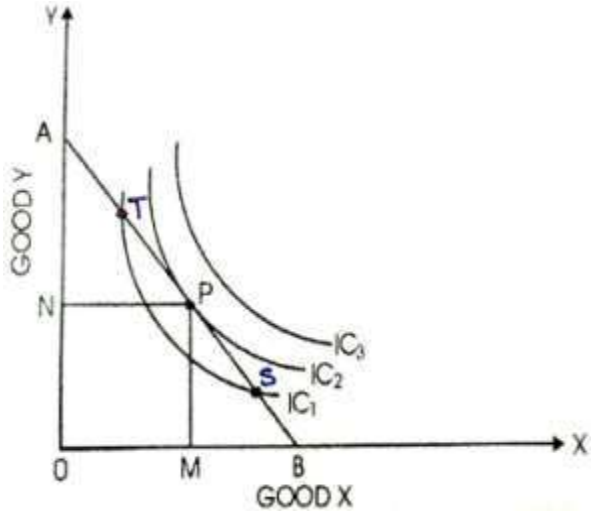


Figure 2.7

With given money to be spent and given prices of the two goods, the consumer can buy any combination of the goods which lies on the budget line AB. Every combination on the budget line AB costs him the same amount of money. In order to maximize his satisfaction the consumer will try to reach the highest possible indifference curve which he could with a given expenditure of money and given prices of the two goods. Budget constraint forces the consumer to remain on the given budget line, that is, to choose a combination from among only those which lie on the given budget line.

It will be seen from Fig. 2.7 that the various combinations of the two goods lying on the budget line AB and which therefore he can afford to buy do not lie on the same indifference curve; they lie on different indifference curves. The consumer will choose that combination on the budget line AB which lies on the highest possible indifference curve. It is the indifference curve to which the budget line AB is tangent. Any other possible combination of the two goods would lie on a lower indifference curve and thus yield less satisfaction or would be unattainable. Here the budget line AB is tangent to indifference curve IC_2 at point P. Since indifference curves are convex to the origin, all other points on the budget line AB, above or below point P like T and S, would lie on the lower indifference curve. It is evident from the Fig. 2.7 that T and S lie on the lower indifference curve $IC_1$and will therefore yield less satisfaction than P. It is thus clear that of all possible combinations lying on AB, combination P lies on the highest possible indifference curve and yields maximum possible satisfaction. Of course, combinations lying on indifference curve IC_3will give greater satisfaction to the consumer than P, but they are unattainable with the given money income and the given prices of the goods as represented by the budget line AB.

It is therefore concluded that with the given money expenditure and the given prices of the goods as shown by AB the consumer will obtain maximum possible satisfaction and will therefore be in equilibrium position at point P at which the budget line AB is tangent to the indifference curve IC_2. The consumer will buy OM amount of good X and ON amount of good Y. At the equilibrium point P, the slopes of the indifference curve IC_2 and the budget line AB are equal. We know that the slope of the budget line equals ratio of prices of the two goods P_x/P_y and the slope of the indifference curve is given by marginal rate of substitution of X for Y (MRS_{xy}). Thus, at the equilibrium point P,

$$MRS_{xy} = \frac{P_x}{P_y}$$

There is a subsidiary condition too. At the point of equilibrium the indifference curve must be satisfying all the properties of indifference curves .In fig 2.7.1, the price line is tangent to an indifference curve at point E but E is not the point of equilibrium because the indifference curve is not convex here, rather it is concave here. If the consumer moves up or down along AB he reaches an upper indifference curve which gives him greater satisfaction. Therefore, the consumer will make the move. The moment the consumer moves, he will not be in equilibrium. Hence, the indifference curve must be convex at the point of tangency of price line and an indifference curve.

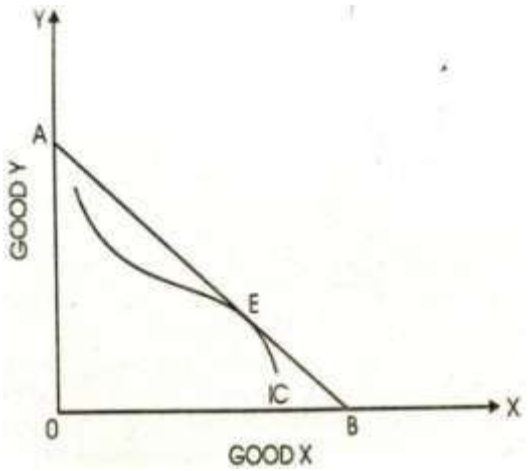


Fig. 2.7.1

2.8) DERIVATION OF DEMAND CURVE FROM INDIFFERENCE CURVE AND BUDGET CONSTRAINT:

We are now in a position to make a comparison between Price Consumption Curve (PCC) and the traditional demand curve. The PCC shows the relation between the changes in the price of commodity and the corresponding changes in the consumption of a commodity by a consumer. This is precisely what a conventional price quantity demand curve also tells us i.e., how much a consume r will demand at different prices of a commodity. In fact the individual demand curve and its price consumption curve gives us the same information although the former gives it in a more direct, useful form. But the two curves are constructed in different ways. The PCC is drawn with two commodities represented on two axes or with one commodity on the OX-axis and money income on the OY-axis while the demand curve is drawn with quantity of a commodity demanded on the O X axis and the price of the same commodity on the OY-axis.

Price consumption curve traces the effects of a change in price on th e quantity demanded of a good. But price consumption curve does not directly relate price with quantity demanded. In indifference curve diagram 2.8, price is not explicitly shown on the Y-axis. On the other hand, demand curve directly relates price with quantity demanded, price being shown on Y-axis and quantity demanded on the X-axis. A demand curve shows how much quantity of the good will be purchased or demanded, at various prices, assuming that tastes and preferences of the consumer, his income, prices of all other goods remain constant. This demand curve showing explicit relationship between price and quantity demanded can be derived from price consumption curve of indifference curve analysis.

The individual demand curve as derived from the PCC is explained in the diagram 2.8.

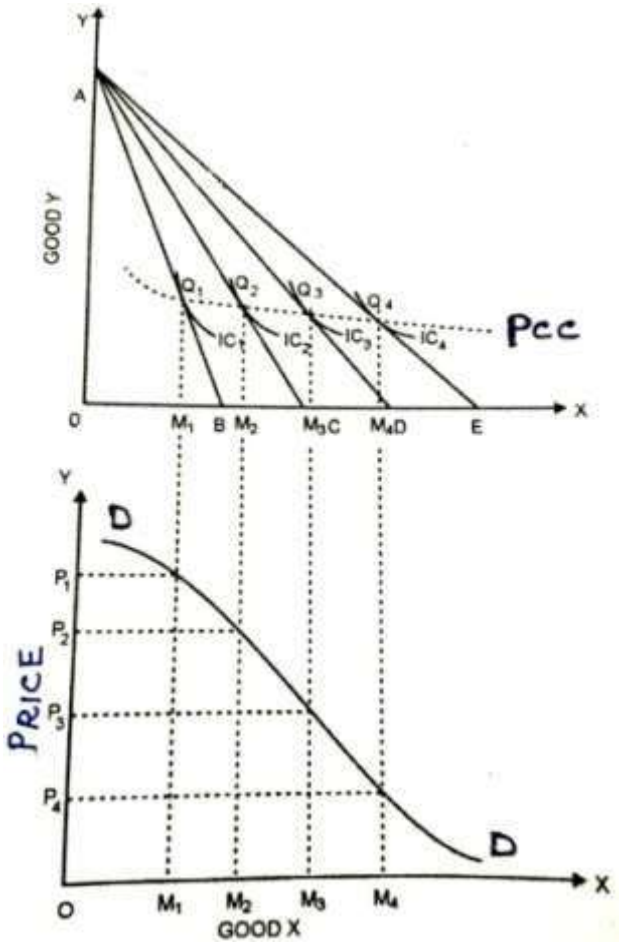


Fig.2.8

In the upper portion of the figure ,we take money on the Y-axis and good X on the X-axis. AB, AC, AD and AE are the price lines which show that the price of X is falling. Q_1,Q_2,Q_3 and Q_4indicate the successive equilibrium points for each price line. Thus, the PCC shows the various quantities of commodity X, bought by the consumer at its different prices. The price of X per unit is OA/OB (Total money income divided by the total quantity of X which can be bought by the money income) and at this price the consumer buys OM_1 units of the commodity. Similarly at OA/OC price the consumer buys OM_2 units of the same commodity and so on. This can be explained in the following table:

Price of X	Demand for X
OA/OB or OP_1	OM_1
OA/OC or OP_2	OM_2
OA/OD or OP_3	OM_3
OA/OE or OP_4	OM_4

Now in the lower portion of the figure, the various quantities of X (OM_1,OM_2, OM_3 and OM_4) are measured along the X-axis whereas different prices(OP_1, OP_2, OP_3 and OP_4) are taken on

the Y-axis. By plotting these prices and quantities, and by joining the points so plotted we get the required demand curve DD of the individual.

The demand curve slopes downwards to the right and this is the general slope of the curve. The income effect and the substitution effect are both positive .But in the case of „Giffen goods" the demand curve may slope downwards to the left and then it may revert back to its normal position by sloping to the right. This is because a „Giffen good" is so only for a few consumers. To counteractt the peculiar behaviour of a few people that consider a commodity a Giffen good over a certain price range, there may be enough other people in the market those do not consider it so. Not only this, as the price of the commodity falls, many new buyers may enter the market to buy the commodity. Thus, on the whole, we may fairly expect that when the price of a commodity falls, its market demand will extend and the curve may be taken to slope downwards to the right.

2.9) CRITICISM OF INDIFFERENCE CURVE ANALYSIS:

Indifference curve analysis is criticised on the following grounds:

1. It is claimed that it has simply substituted new concepts and equations instead of old concepts.

Instead of the concept Utility, the term „Preference" has been used. Instead of Cardinal number System of one, two, three, four, etc., I t has made use of ordinal number system of first, second, third, etc., to represent consumer"s preferences. The notion of Marginal Utility has been replaced by Marginal Rate of Substitution. Thus, Robertson has correctly pointed out that it is an old wine in new bottles.

2. The indifference curve analysis is based on the wrong assumption that the consumer is familiar with his entire preference schedule. This analysis assumes that every consumer is fully conscious of the various combinations of the two goods, say, apples and bananas, which give him equal satisfaction .Now, it may not be realistic on our part to make this assumption because it is physically not possible for a consumer to have complete knowledge of all the combinations of the two goods which afford him equal satisfaction.
3. Further, another unrealistic element is present in Indifference Curve Analysis. It is pointed out that such curves include even the most ridiculous combinations which may be far removed from this habitual combinations. For example, while it may be perfectly sensible to compare whether three pairs of shoes and six shirts would give a consumer as much satisfaction as two pairs of shoes and seven shirts, the consumers will be at a loss to know and compare the desirability of an absurd combination such as eight pairs of shoes and one shirt. The way the indifference curves are constructed, they include absurd combination like the one just indicated.
4. A further shortcoming of the indifference curve technique is that it can demonstrate and analyse consumer"s behaviour effectively only in simple cases, especially those in which the choice is between the quantities of two goods only. In order to demonstrate the case of three goods, three dimensional diagrams are needed which are difficult to understand and handle.

5. Moreover, the Indifference Curve Analysis is not completely free from the assumptions of Utility Analysis; the Indifference Curve Techniques also assume that units of commodities are small and consumer spends his income so as to get maximum preference. The Law of Diminishing Marginal Returns assumes that under given conditions, the consumer will make choice as to know that is better and what is worse and will choose the better. Evidently this is assuming rational behaviour. The rational behaviour is the basis of the Indifference Curve Analysis as of the Utility Analysis. Thus, Indifference Curve Analysis is based on no different fundamental assumptions than the utility analysis.
6. The Indifference Curve Analysis is also criticised on the ground that is also not able to solve many important problems. The individual preference can be easily analysed with the help of indifference curves. But this is not the case with the choices of groups of people. We cannot, for instance, draw indifference curves for the country as a whole or for the international trade. The fact is that the indifference curve analysis is not very readily applicable in the analysis of group equilibrium.
7. There is no recognition, in this analysis of the way in which the individual‟s preferences may be shaped by advertising and other selling tactics .There is no allowance for the effects of habits and customs on the consumer. The indifference map is a highly static device. In reality it may be a very short run phenomenon subject to frequent changes.

Thus, the Indifference Curve Analysis is not free from defects. Schumpeter has rightly observed that the new technique has neither proved anything new nor has it proved any old result wrong.

UNIT 3

Production Function: Meaning, Definitions and Features.

Production Function.

Production is the result of co-operation of four factors of production viz., land, labour, capital and organization.

This is evident from the fact that no single commodity can be produced without the help of any one of these four factors of production.

Therefore, the producer combines all the four factors of production in a technical proportion. The aim of the producer is to maximize his profit. For this sake, he decides to maximize the production at minimum cost by means of the best combination of factors of production.

The producer secures the best combination by applying the principles of equi-marginal returns and substitution. According to the principle of equi-marginal returns, any producer can have maximum production only when the marginal returns of all the factors of production are equal to one another. For instance, when the marginal product of the land is equal to that of labour, capital and organisation, the production becomes maximum.

Meaning of Production Function:

In simple words, production function refers to the functional relationship between the quantity of a good produced (output) and factors of production (inputs).

—The production function is purely a technical relation which connects factor inputs and output.‖ Prof. Koutsoyiannis

Production function is —the relation between a firm's physical production (output) and the material factors of production (inputs)‖ Prof. Watson.

In this way, production function reflects how much output we can expect if we have so much of land and so much of capital as well as of labour etc. In other words, we can say that production function is an indicator of the physical relationship between the inputs and output of a firm.

The reason behind physical relationship is that money prices do not appear in it. However, here one thing that becomes most important to quote is that like demand function a production function is for a definite period.

It shows the flow of inputs resulting into a flow of output during some time. The production function of a firm depends on the state of technology. With every development in technology the production function of the firm undergoes a change.

The new production function brought about by developing technology displays same inputs and more output or the same output with lesser inputs. Sometimes a new production function of the firm may be adverse as it takes more inputs to produce the same output.

Mathematically, such a basic relationship between inputs and outputs may be expressed as:

Q = f(L, C, N)

Where Q = Quantity of output

L = Labour

C = Capital

N = Land.

Hence, the level of output (Q), depends on the quantities of different inputs (L, C, N) available to the firm. In the simplest case, where there are only two inputs, labour (L) and capital (C) and output (Q), the production function becomes**:-** Q =f (L, C).

Definitions:

—The production function is a technical or engineering relation between input and output. As long as the natural laws of technology remain unchanged, the production function remains unchanged.‖ Prof. L.R. Klein

—Production function is the relationship between inputs of productive services per unit of time and outputs of product per unit of time.‖ Prof. George J. Stigler

—The relationship between inputs and outputs is summarized in what is called the production function. This is a technological relation showing for a given state of technological knowledge how much can be produced with given amounts of inputs.‖ Prof. Richard J. Lipsey

Thus, from the above definitions, we can conclude that production function shows for a given state of technological knowledge, the relation between physical quantities of inputs and outputs achieved per period of time.

Features of Production Function:

Following are the main features of production function:

1. Substitutability:

The factors of production or inputs are substitutes of one another which make it possible to vary the total output by changing the quantity of one or a few inputs, while the quantities of all other inputs are held constant. It is the substitutability of the factors of production that gives rise to the laws of variable proportions.

2. Complementarity:

The factors of production are also complementary to one another, that is, the two or more inputs are to be used together as nothing will be produced if the quantity of either of the inputs used in the production process is zero.

The principles of returns to scale is another manifestation of complementarity of inputs as it reveals that the quantity of all inputs are to be increased simultaneously in order to attain a higher scale of total output.

3. Specificity:

It reveals that the inputs are specific to the production of a particular product. Machines and equipment's, specialized workers and raw materials are a few examples of the specificity of factors of production. The specificity may not be complete as factors may be used for production of other commodities too. This reveals that in the production process none of the factors can be ignored and in some cases ignorance to even slightest extent is not possible if the factors are perfectly specific.

Production involves time; hence, the way the inputs are combined is determined to a large extent by the time period under consideration. The greater the time period, the greater the

freedom the producer has to vary the quantities of various inputs used in the production process.

In the production function, variation in total output by varying the quantities of all inputs is possible only in the long run whereas the variation in total output by varying the quantity of

single input may be possible even in the short run.

Long run production function – In microeconomics, the **long run** is the conceptual time period in which there are no fixed factors of production, so that there are no constraints preventing changing the output level by changing the capital stock or by entering or leaving an industry. **Long run** refers to the period of time over which it is possible to vary the inputs of all factors of production. Thus in the **long run** all the factors of production becomes variable.

Short run production function- Short run refers to the period of time over which some factors are variable and others are fixed, constraining entry or exit from an industry.

Physical Production : Total Product, Average Product and Marginal Product.

The three concepts of regarding physical production are: (1) Total Product (2) Average Product (3) Marginal Product.

1. Total Product:

Total product of a factor is the amount of total output produced by a given amount of the factor, other factors held constant. As the amount of a factor increases, the total output increases. It will be seen from Table 1.1 that when with a fixed quantity of capital (K), more units of labour are employed total product is increasing in the beginning.

Table 1.1

Units of Labour	Total Product (Quintals)	Marginal Product (Quintals)	Average Product (Quintals)
L	Q	$\frac{\Delta Q}{\Delta L}$	$\frac{Q}{L}$
1	80	80	80
2	170	90	85
3	270	100	90
4	368	98	92
5	430	62	86
6	480	50	80
7	504	24	72
8	504	0	63
9	495	–9	55
10	480	–15	48

Thus, when one unit of labour is used with a given quantity of capital 80 units of output are produced. With two units of labour 170 units of output are produced, and with three units of labour total product of labour increases to 270 units and so on.

After 8 units of employment of labour total output declines with further increase in labour input. But the rate of increase in total product varies at different levels of employment of a factor. Graphically the total product curve is shown by TP curve in Fig.1.1. It will be seen that in the beginning total product curve rises at an increasing rate, that is, the slope of the TP curve is rising in the beginning.

After a point total product curve starts rising at a diminishing rate as the employment of the variable factor is increased.

2. Average Product:

Average product of a factor is the total output produced per unit of the factor employed. Thus,

Average Product = Total Product/Number of units of a factor employed

If Q stands for total product, L for the number of a variable factor employed, then average product (AP) is given by:

AP = Q/L

We can measure the average product from the total product data given in Table 1.1. Thus when two units of labour are employed, the average product is Q/L = 170/2 = 85. Similarly, when three units of labour are employed, average product is 270/3 = 90 and so on.

From a total product curve TP in Fig. 1.1, we can measure the average product of labour. Thus, when OL_1 units of labour are employed, total product is equal to L_1A and therefore average product of labour equals L_1A/OL_1 which would be equal to the slope of the ray OA. Similarly, when OL2 units of labour are employed, total product (TP) is L_2B which would give us average product to be equal to L_2B/OL_2 the slope of the ray OB. Further with the employment of labour equal to OL_3 the average product will be measured by the slope of the ray OC.

It has been generally found that as more units of a factor are employed for producing a commodity, the average product first rises and then falls. As shall be seen from Table 1.1 and the Fig. 1.1, the average product curve of a variable factor first rises and then it declines. That is, the average product curve has an inverted U-shape.

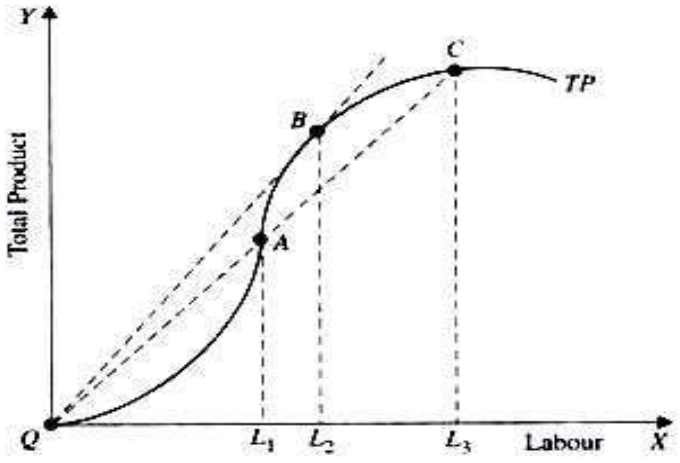


Fig 1.1.Measuring Average Producton a total Production function curve

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Marginal product of a factor is the addition to the total production by the employment of an extra unit of a factor. Suppose when two workers are employed to produce wheat in an agricultural farm and they produce 170 quintals of wheat per year.

Now, if instead of two workers, three workers are employed and as a result total product increases to 270 quintals, then the third worker has added 100 quintals of wheat to the total production. Thus 100 quintals is the marginal product of the third worker.

It will be seen from Table 1.1 that marginal product of labour increases in the beginning and then diminishes. Marginal product of 8th unit of labour is zero and beyond that it becomes negative

Mathematically, if employment of labour increases by ΔL units which yield an increase in total output by ΔQ units, the marginal physical product of labour is given by ΔQ/ΔL. That is,

$MP_L = \Delta Q/\Delta L$

The marginal physical product curve of a variable factor can also be derived from the total physical product curve of labour. At any given level of employment of labour, the marginal product of labour can be obtained by measuring the slope of the total product curve at a given level of labour employment. For example, in Fig. 1.2 when OL_1 units of labour are employed, the marginal physical product of labour is given by the slope of the tangent drawn at point A to the total product curve TP.

Again, when OL_2 units of labour are employed, the marginal physical product of labour is obtained by measuring the slope of the tangent drawn to the total product curve TP at point B which corresponds to OL_2 level of labour employment and so on for further units of labour employed.

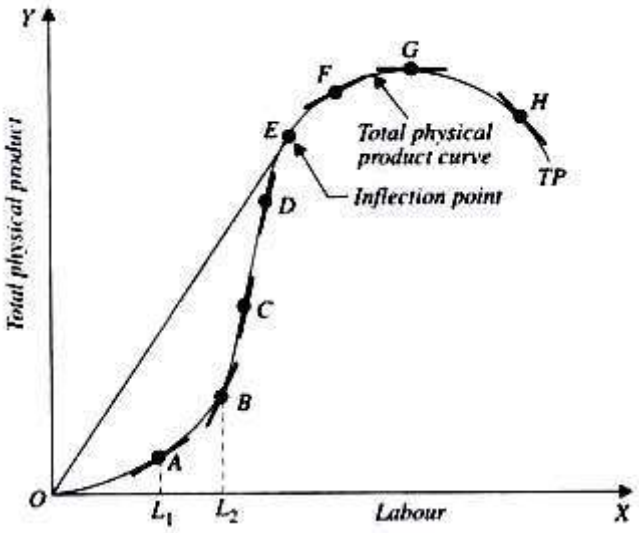

Fig 1.2.Measuring Marginal Physical Product o f Labour.

The marginal product of a factor will change at different levels of employment of the factor. It has been found that marginal product of a factor rises in the beginning and then ultimately falls as more of it is used for production, other factors remaining the same.

That is why in Fig. 1.2 marginal product (MP) of labour as measured by the slopes of the tangents drawn to the total product curve TP at various points has been shown to be rising in the beginning and then diminishing till it becomes zero at the maximum point G of the total product curve.

Thereafter, the marginal product of labour becomes negative. The relationship between average product and marginal product and how both of them are related to the total product will be explained in detail in our analysis of the law of variable proportions.

Law of Variable Proportions: Meaning, Definition, Assumption and Stages:

Meaning:

Law of variable proportions occupies an important place in economic theory. This law examines the production function with one factor variable, keeping the quantities of other factors fixed. In other words, it refers to the input-output relation when output is increased by varying the quantity of one input

When the quantity of one factor is varied, keeping the quantity of other factors constant, the proportion between the variable factor and the fixed factor is altered; the ratio of employment of the variable factor to that of the fixed factor goes on increasing as the quantity of the variable factor is increased.

Since under this law we study the effects on output of variation in factor proportions, this is also known as the law of variable proportions. Thus law of variable proportions is the new name for the famous ‖Law of Diminishing Returns‖ of classical economics. This law has played a vital role in the history of economic thought and occupies an equally important place in modern economic theory. This law has been supported by the empirical evidence about the real world.

The law of variable proportions or diminishing returns has been stated by various economists in the following manner: As equal increments of one input are added; the inputs of other productive services being held constant, beyond a certain point the resulting increments of product will decrease, i.e., the marginal products will diminish,‖ (G. Stigler)

—As the proportion of one factor in a combination of factors is increased, after a point, first the marginal and then the average product of that factor will diminish.‖ (F. Benham)

—An increase in some inputs relative to other fixed inputs will, in a given state of technology, cause output to increase; but after a point the extra output resulting from the same addition of extra inputs will become less.‖ (Paul A. Samuelson)

Marshall discussed the law of diminishing returns in relation to agriculture. He defines the law as follows: —An increase in the capital and labour applied in the cultivation of land causes in general a less than proportionate increase in the amount of product raised unless it happens to coincide with an improvement in the arts of agriculture.‖

It is obvious from the above definitions of the law of variable proportions (or the law of diminishing returns) that it refers to the behaviour of output as the quantity of one factor is

increased, keeping the quantity of other factors fixed and further it states that the marginal product and average product will eventually decline.

Assumptions of the Law; **The law of variable proportions or diminishing returns ,as stated above, holds good under the following conditions:** 1. First, the state of technology is assumed to be given and unchanged. If there is improvement in the technology, then marginal and average products may rise instead of diminishing.

2. Secondly, there must be some inputs whose quantity is kept fixed. This is one of the ways by which we can alter the factor proportions and know its effect on output. This law does not apply in case all factors are proportionately varied. Behaviour of output as a result of the variation in all inputs is discussed under ―returns to scale‖.

3. Thirdly the law is based upon the possibility of varying the proportions in which the various factors can be combined to produce a product. The law does not apply to those cases where the factors must be used in fixed proportions to yield a product.

When the various factors are required to be used in rigidly fixed proportions, then the increase in one factor would not lead to any increase in output, that is, the marginal product of the factor will then be zero and not diminishing. It may, however, be pointed out that products requiring fixed proportions of factors are quiet uncommon. Thus, the law of variable proportion applies to most of the cases of production in the real world.

The law of variable proportions is illustrated in Table 1.1.and Fig.
1.3. We shall first explain it by considering Table 1.1. Assume that there is a given fixed amount of land, with which more units of the variable factor labour, is used to produce agricultural output.

Table 1.1 Returns to labour

Units of Labour	*Total Product (Quintals)*	*Marginal Product (Quintals)*	*Average Product (Quintals)*
L	Q	$\frac{\Delta Q}{\Delta L}$	$\frac{Q}{L}$
1	80	80	80
2	170	90	85
3	270	100	90
4	368	98	92
5	430	62	86
6	480	50	80
7	504	24	72
8	504	0	63
9	495	-9	55
10	480	-15	48

With a given fixed quantity of land, as a farmer raises employment of labour from one unit to 7 units, the total product increases from 80 quintals to 504 quintals of wheat. Beyond the employment of 8 units of labour, total product diminishes. It is worth noting that up to the use of 3 units of labour, total product increases at an increasing rate.

This fact is clearly revealed from column 3 which shows successive marginal products of labour as extra units of labour are used. Marginal product of labour, it may be recalled, is the increment in total output due to the use of an extra unit of labour.

It will be seen from Col. 3 of Table 1.1, that the marginal product of labour initially rises and beyond the use of three units of labour, it starts diminishing. Thus when 3 units of labour are employed, marginal product of labour is 100 and with the use of 4th and 5th units of labour marginal product of labour falls to 98 and 62 respectively.

Beyond the use of eight units of labour, total product diminishes and therefore marginal product of labour becomes negative. As regards average product of labour, it risesupto the use of fourth unit of labour and beyond that it is falling throughout.

Three Stages of the Law of Variable Proportions:

The behaviour of output when the varying quantity of one factor is combined with a fixed quantity of the other can be divided into three distinct stages. In order to understand these three stages it is better to graphically illustrate the production function with one factor variable.

This has been done in Fig. 1.3. In this figure, on the X-axis the quantity of the variable factor is measured and on the Y-axis the total product, average product and marginal product are measured. How the total product, average product and marginal product of a variable factor change as a result of the increase in its quantity, that is, by increasing the quantity of one factor to a fixed quantity of the others will be seen from Fig. 1.3.

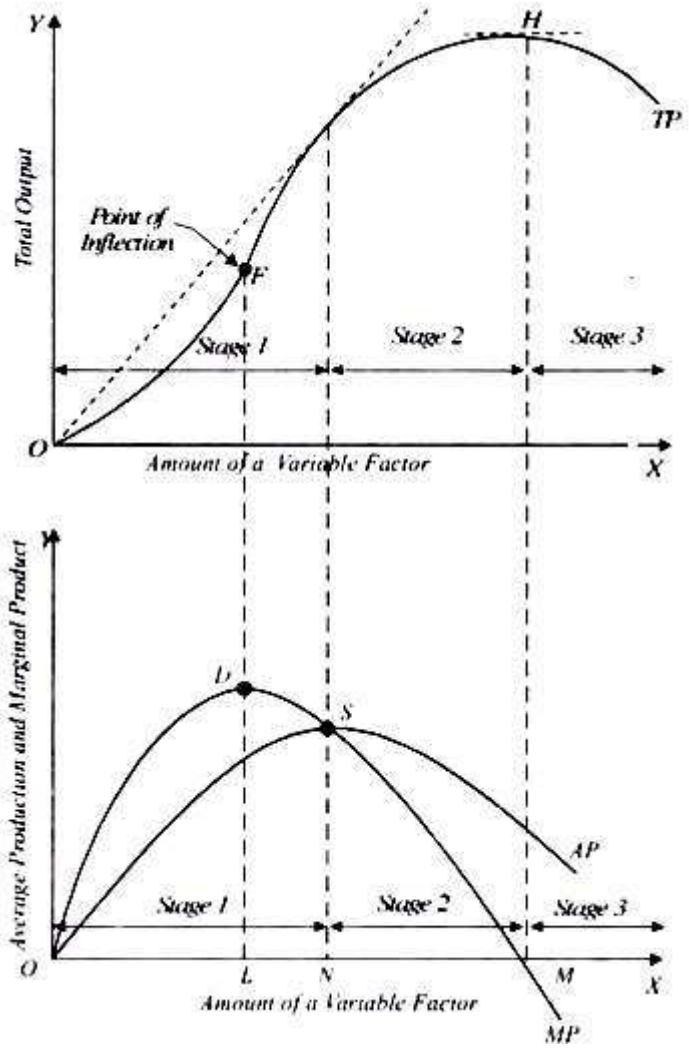

Figure 1.3 Three stages of law of variable proportions

In the top section of this figure, the total product curve TP of variable factor goes on increasing to a point and after that it starts declining. In the bottom section- average and marginal product curves of labour also rise and then decline; marginal product curve starts declining earlier than the average product curve.

The behaviour of these total, average and marginal products of the variable factor as a result of the increase in its amount is generally divided into three stages which are explained as:

Stage 1: In this stage, total product curve TP increases at an increasing rate up to a point. In Fig. 1.3. from the origin to the point F, slope of the total product curve TP is increasing, that is, up to the point F, the total product increases at an increasing rate (the total product curve TP is concave upward up to the point F), which means that the marginal product MP of the variable factor is rising.

From the point F onwards during the stage 1, the total product curve goes on rising but its slope is declining which means that from point F onwards the total product increases at a diminishing rate (total product curve TP is concave down-ward), i.e., marginal product falls but is positive.

The point F where the total product stops increasing at an increasing rate and starts increasing at the diminishing rate is called the point of inflection. Vertically corresponding to this point of inflection marginal product is maximum, after which it starts diminishing.

Thus, marginal product of the variable factor starts diminishing beyond OL amount of the variable factor. That is, law of diminishing .returns starts operating in stage 1 from point D on the MP curve or from OL amount of the variable factor used.

This first stage ends where the average product curve AP reaches its highest point, that is, point S on AP curve or CW amount of the variable factor used. During stage 1, when marginal product of the variable factor is falling it still exceeds its average product and so continues to cause the average product curve to rise.

Thus, during stage 1, whereas marginal product curve of a variable factor rises in a part and then falls, the average product curve rises throughout. In the first stage, the quantity of the fixed factor is too much relative to the quantity of the variable factor so that if some of the fixed factor is withdrawn, the total product will increase.

Stage 2:

In stage 2, the total product continues to increase at a diminishing rate until it reaches its maximum point H where the second stage ends. In this stage both the marginal product and the average product of the variable factor are diminishing but remain positive.

At the end of the second stage, that is, at point M marginal product of the variable factor is zero (corresponding to the highest point H of the total product curve TP). Stage 2 is very crucial and important because as will be explained below the firm will seek to produce in its range.

STAGE 3: Stage of Negative Returns:

In stage 3 with the increase in the variable factor the total product declines and therefore the total product curve TP slopes downward. As a result, marginal product of the variable factor is negative and the marginal product curve MP goes below the X-axis. In this stage the variable factor is too much relative to the fixed factor. This stage is called the stage of negative returns, since the marginal product of the variable factor is negative during this stage.

It may be noted that stage 1 and stage 3 are completely symmetrical. In stage 1 the fixed factor is too much relative to the variable factor. Therefore, in stage 1, marginal product of the fixed factor is negative. On the other hand, in stage 3 the variable factor is too much relative to the fixed factor. Therefore, in stage 3, the marginal product of the variable factor is negative.

The Stage of Operation:

Now, an important question is in which stage a rational producer will seek to produce. A rational producer will never choose to produce in stage 3 where marginal product of the variable factor is negative. Marginal product of the variable factor being negative in stage 3, a producer can always increase his output by reducing the amount of the variable factor

It is thus clear that a rational producer will never be producing in stage 3. Even if the variable factor is free, the rational producer will stop at the end of the second stage where the marginal product of the variable factor is zero.

At the end point M of the second stage where the marginal product of the variable factor is zero, the producer will be maximising the total product and will thus be making maximum use of the variable factor. A rational producer will also not choose to produce in stage 1 where the marginal product of the fixed factor is negative.

A producer producing in stage 1 means that he will not be making the best use of the fixed factor and further that he will not be utilising fully the opportunities of increasing production by increasing quantity of the variable factor whose average product continues to rise throughout the stage 1

Thus, a rational entrepreneur will not stop in stage 1 but will expand further.

Even if the fixed factor is free (i.e., costs nothing), the rational entrepreneur will stop only at the end of stage 1 (i.e., at point N) where the average product of the variable factor is maximum. At the end point N of stage 1, the producer they will be making maximum use of the fixed factor.

It is thus clear from above that the rational producer will never be found producing in stage 1 and stage 3. The stages 1 and 3 represent non-economic regions in production function.

A rational producer will always seek to produce in stage 2 where both the marginal product and average product of the variable factor are diminishing. At which particular point in this stage, the producer will decide to produce depends upon the prices of factors. The stage 2 represents the range of rational production decisions.

Law of Returns to Scale : Definition, Explanation and Its Types:

In the long run all factors of production are variable. No factor is fixed. Accordingly, the scale of production can be changed by changing the quantity of all factors of production.

Definition:
—The term returns to scale refers to the changes in output as all factors change by the same proportion.‖ Koutsoyiannis.

—Returns to scale relates to the behaviour of total output as all inputs are varied and is a long run concept‖. Leibhafsky **Returns to scale are of the following three types:**

1. Increasing Returns to scale.

2. Constant Returns to Scale 3. Diminishing Returns to Scale

Explanation:
In the long run, output can be increased by increasing all factors in the same proportion. Generally, laws of returns to scale refer to an increase in output due to increase in all factors in the same proportion. Such an increase is called returns to scale.

$$P_1 = f(x\,L, x\,K)$$

1. If P_1 increases in the same proportion as the increase in factors of production i.e., $\frac{P_1}{P} = x$, it will be constant returns to scale.

2. If P_1 increases less than proportionate increase in the factors of production *i.e.*, $\frac{P_1}{P} < x$, it will be diminishing returns to scale.

i 3. If P_1 increases more than proportionate increase in the factors of production, *i.e.*, $\frac{P_1}{P} > x$, **it will be increasing returns to scale.**

1. Increasing Returns to Scale:

Increasing returns to scale or diminishing cost refers to a situation when all factors of production are increased, output increases at a higher rate. It means if all inputs are doubled, output will also increase at the faster rate than double. Hence, it is said to be increasing returns to scale. This increase is due to many reasons like division external economies of scale. Increasing returns to scale can be illustrated with the help of a diagram 2 given below.

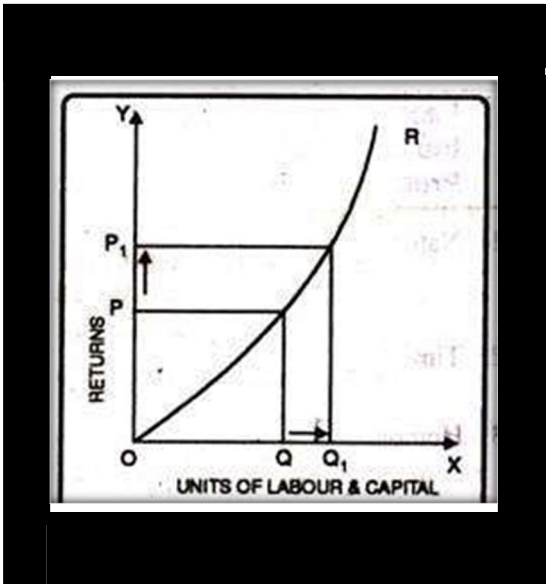

Figure.2.

In figure 2 , OX axis represents increase in labour and capital while OY axis shows increase in output. When labour and capital increases from Q to Q_1, output also increases from P to P_1 which is higher than the factors of production i.e. labour and capital.

2. Diminishing Returns to Scale:

Diminishing returns or increasing costs refer to that production situation, where if all the factors of production are increased in a given proportion, output increases in a smaller proportion. It means, if inputs are doubled, output will be less than doubled. If 20 percent

increase in labour and capital is followed by 10 percent increase in output, then it is an instance of diminishing returns to scale.

The main cause of the operation of diminishing returns to scale is that internal and external economies are less than internal and external diseconomies. It is clear from diagram 3.

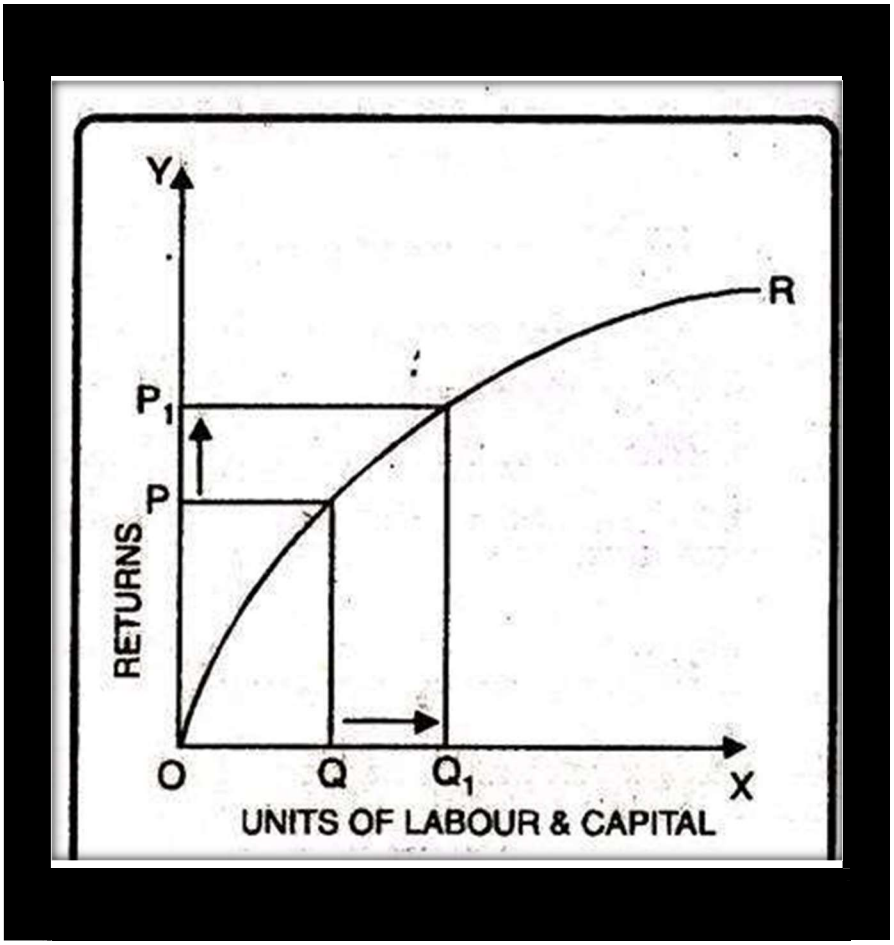

Figure.3.

In this diagram 3, diminishing returns to scale has been shown. On OX axis, labour and capital are given while on OY axis, output. When factors of production increase from Q to Q_1 (more quantity) but as a result increase in output, i.e. P to P_1 is less. We see that increase in factors of production is more and increase in production is comparatively less, thus diminishing returns to scale apply.

3. Constant Returns to Scale:

Constant returns to scale or constant cost refers to the production situation in which output increases exactly in the same proportion in which factors of production are increased. In simple terms, if factors of production are doubled output will also be doubled.

In this case internal and external economies are exactly equal to internal and external diseconomies. This situation arises when after reaching a certain level of production, economies of scale are balanced by diseconomies of scale. This is known as homogeneous production function. Cobb-Douglas linear homogenous production function is a good example of this kind. This is shown in diagram 4.

In this figure, we see that increase in factors of production i.e. labour and capital are equal to the proportion of output increase. Therefore, the result is constant returns to scale.

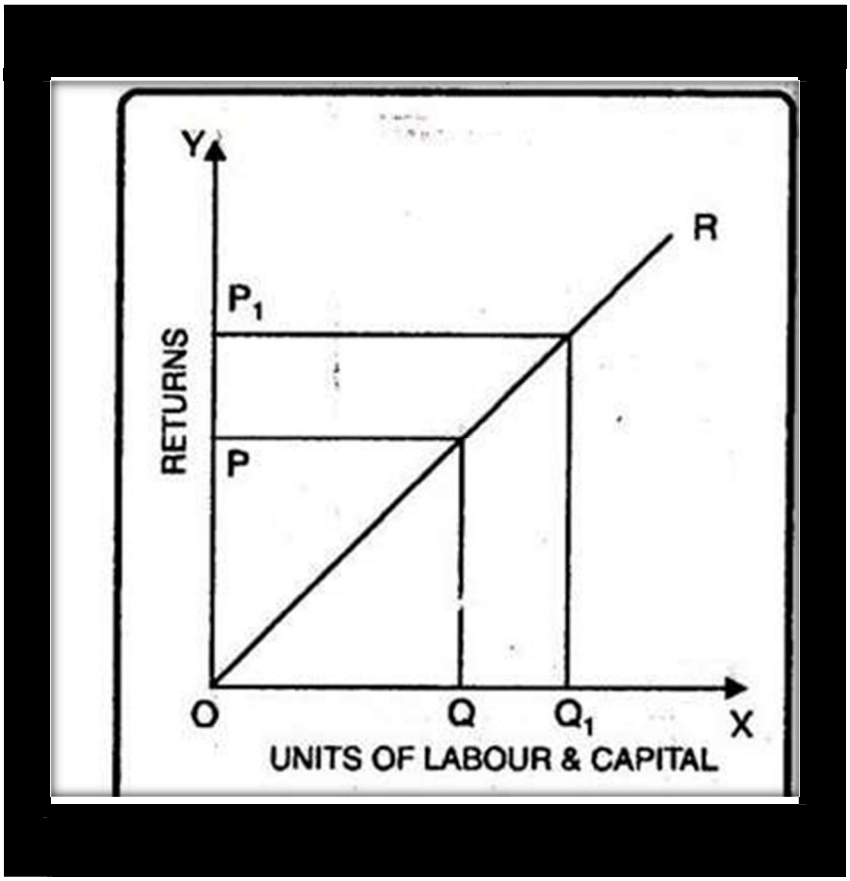

Figure.4.

Iso-Quant Curve: Definitions, Assumptions and Properties

The term Iso-quant or Iso-product is composed of two words, Iso = equal, quant = quantity or product = output.

Thus it means equal quantity or equal product. Different factors are needed to produce a good. These factors may be substituted for one another.

A given quantity of output may be produced with different combinations of factors. Iso-quant curves are also known as Equal product or Iso-product or Production Indifference curves. Since it is an extension of Indifference curve analysis from the theory of consumption to the theory of production.

Thus, an Iso-product or Iso-quant curve is that curve which shows the different combinations of two factors yielding the same total product. Like, indifference curves, Iso- quant curves also slope downward from left to right. The slope of an Iso-quant curve expresses the marginal rate of technical substitution (MRTS).

Definitions:

—The Iso-product curves show the different combinations of two resources with which a firm can produce equal amount of product.‖ **Bilas**

—Iso-product curve shows the different input combinations that will produce a given output.‖ **Samuelson**

—An Iso-quant curve may be defined as a curve showing the possible combinations of two variable factors that can be used to produce the same total product.‖ **Peterson**

—An Iso-quant is a curve showing all possible combinations of inputs physically capable of producing a given level of output.‖ **Ferguson**

Assumptions:

The main assumptions of Iso-quant curves are as follows:

1. **Two Factors of Production:**
Only two factors are used to produce a commodity.

2. **Divisible Factor:**
Factors of production can be divided into small parts.

3. **Constant Technique:**
Technique of production is constant or is known before hand.

4. **Possibility of Technical Substitution**: The substitution between then two factors is technically possible. That is, production function is of _variable proportion' type rather than fixed proportion.

5. **Efficient Combinations:**
Under the given technique, factors of production can be used with maximum efficiency.

Iso-Product Schedule:

Let us suppose that there are two factor inputs—labour and capital. An Iso-product schedule shows the different combination of these two inputs that yield the same level of output as shown in table 1.

Table 1. Iso-Product Schedule.

Combination	Units of labour	Units of capital	Output of cloth (metres)
A	1	15	200
B	2	11	200
C	3	8	200
D	4	6	200
E	5	5	200

The table 1 shows that the five combinations of labour units and units of capital yield the same level of output, i.e., 200 metres of cloth. Thus, 200 metre cloth can be produced by combining.

(a) 1 units of labour and 15 units of capital

(b) 2 units of labour and 11 units of capital

(c) 3 units of labour and 8 units of capital

(d) 4 units of labour and 6 units of capital (e) 5 units of labour and 5 units of capital

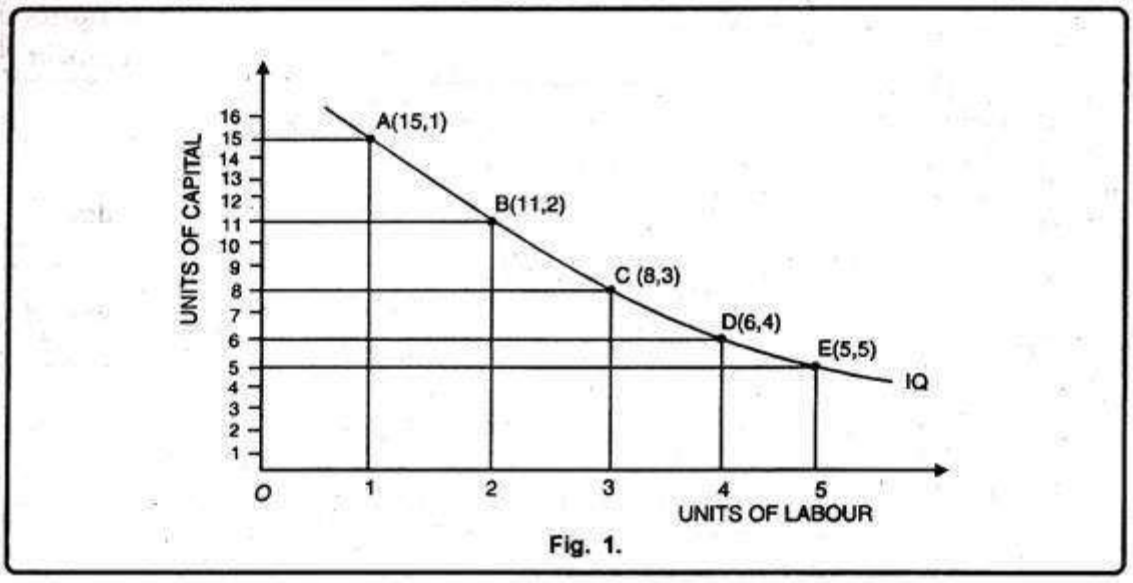

Fig. 1.

Iso-Product Curve:

From the above schedule iso-product curve can be drawn with the help of a diagram. An. equal product curve represents all those combinations of two inputs which are capable of producing the same level of output. The Fig. 1 shows the various combinations of labour and capital which give the same amount of output. A, B, C, D and E.

Iso-Product Map or Equal Product Map:

An Iso-product map shows a set of iso-product curves. They are just like contour lines which show the different levels of output. A higher iso-product curve represents a higher level of output. In Fig. 2 we have family of iso-product curves, each representing a particular level of output.

The iso-product map looks like the indifference of consumer behaviour analysis. Each indifference curve represents particular level of satisfaction which cannot be quantified. A higher indifference curve represents a higher level of satisfaction but we cannot say by how much the satisfaction is more or less.
Satisfaction or utility cannot be measured.

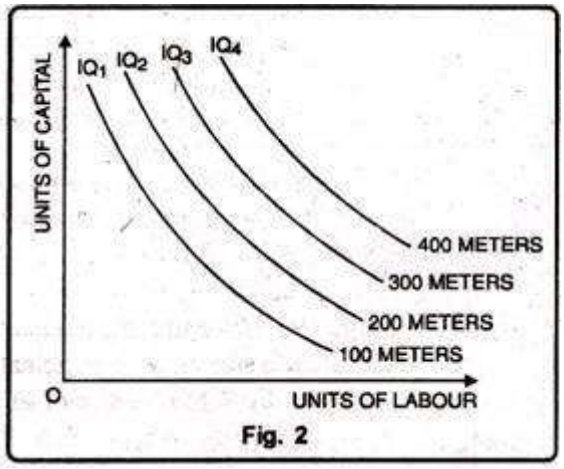

Fig. 2

An iso-product curve, on the other hand, represents a particular level of output. The level of output being a physical magnitude is measurable. We can therefore know the distance between two equal product curves. While indifference curves are labeled as IC_1, IC_2, IC_3, etc., the iso-product curves are labelled by the units of output they represent -100 metres, 200 metres, 300 metres of cloth and so on.

Properties of Iso-Product Curves:
The properties of Iso-product curves are summarized below:

1. Iso-Product Curves Slope Downward from Left to Right: They slope downward because MTRS of labour for capital diminishes. When we increase labour, we have to decrease capital to produce a given level of output.

The downward sloping iso-product curve can be explained with the help of the following figure:

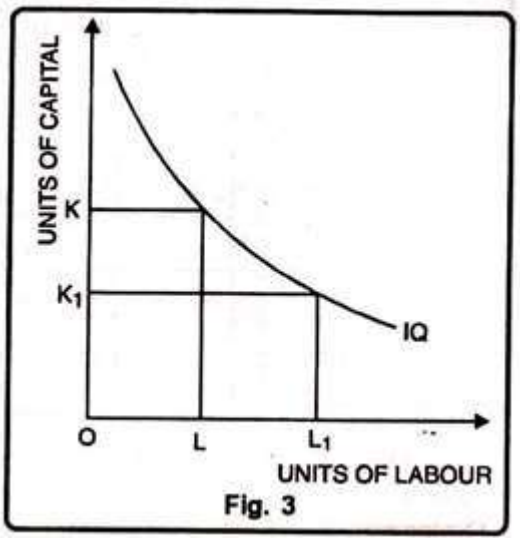

Fig. 3

The Fig. 3 shows that when the amount of labour is increased from OL to OL_1, the amount of capital has to be decreased from OK to OK_1, The iso-product curve (IQ) is falling as shown in the figure.

The possibilities of horizontal, vertical, upward sloping curves can be ruled out with the help of the following figure 4:

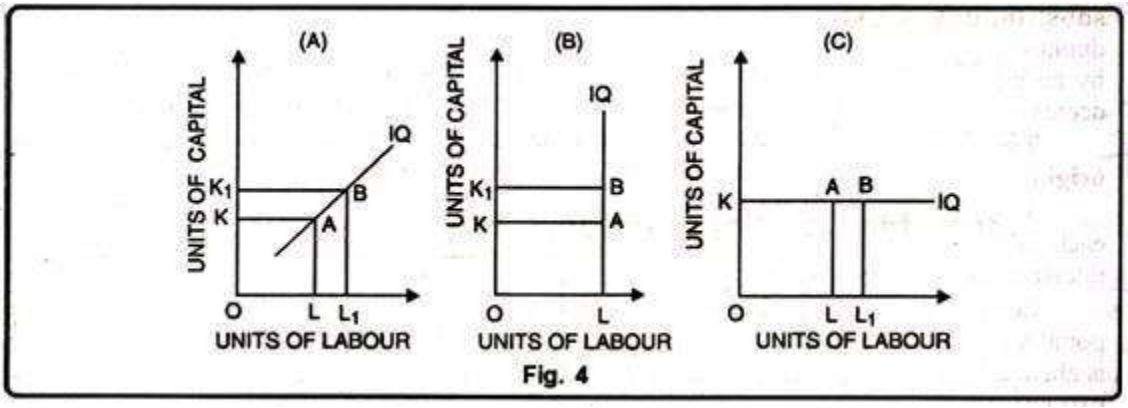

Fig. 4

(i) The figure (A) shows that the amounts of both the factors of production are increased-labour from L to Li and capital from K to K_1. When the amounts of both factors increase, the output must increase. Hence the IQ curve cannot slope upward from left to right.

(ii) The figure (B) shows that the amount of labour is kept constant while the amount of capital is increased. The amount of capital is increased from K to K_1. Then the output must increase. So IQ curve cannot be a vertical straight line.

(iii) The figure (C) shows a horizontal curve. If it is horizontal the quantity of labour increases, although the quantity of capital remains constant. When the amount of capital is increased, the level of output must increase. Thus, an IQ curve cannot be a horizontal line.

2. Isoquants are Convex to the Origin:

Like indifference curves, isoquants are convex to the origin. In order to understand this fact, we have to understand the concept of diminishing marginal rate of technical substitution (MRTS), because convexity of an isoquant implies that the MRTS diminishes along the isoquant. The marginal rate of technical substitution between L and K is defined as the quantity of K which can be given up in exchange for an additional unit of L. It can also be defined as the slope of an isoquant.

It can be expressed as:

$MRTS_{LK} = – \Delta K/\Delta L = dK/ dL$

Where ΔK is the change in capital and AL is the change in labour.

Equation (1) states that for an increase in the use of labour, fewer units of capital will be used. In other words, a declining MRTS refers to the falling marginal product of labour in relation to capital. To put it differently, as more units of labour are used, and as certain units of capital are given up, the marginal productivity of labour in relation to capital will decline.

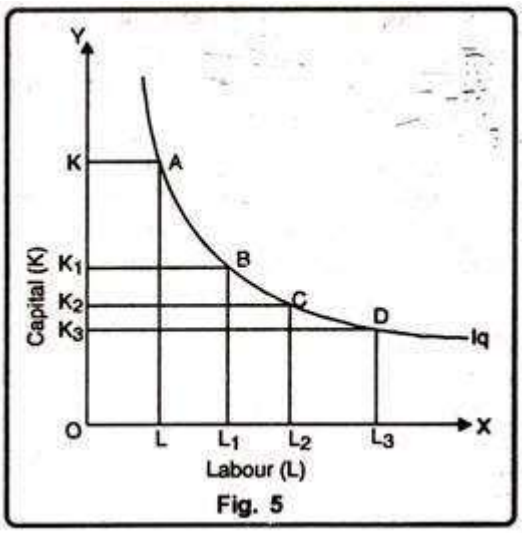

Fig. 5

This fact can be explained in Fig. 5. As we move from point A to B, from B to C and from C to D along an isoquant, the marginal rate of technical substitution (MRTS) of capital for labour diminishes. Every time labour units are increasing by an equal amount (AL) but the corresponding decrease in the units of capital (AK) decreases.

Thus it may be observed that due to falling MRTS, the isoquant is always convex to the origin.

3. Two Iso-Product Curves Never Cut Each Other:

As two indifference curves cannot cut each other, two iso-product curves cannot cut each other. In Fig. 6, two Iso-product curves intersect each other. Both curves IQ1 and IQ2 represent two levels of output. But they intersect each other at point A. Then combination A = B and combination A= C. Therefore B must be equal to C. This is absurd. B and C lie on two

different iso-product curves. Therefore two curves which represent two levels of output cannot intersect each other.

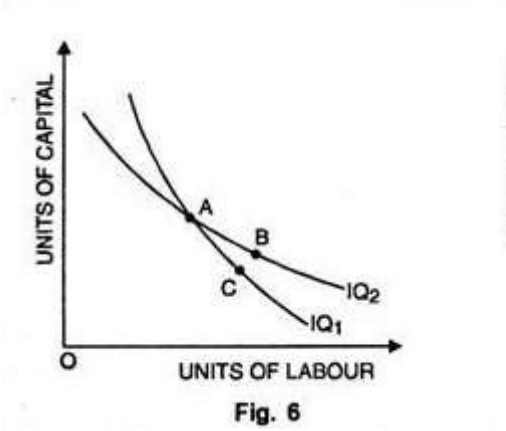

Fig. 6

4. Higher Iso-Product Curves Represent Higher Level of Output:

A higher iso-product curve represents a higher level of output as shown in the figure 7 given below:

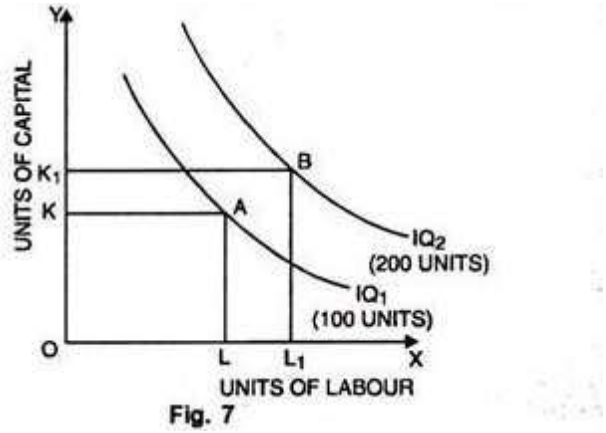

Fig. 7

In the Fig. 7, units of labour have been taken on OX axis while on OY, units of capital. IQ_1 represents an output level of 100 units whereas IQ2 represents 200 units of output.

5. Isoquants Need Not be Parallel to Each Other:

It so happens because the rate of substitution in different isoquant schedules need not be necessarily equal. Usually they are found different and, therefore, isoquants may not be parallel as shown in Fig. 8. We may note that the isoquants Iq_1 and Iq_2 are parallel but the isoquants Iq_3 and Iq4 are not parallel to each other.

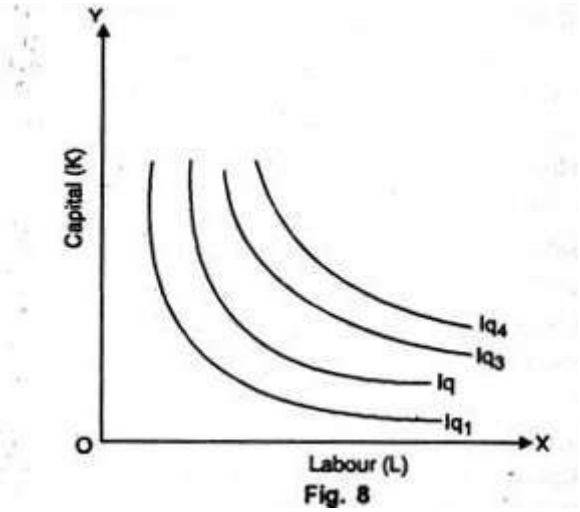

Fig. 8

6. No Isoquant can Touch Either Axis:

If an isoquant touches X-axis, it would mean that the product is being produced with the help of labour alone without using capital at all. These logical absurdities for OL units of labour alone are unable to produce anything. Similarly, OC units of capital alone cannot produce anything without the use of labour. Therefore as seen in figure 9, IQ and IQ_1 cannot be isoquants.

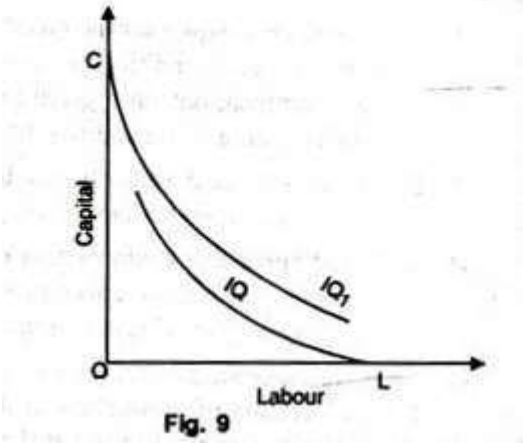

Fig. 9

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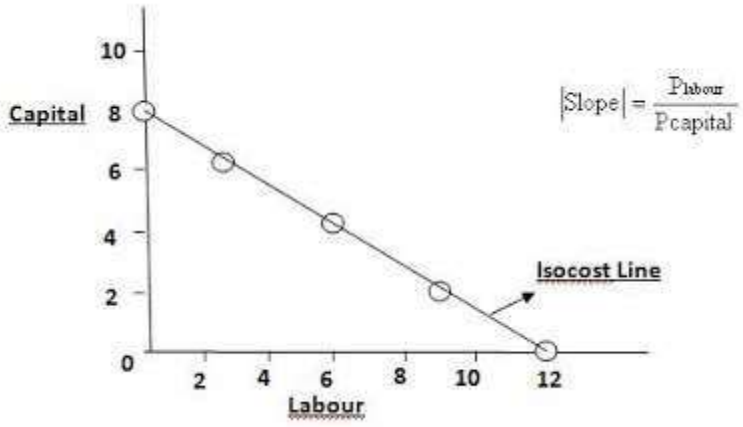
THE ISOCOST LINE

The isocost line is an important component when analysing producer's behaviour. The isocost line illustrates all the possible combinations of two factors that can be used at given costs and for a given producer's budget. In simple words, an isocost line represents a combination of inputs which all cost the same amount.

Now suppose that a producer has a total budget of Rs 120 and for producing a certain level of output, he has to spend this amount on 2 factors A and B. Price of factors A and B are Rs 15 and Rs. 10 respectively.

Combinations	Units of Capital	Units of Labour	Total expenditure
	Price = 150Rs	Price = 100 Rs	(in Rupees)
A	8	0	120
B	6	3	120
C	4	6	120
D	2	9	120
E	0	12	120



Producer's Equilibrium or Optimisation:

Producer's equilibrium or optimisation occurs when he earns maximum profit with optimal combination of factors. A profit maximisation firm faces two choices of optimal combination of factors (inputs).

1. To minimise its cost for a given output; and

2. To maximise its output for a given cost.

Thus the least cost combination of factors refers to a firm producing the largest volume of output from a given cost and producing a given level of output with the minimum cost when the factors are combined in an optimum manner. We study these cases separately.

Cost-Minimisation for a Given Output:

In the theory of production, the profit maximisation firm is in equilibrium when, given the cost-price function, it maximises its profits on the basis of the least cost combination of factors. For this, it will choose that combination which minimizes its cost of production for a given output. This will be the optimal combination for it.

Assumptions:

This analysis is based on the following assumptions:

1. There are two factors ,labour and capital.

2. All units of labour and capital are homogeneous.

3. The prices of units of labour (w) and that of capital (r) are given and constant.

4. The cost outlay is given.

5. The firm produces a single product.

6. The price of the product is given and constant.

7. The firm aims at profit maximisation.

8. There is perfect competition in the factor market.

Explanation:

Given these assumptions, the point of least-cost combination of factors for a given level of output is where the isoquant curve is tangent to an iso-cost line. In Figure 1, the iso-cost line GH is tangent to the isoquant 200 at point M.

The firm employs the combination of OC of capital and OL of labour to produce 200 units of output at point M with the given cost-outlay GH. At this point, the firm is minimising its cost for producing 200 units.

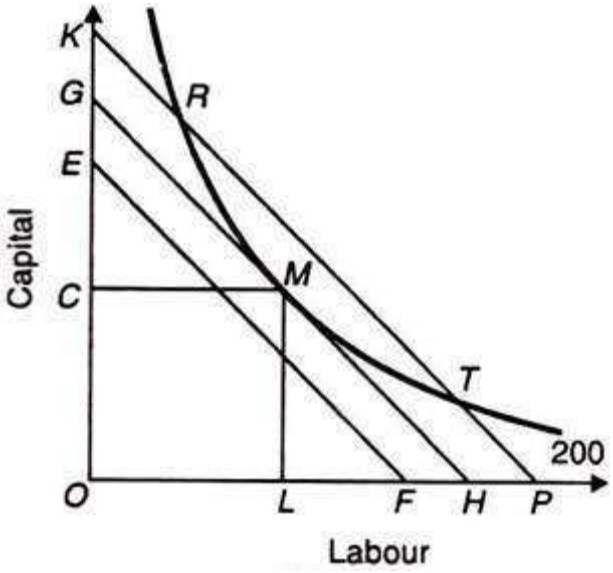


Fig 1

Any other combination on the isoquant 200, such as R or T, is on the higher iso-cost line KP which shows higher cost of production. The iso-cost line EF shows lower cost but output 200 cannot be attained with it. Therefore, the firm will choose the minimum cost point M which is the least-cost factor combination for producing 200 units of output.

M is thus the optimal combination for the firm. The point of tangency between the iso-cost line and the isoquant is an important first order condition but not a necessary condition for the producer‘s equilibrium.

There are two essential or second order conditions for the equilibrium of the firm:

1. The first condition is that the slope of the iso-cost line must equal the slope of the isoquant curve. The slope of the iso-cost line is equal to the ratio of the price of labour (w) to the price of capital (r) i.e… W/r. The slope of the isoquant curve is equal to the marginal rate of technical substitution of labour and capital ($MRTS_{LC}$) which is, in turn, equal to the ratio of the marginal product of labour to the marginal product of capital (MP_L/MP_C).

Thus the equilibrium condition for optimality can be written as:

$W/r = MP_L/MP_C = MRTS_{LC}$

2. The second condition is that at the point of tangency, the isoquant curve must he convex to the origin. In other words, the marginal rate of technical substitution of labour for capital ($MRTS_{LC}$) must be diminishing at the point of tangency for equilibrium to be stable. In Figure 2, S cannot be the point of equilibrium, for the isoquant IQ_1 is concave where it is tangent to the iso-cost line GH.

At point S, the marginal rate of technical. substitution between the two factors increases if move to the right or left on the curve IQ_1 .Moreover, the same output level can be produced at a lower cost CD or EF and there will be a corner solution either at C or F. If it decides to

produce at EF cost, it can produce the entire output with only OF labour. If, on the other hand, it decides to produce at a still lower cost CD, the entire output can be produced with only OC capital.

Both the situations are impossibilities because nothing can be produced either with only labour or only capital. Therefore, the firm can produce the same level of output at point M where the isoquant curve IQ is convex to the origin and is tangent to the iso-cost line GH. The analysis assumes that both the isoquants represent equal level of output IQ = IQ_1 = 200.

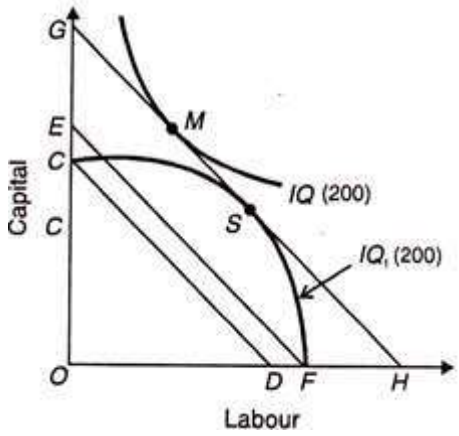


Fig 2

Output-Maximisation for a given Cost:

The firm also maximises its profits by maximising its output, given its cost outlay and the prices of the two factors. This analysis is based on the same assumptions, as given above.

The conditions for the equilibrium of the firm are the same, as discussed above.

1. The firm is in equilibrium at point P where the isoquant curve 200 is tangent to the iso-cost line CL in Figure 3.

At this point, the firm is maximising its output level of 200 units by employing the optimal combination of OM of capital and ON of labour, given its cost outlay CL. But it cannot be at points E or F on the iso-cost line CL, since both points give a smaller quantity of output, being on the isoquant 100, than on the isoquant 200.

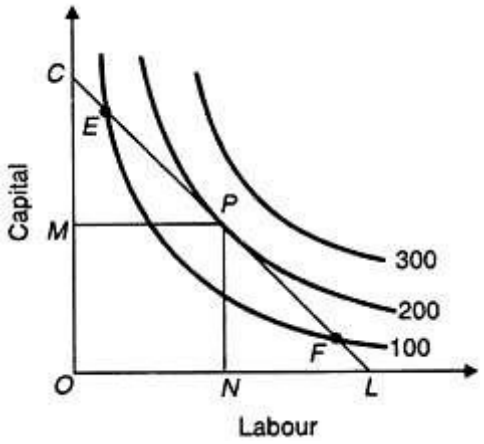


Fig 3

The firm can reach the optimal factor combination level of maximum output by moving along the iso-cost line CL from either point E or F to point P. This movement involves no extra cost because the firm remains on the same iso-cost line.

The firm cannot attain a higher level of output such as isoquant 300 because of the cost constraint. Thus the equilibrium point has to be P with optimal factor combination OM + ON. At point P, the slope of the isoquant curve 200 is equal to the slope of the iso-cost line CL. It implies that $w/r = MP_L/MPC = MRTS_{LC}$

2. The second condition is that the isoquant curve must be convex to the origin at the point of tangency with the iso-cost line, as explained above in terms of Figure 3.

Cost is an amount that has to be paid or given up in order to get something.

In business, cost is usually a monetary valuation of (1) effort, (2) material, (3) resources, (4) time and utilities consumed, (5) risks incurred, and (6) opportunity forgone in production and

delivery of a good or service. All expenses are costs, but not all costs (such as those incurred in acquisition of an income-generating asset) are expenses.

TYPES OF COSTS:

Economic Cost. Economic cost includes both the actual direct costs (accounting costs) plus the opportunity cost. For example, if you take time off work to a training scheme. You may lose a weeks pay £350, plus also have to pay the direct cost of £200. Thus the total economic cost = £550.

Accounting Costs – this is the monetary outlay for producing a certain good. Accounting costs will include your variable and fixed costs you have to pay.

Sunk Costs. These are costs that have been incurred and cannot be recouped. If you left the industry you cannot reclaim sunk costs. For example, if you spend money on advertising to enter an industry, you can never claim these costs back. If you buy a machine, you might be able to sell if you leave the industry.

Avoidable Costs. Costs that can be avoided. If you stop producing cars, you don‘t have to pay for extra raw materials and electricity. Sometimes known as an escapable cost.

Nominal Cost and Real Cost:

The costs are sometimes classified as nominal cost and real cost.

Nominal or Money Cost:

Nominal cost is the money cost of production. It is also called expenses of production. These expenses are important from the point of view of the producer. These expenses are paid out by him to the factors he employs or for the raw materials he uses in production. He must make sure that the price he gets for the product covers, in the long run, these expenses including normal profit, otherwise he cannot continue in business.

Real Cost:

The real cost of production has been variously interpreted. Adam Smith regarded pains and sacrifices of labour as real cost of production. Marshall included under it the —real cost of efforts of various qualities‖, and —real cost of waiting.‖ This Marshall called as the social cost of production. Some economists define real cost as the next best alternative sacrificed in order to obtain a commodity. It is also called opportunity cost or displacement cost **Explicit Costs and Implicit Costs:**

Costs of production can be classified as Explicit Costs and Implicit Costs. Explicit costs are also called paid-out costs. These costs the entrepreneur has to pay to those persons from whom he has obtained factors of production or services. For instance, he has to pay wages to the

labour he has employed, interest on the capital that he has borrowed and rent of land or factory or business premises. These are explicit costs.

Implicit costs, on the other hand, are costs which have not to be paid out to others but the costs which the entrepreneur pays to himself, as it were. Perhaps he himself is the owner of the business premises, he may have invested his own capital side by side the capital he may have borrowed from others. He may be a whole-time worker in the business, for instance he may be a managing director for which he may not be drawing any salary.

If he had lent out these factors to others, he would have received remuneration from them. Hence they must be taken into account while calculating profit. But since they are not actually paid out to anybody, they are called implicit costs.

Opportunity Cost:

In modern economic analysis, the term real cost is interpreted in the sense of opportunity cost. It is also called ‗alternative cost' or ‗transfer cost'. Opportunity cost of a commodity is the alternative sacrificed in order to obtain it. Suppose you have Rs. 5 with you and you have two alternatives before you, either to go to a cinema show or buy a pen. Suppose further that you decide to buy the pen and forego the cinema show. In this case, what is the price of the pen? Apparently, it is Rs. 5, but really it is the cinema show, the alternative you have foregone or sacrificed. This is its opportunity cost.

Since productive resources are limited, if they are used in the production of one commodity, they are not available for the production of another. The commodity which is sacrificed or not produced is the real cost of the commodity that is produced. Thus, the cost of production, in the sense of opportunity cost, means not the efforts and sacrifices undergone, but the most attractive alternative foregone or the next best choice sacrificed. The cost of production of a commodity is fundamentally the sum-total of retention prices that have to be paid to the productive services for retaining them in a particular industry, and this must at least be equal to what they can command elsewhere.

Production Costs:

Production costs refer to the total amount of money spent in the production of goods. They include the cost of raw materials and freight thereon, the costs of manufacture, i.e., the wages of workers engaged in the manufacture of the commodity and salaries of the manager and other office staff including those of peons, chowkidars, etc. They also include other overheads like rent, interest on capital, taxes, insurance and other incidental expenses like costs of repairs and replacements. They include both prime costs and supplementary costs.

Selling Costs:

Selling costs are the costs of marketing, advertisement and salesmanship. These costs are incurred to attract customers, expand market and capture more business and retain the existing business. These costs are essential costs of the competitive economy. They are

especially important in the case of imperfect competition in which goods are not identical but substitutes.

The manufacturers resort to what is called product differentiation in order to change the demand curve of a particular seller to his advantage. Instead of improving the quality or lowering the price, high pressure salesmanship is resorted to win customers and this is found more profitable. Selling costs do not necessarily vary with the volume of sales.

A minimum cost of advertisement is essential to retain the existing markets. But it may also be found that sales can be increased by increasing selling costs. In that case, these costs will be variable. Selling costs like production costs are also subject to the law of diminishing returns or increasing costs.

On the whole, selling costs may be regarded as a social waste, because they add to the cost of the commodity without improving its quality or increasing its utility. Their result may be simply to redistribute the market among the existing sellers. Only in cases where the market is expanded may the costs be reduced but the reduction in costs may not be reflected in the lowering of the price. Selling costs are a peculiarity of an imperfect market and have no place in a fully competitive market where the dealers are supposed to be fully aware of the quality of the goods and the conditions of the market.

In economics, "short run" and "long run" are not broadly defined as a rest of time. Rather, they are unique to each firm.

Long Run Costs

Long run costs are accumulated when firms change production levels over time in response to expected economic profits or losses. In the long run there are no fixed factors of production. The land, labor, capital goods, and entrepreneurship all vary to reach the the long run cost of producing a good or service. The long run is a planning and implementation stage for producers. They analyze the current and projected state of the market in order to make production decisions. Efficient long run costs are sustained when the combination of outputs that a firm produces results in the desired quantity of the goods at the lowest possible cost. Examples of long run decisions that impact a firm's costs include changing the quantity of production, decreasing or expanding a company, and entering or leaving a market.

Short Run Costs

Short run costs are accumulated in real time throughout the production process. Fixed costs have no impact of short run costs, only variable costs and revenues affect the short run production. Variable costs change with the output. Examples of variable costs include employee wages and costs of raw materials. The short run costs increase or decrease based on variable cost as well as the rate of production. If a firm manages its short run costs well over time, it will be more likely to succeed in reaching the desired long run costs and goals.

Differences

The main difference between long run and short run costs is that there are no fixed factors in the long run; there are both fixed and variable factors in the short run . In the long run the

general price level, contractual wages, and expectations adjust fully to the state of the economy. In the short run these variables do not always adjust due to the condensed time period. In order to be successful a firm must set realistic long run cost expectations. How the short run costs are handled determines whether the firm will meet its future production and financial goals.

Long Run Cost and It's Types

In the long run, all the factors of production used by an organization vary. The existing size of the plant or building can be increased in case of long run.

There are no fixed inputs or costs in the long run. Long run is a period in which all the costs change as all the factors of production are variable.

There is no distinction between the Long run Total Costs (LTC) and long run variable cost as there are no fixed costs. It should be noted that the ability of an organization of changing inputs enables it to produce at lower cost in the long run.

1. Long Run Total Cost:

Long run Total Cost (LTC) refers to the minimum cost at which given level of output can be produced. According to Leibhafasky,
—the long run total cost of production is the least possible cost of producing any given level of output when all inputs are variable.‖ LTC represents the least cost of different quantities of output. LTC is always less than or equal to short run total cost, but it is never more than short run cost.

The LTC curve is shown in Figure-1:

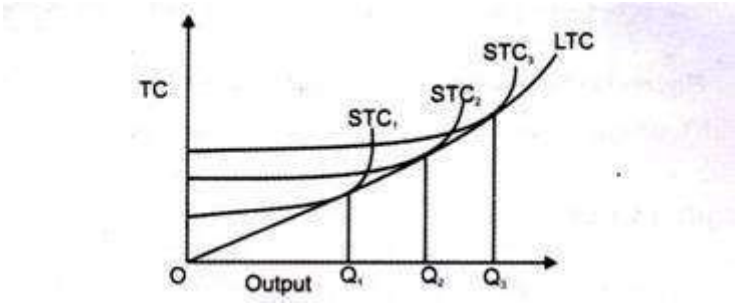


Fig 1

As shown in Figure-1, short run total costs curves; STC1, STC2, and STC3 are shown depicting different plant sizes. The LTC curve is made by joining the minimum points of short run total cost curves. Therefore, LTC envelopes the STC curves.

2. Long Run Average Cost:

Long run Average Cost (LAC) is equal to long run total costs divided by the level of output. The derivation of long run average costs is done from the short run average cost curves. In the short run, plant is fixed and each short run curve corresponds to a particular plant. The long run average costs curve is also called planning curve or envelope curve as it helps in making organizational plans for expanding production and achieving minimum cost.

Figure-2 shows the derivation of LAC curve:

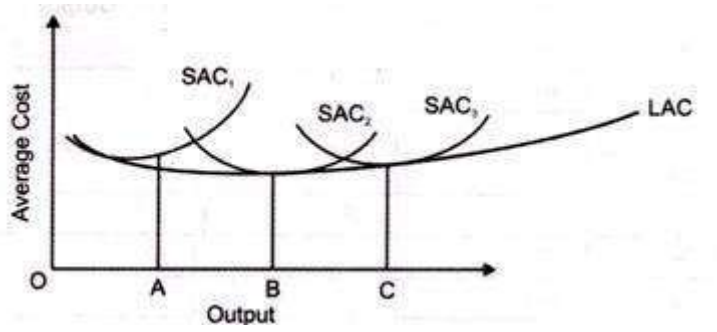


Fig 2

Suppose there are three sizes of the plant and no other size of the plant can be built. In short run, the plant sizes are fixed thus, organization increase or decrease the variable factors. However, in the long run, the organization can select among the plants which help in achieving minimum possible cost at a given level of output.

From Figure- 2, it can be noted that till OB amount of production, it is beneficial for the organization to operate on the plant SAC^2 as it entails lower costs than SAC^1. If the plant SAC^2 is used for producing OA, then cost incurred would be more. Thus, in the long run, it is clear that the producer would produce till OB on plant SAC^2. On SAC^2, the producer would produce till OC amount of output. If an organization wants to exceed output from OC, it will be beneficial to produce at SAC^3 than SAC^2.

Thus, in the long run, an organization has a choice to use the plant incurring minimum costs at a given output. LAC depicts the lowest possible average cost for producing different levels of output. The LAC curve is derived from joining the lowest minimum costs of the short run average cost curves.It first falls and then rises, thus it is U- shaped curve.

3. <u>Long Run Marginal Cost</u>:

Long run Marginal Cost (LMC) is defined as added cost of producing an additional unit of a commodity when all inputs are variable. This cost is derived from short run marginal cost. On the graph, the LMC is derived from the points of tangency between LAC and SAC.

LMC curve can be learned through Figure-3:

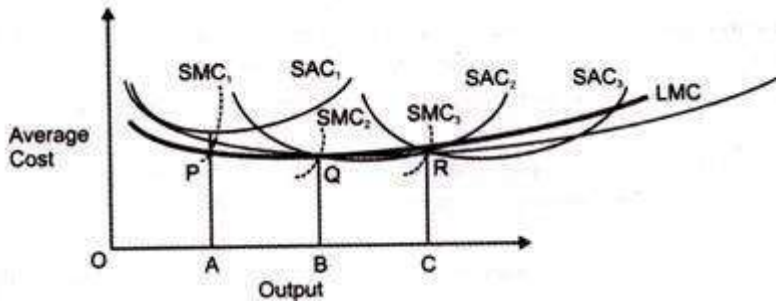


Fig 3

If perpendiculars are drawn from point A, B, and C, respectively; then they would intersect SMC curves at P, Q, and R respectively. By joining P, Q, and R, the LMC curve would be drawn. It should be noted that LMC equals to SMC, when LMC is tangent to the LAC.

In Figure-3, OB is the output at which:

$SAC_2 = SMC_2 = LAC = LMC$

We can also draw the relation between LMC and LAC as follows:

When LMC < LAC, LAC falls

When LMC = LAC, LAC is constant

When LMC > LAC, LAC rises

Short Run Cost and It's Types:

Conceptually, in the short run, the quantity of at least one input is fixed and the quantities of the other inputs can be varied.

In the short-run period, factors, such as land and machinery, remain the same.

On the other hand, factors, such as labor and capital, vary with time. In the short run, the expansion is done by hiring more labor and increasing capital. The existing size of the plant or building cannot be increased in case of the short run.

Following are the cost concepts that are taken into consideration in the short run:

i. Total Fixed Costs (TFC):

Refer to the costs that remain fixed in the short period. These costs do not change with the change in the level of output. For example, rents, interest, and salaries. In the words of Ferguson, —Total fixed cost is the sum of the _short run explicit fixed costs and implicit costs incurred by the entrepreneur.‖ Fixed costs have implication even when the production of an organization is zero. These costs are also called supplementary costs, indirect costs, overhead costs, historical costs, and unavoidable costs.

TFC remains constant with respect to change in the level of output. Therefore, the slope of TFC curve is a horizontal straight line.

Figure-1 depicts the TFC curve:

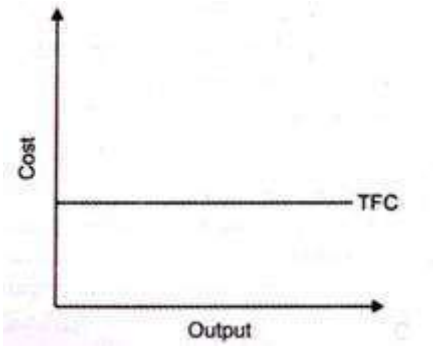


Fig 1

As shown in Figure-1, TFC curve is horizontalto x- axis. From Figure-1, it can be seen that TFC remains the same at all the levels with respect to change in the level of output.

ii. Total Variable Costs (TVC):

Refer to costs that change with the change in the level of production. For example, costs incurred on purchasing raw material, hiring labor, and using electricity. According to Ferguson,

—total variable cost is the sum of amounts spent for each of the variable inputs used‖ If the output is zero, then the variable cost is also zero. These costs are also called prime costs, direct costs, and avoidable costs.

Figure-2 shows the TVC curve:

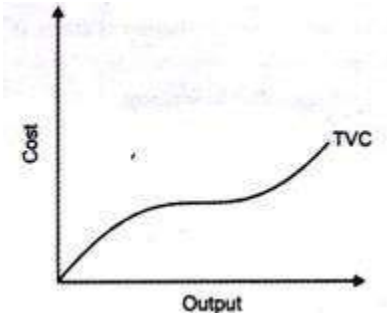


Fig 2

In Figure-2, it can be seen that TVC curve changes with the change in the level of output.

iii. Total Cost (TC):

Involves the sum of TFC and TVC.

It can be calculated as follows:

Total Cost = TFC + TVC

TC also changes with the changes in the level of output as there is a change in TVC.

Figure-3 shows the total cost curve derived from sum of TVC and TFC:

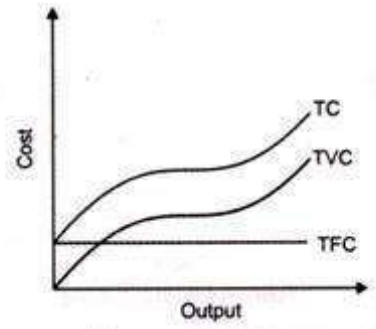


Fig 3

It should be noted that both TVC and TC increase initially at decreasing rate and then they increase at increasing rate Here, decreasing rate implies that the rate at which cost increases with respect to output is less, whereas increasing rate implies the rate at which cost increases with respect to output is more.

iv. Average Fixed Costs (AFC):

Refers to the per unit fixed costs of production. In other words, AFC implies fixed cost of production divided by the quantity of output produced.

It is calculated as:

AFC = TFC/Output

TFC is constant as production increases, thus AFC falls.

Figure-4 shows the AFC curve:

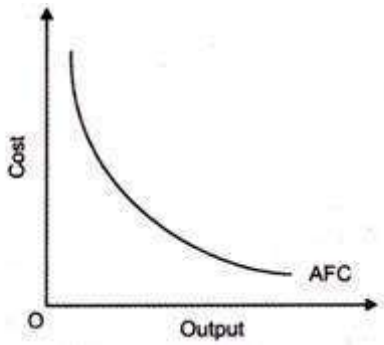


Fig 4

In Figure-4 AFC curve is shown as a declining curve, which never touches the horizontal axis. This is because fixed cost can never be zero. The curve is also called rectangular hyperbola, which represents that total fixed costs remain same at all the levels.

v. Average Variable Costs (AVC):

Refer to the per unit variable cost of production. It implies organization's variable costs divided by the quantity of output produced.

It is calculated as:

AVC = TVC/ Output

Initially, AVC decreases as output increases. After a certain point of time, AVC increases with respect to increase in output.

Thus, it is a U- shaped curve, as shown in Figure-5:

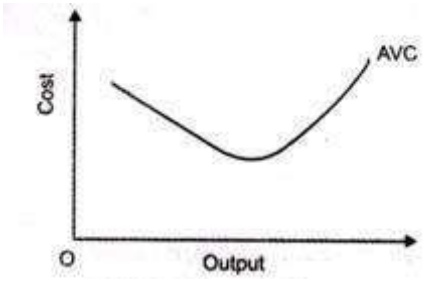


Fig 5

vi. Average Cost (AC):

Refer to the total costs of production per unit of output.

AC is calculated as:

AC = TC/ Output

AC is also equal to the sum total of AFC and AVC. AC curve is also U-shaped curve as average cost initially decreases when output increases and then increases when output increases.

Figure-6 shows the AC curve:

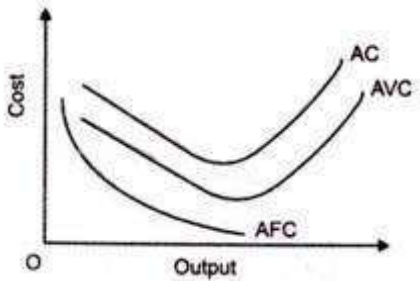


Fig 6

vii. Marginal Cost:

Refer to the addition to the total cost for producing an additional unit of the product.

Marginal cost is calculated as:

$MC = TC_n = TC_{n-1}$ n= Number of units

produced **It is also calculated as:**

$MC = \Delta TC/\Delta Output$

MC curve is also a U-shaped curve as marginal cost initially decreases as output increases and afterwards, rises as output increases. This is because TC increases at decreasing rate and then increases at increasing rate.

Figure- 7 shows the MC curve:

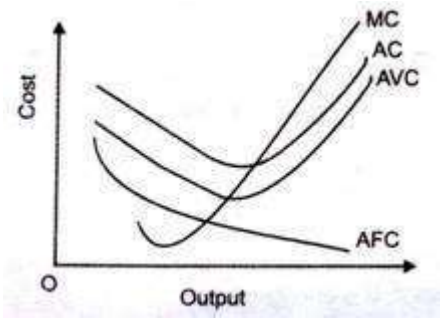


Fig7

The aforementioned cost concepts can be learned numerically with the help of Table-1:

Table-1: Calculation of Short-run Costs							
Units of Output	TFC =30	TVC	TC= TFC + TVC	AFC= TFC/Output	AVC= TVC/Output	AC= AFC+ AVC	MC
0	30	0	30	-	-	-	-
1	30	10	40	30	10	40	10
2	30	18	48	15	9	24	8
3	30	24	54	10	8	18	6
4	30	32	62	7.5	8	15.5	8
5	30	50	80	6	10	16	18
6	30	72	102	5	12	17	22

REVENUE CONCEPTS.

Profit making is considered to be the most important objective of firm. Like the consumers aim at utility maximisation, the producers aim at the profit maximisation. Profit is a difference between total cost and total revenue.Profit can be increased either by reducing the cost of production or by increasing the revenue.

Meaning of Revenue:

The amount of money that a producer receives in exchange for the sale proceeds is known as revenue. For example, if a firm gets Rs. 16,000 from sale of 100 chairs, then the amount of Rs. 16,000 is known as revenue.

Revenue refers to the amount received by a firm from the sale of a given quantity of a commodity in the market.

Revenue is a very important concept in economic analysis. It is directly influenced by sales level, i.e., as sales increases, revenue also increases.

Concept of Revenue:

The concept of revenue consists of three important terms; Total Revenue, Average Revenue and Marginal Revenue.

Total Revenue

The total revenue of a firm is the total amount of money that the firm receives by selling a certain quantity of output. Symbolically,

TR = P x Q

Where,

P = Price

Q = Quantity TR = Total Revenue **Example**:

Calculate the total revenue for a firm which is selling 10 television sets at Rs. 21,000 each.

TR = P X Q

= 21,000 x 100

= Rs. 2,10,000

Average Revenue

Revenue earned by a firm per unit of output is called average revenue. Average revenue is equal to price in both competitive and non-competitive markets. Symbolically,

AR = TR/Q

Where

AR = Average Revenue

TR = Total Revenue

Q = Units sold

Example:

What is the average revenue for a firm which is selling 25 units of commodity X and getting the total revenue of Rs. 2000?

AR = TR/Q

= 2000/25

= 80

Marginal Revenue

Revenue earned by selling additional unit of output is called as marginal revenue. In other words, change in the revenue resulting from a one unit increase in output is marginal revenue. Symbolically,

$MR = TR_n - TR_{n-1}$

Where

MR = Marginal Revenue TR = Total

Revenue

n = Unit sold

Example :

By selling 20 units, Firm ABC earned Rs. 200. After selling the 21st unit, firm‘s revenue increased to 218. What is the marginal revenue in this case?

$MR = TR_n - TR_{n-1}$

= Total revenue by selling 21(n) units - total revenue by selling 20(n-1) units

= 218 - 200 = 18

□

The Relationship between Different Revenue Concepts:

The relationship between different revenue concepts can be discussed under two situations:

(i) When Price remains Constant (It happens under Perfect Competition). In this situation, firm has to accept the same price as determined by the industry. It means, any quantity of a commodity can be sold at that particular price.

(ii) When Price Falls with rise in output (It happens under Imperfect Competition). In this situation, firm follows its own pricing policy.
However, it can increase sales only by reducing the price.

Let us now discuss the relationship between different revenue concepts, when: (i) When Price remains constant; (ii) When Price Falls with rise in output.

Relationship between AR and MR (When Price remains Constant):

When price remains same at all output levels (like in case of perfect competition), no firm is in a position to influence the market price of the product. A firm can sell more quantity of output at the same price (see Table 1). It means, the revenue from every additional unit (MR) is equal to AR. As a result, both AR and MR curves coincide in a horizontal straight line parallel to the X-axis as shown in Fig 1.

Table1: AR and MR (When Price remains Constant):

Units sold	**Price/AR** (Rs.)	**TR** (Rs.)	**MR**(Rs.)
1	5	5	5
2	5	10	5
3	5	15	5
4	5	20	5
5	5	25	5

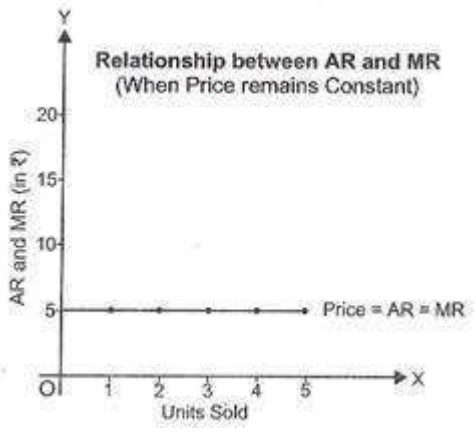


Fig 1

As seen in the given schedule and diagram, price (AR) remains same at all level of output and is equal to MR. As a result, demand curve (or AR curve) is perfectly elastic.

Always remember that when a firm is able to sell more output at the same price, then AR = MR at all levels of output.

Relationship between TR and MR (When Price remains Constant):

When price remains constant, firms can sell any quantity of output at the price fixed by the market. As a result, MR curve (and AR curve) is a horizontal straight line parallel to the X-axis. Since MR remains constant, TR also increases at a constant rate (see Table 2). Due to this reason, the TR curve is a positively sloped straight line (see Fig. 2)As TR is zero at zero level of output, the TR curve starts from the origin.

Table 2: TR and MR (When Price remains Constant):

Units sold	Price/AR (Rs.)	TR (Rs.)	MR (Rs.)
1	5	5	5
2	5	10	5
3	5	15	5

4 5 20 5

5 5 25 5

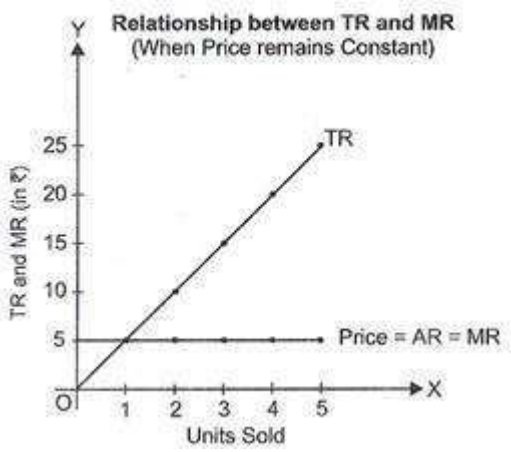


Fig 2

Relationship between TR and Price line:

When price remains constant at all the levels of output, then Price =

AR = MR. Therefore, price line is the same as MR curve. Also, TR = I MR. So, the area under MR curve or price line will be equal to TR. In Fig. 3, TR at MR level of output = OP x OQ = Area under price line.

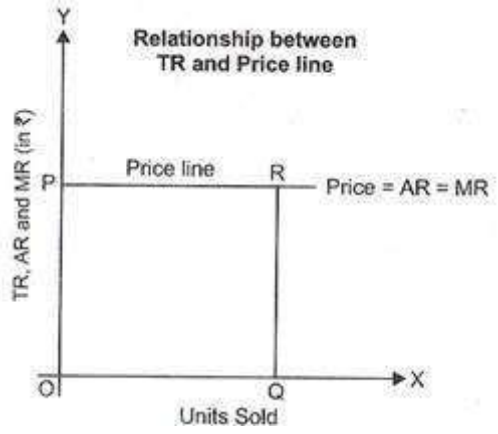


Fig 3

Relationship between AR and MR (When Price Falls with rise in output):

When firms can increase their volume of sales only by decreasing the price, then AR falls with increase in sale. It means, revenue from every additional unit (i.e. MR) will be less than AR. As a result, both AR and MR curves slope downwards from left to right. This relationship can be better understood through Table 3 and Fig. 4:

Table 3: AR and MR (When Price Falls with rise in output):

Units Sold	AR (Rs.)	TR (Rs.)	MR (Rs.)	Ratio of Fall (AR: MR)
1	5	5	5	—
2	4	8	3	1 :2
3	3	9	1	1 :2
4	2	8	-1	1 :2
5	1	5	-3	1 :2

In Table 3 , both MR and AR fall with increase in output. However, fall in MR is double than that in AR, i.e., MR falls at a rate which is twice the rate of fall in AR. As a result, MR curve is steeper than the AR curve because MR is limited to one unit, whereas, AR is derived by all the units. It leads to comparatively lesser fall in AR than fall in MR.

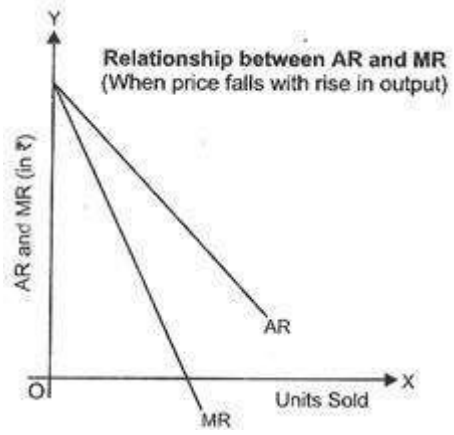


Fig 4

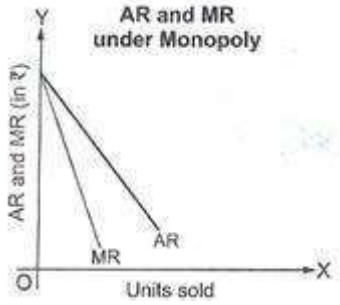
It must be noted that MR can fall to zero and can even become negative. However, AR can be neither zero nor negative as TR it is always positive.

AR and MR Curves under Monopoly and Monopolistic Competition:

Both, Monopoly and Monopolistic Competition fall under the category of Imperfect Competition. Therefore, AR and MR curves slope downwards as more units can be sold only by reducing the price. However, there is one major difference between AR and MR curves of monopoly and monopolistic competition.

Under monopolistic competition, the AR and MR curves are more elastic as compared to those of Monopoly. It happens because of the presence of close substitutes under

monopolistic competition and absence of close substitutes under monopoly. So, when price of a commodity is increased in both the markets, then proportionate fall in demand under monopoly is less than proportionate fall in demand under monopolistic competition.



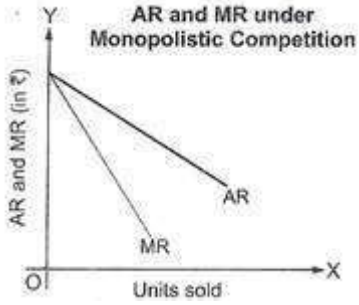


Fig 5 **Fig 6**

Relationship between TR and MR (When Price Falls with rise in output):

When more of output can be sold only by lowering the price, then revenue from every additional unit (i.e. MR) will fall. MR is the addition to TR when one more unit of output is sold. So, TR will increase when MR is positive, TR will fall when MR is negative and TR will be maximum when MR is zero. This relationship can be better understood with the help of Table 4 and Fig. 7:

Table 4: TR and MR (When Price Falls with rise in output):

Units	AR (Rs.)	TR (Rs.)	MR (Rs.) sold
1	5	5	5
2	4	8	3
3	3	9	1
4	2.25	9	0
5	1	5	-4

In Fig. 7, the TR curve rises as long as MR is positive. It reaches its highest point (point A) when MR is zero (point B) and it starts declining when MR becomes negative.

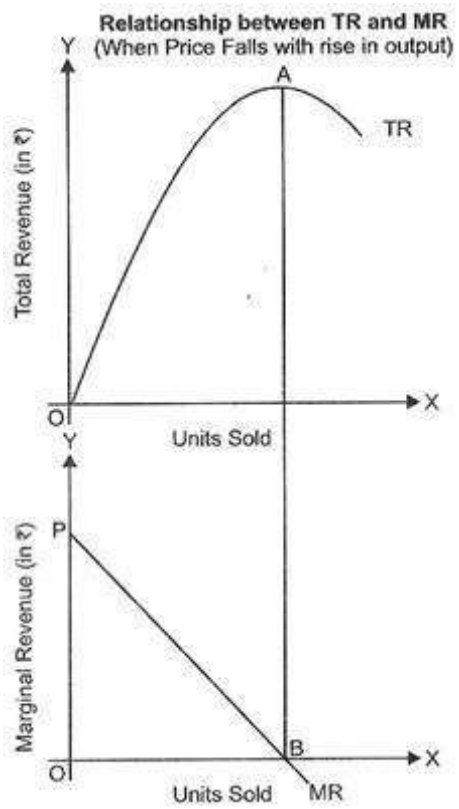


Fig 7

The relationship can be summed up as under:

1. As long as MR is positive, TR increases (or when TR rises, MR is positive).

2. When MR is zero, TR is at its maximum point (or when TR is maximum, MR is zero).

3. When MR becomes negative, TR starts falling (or when TR falls, MR is negative).

WHAT IS PROFIT MAXIMIZATION?

Profit maximization refers to the sales level where profits are highest. You might assume that the higher the sales level, the higher the profits - but that is not always true!

The calculation for profit maximization is: the number of units where MR = MC.

How Do We Calculate Profit Maximization?

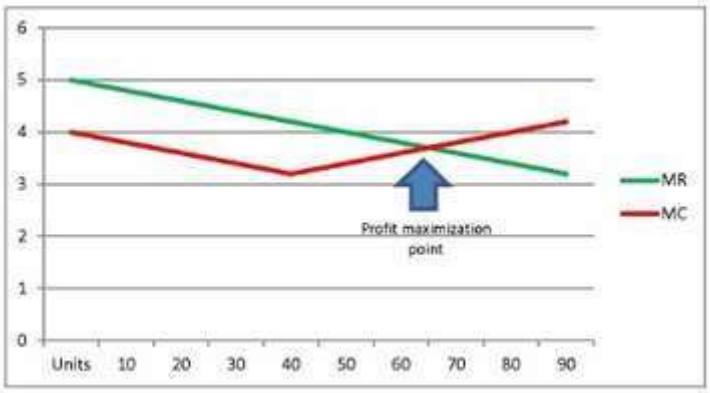
Some important definitions for the calculation of the profit maximization are listed as under:

- **Profit**: The money left over once you pay all your bills out of funds that come in from your customers. So for example, if you sell 5 necklaces for $5 each, and the cost for

you to purchase the necklaces is $3, you will have revenues (customer monies in) of 5 necklaces x $5 each = $25, and costs of 5 necklaces x $3 each = $15. Your profit will be $25 revenue - $15 cost = $10 remaining.

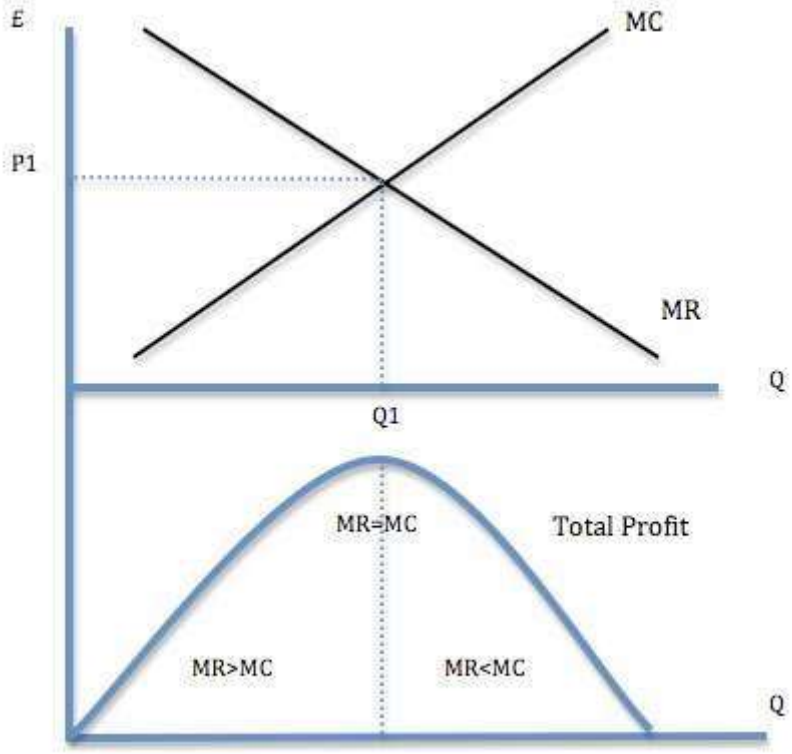
- **MR**: This stands for **marginal revenue**, which means the perunit selling price of your item. It's often true that to sell more units you have to reduce the price, so marginal revenue appears as a line sloping down to the right on a graph.
- **MC**: This stands for **marginal cost**, which means the per-unit cost of your item. MC is generally shown as a line that slopes downward and then comes back up. This is based on the fact that per-unit costs will decrease to a certain point as you increase the number of units produced at your plant; then, once you reach capacity, your costs will increase as you either open a new plant or outsource production to other companies.

Here is an example of a graph showing the MR and MC lines. Units sold is tracked along the bottom axis, and the price / cost per unit is tracked on the vertical axis.



In this graph, the company will make a profit for each unit sold where MR is greater than MC, and lose money for each unit sold where MC is greater than MR. Profit is maximized at the point where the MR and MC lines cross.

Diagram of Profit Maximisation



To understand this principle look at the above diagram. If the firm produces less than Q1, MR is greater than MC. Therefore, for this extra output, the firm is gaining more revenue than it is paying in costs. Total revenue will increase. Close to Q1, MR is only just greater than MC, therefore, there is only a small increase in profit. But, profit is still rising.

However, after Q1, the marginal cost of the output is greater than the marginal revenue. This means the firm will see a fall in its profit level.

LOSS MINIMIZATION RULE:

A rule stating that a firm minimizes economic loss by producing output in the short run that equates marginal revenue and marginal cost if price is less than average total cost but greater than average variable cost. This is one of three short-run production alternatives facing a firm. The other two are profit maximization (if price exceeds average total cost) and shutdown (if price is less than average variable cost).

The loss minimization rule applies to a firm that is incurring a shortrun economic loss that is less than total fixed cost. This occurs if the price received is less than average total cost, but greater than average variable cost. It is not an absolute rule so much as it is an alternative that any profit maximizing firm is inclined to pursue given production cost and market conditions.

Production Alternatives	
Price and Cost	**Result**
P > ATC	Profit Maximization
ATC > P > AVC	Loss Minimization
P < AVC	Shutdown

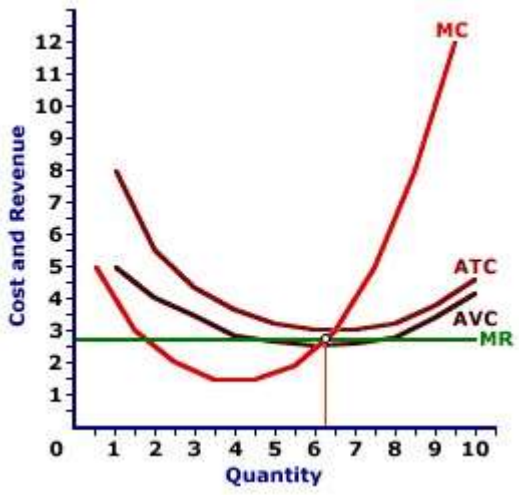
Loss minimization is one of three short-run production alternatives facing a firm. All three are displayed in the table presented here. The other two are profit maximization and shutdown.

- With profit maximization, price exceeds average total cost at the quantity that equates marginal revenue and marginal cost. In this case, the firm generates an economic profit.

- With shutdown, price is less than average variable cost at the quantity that equates marginal revenue and marginal cost. In this case, the firm incurs a smaller loss by producing no output and incurring a loss equal to total fixed cost.

In the short run, a firm incurs total fixed cost whether or not it produces any output. As such, if the market price falls below average total cost, it must decide if the economic loss from producing the quantity of output that equates marginal revenue and marginal cost is more or less than the economic loss incurred with shutting down production in the short run (which is equal to total fixed cost).

The key criterion for this decision is **Incurring a Loss** price relative to average variable cost.



- If price is greater than average variable cost, a firm receives sufficient revenue to pay ALL variable cost plus some fixed cost. As such, the economic loss is less than total fixed cost. A firm is better off producing the quantity that equates marginal revenue and marginal cost than producing no output, receiving no revenue, and incurring a loss equal to total fixed cost.
- If price is less than average variable cost, a firm does not receive enough revenue to pay variable cost let alone any part of fixed cost. As such, the economic loss of operating is greater than total fixed cost. A firm is

better off shutting down production in the short run, producing zero output, and awaiting a higher price.

Economies &

Diseconomies of scale

Economies of scale–As the production increases, efficiency of production also increases. . The advantages of large scale production that result in lower unit (average) costs (cost per unit) is the reason for the economies of scale is that the total costs are shared over the increased output.

There are two types of economies of scale:

1.Internal economies of scale
2.External economies of scale

Internal economies of scale refers to the advantages that arise as a result of the growth of the firm. hen a company reduces costs and increases production, internal economies of scale have been achieved.
Internal economies of scale relate to the lower unit costs a single firm can obtain by growing in size itself. There are five main types of internal economies of scale.

Bulk-buying economies

As businesses grow they need to order larger quantities of production inputs. For example, they will order more raw materials. As the order value increases, a business obtains more bargaining power with suppliers. It may be able to obtain discounts and lower prices for the raw materials.

Technical economies

Businesses with large-scale production can use more advanced machinery (or use existing machinery more efficiently). This may include using mass production techniques, which are a more efficient form of production. A larger firm can also afford to invest more in research and development.

Financial economies

Many small businesses find it hard to obtain finance and when they do obtain it, the cost of the finance is often quite high. This is because small businesses are perceived as being riskier than larger businesses that have developed a good track record. Larger firms therefore find it easier to find potential lenders and to raise money at lower interest rates.

Marketing economies

Every part of marketing has a cost – particularly promotional methods such as advertising and running a sales force. Many of these marketing costs are fixed costs and so as a business gets larger, it is able to spread the cost of marketing over a wider range of products and sales – cutting the average marketing cost per unit.

Managerial economies

As a firm grows, there is greater potential for managers to specialise in particular tasks (e.g. marketing, human resource management, finance). Specialist managers are likely to be more efficient as they possess a high level of expertise, experience and qualifications compared to one person in a smaller firm trying to perform all of these roles.

External economies of scale

External economies of scale refers to the advantages firms can gain as a result of the growth of the industry. It is normally associated with a particular area. External economies of scale occur outside of a firm, within an industry. Thus, when an industry's scope of operations expands due to, for example, the creation of a better transportation network, resulting in a subsequent decrease in cost for a company working within that industry, external economies of scale are said to have been achieved.

External economies of scale occur when a firm benefits from lower unit costs as a result of the whole industry growing in size. The main types are:

Transport and communication links improve

As an industry establishes itself and grows in a particular region, it is likely that the government will provide better transport and communication links to improve accessibility to the region. This will lower transport costs for firms in the area as journey times are reduced and also attract more potential customers.

Training and education becomes more focused on the industry

Universities and colleges will offer more courses suitable for a career in the industry which has become dominant in a region or nationally.

Other industries grow to support this industry

A network of suppliers or support industries may grow in size and/or locate close to the main industry. This means a firm has a greater chance of finding a high quality yet affordable supplier close to their site.

DISECONOMIES OF SCALE

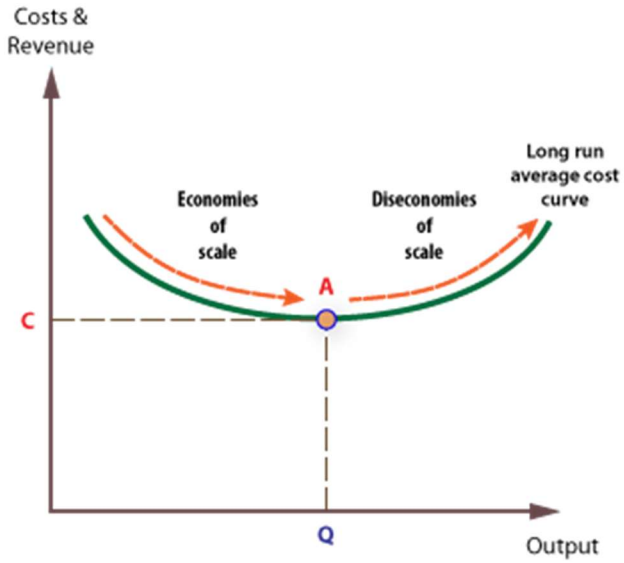
These are the problems faced by businesses if they become too large

- Lose touch with the customers
- Managers lose touch with the workers
- Communication problems because the business is so large.

Diseconomies of scale

Economic theory predicts that a firm may become less efficient if it becomes too large. The additional costs of becoming too large are called diseconomies of scale.

Diseconomies of scale result in rising long run average costs which are experienced when a firm expands beyond its optimum scale, at Q.



Examples of diseconomies include:

1. Larger firms often suffer *poor communication* because they find it difficult to maintain an effective flow of information between departments, divisions or between head office and subsidiaries. Time lags in the flow of information can also create problems in terms of the speed of response to changing market conditions. For example, a large supermarket chain may be less responsive to changing tastes and fashions than a much smaller, _local' retailer.
2. *Co-ordination problems* also affect large firms with many departments and divisions, and may find it much harder to coordinate its operations than a smaller firm. For example, a small manufacturer can more easily co-ordinate the activities of its small number of staff than a large manufacturer employing tens of thousands.
3. *'X' inefficiency* is the loss of management efficiency that occurs when firms become large and operate in uncompetitive markets. Such loses of efficiency include over paying for resources, such as paying managers salaries higher than needed to secure their services, and excessive waste of resources. _X' inefficiency means that average costs are higher than would be experienced by firms in more competitive markets.
4. *Low motivation* of workers in large firms is a potential diseconomy of scale that results in lower productivity, as measured by output per worker.
5. Large firms may experience inefficiencies related to the *principal-agent problem*. This problem is caused because the size and complexity of most large firms means that their owners often have to delegate decision making to appointed managers, which can lead to inefficiencies. For example, the owners of a large chain of clothes retailers will have to employ managers for each store, and delegate some of the jobs to managers but they may not necessarily make decisions in the best interest of the owners. For example, a store manager may employ the most attractive sales assistant rather than the most productive one.

Unit 4 :- MARKET STRUCTURE:

Market may be defined as the entire area in which

buyers and sellers are in contact with each other for the purchase and sale of the commodity. It does not refer to any particular place but simply the mechanism through which buyers and sellers of a good or service are brought together to exchange goods and services.

Markets may assume different forms. The popular basis of classifying market structure rests on three crucial elements

1. The number of firms producing a product.

2. The nature of the product produced by the firms.

3. The ease with which new firms can enter the industry.

On the basis of three factors mentioned above, four main forms of

market are: a) Perfect Competition.

b) Monopoly.

c) Monopolistic Competition.

d) Oligopoly.

Perfect Competition.

Perfect competition is said to prevail where there is a large number of producers (firms) producing a homogeneous product. The maximum output which an individual firm can produce is very small relatively to the total demand of the industry product so that a firm cannot affect the price by varying its supply of output.

The main features of perfect competition are as under:

1. Large number of buyers and sellers.

2. Homogeneous product.

3. Perfect information about the prevailing price.

4. Free entry and exit of the firms.

5. Absence of transport costs.

6. Perfect mobility of the factors of production.

1.Large number of buyers and sellers:

In this market, the existence of large number of firms producing and selling the product ensures that an individual firm constitutes a very small fraction of the total output of the whole industry so that any increase or decrease in output by an individual firm has a negligible effect on the total supply of product of the industry.

2. Homogeneous products:

The products produced by all firms in the industry are fully homogeneous and identical. In other words, cross elasticity between the products of the firms s infinite.

3. Perfect information about the prevailing price:

The buyers and sellers are fully aware of the ruling price in the market. Because only when all buyers know fully the current price of the product in the market, sellers cannot charge more than the prevailing price nor the buyers will accept it.

4. Free entry and exit of the firms:

Perfect competition requires that there must be complete freedom for the entry of new firms or the exit of the existing firms from the industry in the long run. In this situation all the firms will be making just the normal profit.

5. Absence of transport costs:

If the same price is to rule in the market it is necessary that no cost of transport is to be incurred. If the cost of transport is there, the prices must differ to that extent in different sectors of the market.

6. Perfect mobility of the factors of production:

The mobility is essential in order to enable the firms to adjust their supply to demand. If the demand exceeds supply additional factors will move into the industry and vice-versa. Mobility of the factors of production is essential to enable the firms and the industry to achieve equilibrium position.

Demand and Revenue curves:

The producer of a good is very much concerned with the demand for a good, because revenue obtained by him from selling the good depends mainly upon the demand for the good. He is therefore interested in knowing what sort of demand curve faces him. The demand curve of the consumers for a product is the average revenue curve from stand point of the sellers, since the price paid by the consumers is revenue of the sellers.

(i) Average Revenue (A.R):

Average Revenue (A.R) is the revenue per unit of the commodity sold. It is found by dividing total revenue by the number of units sold. But since different units of a commodity are sold at the same price in the market , average revenue equals price at which the commodity is sold. Thus A.R means price.

Since the consumer's demand curve is a graphic relation between price and the amount demanded, it also represents the A.R. therefor average revenue curve of the firm is really the same thing as demand curve of the consumer.

(ii) Marginal Revenue (M.R):

Marginal Revenue at any level of firm's output is the net revenue earned by selling another (additional) unit of the product. Algebraically , it is the addition to the total revenue earned by selling "n" units of product instead of "n - 1" where "n" is any given number.

Generally speaking, M.R is less than price. But in Perfect Competition, when a firm can sell any amount at the ruling market price, M.R = A.R = Price.

So,

A.R = TR/Q TR : total revenue

Q: quantity

& M.R =ΔTR/ ΔQ Δ TR : change in TR

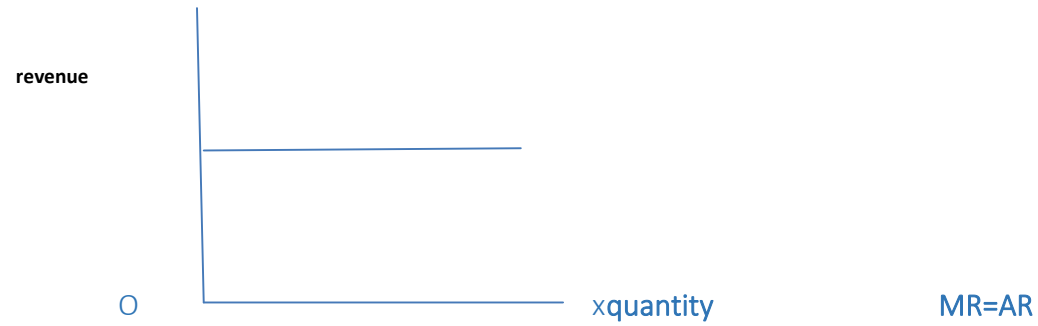
Δq : change in quantity

Average and Marginal Revenue under Perfect Competition:

When there prevails perfect competition in the market for a product, the average revenue curve of the firm is a horizontal straight line. This is so because an individual firm under perfect competition, by its own action, cannot influence the price. The seller under Perfect Competition can sell any amount of the commodity at the ruling market price.

In this case, when average revenue curve is horizontal line the Marginal Revenue curve coincides with the Average Revenue curve. This is so because additional units are sold at the same price as before and no lo s is incurred on the previous units which would have resulted if the sale of additional units would have forced the price down.

The Average Revenue and Marginal curve of Perfect Competition are shown in figure1.1 Fig 1.1:



AR and MR under perfect competition.

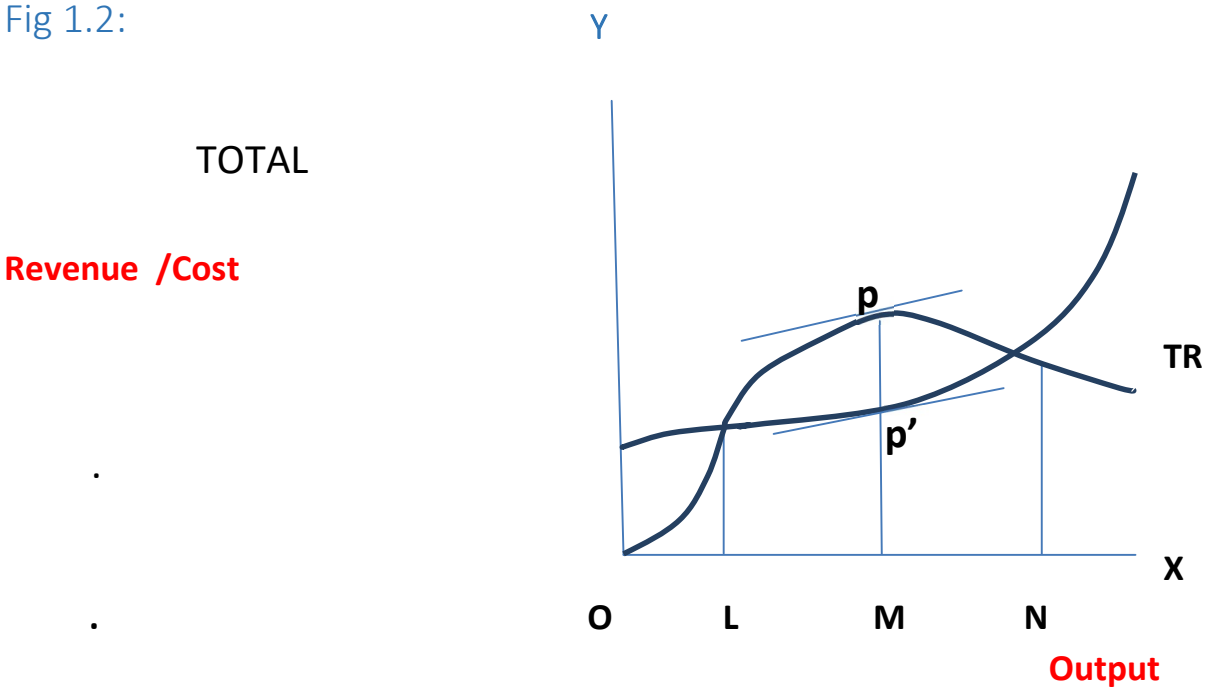
Short run equilibrium of the firm:

(i) Equilibrium of firms by curves TR and TC:

A rational entrepreneur will expand output if he thinks he can increase his profits by doing so and he will like-wise contract output if thereby he can avoid losses and thus increase profits. He will be in equilibrium positions at the level of output where his money profits are the maximum. In other words he will then have no inducement either to expand or contract his output when he is earning maximum money profits. Now profits are the difference between total revenue and total cost. Hence the point, where this difference is maximum will represent the position of maximum profits and, therefore, of equilibrium .The maximum profit will lie where revenue – cost spread is the largest or in other words where the vertical distance b/w the total revenue and total cost curves is the greatest. The maximum profit point in this diagram is M where PP' is the longest distance b/w the two curves. Hence at this point the firm is in equilibrium position and is earning maximum profits PP' by producing OM output.

Break-Even-Point:The point where there is no profit no loss is called break-even-point.
From the figure 1.2 it is clear that at any level of output smaller than OL, TC>TR and the firm is having losses. At the output level OL, TC equals TR and the firm is having neither losses nor profits. The point L is break-even-point.

Fig 1.2:



(ii) Equilibrium of firm: by curves of MC and MR:

We know that a firm will be in equilibrium when it is earning maximum profits, we shall see presently that for a firm to make maximum profits, two conditions are essential;

1. MC=MR.

2. MC curve cuts MR curve from below at the equilibrium point.

Under perfect competition, an individual firm is a price taker. As a result demand curve or average revenue curve of the firm is a horizontal straight line i:e perfectly elastic at the level of prevailing price. Since competitive firm sells additional units of output at the same price, MR curve coincides with AR curve. Marginal Cost Curve as usual is a U shaped. Now compare marginal cost with marginal revenue. The firm will be in equilibrium at the level of output at which marginal cost equals marginal revenue and marginal cost curve is cutting marginal revenue curve from below. At this level it will be maximising its profits. Since MR is the same as price (AR) under perfect competition. The firm will equalise MC with price to attain equilibrium output.

Prevailing price is OP and the demand curve or AR and MR curve is PL in fig 1.3. the MC curve cuts MR curve at two different points at F and E. Point F is not an

equilibrium point. Since at F second condition namely MC cuts MR from below is not satisfied. The firm will be increasing its profits by increasing production beyond F because MR>MC. The firm will be in equilibrium at point E or output OM. Since at E MC=MR and MC cuts MR from below. Therefore in case of perfect competition the second order condition of firm's equilibrium requires that Marginal cost curve must be rising at the point of equilibrium hence the twin conditions of firm's equilibrium under perfect competition are:

1. MC=MR=Price.

2. MC curve must be rising at the point of equilibrium.

But the fulfilment of the above two conditions does not guarantee that the profits will be earned by the firm. In order to know whether the firm is making profits or losses and how much of them, average cost curve must be introduced in the figure 1.4.

Profit per unit of output is the difference b/w AR and average cost (AC). At equilibrium output OM,

AR=ME and

AC=MF

Therefore profit per unit= EF

Total profit=EF x OM or HF

Thus total profit will be equal to the area HFER. The shaded area indicates supernormal profits in Figure 1.4.

Since we are assuming that all firms in the industry are working under same cost conditions and also for all of them price is OP, all will be earning supernormal profits equal to HEFP. So new firms will enter into the industry to compete away the supernormal profits.

Fig 1.3:

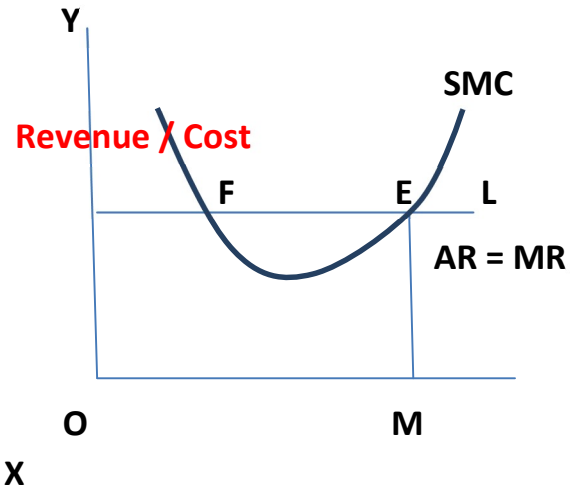
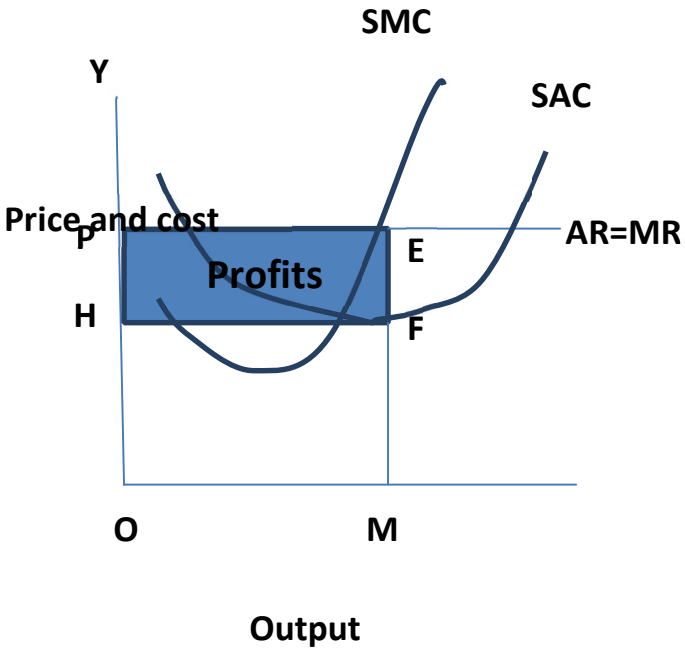


Fig 1.4:



When firms are having losses:

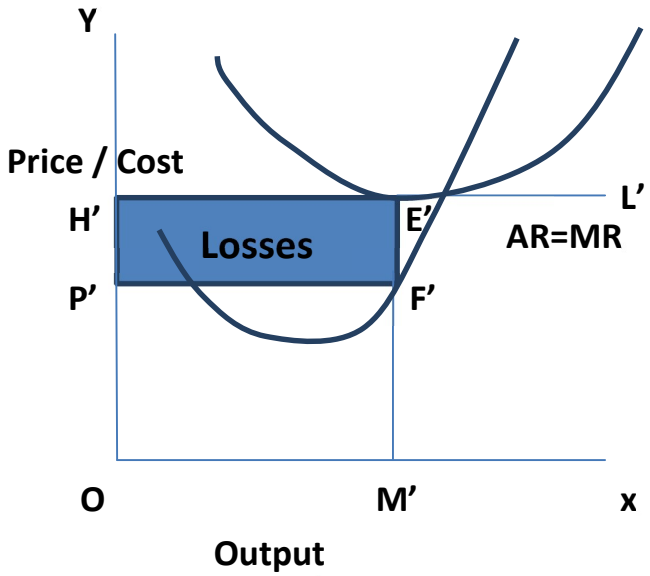
Now suppose that the prevailing market price of the product is such that the price line or average and marginal revenue curve lies below average cost curve throughout. This case is illustrated in fig 1.5, where the ruling price is OP'. The firm will be in equilibrium at point E' at which MC= Price= Marginal Revenue and MC curve is rising.

Firm would be producing OM; output but would be making losses. Since AR which is equal to M'E' is less than AC which is equal to M'F'. The loss per unit of output is equal to E'F' and total loss will be equal to P'E'F'H' which is a minimum loss the that a firm can make under given price/cost situation. in this case, the firms will have a tendency to quit the industry in order to search for earning at least normal profits elsewhere.

Now an important question is why a firm should continue operating when it is incurring losses. The answer lies in the concept of fixed costs which have to be born by the firms even if it stops production in the shorter. When a firm shuts down in the short run and stops producing the commodity, the variable costs also falls to zero. On the other hand a firm cannot escape from fixed costs even if it ceases production in the short run. When a firm stops production i:e shuts down in the short run, it will have to bear losses equal to the fixed costs. Therefore it will be wise to continue operation in the short run when firm's total

revenue exceeds total fixed costs because in that case firm's losses will be less than the fixed costs.

Fig 1.5:



Long Run Equilibrium Of The Firm Under Perfect Competition:

The long run is a period of time which is sufficiently long to allow the firms to make changes in all factors of production. In the long run all factors of production are variable none fixed.

In the long run, a perfectly competitive firm is in equilibrium, following two conditions must be satisfied :

Price=Marginal Cost.

Price=Average Cost.

If the price is greater or less than the average cost, there will be tendency for firms to enter or leave the industry.

If the price is greater than the average cost the firms will earn more than normal profit. These supernormal profits will attract other firms into the industry. With the entry of new firms in the industry, the price of the product will go down as a result of increase in supply of output and also the cost will go up as of more intensive competition for factors of production. The firms will continue entering the industry until the price is equal to average cost so that all firms are earning only normal profit

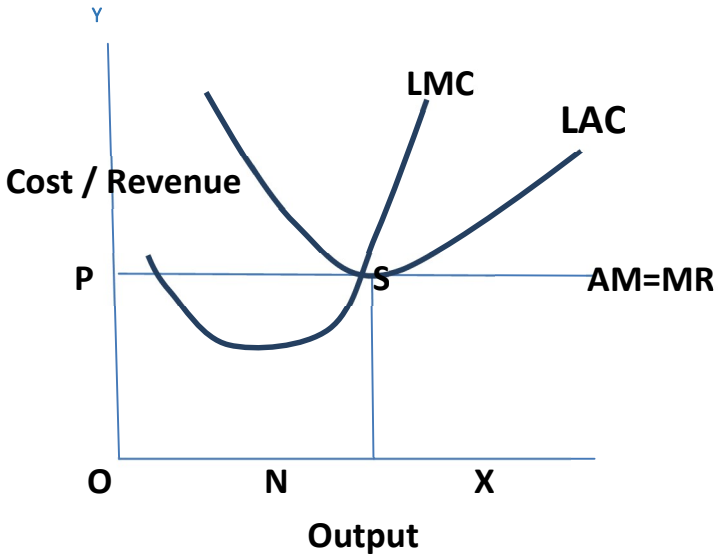
On the contrary, if the price is lower than the average cost, the firms would make losses. These losses will induce some of the firms to quit the industry. As a result, the output of the industry will fall which will raise the price on the other hand, with some firms going out of the industry, cost may go down as a result of fall in

the demand for certain specialised factors of production, the firms will continue leaving the industry until the price is equal to average cost so that the firms remaining in the field are making only normal profits.

If price is equal to both MC and AC, then we have a double condition of long run perfectly competitive equilibrium:

Price=Marginal Cost=Average Cost.

Fig.1.6:



but from the relationship b/w marginal cost and average cost we know that marginal cost is equal to average costonly at the minimum point of the average cost curve. Therefore the condition for long run equilibrium of the firm can be written as price=marginal cost=minimum average cost.

It is clear from fig 1.6 that long run equilibrium of the firm under perfect competition is established at the minimum point of the long run average cost curve. It signifies that the firm is of optimum size, i:e it is producing output at the lowest possible cost. The fact that the firm working under conditions of perfect competition tends to be of optimum size in the long run is beneficial from the social point of view in two ways:

Firstly working at optimum size implies that the resources of the society are being utilised in the most efficient way.

Secondly it signifies that the consumers are getting the goods at the lowest possible price.

Long Run Industry Supply Curve:

Long run is a period sufficiently long to allow changes in both the size as well as the number of firms in the industry. If there is an increase in demand, in the short run, it will be met by over-utilisation of the existing plant. But if the

increased demand persists in the long run, it will be met by both the expansion of the existing firms as well as by the entry of new firms in the industry.

Long run supply is defined as supplies offered at various prices by the existing as well as the potential users in the long run. The forces of competition force the firm under perfect competition to produce at the minimum point of its average cost curve in the long run equilibrium.

On a little reflection, it will be clear that the long run supply curve of the perfectly competitive industry cannot be the lateral summation of the long run marginal cost curves of the firms as in short run supply curve. This is so because in the long run equilibrium owing to the free entry or exit of the firms under perfect competition, firms are forced to produce only at the minimum point of the long run average cost curve where the long run marginal cost curve intersects it. It is also because the expansion of the industry i:e increase in the number of firms, brings about shifts in the cost curves of the firms due to the emergence of external economies and diseconomies of production. Moreover, the number of firms in the long run equilibrium varies at different prices.

Thus the entry of firms enlarging the size of the industry may enable all firms to produce at lower costs. The availability of internal economies will shift the MC and AC curves of the firm below the previous level. Moreover the emergence of external diseconomies will shift the MC and AC curves above the previous level.

Thus whether a particular industry on expansion will experience the phenomenon of rising costs or falling costs or constant costs will depend upon the combined result of external economies and diseconomies. The long run supply curve of a perfectly competitive industry will, therefore, have different shapes depending upon the fact:

1. Whether theindustry in question is a constant cost industry;

2. Increasing cost industry.

3. Decreasing cost industry.

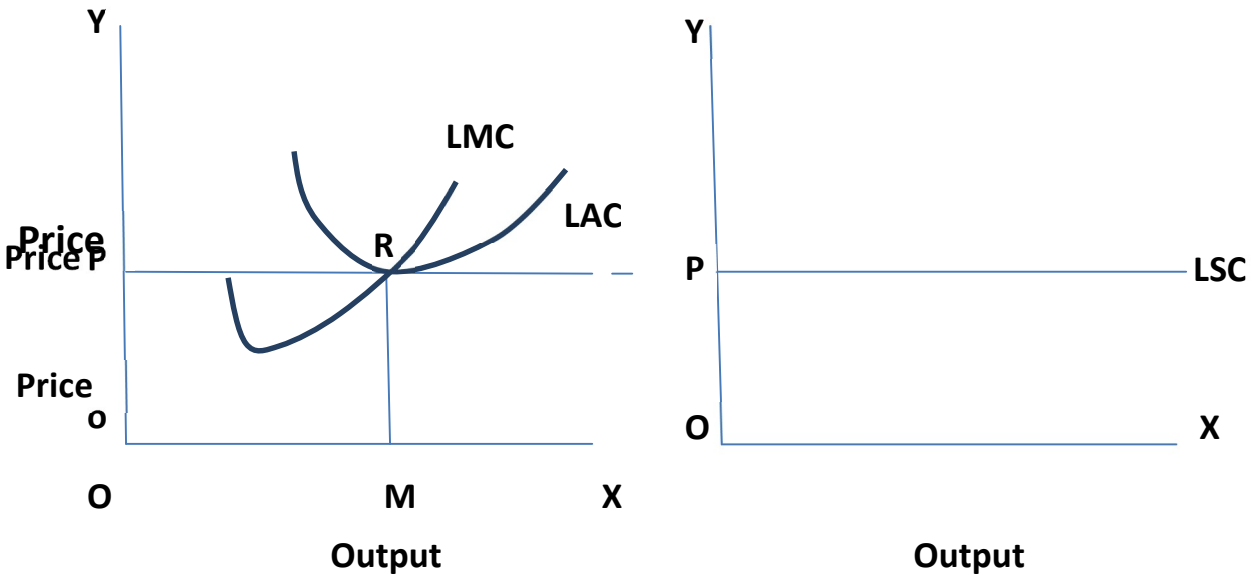
Supply curves of the constant cost industry:

A constant cost industry will be one in which the external economies and diseconomies may cancel each other so that the constituent firms of an enlarged industry do not experience any shift on their cost curves. An industry can also be a constant cost industry if its expansion generates neither external economies nor external diseconomies.

Obviously as the number of firms in the industry increase, there will be increase demand for productive factors by the industry; and if the prices of these productive factors rise, as the industry expands, then the costs must rise. Hence a constant cost industry therefore must be one which makes little impact on the

market for these productive resources. In other words, its demand for these productive factors must be a very small proportion of the total demand for these factors. It is only then that the increase demand for these factors, as a result of expansion of the industry will not raise the prices of these factors.

Fig 1.7:



Long Run Supply Curves of a Constant cost industry.

Every firm will be in long run equilibrium where Price=MC=AC i:e at the minimum point of the long run average cost curve. In the long run new firms will enter the industry without raising or lowering the cost of the firms in the industry so that the industry would supply any amount of commodity at the price OP which is equal to minimum long run average cost.

Supply curves of the increased cost industry:

If the industry is of appreciable size and its demand for productive resources constitutes a sufficiently large part of the total demand for the resources, then its expansion will cause their prices to rise. The wages of specialised labour and the prices of others scarce factors are bound to rise as the demand for them increase as a result of expansion of the industry. There may be some external economies but generally the external diseconomies will overweigh the external economies.

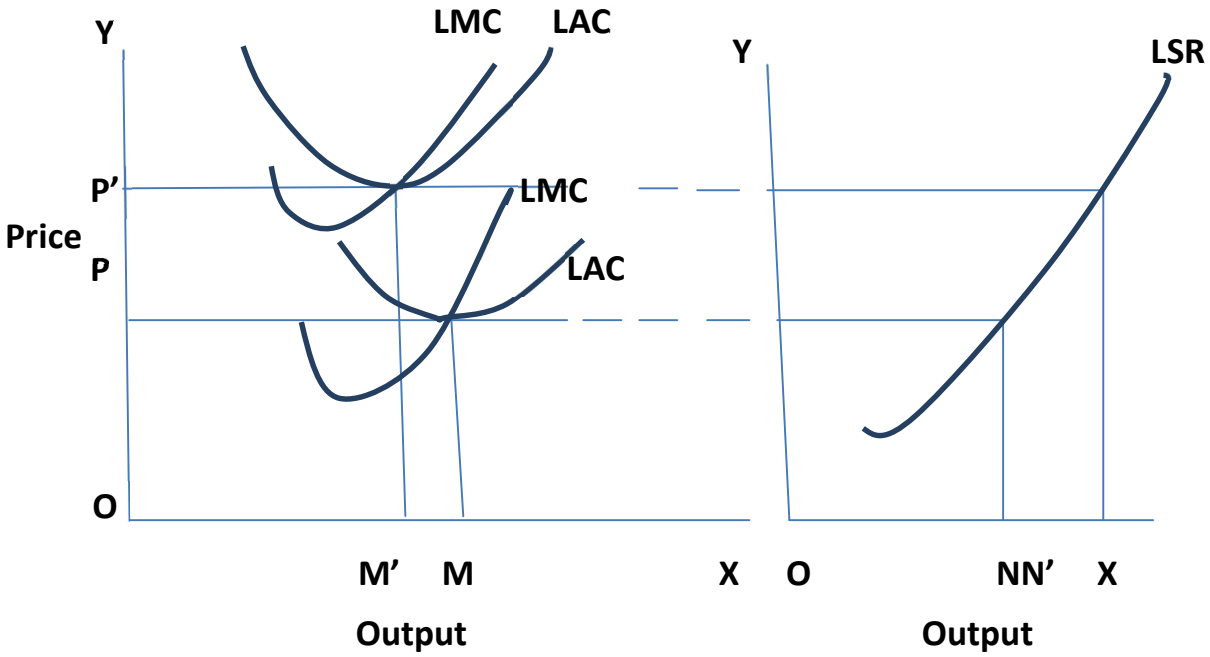
Thus these net external diseconomies will raise the cost and shift both U-Shaped average and marginal cost curves of all the firms above the previous level. As a result, the minimum average cost will rise.

Every firm will be in long run equilibrium where Price=MC=AC. But this price and minimum AC will be higher than the one before the expansion of the

industry. It is therefore clear that the additional supplies of the product by new firms in the case of increasing cost industry will be forth coming only at a higher price. The long run supply curve(LSC) will therefore slope upwards as shown in figure 1.7 .

The case of upward sloping supply curve is probably the most typical of the actual competitive world that is so because productive resources are used in various industries; hence higher prices have to be paid to transfer these resources from one industry to another.

Fig 1.8:



Supply Curve of the Decreasing Cost Industry:

It is conceivable that an industry might have decreasing costs due to net external economies. As a young industry grows in a new territory, it is likely that external economies may overweigh the external diseconomies so that with the expansion of the industry, production costs would be reduced. The presence of net external economies will shift the cost curves of the firms downwards.

The cost curves of a young industry with its expansion maybe lowered because:

a) Cheaper and better trained labour becomes available.

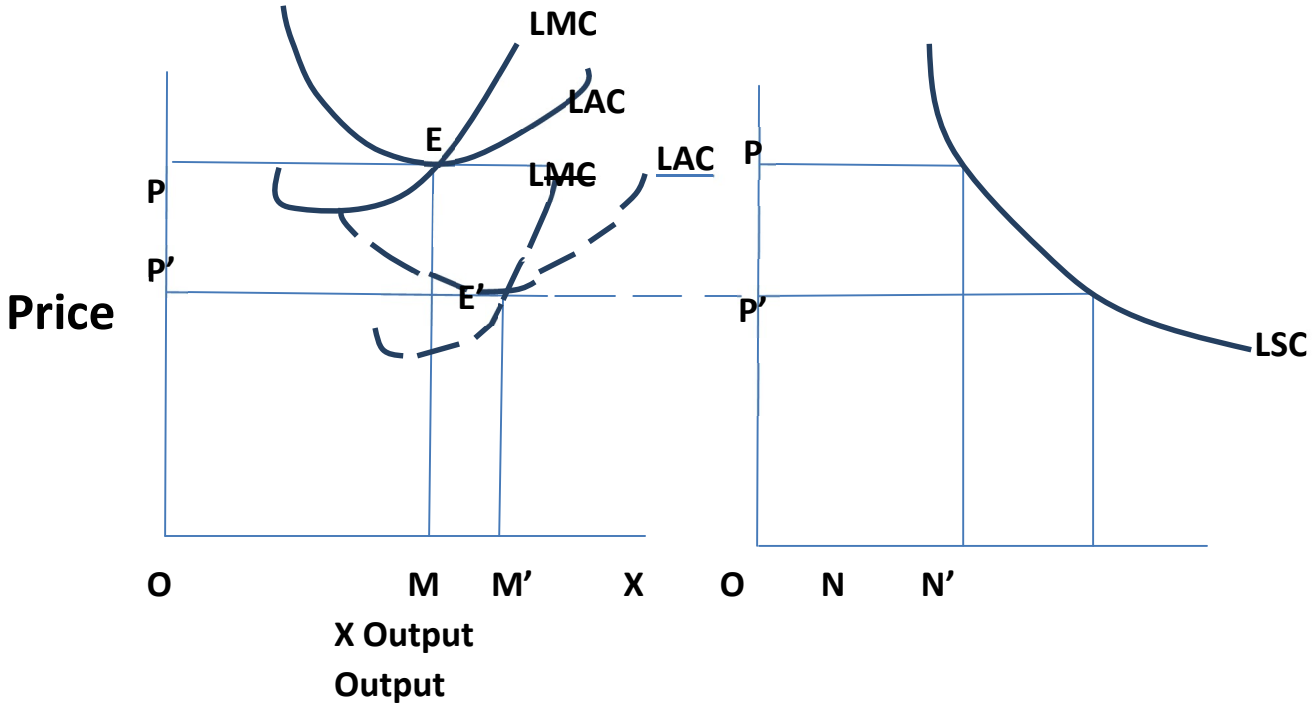
b) Better information centres and markets created.

c) Productivity of the factors in one firm is enhanced by expanded production in others.

d) Raw materials produced at decreasing costs by other specialised industries are obtained cheaply.

Owing to the external economies, the additional supplies of the product will be forthcoming at reduced prices. Every firm after expansion will be in equilibrium where it is equating price with marginal cost and minimum average cost. But this new price and minimum average cost will be lower than the original ones.

Fig 1.9:



Summing Up:

From the above discussion it follows that while the short run supply curve of the industry always slopes upwards, the long run supply curve maybe a horizontal straight line, sloping upwards, or sloping downwards depending upon the fact whether the industry is a constant cost, an increasing cost or decreasing cost industry. But as mentioned above the long run upward sloping supply curve is more in conformity with the actual world. Since external economies are very much limited in scope in the real world. The productive resources are required in all lines of production and increased demand for them by any industry is bound to put their prices up.

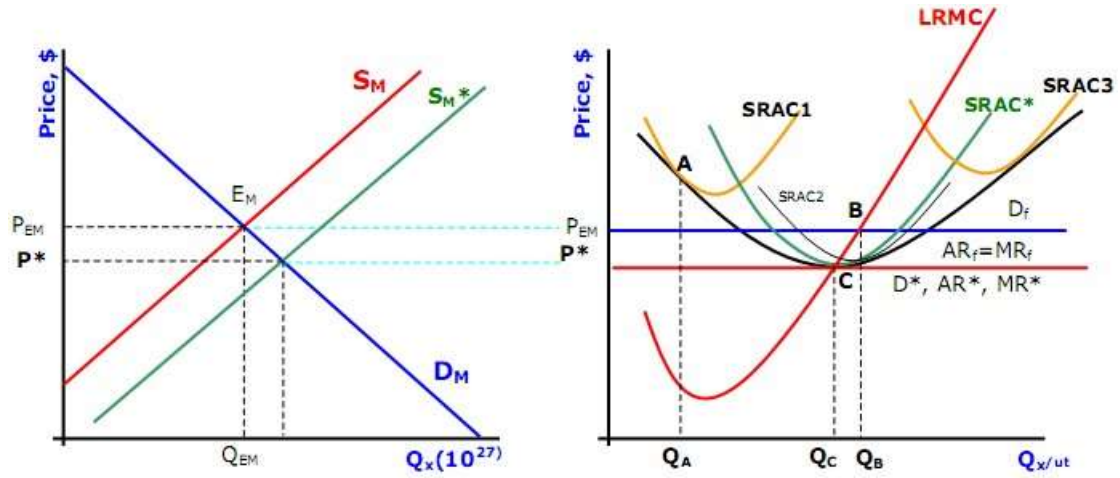
OR

Perfect Competition – Profit Maximization and equilibrium in the Long Run, Shifts in the Market Demand.

Profits in Long Run Pure Competition

In the long run, producers are able to alter their scale of plant. The LRAC or envelope curve was constructed from a series of short run periods with different plant sizes. In the long run the firm is essentially able to select the scale of plant (or a specific set short run production and cost functions associated with a specific fixed (in the short run) input). This essentially the meaning of "relative ease of exit and entry from the market.

Another crucial aspect of long run pure competition is that the demand faced by the firm is perfectly elastic at the market price. The AR and MR functions coincide with the firm's demand function. Because the firm's demand function is perfectly elastic, they cannot raise their price above the market price. If they do, their sales will fall to 0. There is no reason to lower their price below the market price because they can sell all they want to at the market price. The firms in pure competition have no "market power." Market power, in microeconomics, refers to the ability of an agent to raise the price and not have their sales fall to 0. A quick review of price elasticity suggests that market power is influenced by a firm's demand function. Purely competitive firms are price takers. These firms have no incentive to advertise. The largest producer in a purely competitive market can sell all they can produce or none at all and the market price will be unaltered.



Panel A **Panel B**

(Market) **(firm)**

Figure 1

In Figure 1 The market demand and supply functions (in Panel A) are initially DM and SM. Given the demand and supply functions, the market equilibrium is at point EM resulting in an equilibrium price (PEM) and quantity (QEM). When the market price is PEM, the firm reacts to that price (The firm is a price taker.). If the firm's objective is to maximize profits, it will operate at the point where MR = MC. This equality of MR and MC occurs at point at Point B in panel B.

Note that the short run MC will lie to the right of the LRMC at this point, so short run output would be greater. The firm will select plant size SRAC2 since it will minimize the cost per unit at that output level (QB). This SRAC2 is not the most efficient size plant (SRAC*). The AR is greater than the AC at this point. The firm can earn "economic profits" under these conditions. Remember "normal profits" are included in the cost functions. Since entry is relatively free, other entrepreneurs will desire to capture some of these economic profits and enter the industry. The supply function will increase (shift to the right) causing the equilibrium price to fall from PEM to P*. The equilibrium quantity in the market rises but there are more firms. The firm represented in Panel B must adjust to the lower market price, P*.The new demand and revenue functions faced by the firm is D*, AR* and MR*.MR* = MC at point C. The firm reduces output to QC and adjusts plant size to SRAC*.

Thus the firm now is operating where:

- the plant that has allows the lowest cost per unit (most efficient size plant),
- they operate that plant at the level of output that has the lowest cost per unit,
- they earn a normal profit,
- they are maximizing their profits given circumstances (They have no incentive to change output or plant size, they are in equilibrium.), .

ALSO thee price is equal to the MC (This is the condition to optimize the welfare of the individuals in society given the income distribution.)

The process of long run equilibrium in pure competition can be shown in Figure 1. Both the market and an individual firm's demand and cost (supply) functions are shown. In Figure 1 it is apparent that a market price below P* would result in the firm's AC exceeding the AR at all levels. If this were the case firms would earn less than normal profits and would have an incentive to leave the market. As firms leave the market, the market supply decreases (shifts to the left) and the market price would rise. There are two important features in pure competition. First each firm is a price taker and has no market power. The demand function faced by the firm is perfectly elastic at the equilibrium price established in the market. This is because the output of the purely competitive firms is homogeneous and there are a large number of sellers, none of whom can influence the market price. Secondly, entry and exit from the market is relatively free. Above normal profits attract new producer/seller that increases the market supply driving the market price down. If profits are below normal, firms exit the market. This reduces the market supply and drives the price up. Long run equilibrium in a purely competitive market is established when the D (AR and MR) is just tangent to the long run average cost function (LRAC). This will be at the minimum of the LRAC where its slope is 0 (the demand function faced by the firm has a slope of 0). Firm earn normal profits at this point and there is no incentive to enter or leave the market. There is no incentive to alter plant size or change the output level. At the point of long run equilibrium in Figure VII.6 at point C, the following conditions will exist:

- AR = AC; Firms earn a normal profit. There is no incentive for firms to enter or leave the market.

- LRMC = LRAC; the firm is operating with the plant size that results in the lowest cost per unit,

i.e. the fewest resources per unit of output are used.

- MR =LRMC; the firm has no incentive to alter output or plant size.

- P = MR =MC; the price reflects the marginal value of the good to the buyers and the marginal cost to the producer/seller.

Long run equilibrium in pure competition results in an optimal allocation of resources. The price reflects the marginal benefits of the buyers and the marginal cost of production. The user of the last unit of the good places a value (the price they are willing and able to pay) on the good equal to the cost of producing that unit of the good. Units of the good between 0 and the equilibrium quantity have a greater value than the cost of production. The purely competitive model provides a benchmark or criteria to evaluate the performance of a market; MB = P = MC. The marginal benefit (MB) to the buyer is suggested by the price they are willing and able to pay. The MB to the seller is the marginal revenue (MR) they earn. The marginal cost (MC) reflects the opportunity cost to society.

Shift in the Market Demand:

Constant-, Increasing and Decreasing Cost Industries

Assume that the market demand shifts to the right due to an increase in consumer's income (or to a change in the other determinants of market demand, e.g. increase in total population, etc.). In the short run the supply curve is given. Price will rise (to P' in figure 2) and the quantity supplied will increase (from Q to Q' in figure 2) by an expansion of the production of the existing firms (from X to X' in figure 3), which will be realizing excess profits at the higher market price (equal to the area ABCP'). In the long run the excess profits made by the established firms will attract new firms into the industry. This influx of firms will shift the market supply to the right and will cause price to fall below the short-run equilibrium level (P'). The new equilibrium price may remain above the original level, or it may return to the original level, depending on the size of the shift in the market supply, which reflects the cost conditions of the industry (the change in factor prices as the industry expands).

An industry as a constant-cost industry if the prices of factors of production employed by it remain constant as industry output expands. An industry is an increasing-cost industry if the prices of factors of production increase as the market expands. An industry is a decreasing-cost industry if the prices of factors of production decline as the market expands.

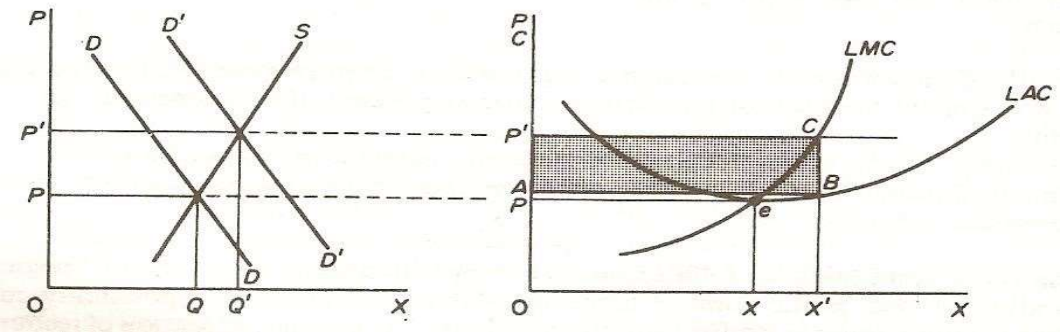


Fig: 2 Industry **Fig: 3** Firm

Constant-cost industry

In figure 4 we show the case of long-run equilibrium of an industry which grows with constant costs. We start from an initial long-run equilibrium situation where the demand-curve price line of the firm is tangent to the long-run and the short-run average-total-cost curves at their minimum points. Assume that the market demand shifts from DD' to D1D'1. In the short run price increases to P' and the existing firms increase their output, operating their plant above full capacity. The increased quantity is shown by a movement along the market supply SS'. This situation, however, cannot persist in the long run because the excess profits attract entry. The resulting increase in the demand of factors of production is assumed not to raise their price, so that the LAC curve does not shift upwards. The new firms will produce under the same LAC conditions as the already established firms. Entry will continue until the new supply curve $S_1S'_1$ intersects the shifted-demand curve at the initial price P. if the market continues to grow, the industry-demand curve will shift further to the right ($D_2D'_2$) and the whole process will repeat itself. The long-run industry supply is a straight line (abc in figure 5) parallel to the quantity-axis at the initial price level.

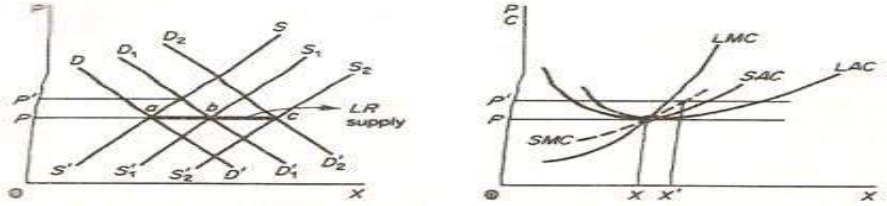


Fig: 4. Industry **Fig: 5** Firm

Increasing-cost industry An industry is said to be an increasing-cost industry if its longrun supply curve has a positive slope, indication that the prices of factors increases as the industry output expands. The process of adjustment of the industry supply to the growing market demand under conditions of increasing costs is shown in figure 6. As the market demand shifts from its initial equilibrium DD' to the new level $D_1D'_1$ price will increase in the short run (to P_1): an increase in the quantity supplied is forthcoming by existing firms working their plant beyond

its optimal capacity. Excess profits will attract new firms in the industry. Now, however, we assume that the prices of factors increase as their demand expands.

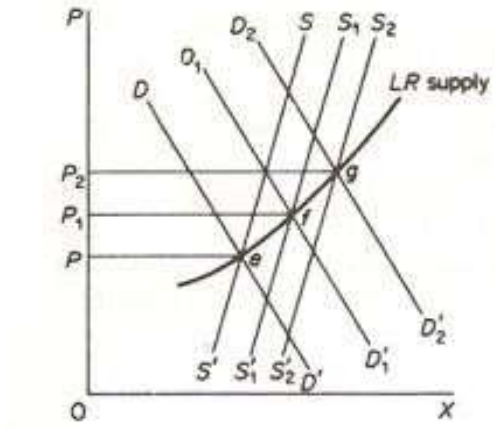


Fig: 6. Industry

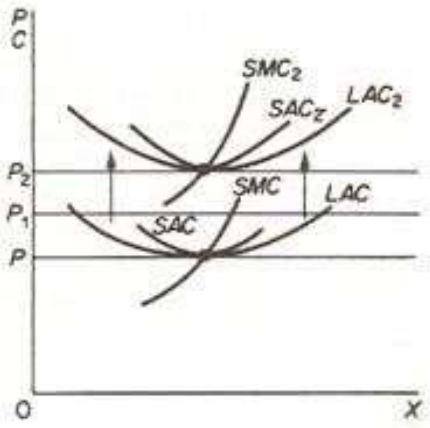


Fig: 7 Firm

The LAC of all firms (existing as well as new) shifts upwards, while the LMC shifts to the left with the increasing factor prices. This will tend to shift the industry supply to the left. However, at the same time, the quantity supplied increases as new firms enter the industry and thus the market supply will tend to shift to the right. The latter shift more than offsets the first, so that on balance the supply curve shifts outwards as price increases (otherwise the new firms would work by bidding away resources from the established firms, and industry output would be impossible to expand as required by the increase in the market price). The shift of the supply curve will lead to a fall in price (as compared with the short-run level P_1) if the increase in factor prices permits it. If, however, the increase in factor costs is substantial the new equilibrium price might stay at the short-run level despite the shift in supply. In any case the new market price will be higher than the original level and the long-run supply curve will be upwards-sloping. In an increasing-cost industry output can expand in the long run only at and increasing supply price.

Decreasing-cost industry

An industry is said to be a decreasing-cost industry if its long-run supply curve has a negative slope, indicating that the prices of factors fall as the industry output expands.

The process of adjustment of the industry supply to the expanding market demand is shown in figure 8. As the market demand shifts to the right (from D to D_1) price increases in the short run and entry is attracted. The ensuing increased demand for factors encourages their suppliers to innovate or improve their skills, so that factor costs become in fact lower per unit of output. In these circumstances we speak of external (to the industry and to the firm) economies (figure 8). The decline in factor prices shifts the cost curves of individual firms downward (figure 9). The industry supply shifts so far to the right that price in the long run falls below the initial level. The long-run supply curve is the line *hlm* in figure 8, which has a negative slope. This implies that if there are strong external economies the industry supply can expand in the long run at a decreasing price.

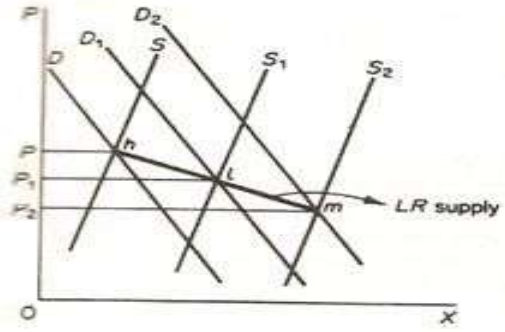


Fig: 8 Industry

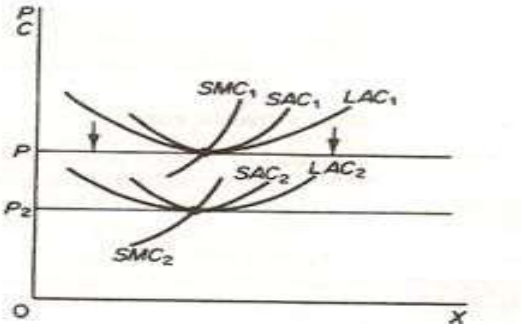


Fig: 9 Firm

----------END----------

5th Semester.

Unit two

Main Features of India's Population

By demographic features we mean the characteristics of population like, size, composition, diversity, growth and quality of population etc.

To have basic understanding of the population problem of a specific country, one should have a complete knowledge regarding the basic features of population of that country.

The following are features of India's population:

1. Large Size and Fast Growth:

The first main feature of Indian population is its large size and rapid growth. According to 2001 census, the population of India is 102.87 crore. In terms of size, it is the second largest population in the world, next only to China whose population was 127 crore in 2001. India's population was 23.6 crore in 1901 and it increased to 102.7 crore in 2001.

In addition to its size, the rate of growth of population has been alarming since 1951. At present, India's population is growing at a rate of 1.9 percent per annum; 21 million people are added every year which is more than the population of Australia. This situation is called population explosion and this is the result of high birth rate and declining death rate.

2. Second Stage of Demographic Transition:

According to the theory of demographic transition, the population growth of a country passes through three different stages as development proceeds. The first stage is characterised by high birth rate and high death rate. So in this stage the net growth of population is zero. Till 1921, India was in the 1st stage of demographic transition.

The second stage is featured by high birth rate and declining death rate leading to the rapid growth of population. India entered the second stage of demographic transition after 1921. In 1921-30 India entered the 2nd stage, the birth rate was 464 per thousand and death rate was 363 per thousand.

In 2000-01, birth rate was 25.8 and death rate declined to 85. This led to rapid growth of population. India is now passing through the second stage of demographic transition. While developed countries are in 3rd stage.

3. Rapidly Rising Density:

Another feature of India's population is its rapidly rising density. Density of population means to the average number of people living per square kilometer. The density of population in India was 117 per square km. in 1951 which increased to 324 in 2001. This makes India one of the most densely populated countries of the world. This adversely affects the land-man ratio.

India occupies 2.4 per-cent of the total land area of the world but supports 16.7 per-cent of the total world population. Moreover, there is no causal relationship between density of population and economic development of a country. For example, Japan & England having higher density can be rich and Afghanistan & Myanmar having lower density can be poor. However in an underdeveloped country like India with its low capital and technology, the rapidly rising density is too heavy a burden for the country to bear.

4. Sex Ratio Composition Unfavourable to Female:

Sex ratio refers to the number of females per thousand males. India's position is quite different than other countries. For example the number of female per thousand males was 1170 in Russia, 1060 in U.K., 1050 in U.S.A. whereas it is 927 in India according to 1991 census.

The sex ratio in India as 972 per thousand in 1901 which declined to 953 in 1921 and to 950 in 1931. Again, in 1951, sex ratio further declined to 946. In 1981, sex ratio reduced to 934 against 930 per thousand in 1971. During 1991, sex ratio was recorded 927 per thousand.

The sex ratio is 933 per thousand in 2001. State wise Kerala has more females than males. There are 1040 females per thousand males. The lowest female ratio was recorded in Sikkim being 832. Among the union territories Andaman and Nicobar Islands has the lowest sex ratio i.e. 760. Therefore, we can conclude that sex ratio composition is totally unfavourable to female.

5. Bottom heavy Age Structure:

The age composition of Indian population is bottom heavy. It implies that ratio of persons in age group 0-14 is relatively high. According to 2001 census, children below 14 years were 35.6%. This figure is lower than the figures of previous year. High birth rate is mainly responsible for large number of dependent children per adult. In developed countries the population of 0-14 age group is between 20 to 25%. To reduce the percentage of this age group, it is essential to slow down the birth rate.

6. Predominance of Rural Population:

Another feature of Indian population is the dominance of rural population. In 1951, rural population was 82.7% and urban population was 17.3%. In 1991 rural population was 74.3% and urban population was 257. In 2001, the rural population was 72.2% and urban population was 27.8. The ratio of rural urban population of a country is an index of the level of industrialisation of that country. So process of urbanisation slow and India continues to be land of villages.

7. Low Quality Population:

The quality of population can be judged from life expectancy, the level of literacy and level of training of people. Keeping these parameters in mind, quality of population in India is low.

(a) Low Literacy Level:

Literacy Level in India is low. Literacy level in 1991 was 52.2% while male-female literacy ratio was 64.1 and 39.3 percent. In 2001, the literacy rate improved to 65.4 percent out of which made literacy was 75.8 and female literacy was 52.1 percent. There are 35 crore people in our country who are still illiterate.

(b) Low level of Education and Training:

The level of education and training is very low in India. So quality of population is poor. The number of persons enrolled for higher education as percentage of population in age group 20-25 was a percent in 1982. It is only one fourth of the developed countries. The number of doctors and engineers per million of population are 13 and 16 respectively. It is quite less as compared to advanced countries.

(c) Low Life Expectancy:

By life expectancy we mean the average number of years a person is expected to live. Life expectancy in India was 33 years. It was increased to 59 in 1991 and in 2001, life expectancy increased to 63.9. Decline in death rate, decline in infant mortality rate and general improvement in medical facilities etc. have improved the life expectancy. However life expectancy is lower in India as compared to life expectancy of the developed nations. Life expectancy is 80 year in Japan and 78 years in Norway.

8. Low Work Participation Rate:

Low proportion of labour force in total population is a striking feature of India's population. In India, Labour force means that portion of population which belongs to the age group of 15-59. In other words, the ratio of working population to the total is referred to as work participation rate.

This rate is very low in India in comparison to the developed countries of the world. Total working population was 43% in 1961 which declined to 37.6% in 1991. This position improved slightly to 39.2% in 2001. That means total non-working population was 623 million (60.8 percent) and working population was 402 million (39.2%). Similarly low rate of female employment and bottom-heavy age structure are mainly responsible for low work participation in India.

9. Symptoms of Over-population:

The concept of over-population is essentially a quantitative concept. When the population size of the country exceeds the ideal size, we call it over-population. According to T.R. Malthus, the father of demography, when the population of a country exceeds the means of substance available, the country faces the problem of over-population.

No doubt, food production has increased substantially to 212 million tonnes but problems like poverty, hunger, malnutrition are still acute. Agriculture is overcrowded in rural areas of the country which is characterised by diminishing returns. This fact leads to the conclusion that India has symptoms of over-population. Indian low per capita income, low standard of living, wide spread unemployment and under-employment etc. indicate that our population size has crossed the optimum limit.

Population Growth and Economic Development: A Close View

Different Views on the Role of Population Growth:

Population growth plays a conflicting role in the development process of a country. It helps economic development and it retards economic development.

To the Greek philosophers, about 2,500 years ago, population growth was undesirable as it adversely affects economic development. Plato (427-347 B.C.) suggested that the member of citizens of a country should be kept fixed at 5,040 on the ground that this number is divisible by any number from 1 to 12 except

He desired that the country's population must not exceed beyond certain level. Sir William Petty presented an optimistic outlook on population growth. Adam Smith also regarded the growth of population as the basis of wealth. But the classical economists, Especially T.R. Malithus, sounded an alarm bell of rising population growth in a country.

However, Mlthus ' argument came under severe attack at the hands of Karl Marx and F. Engles.

Relationship between Population Growth and Economic Development:

The relationship between population growth and economic development may be summarised in the words of Robert McNamara—the past president of the World Bank. He described it as 'the most delicate and difficult issue of our era... It is overlaid with emotion. It is controversial. It is subtle. Above all, it is immeasurably complex.

Mao Zedong once remarked that "A country's greatest wealth is its people.

On the some vein, the then Prime Minister Mr. Pitt of England declared in the 18th century:

"A man could enrich his country by producing a number of children, even if the whole family were paupers." All these suggest that not only there is no conflict between population growth and economic development but also an increase in population is necessary for increase in wealth and development. But, antithesis to this is the Malthusian version which regards population growth as the number one barrier to economic development. Neo-Malthusians attribute all of the world's modem problems of underdevelopment to massive population growth.

Thus, there is a conflicting role between population growth and economic development. It can act both as a stimulus and as an impediment to growth and development. Such conflicting roles suggest that the relationship between population and economic development is intricate, complex and interesting.

Benefits of Population Growth:
Population growth helps the process of development in the following ways:

First, an increasing population means an increase in the number of working population who can function as active participants in the process of economic growth and development.

It is to be noted that labour, assisted by necessary tools and implements, was always and still is the greatest productive asset of nations. A growing population leads to an increase in total output. The sheer arithmetical increase in population creates work as well as incentives for production that impacts upon output and productivity quite favourably. Indeed, this argument is empirically important in addition to theoretical reasoning.

Secondly, a growing population means a growing market for most goods and services and we know that division of labour is limited by the extent of the market. A potentially expanding market may stimulate entrepreneurs to invest more and more in capital goods and machinery. Business activity will be spurred as a consequence. And more income and employment will be created in the process. Moreover, it will provide an outlet for the products of efficient, large scale, mass- production industries. The net effect may be favourable to the country.

Of course the size of the domestic market of country does not only depend on the number, but also on the per capita income level. But given the same low level of income per head, a country India offers a more favourable environment setting up heavy capital goods industries which depends so much on the economies of scale their success. In contrast, a thickly populated country with a small population base such as Sri Lanka seems to be especially handicapped by the all size of its domestic market.

Population growth has been a favourable factor in stimulating growth in many a country in; last two centuries, when vast areas remained largely unsettled. Even in the USA, in the 1930s, was apprehended that a slowing down of the rate population growth would lead to long run secular) stagnation. The vast secular boom in the post-industrial revolution England had been largely induced by the unparalleled rise in population'.

Thirdly, an arithmetic increase in population permits in reaping economies of scale in production, greater division of labour, extension of the market, etc.

The World Bank in its 1984 World Development Report argues:

"...there is little doubt that the key to economic growth is people, and through people the advance of human knowledge. Per capita measures of income should not be used to imply that the denominator, people, contributes nothing to the numerator, total income. Nor is population growth in itself the main cause of natural resource problems—air pollution, soil degradation, even food availability."

Costs of Population Growth:

But Malthusians and neo-Malthusians think otherwise. First, they argue that population growth negatively affects economic development. Their argument is based on the law of diminishing returns in agriculture. Population growth acts as a barrier to economic development since the growth of population grows never in commensurate with the growth of food supply.

Actually speaking, as the rate of growth of population exceeds the rate of production, economic development is hampered. A growing population, within a limited geographical area, usually puts heavy pressure on the existing factor endowments, especially natural resources of the country. Moreover, if the society has a limited stock of capital, labour may have to be substituted for capital, in which case the production function will exhibit the law of diminishing returns. Diminishing returns may become a serious problem if population growth is rapid.

However, empirical evidence suggests that technological change—or the so-called green revolution in agriculture in different LDCs—has greatly offset the effects of diminishing returns in agriculture and the spectre of food problem and its aftermath (huger, famine, etc.,) in most of these countries has virtually vanished. So, one must not view that population growth badly affects economic development.

Secondly, based on the Indian experience, Ansle Coale and E. M. Hoover drew attention to the likely adverse effects of population growth on savings and capital formation through the following effects: the age-dependency effect, the capital-swallowing effect, and the investment diversion effect.

It is said that a rapid population growth causes an increase in dependency ratio—a high ratio of non-working population to working wage people or active population. When the number of dependents or the ratio of consumers (non-producers) to producers increase, there occurs a diversion of income from savings to consumption and a fall in per capita income. But anti-Mathusians talk in a different vein.

They argue that many young children contribute directly to parents' income by working in farms and off-farm sectors. Further, additional mouths in the low income families tend to encourage people to work more. In this way, children themselves contribute to household and saving. Anyway, the impact .on household saving can be negative, negligible or positive—the issue needs to be settled by empirical investigation.

The capital-shallowing effect states that a rapid population growth lowers the ratio of capital to labour or workforce thus works with less capital and consequently the poor rate of savings. This then reduces productivity of labour. As children remain engaged in productive works, the family may experience an increase in saving. Under the circumstance, the capital-shallowing effect may remain inoperative. High economic growth is accompanied with overall high savings ratio in many developing countries.

The investment-diversion effect states that, because of rapid population growth a country's scarce resources get diverted away to the so-called unproductive sectors of health, education and social services from the more productive growth-oriented sectors. This logic assumes that the expenditures on human capital are unproductive. Educated and healthy people are viewed as one of the essential ingredients of economic development. Indeed, there are high returns to investment in human capital.

Anyway, empirical research does not confirm the Coale-Hoover thesis.

Thirdly, Mathusians are convinced that population growth badly affects food supplies. To them, the chronic food problem experienced by many poor developing economies is often attributed to rapid population. It is because of 'natural limits' in agriculture population growth would overtake food supply output, thereby leading to famine, hunger, malnutrition, etc.

But the evidence tells a different story. Because of the introduction of green revolution technology in agriculture, yields have increased to such an extent that many countries, including India, have now been exporting food-grains. Unfortunately, the present global world is highly unequal. We see an abnormally high level of malnourished children; starvation and famines occasionally visit in many countries.

However, this must not be attributed to a mismatch between a high population growth and food supply. This can be referred to as the unequal distribution of purchasing power among different groups of population. Hunger and famine, according to A. Sen, is due to 'entitlement failure' and not the food availabilities as such.

Fourthly, the question of unemployment and underemployment has assumed serious proportion, particularly in LDCs, because of rapid population growth. But whether population growth is responsible for unemployment problem cannot be said definitively since no such statistical strict correlation is observed. In fact, it is the technology that determines the absorption of unemployed labour force. The experiences of Korea and Taiwan tell that economic development in these countries proceeded successfully despite high population growth.

In recent years, as agriculture is becoming more and more unprofitable, the issue of engaging surplus labour has become a concern to the Government of India. Agriculture's contribution towards GDP growth is not only falling but the absorptive capacity of agriculture is also falling. This development, consequent upon Mathusian pressure, has been forcing many farm people to migrate to towns and urban areas in search of employment.

However, this argument is a faulty one. Economic development is associated with declining importance of agriculture. Thus, the migration of the productive farm workers in other sectors needs to be attributed to the policy failure and not to the population pressure.

Finally, neo-Malthusians argue that excessive population growth and massive poverty in LDCs have greatly damaged the ecological balance by deforestation and land degradation. Consequently, these countries suffer badly from a variety of environmental hazards. Such canard is made by developed countries who are to be condemned outright for destroying ecological balance.

But today the debate has shifted from population pressure to climate change and environment—perceived as a great threat to humanity. The current ecological crisis is caused by human economic activity or anthropogenic. The way an economy is organised is rather 'inherently suicidal'.

The whole world is burning fossil fuels to drive the growth economy. Carbon dioxide emission is at its highest level. All these may be linked to a developed rich economy addicted to growth. The US economist Kenneth Boulding made the following statement: **"Anyone who believes that exponential growth can go on forever in a finite world is either a madman or an economist."**

Conclusion:

Considering the above-mentioned plus and minus points, economists conclude that hindrances to economic development in LDCs are not to be attributed to population growth. The greatest and real obstacle to development is underdevelopment. Potentialities for development are adequate. By designing their development programmes, LDCs can raise their levels of income and living standards.

Further, they argue that there is no population bomb in these countries. The myth of over-population causing underdevelopment should be given up in any analysis of economic development. It is not to be accepted that a slowing down of population increase might contribute substantially to our development prospects. So what is sauce for a goose may not be the sauce for a gander!

The moot point is that population growth may be either favourable or unfavourable to economic development, depending on where, when, and how it takes place.

Today, an international consensus has been reached. A country may strike a higher growth and development if population increases slowly. No one should exaggerate either the beneficial or the unfavourable effects of population growth on economic development. However, it is to be kept in mind three important issues.

First, all problems of levels of living, inequality and poverty are not to be necessarily linked with high population growth. Secondly, population growth must involve the quality of life, and not the quantity perse. Thirdly, but truly, rapid population growth makes prospect for development rather remote. All

these then demand an appropriate economic and social policy so as to improve the well-being of the future world populations in a sustainable way.

How does Demographic Dividend impact on the India's economic growth?

Generally in contemporary world, 'Demographic Dividend' has become a hot topic for the policy makers, economist and experts from the various sectors around the world. Many countries are on the crossover of this potential— with a proportionately large young and working-age population. But much more must be done to enable the dividend: increase the empowerment of girls and women, ensure universal and high quality education that is tailored to new economic opportunities, and expand secure employment.

What is Demographic Dividend?

According to the United Nations Population Fund (UNFPA), the **Demographic Dividend** refers to "**the economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger, and 65 and older).**" It can only come into existence, when countries invest in the empowerment, education and employment including good governance.

Composition of Indian population

What is relationship between Demographic Dividend and Economic Growth?

There is a great influence of demographic dividend on the economic growth because the demographic dividend is the economic benefit that can arise when a population has a relatively large proportion of working age people, and effectively invests in their empowerment, education and employment.

According to the **Malthus**, increase in food production would not be able to keep up with an increase in population because while population grew geometrically, food production only increased arithmetically. He stressed that societies which have high

fertility rates would have lower income levels and those with lower fertility rates will have higher incomes. The reasoning behind this inverse relationship is that high population levels would drive down the price of labour and increase the price of food. Hence, he believed that nature had its own checks to balance the world's population. Therefore, on the basis of the above argument of Malthus, the **economic growth** can be defined as 'a long term rise in capacity to supply diverse economic goods to its population, this growing capacity based on advancing technology and the institutional and ideological adjustments that it demands'.

Regional Distribution of Tribes in India

According to the **International Labour Organisation (ILO),** the 21st century can belong to India as it has three assets that no country has: '**democracy', 'demand' and 'demographic dividend'**. But did we wonder why the ILO states that, this is because the greater the share of the population in the working-age group; the more will be the savings and investments in the economy.

The economy can be driven by a fast growth track with other macroeconomic variables like employment, per capita income, saving and investment putting a positive impact on the economic growth of the country only when demographic dividend is taken care of.

Hence, the **human resources** can only transform into asset through proper recruitment, selection, training, appraising performance, compensating, maintaining relationships, and welfare, health and safety measures of employees in compliance with labour laws of the land.

Therefore, it is of utmost importance that the youth needs to be absorbed meaningfully into the workforce to make it productive enough so that this demographic dividend does not turn into a demographic nightmare.

Occupational Structure in India: An Overview

1. Economic Development of Occupational Structure
2. Occupational Distribution of Population
3. Factors Responsible for Failure.

Economic Development of Occupational Structure:

Economic development creates various types of occupations in an economy. All these various occupations can be broadly classified into three categories, viz., primary, secondary and tertiary. The primary occupations include all those essential activities such as agriculture and allied activities like animal husbandry, forestry, fishery, poultry farming etc.

Secondary activities include manufacturing industries composed of both large and small scale and mining. Tertiary activities include all other activities like transport, communication, banking, insurance, trade etc. The occupational structure indicated the distribution as well as absorption of population into these various types of occupations.

In underdeveloped countries, majority of the population are still engaged in agriculture and other primary activities. Even in some developed countries like Japan, England, Norway fishing continues to be an important occupation, providing employment to a substantial number of populations.

Development experience shows that with the gradual development of a backward economy, the importance of primary occupations gradually declines with the growth of industries and tertiary activities. In the secondary sector, large scale industries, being more capital-intensive cannot provide much employment opportunities.

But it is the development of small scale and cottage industries, mining activities etc., being largely labour-intensive, can provide huge number of employment opportunities.

Again the tertiary occupations are also considered very important as these have a huge employment potential. In developed countries, the absorption capacity of this sector is very high. According to World Development Report, 1983, whereas about 45 to 66 per cent of the work force of developed countries was employed in

the tertiary sector but India could absorb only 18 per cent of total force in this sector.

Changes in occupational structure are very much associated with economic development. The rate of economic development and the level of per capita income increase as more and more work force shifts from primary sector to secondary and tertiary sector.

As A.G.B. Fisher writes, **"We may say that in every progressive economy there has been a steady shift of employment and investment from the essential 'Primary activities'..... to secondary activities of all kinds and to a still greater extent into tertiary production."**

While putting importance on the change in occupational structure, Colin Clark observes, **"A high average level of real income per head is always associated with a high proportion of working population engaged in tertiary industries low real income per head is always associated with a low proportion of the working population engaged in tertiary production and a high percentage in primary production."**

Thus to attain a high rate of economic development inter-sectoral transfer of work force is very much necessary. This would be possible only when productivity of agriculture increases due to introduction of improved technology in it.

The increase in productivity in agriculture transfers surplus work force from agriculture to other sectors. The extent and pace of inter-sectoral transfer of work force depend very much on the rate of increase in productivity in the primary sector in relation to other sectors.

Occupational Distribution of Population in India:

Occupational distribution of population reflects on the degree of development and the diversification achieved in an economy. Let us now turn our discussion on the occupational structure of India.

The occupational structure of India clearly reflects a high degree of backwardness prevailing in Indian economy.
Since the turn of the present century the occupational structure in India was tilted towards the primary sector. Over the last 80 years (1901-1981), the proportion of working force engaged in primary occupations remained very steady, i.e., around 70 per cent and that in secondary and tertiary sector was ranging between 28 to 30 per cent only.
Let us now make a detailed study on the occupation structure of India during this long 100-years period.

Occupational Structure during 1901-1951:

During the first half of the present century, occupational distribution of population in India did not report any appreciable change. Agriculture occupied the dominant position and its absorption capacity had increased marginally from 66.9 per cent in 1901 to 69.7 per cent in 1951.

The commercial policy of the British had paved the way for the introduction of British machine-made goods in Indian market leading to destruction of traditional Indian handicrafts. This forced the labourers of this household industry to engage themselves in agricultural operations for earning their livelihood.

All these led to a marked increase in the proportion of landless agricultural labourers to total labour force from 17 per cent in 1901 to nearly 20 per cent in 1951. The percentage of population engaged in other allied activities like forestry, livestock, fishery etc. declined from 4.3 per cent in 1901 to only 2.3 per cent of the total work force in 1951.

During this period, industrial activity was very much restricted to plantation and textile industry and was also supported by imported machinery resulting limited backward linkage effects and lack of diffusion of spread effect of industrialisation. Thus this process of industrialisation had created a very little impact on the generation of employment opportunities.

On this industrialisation issue, Priyatosh Maitra rightly observed, **"In Indian experience employment multiplier seems to be small and, therefore, occupational structure remained almost static..... Limited employment horizons, resulting from a process of industrialisation devoid of**

‘built-in technological process’ effects, strengthen the hold of production techniques with built-in under employment.

Moreover,’ the depressed and overcrowded agriculture could not offer a significant portion of marketable surplus which could raise the demand for industrial goods and the tertiary sector could not increase its absorption capacity significantly.

However, T. Krishnamurty wrote, “Between 1901 and 1951 factory employment expanded partly at the expense of non-factory sectors, the modern branches grew at the cost of a number of traditional ones; and manufacturing output per head increased. While the share of transport, storage and communications rose, for the other branches of services trends are unclear.

Many services associated with modernisation under colonial rule expanded, in particular, public, educational, medical and legal services.”

Occupational Structure during 1951-2000:

After independence and especially after the introduction of planning in India, attempt was made by the planning to accelerate the process of industrialisation and also to change the occupational structure by transferring a section of working force from agriculture to secondary and tertiary sector

Accordingly, the Second Plan observed, “By 1975-76, the proportion of agricultural labour force to the total should come down to 60 per cent or so. But for this to happen something like a fourfold increase in the numbers engaged in mining and factory establishment has to be brought about, and the investment pattern in the plans has to be adjusted to these requirements.”

Just to fulfill these requirements it was necessary to increase the agricultural productivity through adoption of modern technology for meeting food and raw material requirements of the developing economy. It was also necessary to reduce the dependence on agriculture by generating alternative employment opportunities in the rural areas.

All these technological changes in agriculture along-with land reforms measures were introduced in India in order to increase agricultural production and productivity and to transfer surplus labour force from agricultural sector to secondary and tertiary sector.

On the other hand, to change the occupational structure in India, importance of designing a suitable employment policy was felt. With the introduction of planning, a considerable increase in employment opportunities was expected.

The planned economic development anticipated a rapid progress in the expansion of irrigation, power, basic industries, other manufacturing and household industries and the expansion of tertiary activities in the service sector like expansion of trade, banking, insurance, transportation and communication etc. But after two decades of planning occupational structure in India could not show any remarkable change.

Although both secondary and tertiary sector expanded and their absorption capacity also increased substantially but the rate of increase in employment opportunities fell far short of rate of increase in the labour force.

Moreover, another important condition for realising the change in occupational structure, viz., a significant increase in agricultural productivity could not be fulfilled. Again the allied activities of the primary sector and development of village industries could not make much headway in engaging the surplus population from the agricultural sector. All these led to growing pressure of population on agricultural sector and resulted in widespread disguised unemployment in rural areas.

Considering this situation, the Planning Commission in its Fifth Plan document mentioned, **"At the present pace of industrialisation any mass-scale transfer of the labour force from agriculture to non-agriculture sectors is ruled out. The growing labour force in agriculture has to be provided with fuller employment within agriculture."**

Thus, Table 6.11 shows that during the period 1951-71, the proportion of work force engaged in the primary sector remained constant at 72.1 per cent. In-spite of heavy investment made on manufacturing and service sector during these two decades of planning the absorption capacity of secondary and tertiary sectors jointly remained the same at 28 per cent of the total work force.

TABLE 6.11. Occupational Distribution of Working Population in India

(Per cent)

	1901	*1951*	*1961*	*1971*	*1981**	*1991*	*2000*
A. Primary Sector (1 + 2 + 3)	**71.8**	**72.1**	**71.8**	**72.1**	**68.8**	**66.8**	**56.7**
1. Cultivator	50.6	50.0	52.8	43.4	41.6	38.4	
2. Agricultural Labourers	16.9	19.7	16.7	26.3	24.9	26.4	
3. Livestock, forestry, fishing etc.	4.3	2.4	2.3	2.4	2.3	1.9	
B. Secondary Sector (4 + 5 + 6)	**12.6**	**10.6**	**12.2**	**11.2**	**13.5**	**12.7**	**17.5**
4. Mining and quarrying	0.1	0.6	0.5	0.5	0.6	0.6	0.7
5. Manufacturing	11.7	9.0	10.6	9.5	11.3	10.2	12.4
6. Construction	0.8	1.0	1.1	1.2	1.6	1.9	
C. Tertiary Sector (7 + 8 + 9)	**15.6**	**17.3**	**16.0**	**16.7**	**17.7**	**20.5**	**25.8**
7. Trade and Commerce	6.0	5.3	4.0	5.6	6.2	7.5	11.1
8. Transport, Storage and Communications	1.1	1.5	1.6	2.4	2.7·	2.8	4.1
9. Other services	8.5	10.5	10.4	8.7	8.8	10.2	10.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Again during the next 1971-2000 period, the proportion of work force engaged in the primary sector declined marginally to 56.7 per cent. Another noticeable change that was recorded was that the proportion of cultivators declined from 50 per cent in 1951 to 38.4 per cent in 1991 and that of agricultural labourers increased horn 20 per cent to 26 per cent during the same period.

This shows the growing concentration of land in the hands of rich and well-to-do farmers and the transformation of small and marginal farmers into landless agricultural labourers. Moreover, the proportion of work force engaged in the secondary sector increased marginally from 11.2 per cent to 17.5 per cent during the 1971-2000 period and that of engaged in tertiary sector increased slightly from 16.7 per cent to 25.8 per cent during the same period.

The absorption capacity of both the secondary and tertiary sector jointly increased from 28 per cent to 43.3 per cent during this 1971-2000 period.

Again the World Development Report, 1995 shows that in 1993, the percentages of work force, both wages and non-wages engaged in agriculture, industry and services were to the extent of 63.2 per cent, 14.2 per cent and 22.6 per cent respectively.

Considering the earlier mentioned position we can conclude that there was virtually no clear shift of working population from primary sector to secondary and tertiary sectors. Thus the planning process in India has totally failed to bring any change in its occupational structure.

Factors Responsible for Failure of Occupational Structure:

1. Indian planners failed to make any serious attempt for the development of rural economy for utilizing the vast idle labour force and also to raise the

productivity of labourers. Due to poor organisation, the programmes of reducing unemployment and under-employment problem in the rural areas failed miserably.

Moreover, planners did not make any serious attempt to enlarge the scope of non-agricultural rural employment.

2. Land reforms in India failed miserably to realise its goal and to create small owner holding. These reforms could not diffuse the ownership of land among a large number of marginal cultivators.

3. Various other facilities provided by the Government such as cheaper credit, marketing, subsidy on fertilizer price etc. only benefitted rich farmers and poor and marginal farmers could not reap any benefit from these facilities leading to a failure in raising their agricultural productivity.

4. Efforts of the planners to develop industries helped the large scale capital goods sector and the plans could not create much response to the development of small scale and cottage industries. This development of large scale highly capital-intensive industries could not create much employment potential and thus created no impact on the occupational structure of the country.

5. The high rate of growth of labour force is also an important factor which has been creating serious drags on the path of changing the occupational structure in India. This fast growing labour force without getting any subsidiary occupation open to them in the rural areas stated to eke out their living from agricultural sector alone.

This led to a huge dependence as well as a high degree of disguised unemployment in the agricultural sectors.

Thus under this present situation occupational structure in India can be amended suitable only when the country will start to develop its labour-intensive sectors that include small scale and cottage industries, allied activities in the primary sector such as animal husbandry, fishing, poultry farming etc. and the service sectors as well as so to foster the growth of non-agricultural employment side by side with modern large scale industrial sector.

Development of this huge labour-intensive sector will raise the level of employment and income both in the rural and urban areas leading to an

enlargement of aggregate demand for various goods and services produced by large scale industries.

Thus the development of this labour intensive sector will be able to bring changes in the occupational distribution of population from agricultural to non-agricultural occupations and will also be able to support the large scale manufacturing sector by enlarging the demand for their products and while doing so they can save these large scale industries from recession.

Unemployment in India

In this essay we will discuss about Unemployment in India. After reading this essay you will learn about: 1. Meaning of Unemployment in India 2. Nature of Unemployment Problem in India 3. Extent 4. Causes 5. Remedial Measures 6. Characteristics 7. Employment Policy and Schemes 8. Growth of Employment and Others.

Unemployment in India Content:

10. Global Economic Recession and its Impact on Unemployment Problem in India

Essay # 1. Meaning of Unemployment in India:

Unemployment is a common economic malady faced by each and every country of the world, irrespective of their economic system and the level of development achieved. But the nature of unemployment prevailing in underdeveloped or developing countries sharply differs to that of developed countries of the world.

While the developed countries are facing unemployment, mostly of Keynesian involuntary and frictional types but the underdeveloped or developing countries like India are facing structural unemployment arising from high rate of growth of population and slow economic growth.

Structural unemployment may be open or disguised type. But the most serious type of unemployment from which those undeveloped countries like India are suffering includes its huge underemployment or disguised unemployment in the rural sector.

Unemployment is a serious problem. It indicates a situation where the total number of job vacancies is much less than the total number of job seekers in the country. It is a kind of situation where the unemployed persons do not find any meaningful or gainful job in-spite of having willingness and capacity to work. Thus unemployment leads to a huge wastage of manpower resources.

India is one of those ill-fated underdeveloped countries which is suffering from a huge unemployment problem. But the unemployment problem in India is not the result of deficiency of effective demand in Keynesian term but a product of shortage of capital equipment's and other complementary resources accompanied by high rate of growth of population.

Essay # 2. Nature of Unemployment Problem in India:

Present unemployment problem in India is mostly structural in nature.

Unemployment problem of the country can now be broadly classified into:

(a) Rural unemployment and

(b) Urban unemployment.

(a) Rural Unemployment:

In India the incidence of unemployment is more pronounced in the rural areas.

Rural unemployment is again of two types:

(i) Seasonal unemployment and

(ii) Disguised or perennial unemployment.

(i) Seasonal Unemployment:

Agriculture, though a principal occupation in the rural areas of the country, is seasonal in nature. It cannot provide work to the rural population of the country throughout the year. In the absence of multiple cropping system and subsidiary occupation in the rural areas, a large number of rural population has to sit idle 5 to 7-months in a year.

Seasonal Unemployment is also prevalent in some agro- based industries viz., Tea Industry, Jute Mills, Sugar Mills, Oil Pressing Mills, Paddy Husking Mills etc.

(ii) Disguised or Perennial Unemployment:

Indian agriculture is also suffering from disguised or perennial unemployment due to excessive pressure of population. In disguised unemployment apparently it seems that everyone is employed but in reality sufficient full time work is not available for all.

In India, about 72 per cent of the working population is engaged in agriculture and allied activities. In 1951 more than 100 million persons were engaged in the agricultural and allied activities whereas in 1991 about 160 million persons are found engaged in the same sector resulting in as many as 60 million surplus population who are left with virtually no work in agriculture and allied activities.

(b) Urban Unemployment:

Urban unemployment has two aspects:

(i) Industrial unemployment and

(ii) Educated or middle class unemployment.

(i) Industrial Unemployment:

In the urban areas of the country, industrial unemployment is gradually becoming acute. With the increase in the size of urban population and with the exodus of population in large number from rural to the urban industrial areas to seek employment, industrialization because of slow growth could not provide sufficient employment opportunities to the growing number of urban population.

Thus the rate of growth of employment in the industrial sector could not keep pace with the growth of urban industrial workers leading to a huge industrial unemployment in the country.

(ii) Educated or middle-class Unemployment:

Another distinct type of unemployment which is mostly common in almost all the urban areas of the country is known as educated unemployment. This problem is very much acute among the middle class people. With rapid expansion of general education in the country the number of out-turn of educated people is increasing day by day

But due to slow growth of technical and vocational educational facilities, a huge number of manpower is unnecessarily diverted towards general education leading to a peculiar educated unemployment problem in the country. The total number of educated unemployment increased from 5.9 lakh in 1962 to 230.50 lakh in 1994.

Essay # 3. Extent of Unemployment:

In view of the growing problem of unemployment and under-employment prevailing in the country it is very difficult to make an estimate of the total number of unemployment in a country like India. As per the statement of the then Labour and Employment Minister in the Parliament, there was about 35 million unemployed person's in-spite of 42.5 million new jobs created during 1951 and 1969.

Various agencies like Planning Commission, CSO, NSS etc. could not provide any dependable estimate about the magnitude of unemployment in India. As per the estimates of unemployment made in the Five Year Plan the backlog of unemployment which was 5.3 million at the end of First Plan gradually increased

to 7.1 million, 9.6 million and then to 23 million at the end of Second, Third and Three Annual Plans respectively.

The number of unemployed as percentage of total labour force which was 2.9 per cent at the end of the First Plan gradually increased to 9.6 per cent at the end of Annual Plans

The Committee of Experts on Unemployment under the Chairmanship of Mr. B. Bhagawati observed in its report (1973) that total number of unemployed in 1971 was 18.7 million out of which 16.1 million unemployed were in rural areas and the rest 2.6 million existed in urban areas. Moreover, unemployment as percentage of total labour force was to the extent of 10.9 per cent in 1971 for the whole country.

As per the Employment data, the number of registered job seekers in India rose from 18.33 lakh in 1961 to 165.8 lakh in 1981 and then to 370.0 lakh at the end of March 1994. Total number of educated job seekers has also increased from 5.90 lakh in 1961 to 230.0 lakh in the end of March 1994, which constituted nearly 62 per cent of the total job seekers of the country.

At the end of January 1996, total number of registered job seekers in India was 368.9 lakh. As on 1st April, 1997, total number of unemployed persons in India was 7.5 million. The International Labour Organisation (ILO) report World Employment 1995 observed that 22 per cent of all male workers in India are underemployed or unemployed and the figure is rising.

The employment in the modern sector in India grew only by 1,6 per cent per annum in 1980s, Underemployment in the rural areas also remained high.

The National Sample Survey Organisation (NSSO) developed three concepts of unemployment since 1972-73.

These were:

(i) Usual Status Unemployment,

(ii) Weekly Status Unemployment and

(iii) Daily Status Unemployment.

The magnitude to usual status unemployment (chronic unemployment) rose from 1.4 million in 1961 to 7.1 million in 1978.

The Planning Commission's estimates of usual unemployment revealed that the usual status unemployment at the age-group 5+ increased from 12.02 million in 1980 to 13.89 million in March, 1985. The total employment at the beginning of 1992-93 was estimated to be 301.7 million on a "weekly status" basis, and the labour force was estimated to be 319 million.

Again as per the NSS tentative estimates of unemployment for April 1990, the usual status and daily status unemployment were 3.77 per cent and 6.09 per cent respectively of the total work force in 1987-88. By adjusting these estimates, Arun Ghosh estimated the backlog of unemployment in April 1990 as—13 million of usual status and 20 million of daily status.

At the end of each Five Year Plan, the backlog of unemployment in India has been increasing as the volume of employment generated cannot match this additional number of labour included in work force. As per document of the Sixth Plan (1980-85), total number of unemployed was 20.7 million in 1980 which represents 7.74 per cent of the total labour force.

Ninth Plan (1997-2002) estimated the total backlog of unemployment as 36.8 million in 1996. Thus a huge portion of our national resources has been constantly used for the generation of employment opportunities so as to clear the backlog of unemployment arising from rapidly rising population.

By looking at a different angle, it is found that India's population presently stands at 104 crore and increasing by nearly 1.6 crore per year. It is generally estimated that nearly 50 per cent of the total population of the country requires employment although in many countries like China, Thailand etc. 55 per cent of total population is normally employed.

So, taking the employment ratio of 50 per cent, the employment requirement of India is 52 crore which is again increasing by nearly 80 lakh per annum as the population is growing by 1.6 crore annually. As per official estimate, total employment in the country was 41 crore in 1999-2000 and it grew by at the rate of 41 lakh annually, during the period 1994-2000.

This official employment figure is somewhat inflated as it included disguised unemployment existing in rural areas of the country. But the level of

unemployment existing at present is around 10 crore and that unemployment figure is again increasing by nearly 40 lakh per year due to our increasing size of population.

In view of the centrality of the employment objective in the overall process of socio-economic development as also to ensure availability of work opportunities in sufficient numbers, a special group on targeting ten million employment per year over the Tenth Plan period was constituted by Planning Commission under the Chairmanship of Dr. S.P. Gupta, Member, Planning Commission.

Considering the need for generating employment opportunities which are gainful, the Special Group has recommended the use of Current Daily Status (CDS) for measuring employment, as this measure of employment is net of the varying degrees of underemployment experienced by those who are otherwise classified employed on usual status basis.

The Special Group has made following estimate of employment and unemployment in India on current daily status (CDS) basis.

Table 12.4 reveals that the Export Group estimates has shown a decline in the rate of growth of population (from 2.0 to 1.95 per cent), labour force (from 2.43 to 1.31 per cent) and work force (from 2.70 to 1.07 per cent) during the period 1983-94 to 1994-2000.

But unemployment rate in the country during the period 1993-94 to 1999-2000 increased from 5.99 per cent to 7.32 per cent although the overall growth performance of the economy has been better in recent times than the previous decade (1983-94).

During the same period, the unemployment rate in rural areas of the country increased from 5.61 per cent to 7.21 per cent and the same unemployment rate in urban areas of the country also increased from 7.19 per cent to 7.65 per cent.

Total number of unemployed also increased from 20.13 million in 1993-94 to 26.58 million in 1999- 2000 out of which the rural and urban number of unemployed stood at 19.50 million and 7.11 million respectively in 1999-2000.

TABLE 12.4. Past and Present Macro-Scenario on Employment and Unemployment (CDS Basis)

(Person Years)

Heads	*Numbers (Million)*			*Growth per annum (%)*	
	1983	*1993-94*	*1999-2000*	*1983 to 1993-94*	*1993-94 to 1999-2000*
All India					
1. Population	718.20	894.01	1003.97	2.00	1.95
2. Labour Force	261.33	335.97	363.33	2.43	1.31
3. Work Force	239.57	315.84	336.75	2.70	1.07
4. Unemployment Rate (%)	(8.30)	(5.99)	(7.32)		
5. No. of Unemployed	21.76	20.13	26.58	– 0.08	4.74
Rural					
1. Population	546.61	658.13	727.50	1.79	1.67
2. Labour Force	204.18	255.38	270.39	2.15	0.96
3. Work Force	187.92	241.04	250.89	2.40	0.67
4. Unemployment Rate (%)	(7.96)	(5.61)	(7.21)		
5. No. of Unemployed	16.26	14.34	19.50	–1.19	5.26
Urban					
1. Population	171.59	234.98	276.47	3.04	2.74
2. Labour Force	57.15	80.60	92.95	3.33	2.40.
3. Work Force	51.64	74.80	85.84	3.59	2.32
4. Unemployment Rate (%)	(9.64)	(7.19)	(7.65)		
5. No. of Unemployed	5.51	5.80	7.11	0.49	3.45

Source : Planning Commission as reproduced in Economic Survey, 2002-03, p. 218.

Finally, as per the data available from 939 employment exchanges in the country, the number of job seekers registered with employment exchanges as on September, 2002 (all of whom are not necessarily unemployed) was of the order of 4.16 crore out of which approximately 70 per cent are educated (up to 10th standard and above).

The number of women job seekers registered was of the order of 1.08 crore (26 per cent of the total job seekers). The maximum number of job seekers awaiting employment were in West Bengal (63.6 lakh), while the minimum were in the UT of Dadra & Nagar Haveli (0.06 lakh) and in the state of Arunachal Pradesh (0.2 lakh).

The placement was maximum in Gujarat whereas the registration was maximum in U.P. The placement effected by the employment exchanges at all India level during 2001 was of the order of 1.69 lakh as against 3.04 lakh vacancies notified during this period.

The National Sample Survey Organisation (NSSO), as per one of its recent surveys made in 2003 observed that the proportionate unemployment rate in India at present stands at 2.0 per cent of the total population and around 3.0 per cent of the total work force of the country.

Findings of NSS Survey 61st Round (2004-05):

The latest and seventh quinquennial NSSO, Survey, namely 61st round conducted during July 2004 to June 2005 constituted an important source of information on employment and unemployment. The 6ist round of NSSO survey revealed a faster increase in employment during 1999-2000 to 2004-05 as compared to 1993- 94 to 1999-2000. Table 12.5 has clarified the position in this regard.

It would now be better to look at the current estimates of employment and unemployment in the country made by Planning Commission. In the meantime, the Eleventh Five year Flan has largely used the Current Daily Status (CDS) basis of estimation of employment and unemployment in the country.

It has also been observed that the estimates based on daily status are the most inclusive rate of 'unemployment' giving the average level of unemployment on a day during the survey year.

It captures the unemployed days of the chronically unemployed, the unemployed days of usually employed who became intermittently unemployed during the reference week and unemployed days of those classified as employed according to the criterion of current weekly status. Table 12.5(a) shows the estimates of employment and unemployment on CDS basis.

TABLE 12.5 (*a*). Employment and Unemployment in million person years (by CDS basis)

	Number (Million) 1983	*Number (Million) 1993-94*	*Number (Million) 1999-00*	*Number (Million) 2004-05*	*Growth p.a. (%)*		
					1983 to 1993-94	*1993-94 to 1999-00*	*1999-00 to 2004-05*
Population	718.10	893.68	1005.05	1092.83	2.11	1.98	1.69
Labour Force	263.82	334.20	364.88	419.65	2.28	1.47	2.84
Workforce	239.49	313.93	338.19	384.91	2.61	1.25	2.62
Unemployment Rate (per cent)	9.22	6.06	7.31	8.28			
No. of unemployed	24.34	20.27	26.68	34.74			

Source : Various rounds of NSSO survey on employment and unemployment/Planning Commission.

Table 12.5(a) reveals the trend in respect of population as well as labour force and workforce since 1983 to 2004-05 and the resultant difference between these two figures also shows the number of unemployed in different periods. With the increase in the population of the country, the number of labour force is increasing faster than the number of work force resulting growing number of unemployment in the country.

In 1983, total number of labour force in India was 263.82 million, total number of work force was 239.49 million and the resultant number of unemployed was 24.33 million. In 2004-05, total labour force of the country was 419.65 million and total work force was 384.91 million and as a result total number of unemployed increased to 34.74 million in 2004-05.

However, the growth of labour force in per cent per annum increased from 2.28 per cent during the period 1983 to 1993-94 to 2.84 per cent during the period 1999-00 to 2004-05. But the growth of work force in per cent per annum increased from 2.61 per cent during the period 1983 to 1993-94 to 2.62 per cent during the period 1999-00 to 2004-05.

Moreover, the unemployment rate as a proportion of labour force decreased from 9.22 per cent in 1983 to 6.06 per cent in 1993-94 and then gradually increased to 8.28 per cent in 2004-05.

Estimates on employment and unemployment on CDS basis [Table 12.5(a)] indicate that employment growth during 1999-2000 to 2004-05 has accelerated significantly as compared to the growth witnessed during 1993-94 to 1999-2000. During 1999-2000 to 2004-05, about 47 million work opportunities were created compared to only 24 million in the period between 1993-94 and 1999-00.

Employment growth accelerated from 1.25 per cent per annum to 2.62 per cent per annum. However, since the labour force grew at a faster rate of 2.84 per cent than the workforce, unemployment rate also rose.

The incidence of unemployment on CDS basis increased from 7.31 per cent in 1999-00 to 8.28 per cent in 2004-05. It would also be better to look at the sectoral employment shares by current daily status in the country. Table 12.5(b) will clarify the position in this respect.

Table 12.5(b) reveals the sectoral employment shares of different sector of the country in recent years. The decline in overall growth of employment during 1993-94 to 1999-00 was largely due to the lower absorption in agriculture. The share of agriculture in total employment dropped from 61 per cent to 57 per cent.

This trend continued and the share of agriculture in total employment further dropped to 52 per cent in 2004-05.

While the manufacturing sector's share increased marginally during this period, trade, hotel and restaurant sector contributed significantly higher to the overall employment than in earlier years. The other important sectors whose shares in employment have increased are transport, storage and communications apart from financial, insurance, real estate, business and community, social and personal services [Table 12.5.(b)].

TABLE 12.5(*b*). Sectoral Employment Shares by Current Daily Status (CDS Basis)

Industry	*1983*	*1993-94*	*1999-00*	*2004-05*
Agriculture	65.42	61.03	56.64	52.06
Mining & Quarrying	0.66	0.78	0.67	0.63
Manufacturing	11.27	11.10	12.13	12.90
Electricity, water etc.	0.34	0.41	0.34	0.35
Construction	2.56	3.63	4.44	5.57
Trade, Hotel & Restaurant	6.98	8.26	11.20	12.62
Transport, Storage and Communication	2.88	3.22	4.06	4.61
Financial, Insurance, Real Estate, & Business Services	0.78	1.08	1.36	2.00
Comty., social & personal Services	9.10	10.50	9.16	9.24
Total	100.0	100.0	100.0	100.0

Source : Various rounds of NSSO survey on employment and unemployment/Planning Commission.

Extent of Farm Unemployment:

A high degree of unemployment and underemployment prevails among the agricultural workers of the country. This farm or agricultural unemployment is prevailing in the form of seasonal unemployment, disguised unemployment and chronic and usual status unemployment.

To measure the extent of unemployment and underemployment is really a difficult task. As per the N.S.S. study the daily status rural unemployment rate in India was 5.25 per cent in 1987-88.

The Agricultural Labour Enquiry Committee Report (First and Second) revealed that in India agricultural labourers had 275 and 237 days of employment in 1950-61 and 1956-57 respectively. Considering the fall in the employment elasticity with reference to GDP for the agricultural sector during the 1970s and 1980s it can be guessed that the seasonal unemployment might have increased in recent years.

In respect of disguised unemployment various estimates have been made to determine the extent of surplus labour in India by Shakuntala Mehera, J.P. Bhattacharjee, Ashok Rudra, J.S. Uppal and others. Among these works, Shakuntala Mehera's work was quite well known.

She estimated that the extent of surplus work force in agriculture was 17.1 per cent during 1960s. Again on the basis of 32nd Round of the NSS, the Usual status of rural unemployment in March 1985 was estimated at 7.8 million and such unemployment was highest in the age-group of 15-29.

Recently, a study to estimate the extent of farm unemployment was conducted by Lucknow based Centre of Advanced Development Research (CADR). The report submitted by this centre in September 1992 revealed that a very high degree of unemployment or under-employment prevails among the 160 million Indians engaged in agriculture, either as cultivators or labourers.

It is found that these rural people do not get even the minimum work opportunity of 270 days a year, the average being only 180 days. This indicates that only 100 million people are sufficient to carry out the entire agricultural operations, including those of animal husbandry. Thus as many as 60 million people are at present left with virtually no work in agriculture and allied activities.

The study also highlighted the inter-state variation in agricultural labour absorption capacity. Among all the states, only in four states—Punjab, Haryana, Himachal Pradesh and Kerala—-agriculture provides full work opportunities of 270 days of eight-hour duration to every worker.

But in states like Andhra Pradesh, Bihar and Tamil Nadu, employment in agriculture is available to less than 50 per cent of the workforce while Karnataka, Maharashtra and Uttar Pradesh too have inadequate labour absorption capacity in the rural areas.

The CADR estimated that the agricultural sector will be able to absorb only 120 million of the available 180 million people by the end of the present century provided the rate of labour replacement by mechanization is not accelerated.

The report revealed that most of the unemployed or underemployed people are concentrated in the states of Uttar Pradesh (104 lakh), Bihar (100 lakh), Andhra Pradesh (80 lakh) and Tamil Nadu (66 lakh).

Extent of Urban Unemployment:

In India urban unemployment has been recording a serious proportion from the very beginning. The estimates of urban unemployment were made by the Planning Commission, the Central Statistical Organisation (CSO), Ministry of

Labour and Employment and some individual economists like W. Malenbaum, R.C. Bhardwaj at different times.

Although these estimates are not comparable due to differences in concepts adopted, but these estimates provide some idea about the quantum of urban unemployment.

These reports revealed that during the first decade of planning the quantum of urban unemployment increased from 2.5 million in 1951 to 4.5 million in 1961, i.e., about 11.4 to 15.5 per cent of the working population remained unemployed. Again the extent of urban unemployment increased to 6.5 million in 1985 (as per NSS 32nd Round) and the rate of urban unemployment was 9.7 per cent.

This urban unemployment is mostly of two types:

(a) Industrial unemployment and

(b) Educated unemployment.

In India due to growing industrial sickness in huge number of small scale industrial units and in some large scale units, the quantum of industrial unemployment has been increasing at an alarming rate. Moreover, the recent structural adjustments in industrial sector will also add a good number of unemployment to this category. However, the exact number of industrial unemployment in India is not available in the absence of proper data.

Educated Unemployment:

Educated unemployment in India which is contributing a significant portion of urban unemployment has been increasing at a very rapid scale. Total number of educated unemployment in India increased from 2.4 lakh in 1951 to 5.9 lakh in 1961 and then to 22.96 lakh in 1971.

Again the number of educated job seekers increased from 90.18 lakh in 1981 to 167.35 lakh in 1987 and then to 291.2 lakh in 2002 which constituted about 74 per cent of the total job seekers of the country.

Unemployment Rates by Level of Education:

NSSO data indicates that compared to 1993-94, unemployment rates for persons of higher education level has declined in rural areas both for males and females in 1999-2000 and it has further declined in 2004- 05 compared to 1999-2000.

Unemployment rate of graduate and above female population is much higher in rural areas than in urban areas which is indicative of lack of opportunities in rural India combined with lack of mobility of this population segment.

Sluggish Employment Growth in Recent Times:

In recent times, .there is a slump in the rate of growth of employment. An important cause of concern is the declaration in the annual compound growth rate (CAGR) of employment during 2004-05 to 2011-12 to 0.5 per cent from 2.8 per cent during 1999-2000 to 2004-05 as against CAGRs of 2.9 per cent and 0.4 per cent respectively in the labour force for the same periods. Table 12.5(c) will clarify this situation.

Table 12.5(c) reveals that as per the National Sample Survey Office (NSSO) data during 1999-2000 to 2004-05, employment on usual states (US) basis increased by 59.9 million persons from 398.0 million to 457.9 million as against the increase in labour force by 62.0 million persons from 407.0 million to 469.0 million.

After a period of slow progress during 2004-05 to 2009-10, employment generation picked up during 2009-10 to 2011-12, adding 13.9 million persons to the workforce, but not keeping pace with the increase in labour force (14.9 million persons) as shown in the table.

Again, based on current daily status (CDS), CAGR in employment was 1.2 per cent and 2.6 per cent against 2.8 per cent and 0.8 per cent in the labour force respectively for the same periods.

TABLE 12.5(c). Employment and Unemployment Scenario in India in recent years

Method	*1999-2000*	*2004-05*	*2009-10*	*2011-12*
	Persons in the labour force (in millions)			
US	407.0	469.0	468.8	483.7
CDS	363.3	417.2	428.9	440.4
	Persons and Person days employed (in millions)			
US	398.0	457.9	459.0	472.9
CDS	336.9	382.8	400.8	415.7
	Unemployment Rate (in per cent)			
US	2.2	2.3	2.0	2.2
CDS	7.3	8.2	6.6	5.6

Source : Various Survey rounds of the NSSO on employment and unemployment in India.
Note : US (principal + subsidiary) measures employment in person, CDS measures employment in person days.

However, the country has been experiencing structural changes in its employment pattern in recent times. Thus for the first time, the share of primary sector in total employment of the country dipped below the half way mark as its share declined from 58.5 per cent in 2004-05 to 48.9 per cent in 2011-12.

But the employment in the secondary and tertiary sectors increased to 24.3 per cent and 26.8 per cent respectively in 2011-12 as compared to 18.1 per cent and 23.4 per cent respectively attained in 2004-05. Moreover, self-employment continues to dominate by attaining 52.2 per cent share in total employment in the year 2011-12. But what is critical is the significant share of workers are engaged in low income generating activities.

Moreover, there are other issues of concern such as poor employment growth in rural areas, especially among females. Though employment of rural males is slightly better than that of females, long term trends indicate a low and stagnant growth. Such trends call for diversification of livelihood in rural areas from agricultural to non-agricultural activities.

Besides, a major impediment to the pace of quality employment generation in India is the small share of manufacturing in total employment. However, the data available, from 68th round of NSSO (2011-12) indicates a revival in employment growth in manufacturing from 11 per cent in 2009-10 to 12.6 per cent in 2011-12.

Moreover, the usual status (US) unemployment rate is generally regarded as the measure of chronic open unemployment during the reference year while the current daily status (CDS) is considered as a comprehensive measure of

unemployment, including both chronic and invisible unemployment. Thus, while chronic open unemployment rate in India hovers around a low 2 per cent, it is significant in absolute terms.

The number of unemployed people (under US) declined from 11.3 million during 2004-05 to 9.8 million in 2009-10 but again increased to 10.8 million in 2011.12. However, on the basis of CDS, the number of unemployed person days declined from 34.3 million in 2004-05 to 28.0 million in 2009-10 and further to 24.7 million in 2011- 12.

It is also observed [from Table 12.5(c)] that there has been a significant reduction in chronic and invisible unemployment from 8.2 per cent in 2004-05 to 5.6 per cent in 2011-12. Expert feels that despite only a marginal growth in employment between 2009-10 and 2011-12, the main reason for the decline in unemployment levels could be that an increasing proportion of the young population opts for education rather than participating in the labour market. This is reflected from the fact that there is a rise in enrolment growth in higher education from 4.9 million in 1990-91 to 29.6 million in 2012-13.

Salient Features of the Trend of Unemployment Rates in India in Recent Years:

Following are some of the salient features of the trend of unemployment rates in India:

i. The unemployment rate went up between 1993-94 to 2004. On the basis of the current daily status (Unemployed on an average in the reference week) during the reference period unemployment rate for males increased from 5.6 per cent to 9.0 per cent in rural areas and from 6.7 per cent to 8.1 per cent in urban areas.

ii. The unemployment rate for female increased from 5.6 per cent in 1993-94 to 9.4 per cent in 2004 in rural areas and from 10.5 per cent to 11.7 per cent in urban areas.

iii. Furthermore, it is found that unemployment rates on the basis of current daily status were much higher than those on the basis of usual status (unemployed on an average in the reference year) implying a high degree of intermittent unemployment. This could be mainly because of the absence of regular employment for many workers.

iv. Urban unemployment rates (current daily status) were higher than rural unemployment rates for both males and females in 1993-94. However, in 2004, rural unemployment rates for males were higher than that of urban males.

v. Unemployment rates varied sharply across states. States, where wages are higher than in higher growing ones because of strong bargain or social security provisions; such as high minimum wage, had high incidence of unemployment in general.

Essay # 4. Causes of Unemployment Problem in India:

Unemployment problem in India is the cumulative result of so many factors.

The broad causes of unemployment problem are as follows:

(i) Population Explosion:

The most fundamental cause of large scale unemployment in India is the high rate of population growth since the early 1950s and the consequent increase in its labour force. It was estimated that with the 2.5 per cent annual rate of population growth, nearly 4 million persons are added to the labour force every year. To provide gainful employment to such a big number is really a difficult task.

(ii) Underdevelopment:

Indian economy continues to be underdeveloped even as a vast quantity of unutilized and under utilised natural resources are prevailing in the country. The scale and volume of economic activities are still small. The non-agricultural sector especially modern industrial sector which could generate huge number of employment, is growing very slowly.

During the pre-independence period also, Indian economy experienced a slow growth. British destroyed the indigenous small scale and cottage industries instead of expanding and modernising them. During the post- independence period also, the performance of the industrial sector has also been found far below the plan targets and needs.

Moreover, the slow rate of capital formation is also responsible for the hindrances in the path of realisation of growth potential in agriculture, industry

and infrastructure sector. Thus this underdevelopment is largely responsible for slow expansion of employment opportunities.

(iii) Inadequate Employment Planning:

In the first phase economic planning in India, employment opportunities could not be increased adequately and little has been done to utilise the Nurksian variety of labour surplus existing in the rural areas. Moreover, weak manpower planning is also another serious gap in Indian planning.

Less effort has been made for balancing the manpower needs and supplies in various production sectors, indifferent regions of the country and also indifferent skills.

This has resulted to large imbalances in the sphere of educated and trained personnel like engineers, technicians, cost accountants, plain graduates and port graduates, administrators etc. Thus huge amount of resources used for developing manpower could not come into much help due to faulty manpower planning.

(iv) Slow Rate of Growth:

In India the rate of growth of the economy is very poor and even the actual growth rate lies far below the targeted rate. Thus the increased employment opportunities created under the successive plans could not keep pace with the additions to the labour force taking place in the country every year leading to a huge and larger backlog of unemployment at the end of each plan.

(v) Backwardness of the Agriculture:

Heavy pressure of population on land and the primitive methods of agricultural operations are responsible for colossal rural unemployment and underemployment in the country.

(vi) Insufficient Industrial Development:

Industrial development in the country is not at all sufficient. Rather the prospects of industrial development has never been completely realised. Due to dearth of capital, lack of proper technology, scarcity of industrial raw materials, shortage of electricity and lack of labour intensive investment industrial sector could not gain its momentum and also could not generate sufficient employment opportunities in the country.

(vii) Prevailing Education System:

The prevailing education system in India is full of defects as it fails to make any provision for imparting technical and vocational education. Huge number of matriculates, undergraduates and graduates are coming out every year leading to a increasing gap between job opportunities and job seekers among the educated middle class.

In the absence of vocational education and professional guidance, these huge number of educated youths cannot avail the scope of self-employment leading to growing frustration and discontent among the educated youths.

(viii) Slow Growth of Employment during Economic Reforms:

Finally, the current phase of economic reforms introduced in India has resulted jobless growth to some extent. Economic Reforms has resulted large scale retrenchment of surplus workers in different industries and administrative departments due to down-sizing of workers.

The annual growth rate of employment which was 2.40 per cent during the period 1983- 94, but the same rate declined to a mere 0.98 per cent during the period 1994-2000. As a result, the unemployment growth rates increased from 5.99 per cent in 1993-94 to 7.32 per cent in 1999-2000.

Essay # 5. Remedial Measures to Solve Unemployment Problem In India:

Unemployment problem is a serious problem faced by a large populous country like India. Thus it is quite appropriate to suggest some measures to solve this problem. In order to suggest appropriate measures to solve this problem, it is better to identify some measures separately for the problem of rural unemployment and urban unemployment.

A. Remedies to Rural Unemployment Problem:

As the nature of rural unemployment is quite different, it is better to suggest some special measures to solve this problem.

Following are some of these measures:
(i) Expanding Volume of Rural Works:

One of the most important remedial measures to solve the problem of unemployment is to expand the opportunities for work especially in rural areas. In order to clear the backlog of unemployment and also to provide jobs to additional labor force joining the mainstream workers, this expansion in the volume of works needs to be done rapidly and that too in the areas of both wage employment and self-employment.

As large scale industries cannot provide adequate employment opportunities thus more importance be given to the development of agriculture and the allied sector along with development of small scale and cottage industries and also the unorganised informal sector and the services sector.

(ii) Modernisation of Agriculture:

In order to eradicate the problem of rural unemployment, the agricultural sector of the country is to be modernized in almost all the states. This would derive considerable agricultural surplus which would ultimately boost the rural economy and also expand employment opportunities in the rural areas. Attempts should also be made for wasteland development and diversification of agricultural activities.

(iii) Development of Allied Sector:

The problem of rural unemployment can be tackled adequately by developing allied sector which includes activities like dairy farming, poultry farming, bee keeping, fishery, horticulture, sericulture, agro processing etc. which are having a huge potential for the generation of employment and self-employment opportunities in the rural areas of the country.

(iv) Development of Rural Non-Farm Activities:

In order to generate employment opportunities in the rural areas, development of rural non-farm activities, viz., rural industries, the decentralised and cottage small scale sector of industry, agro-based industry, rural informal sector and the services sector, expansion of rural infrastructure, housing, health and educational services in the rural areas etc. should be undertaken throughout the country with active government support. Since Eighth Plan, the Government is following this strategy for the generation of rural employment.

(v) Appropriate mix of Production Techniques:

Although Mahalanobis strategy of development argued in favour of capital intensive techniques but in order to tackle the problem of rural unemployment

the government should adopt a appropriate mix of production techniques where both the labour intensive and capital intensive methods, of production should be adopted selectively in the new fields of production so as to attain both growth in employment along with its efficiency.

(vi) Rural Development Schemes:

In order to eradicate the problem of rural unemployment, the Central as well as the State Governments should work seriously for introducing and implementing rural development schemes so that the benefit of such development could reach the target groups of people in time.

(vii) Decentralisation:

In order to reduce the extent of the problem of rural unemployment it would be quite important to spread the location of industries around the small towns on the basis of local endowment position so that migration of people from rural to urban areas can be checked.

(viii) Extension of Social Services:

It is also important to extend the social services in the rural areas in the sphere of education, medical science and in other areas which will go a long way for the empowerment of the rural people in general. Such a situation will indirectly motivate the people towards self-employment.

(ix) Population Control:

Adequate stress should be laid on the control of growth of population through family welfare programmes especially in the rural and backward areas of the country. This would be conducive for solving the growing problem of rural unemployment of the country as a whole.

(x) SHGs and Micro Finance:

Adequate steps be taken for promoting self help groups (SHGs) for generating self employment opportunities. In this respect, micro finance flow through NGOs towards SHGs can play a responsible role in solving the problem of rural unemployment.

B. Remedies to Urban Unemployment Problem:

In order to solve the problem of urban unemployment the country should follow certain important measures.

Following are some of these measures:

(i) Rapid Development of Industries:

In order to solve the problem of urban unemployment, immediate steps must be taken for enhancing the industrial efficiency. In this regard, immediate attempts must be made for expansion and modernisation of existing industries in cost-effective manner and also for setting up of new industries.

Some basic and heavy industries which were already established in the field of iron and steel, chemicals, defence goods, heavy machineries, power generation, atomic energy etc. should be modernized and more such new industries should also set up in the new and existing fields for generating huge number of employment opportunities for the present and coming generations.

More new resource based and demand based industries should be set up for generating employment opportunities.

(ii) Revamping Education System:

Indian education system still largely remains very much backward and fails to meet the demand for present industries and administrative set up. Instead of giving too much stress on general education, stress should be laid on vocationalisation of education which would help the younger generation to involve themselves in small scale and cottage industries and also in the services sector.

(iii) Motivation for Self-Employment:

In order to change the mindset of younger generation, especially from urban areas, attempts must be made by both government and non-government agencies for motivating the young people to accept the path of self-employment in the contest of squeezing scope of employment through carrier counseling at the institutional level.

(iv) Development of SSIs:

Considering the huge number of unemployed, it is quite important to develop a good number of small scale and cottage industries by adopting labour-intensive approach. Developing such S.S.Is for the production of need-based products would help a lot for generating huge employment opportunities in urban and semi-urban areas.

(v) Development of Urban Informal Sector:

As a good number urban people are engaged in urban informal sector, thus adequate steps must be taken for the improvement and modernisation of this

informal sector so as to expand the sector further and also to generate more such employment opportunities for the growing number of urban unemployed person.

(vi) Revamping the Role of Employment Exchange:

In order to utilise the huge governmental set up of Employment Exchange throughout the country it is quite important to change the role of such exchanges for motivating and guiding the younger generations for self-employment in addition to its existing role for registration and placement.

(vii) Banking Support:

In order to solve the problem of urban unemployment, the scheduled commercial banks should come forward with rational proposals for the development of SSIs, various units in the services sector and also for the development of urban informal sector with a sympathetic attitude.

(viii) Works of National Interest:

In order to solve the problem of urban unemployment it is quite necessary to start the work of national interest which would generate adequate employment opportunities in the urban areas.

(ix) Changing Pattern of Investment:

Attempt should also be made to change the pattern of investment into a viable and productive one both from economic and social point of view so as to generate employment opportunities.

(x) Government Support:

In order to tackle the problem of urban unemployment, the government should come forward with viable urban employment generation schemes in the line of PMRY, NRY etc. to assist the urban unemployed for self-employment projects.

(xi) Growing Participation of FDI:

In order to tackle the problem of urban unemployment, the government should follow a suitable policy in the line of China for promoting the smooth flow of foreign direct investment (FDI) into our country for its growing participation in various important industrial and infrastructural projects.

C. General Remedies to Unemployment Problems:

(i) Special Employment Programmes:

In order to meet the gap between the requirement and the actual generation of employment opportunities, special employment programmes must be

undertaken as an interim measure till the economy could reach the maturity level of securing jobs for everyone.

These kind of supplementary programmes are very important for the poor people residing in both rural and urban areas and also residing in small 8 medium towns.

Seasonally unemployed can also be offered seasonal employment through such special employment programmes. Moreover backward people like landless agricultural labourers, marginal formers, rural artisans, tribal people settled in remote and hilly areas can also be benefited from such progrmmes.

The programmes may be chalked out by providing direct wage employment as on rural capital works or in the form of providing assets or providing inputs to those people for self-employment. Currently, the steps taken by the government for the implementation of NREGA is a right step in this direction.

(ii) Raising the Rate of Capital Formation:

In order to reduce the problem of unemployment, in general, it is quite necessary to raise the rate of capital formation in the country. Raising the rate of Capital formation is necessary to expand the volume of work.

Capital formation can directly generate employment in the capital goods sector. Raising the capital formation helps the country to raise its capital-stock and thereby can raise the productivity of workers by raising the volume of capital available per workers.

(iii) Manpower Planning:

Management of human resources in a right and scientific manner is quite important for solving the problem of unemployment. This is important for ensuring promotion of employment scope as well as for realization of development of the economy. All these call for proper manpower planning which requires the following measures.

Firstly, going beyond the narrow domain of manpower planning simply related to matching demand and supply of skilled personnel, it is quite important to adopt effective remedies to cut down the growth rate of population which in turn reduce the growth rate of labour supply after a gap of period and thereby reducing the problem of unemployment.

Secondly, in order to attain effective use of skills it is essential to tailor the supply of skilled labour as per the it's requirement so that excess or shortages in skills in different sectors are not faced.

Thirdly, while continuing with present strategy to promote high level skill formation through education and Training confined to a small proportion of labour force, it is also essential to improve the capabilities of large number of general people for their development.

This calls for several inter-related measures like making provision for adequate food and nutrition, elementary education, proper health facilities, training for jobs etc.

Fourthly, while introducing special programmes for employment, it is quite essential to ensure that the programmes rightly matches the characteristics and abilities of targeted group and also match with the overall development plans of various sectors. This will definitely make schemes quite useful and meaningful.

Essay # 6. Characteristics of Employment Policy Followed in India–Its Critical Evaluation:

Since the inception of planning, the Government of India has been pursuing its employment policy for eliminating the problems of unemployment.

The following are of its broad characteristics:

(i) Multi-Faceted:

As the unemployment problem in India is multi-dimensional thus the policy followed by the government to tackle this problem is multi-faceted our which constitutes many-sided approach. Thus the employment policy followed in India constitutes many sub-policies to tackle various forms of unemployment including under employment.

(ii) Emphasis on Self-Employment:

The employment policy of India has given due emphasis on self- employment as a small proportion of our labour force is engaged through wage employment and the majority (56 per cent) of the workforce is self-employed.

Thus the employment policy makes provision for training of skills, supply of inputs, marketing of products, extending loan etc. so as to make them self-

employed in various activities, like agriculture and allied activities, village and small industries, non-farm activities and also in informal sector.

(iii) Emphasis on Productive Employment and Asset Creation:

Employment policy of our country lays stress on creation of productive employment and also on creation of assets for the poor workers.

(iv) Employment Generation:

With the growth of various sectors, the employment policy gave due stress an employment generation at a targeted growth rate fixed under different plans through different employment generation programmes like NREP, RLEGP, JRY etc.

(v) Special Employment Programmes:

Employment policy of India has incorporated different special employment programmes both for rural and urban areas. These includes IRDP, TRYSEM, DWCRA, JGSY, JRY, EAS, AGSY, etc. for rural areas and PMRY, SJSRU, NRY etc. for urban areas.

(vi) Employment for the Educated:

Employment policy has made provision for tackling the educated unemployment prevailing both in rural and urban areas through employment schemes related to processing, banking, trading, marketing etc.

(vii) Manpower Planning:

The employment policy has taken certain measures for ensuring proper development of human resources and also through right deployment. Stress is given on attaining balancing of demand and supply of skilled manpower.

Critical Evaluation:

It is important to make critical evaluation of the employment policy followed in India both in terms of achievements and failures. Undoubtedly some increase in employment has taken place in all the sectors of the country since 1951, more specially in recent times.

The average growth rate of employment per annum from 2.7 per cent during 1983-94 to 1.0 per cent during 1994-2000. During 1998-99 and 1999-2000, the overall growth rate of employment in the organised public and private sector remained negative.

Moreover a significant portion of the employment generated has been able to benefit the poor and weaker sections of the population and helped a number of them to reach above the poverty line.

However, improvement that has taken place on the employment front can be considered inadequate for the growing number of unemployed. The large number of people still lying below the poverty line is a pointer to such inadequacy. Even then it is quite important to point out some of the positive and negative aspects of the policy of employment followed by the government.

Positive Aspects of the Policy:

Since the inception of planning, the broad perception of employment generation followed in our country has been found largely correct. The following four components of the employment policy usually favoured employment generation on a major scale. Firstly, since the second plan, our policy has been approaching to the long term perspective of full employment at higher incomes.

Development of modern industries along with capital goods industries including infrastructure would strengthen the economy and help reach high income employment at a later stage.

Secondly, provision has been made for the promotion of labour intensive small scale and cottage industries, Thirdly, considering the inadequate employment growth achieved through industrial activities, the policy devised special employment programmes for generating jobs work to rural and vulnerable sections of population. Fourthly, employment policy pursued in the country helped to attain self-employment of a faster rate than wage employment.

Weaknesses of the Policy:

However, the employment policy followed India is not free from faults. The faults are mostly related to its unsatisfactory implementation and inadequate employment orientation as discussed in the following manner.

Firstly, unsatisfactory implementation of the policy has been mostly related to long term slow growth of the economy, widespread industrial sickness and retrogression in growth in industrial sector since mid- sixties.

Moreover, it was also related to slow and poor execution of special employment programmes. Secondly, the faults in the employment policy are mostly related to inadequate attention to full employment except in the Ninth and Tenth Plan,

where measures like too much emphasis on capital intensive investment and lesser emphasis on labour intensive investment, inadequate steps to absorb labour surpluses and inadequate arrangement for manpower planning educated and skilled personnel were taken.

Essay # 7. Employment Policy and Schemes in India:

Since the Third Five Year Plan, the Government of India launched certain special programmes for removing unemployment problem in the country. With that purpose, the Government of India, set up Bhagawati Committee to suggest measures for solving growing unemployment problem in the country.

The Bhagawati Committee submitted its report in 1973 and suggested various schemes like rural electrification, road building, rural housing and minor irrigation works. Accordingly, the Government undertook various programmes to generate employment opportunities and to alleviate under-employment prevailing in the country.

These programmes were as follows:

(a) Rural Works Programmes:

This programme was undertaken to generate employment opportunities for 2.5 million persons and also for the construction of civil works of a permanent nature. But this programme generated employment only to the extent of 4 lakh persons only.

(b) Marginal Farmers and Agricultural Labourers Development Agencies (MFALDA):

During the Fourth Plan this scheme was introduced for marginal farmers and agricultural labourers for assisting them with subsidized credit support for agricultural and subsidiary occupations like horticulture, dairy, poultry, fishery etc.

(c) Small Farmers' Development Agencies (SFDA):

This scheme was also introduced during the Fourth Plan with the object to provide small farmers credit so that they, could avail latest technology for intensive agriculture and also could diversify their activities.

(d) Half-a million Job Programme:

To tackle the problem of educated unemployment, a special programme— **"Half a million job programme"** was introduced. In 1973-74, provision of Rs 100 crore was made and different states and Union Territories were asked to formulate and implement this scheme for securing an employment opportunities for definite number of persons.

(e) Job education for unemployed:

In 1972-73, another programme for educated unemployed and for highly qualified engineers, technologists and scientists were prepared. Under this scheme, a sum of Rs 9.81 crore was allotted to the states which created 45,000 job opportunities for the educated persons.

(f) Drought Area Programme:

This programme was introduced for the economic development of certain vulnerable areas by organising productive and labour-intensive programmes like medium and minor irrigation, soil conservation, afforestation and road construction. During 1970-72, the government spent Rs 30.80 crore, generating employment about 4.70 million man-days and in 1972-73 by spending Rs 38.51 crore about 40 million man-days of employment was generated.

(g) Crash programme for rural employment:

This scheme was introduced in 1971-72 for generating additional employment through the introduction of various productive and labour-intensive rural projects.

The main objectives of these programmes were to provide employment to 100 persons on an average to each block over the working seasons of 10 months in every year and secondly to produce durable assets. But the various schemes introduced during the Fourth Plan could not succeed in solving the problem of rural unemployment and underemployment.

Employment Policy in the Fifth Plan:

The Fifth Plan document laid emphasis on the generation of employment in rural areas and aimed at absorbing the increments in the labour force during the plan period by stepping up rates of public investment.

(h) Food-For-Work-Scheme:

This scheme was introduced in April 1977 for benefitting the rural poor and more particularly the landless agricultural labourers. Under this scheme, a part of wages those workers engaged in rural works was paid in terms of food grains.

The Central Government supplied these food grains to the State Government free of charge. In this way off-season employments were made available to rural unemployed.

Employment Policy in the Sixth Plan:

The Sixth Plan in its Employment Policy admits, "In the field of employment the picture has been far from satisfactory. The number of unemployed and under-employed has risen significantly over the last decade. In the above context therefore our employment policy should cover two major goals: Reducing under-employment by increasing the rate of growth of the gainfully employed and reducing unemployment on the basis of usual status commonly known as open unemployment".

(i) National Rural Employment Programme:

In October, 1980, the NREP replaced the Food-for- work programme. In this programme State Governments received central assistance both in the form of food grains and cash for undertaking productive works in the rural areas.

During the Sixth Plan, total expenditure incurred by both the Central and State Government were of the order of Rs 1,837 crore and total food grains utilisation was 20.57 lakh tonnes. Total employment generation under this programme during the Sixth Plan was 1,775 million man-days.

During the Sixth Plan overall employment increased by 35.60 million standard person year (SPY) as against the target of 34.28 million SPY. During the Sixth Plan the growth rate of employment was 4.32 per cent per annum. During the Sixth Plan other programmes like IRDP and RLEGP were introduced.

Employment Policy in the Seventh Plan:

During the Seventh Plan, the magnitude of employment requirement was worked out at 47.58 million. Accordingly, the Seventh Plan document mentioned: "It is expected that additional employment of the order of 40.36 million standard person years would be generated during the Seventh Plan with an implied growth rate of 3.99 per cent per annum.

The special employment programmes of NREP and RLEGP would generate 2.26 million standard persons years of employment in 1989-90. The employment generation of IRDP has been estimated as 3 million SPY mainly concentrated in agriculture and other sectors". Thus the Seventh Plan decided to supplement the

efforts of employment generation by direct employment programmes like IRDP, NREP, RLEGP and TRYSEM.

(j) Integrated Rural Development Programme (IRDP):

The Sixth Plan proposed to integrate multiplicity of agencies for providing rural employment like Employment Guarantee Scheme, SFDA, MFALDA, Drought Prone Area Programme, Command Area Development Programme etc. Accordingly, on 2nd October 1980, the Integrated Rural Development Programme was introduced.

This programme was a multi-pronged attack on the problem of rural development and was designed as an anti-poverty programme. During the Sixth Plan this programme was initiated in all the 5,011 blocks of the country. To implement this scheme one District Rural Development Agency was established in every district.

During the Sixth Plan, a sum of Rs 1,661 crore was spent on this programme as against the provision of Rs 1,500 crore and the total number of beneficiaries covered during the plan period was 16.56 million as against the target of 15 million.

The Seventh Plan set a target to assist 20 million households under IRDP and the total allocation under this programme was Rs 3,474 crore. During this plan about 18.2 million families were assisted and about Rs 3,316 crore was utilised.

(k) Rural Landless Employment Guarantee Programme (RLEGP):

The Rural Landless Employment Guarantee Programme was introduced on 15th August, 1983 with the sole object of generating gainful employment opportunities, to create productive assets in rural areas and for improving the overall quality of rural life.

In this programme preference in employment is given to landless labourers, women scheduled caste and scheduled tribes. This programme is funded fully by the Central Government.

During the Seventh Plan, Rs 1,744 crore was provided by the central sector to generate 1,013 million man-days of employment during the plan period. But during the first three years of the plan Rs 1,743 crore was utilised and generated

employment to the extent of 858 million man-days only. Thus 85 per cent of the target was only realised.

NREP:

The Seventh Plan had earmarked a total outlay of Rs 2,487 crore for the National Rural Employment Programme out of which centre sanctioned Rs 1,251 crore. The Seventh Plan sets a target to generate employment to the extent of 1,445 million man-days. But during the first four years of the Seventh Plan nearly Rs 2,940 crore were spent under NREP generating 1,447.7 million man-days of employment which has fulfilled plan target.

Jawahar Rozgar Yojana (JRY):

Jawahar Rozgar Yojana was launched on 28th April, 1989 by the Prime Minister Rajiv Gandhi. Under the programme, all the existing rural wage employment programmes like National Rural Employment Programme and Rural Employment Committee Programme were merged.

The programme (JRY) aims at reaching each and every panchayats of the country. In this programme 80 per cent of resources would be funded by the centre and the rest 20 per cent by the States. In the year 1989-90, the centre made a provision of Rs 2,100 crore.

In this programme allocation of funds to the State is being made in proportion to the size of their population below the poverty line. In this programme, on an average a village panchayat with its population of 3,000 to 4,000 people will receive between Rs 80,000 to Rs 1 lakh every year. It was also decided to provide employment to at least one member in each poor family for at least 50 to 100 days in a year.

Besides this, the National Scheme of Training of Rural Youth for Self Employment (TRYSEM) was also introduced in the country. This programme was meant for generating self-employment opportunities by imparting training to the rural youths in various trades and skills.

Thus considering all these programmes introduced in the employment policy of the country under different plans, it can be concluded that these programmes could not make much headway in solving both the rural and urban unemployment in the country.

Employment Policy in the Eighth Plan:

Although various employment generation schemes were implemented till the completion of the Seventh Plan, the problem of unemployment faced by the country still remains grave. Total unemployment in the country totaled 23 million in the year 1992. In 1981-91, the country registered a 2.1 per cent growth rate in population while the growth rate of the labour force was 2.5 per cent per annum.

In 1991, the total population of the country was estimated at 837 million of which the labour force constituted about 315 million. Thus the growth of the labour force has been higher than the population growth but the growth rate of employment, which remained only 2.2 per cent per annum during the period 1971-91, has remained lower than of labour force.

It has been estimated that the country will have 94 million unemployment by the year 2002. Thus in Order to wipe out the projected unemployment in the country completely by 2002, the country should achieve the required annual employment growth rate between 2.6 to 2.8 per cent. As unemployment is a major socio-economic problem it must be tackled on a priority basis.

At the outset of the Eighth Five Year Plan (1992-97), employment was estimated to be about 301.7 million. The open unemployment was estimated at 17 million, of which the educated unemployment accounted for 7 million. Severe under-employment was estimated as 6 million. Thus the backlog of unemployment for planning purposes was thus reckoned at 23 million in April 1992.

As the net additions to labour force during the Eighth Plan and during the period 1997-2002 were estimated at 35 million and 36 million respectively, in order to reduce unemployment to negligible levels by 2002, the employment should grow at the average annual rate of about 2.6 to 2.8 per cent over the ten year period 1992-2002.

Considering the present unemployment scenario, the Eighth Five Year Plan sought to achieve 2.6 per cent rate of growth of employment, corresponding to an average annual growth rate of GDP of 5.6 per cent envisaged in the plan.

Thus the Eighth Plan emphasised the need for a high rate of economic growth, combined with a faster growth of sectors, sub-sectors and areas which have relatively high employment potential for enhancing the pace of employment generation.

The plan sought to achieve the target by laying emphasis on a crop-wise and geographic diversification of agricultural growth, wasteland development, promotion of agro-based activities, rural non-farm activities including rural industries, the decentralised and small scale sector of industry, the urban informal sector and the services sector, expansion of rural infrastructure, housing and health and educational services especially in rural areas, revamping of the training system and streamlining of the special employment programmes to integrate them with area development plans.

Thus all these above are considered as basic elements of the employment oriented growth strategy envisaged in the plan. Additional employment opportunities to the extent of 8 to 9 million per year, on an average, during the Eighth Plan period and of the order of 9 to 10 million per year, on an average, during 1997-2002 period are expected to be generated.

Thus the employment strategy as envisaged in the Eighth Plan generated around 42.5 million additional employment during the period 1992-97. The continuation of the strategy during the Ninth Plan period generated around 47.5 million additional employment during the period 1997-2002.

Thus the employment strategy wiped out the entire backlog of open unemployment and a sizable part of the severe under-employment in the country.

The Eighth Plan document has also identified various problems as factor responsible for the lower growth of employment in the country. These include:

i. Mismatch between skill requirement and employment opportunities;

ii. Low technology, low productivity and low wage;

iii. Occupational shifts from artisanal of unskilled employment in agriculture;

iv. Declining employment in agriculture; and

v. Under-employment due to seasonal factors and more labour supply than demand.

Endorsement of New Employment Schemes by NDC and its Subsequent Launching:

The 46th meeting of the National Development Council, held on 18th September, 1993, unanimously endorsed three employment generating schemes, covering the rural poor, educated unemployment and women.

Accordingly in 1993-94, two new programmes were launched in order to give a fillip to employment generation. These two programme included: (i) Employment Assurance Scheme (EAS), and (ii) Prime Minister's Rozgar Yojana (PMRY) for the Educated and Unemployed youth.

(i) Employment Assurance Scheme (EAS):

The Employment Assurance scheme was introduced on 2nd October, 1993 to make provision for "assured employment" for the rural poor.

The highlights of the scheme are as follows:

(a) Aim:

The scheme (EAS) was implemented in the 3,175 backward blocks with an aim to provide 100 days of unskilled manual work to all those who were eligible in the age group of 18-60 years.

(b) Feature:

The scheme will provide unskilled manual work to rural poor with statutorily fixed minimum wages linked to the quantum of work done. Its funding pattern is 80: 20 by the Centre and the States respectively. The scheme is targeted at the poor especially during the lean agricultural season in rural areas.

The works undertaken are run departmentally and no contractors are hired. Part of the wages may be paid in terms of food grains. The collector of the district is assigned to oversee the performance. Under this scheme, applicants will be given a "family card" listing the number of days of employment under different programmes.

The objective of the scheme (EAS) is to create economic infrastructure and community assets for sustained employment and development. Specific guidelines had been sent by the centre to various states so as to ensure that the provision of employment under the scheme resulted in the creation of durable assets in each block where the scheme had been launched. The implementing

agencies were made responsible for the payment of minimum wages according to the standard of performance under the scheme.

A part of the wages were paid in the form of food grains not exceeding 50 per cent of the wages in cost. However, the payment of wages in terms of food grains has been made optional, depending upon the price of food grains in the open market.

Achievement:

During the first year since introduction, i.e., during 1993-94 more than 49.5 million man- days of employment has been generated and nearly 1.7 million have been registered under the newly launched Employment Assurance Scheme (EAS).

The states where maximum number of man day of employment generated include Andhra Pradesh followed by Madhya Pradesh, Orissa and West Bengal. During the first eight months of 1994-95 about 115 million man-days of employment was generated under the EAS scheme.

Among these states, about 2.9 million man-days of employment had been generated in Andhra Pradesh while the figure touched about 2.3 million in Madhya Pradesh. In Orissa, nearly 1.5 million man-days of employment was generated and the figure was almost the same in the case of West Bengal.

In 2003-04, total man-days of employment generated under EAS was around at 37.28 crore. At the end of 2003-2004. EAS had generated total employment to the extent of 302.25 crore man-days, since its inception in October 1993.

(ii) Mahila Samridhi Yojana (MSY):

The Mahila Samridhi Yojana was also launched on 2nd October, 1993 in order to benefit all rural adult women. This scheme entitles every adult women who opens an MSY account with Rs 300 to get an incentive of Rs 75 for a year.

The MSY is aimed at empowering rural women with greater control over household resources and savings. It is now implemented through post offices. At the end of October 1995, a total of 1,25,423 accounts had been opened under the scheme.

(iii) Prime Minister’s Rozgar Yojana (PMRY):

On 2nd October, 1993, the Government introduced another new employment oriented scheme—Prime Minister's Rozgar Yojana (PMRY) under the on-going Eighth Plan. The scheme is specially designed for educated unemployed youth which will provide employment to more than one million persons by setting up seven lakh micro enterprises during the Eighth Five Year Plan in industry, service and business.

The scheme initially covered urban areas only during the 1993-94, subsequently covered both the urban and rural areas. The scheme but involved an expenditure of ? 540 crore to meet the capital subsidy, training and administrative cost during the remaining period of the Eighth Five Year Plan.

The scheme provided a loan, up to a ceiling of Rs 1 lakh in case of individuals. If two or more eligible persons enter into a partnership, projects with higher cost can be assisted provided the share of each person in the project cost did not exceed Rs 1 lakh.

An entrepreneur is required to contribute 5 per cent of the project cost as margin money in cash. Subsidy at the rate of 15 per cent of the project cost subject to a ceiling of Rs 7,500 per entrepreneur was provided by Central Government. All those who undertook Government sponsored technical course for a minimum duration of six months besides matriculate and ITI diploma holders were be eligible for the scheme.

Under the PMRY, unemployed educated youth between the 18-25 years age group and of families with annual income up to Rs 24,000 along with certain educational and other criteria were eligible for such assistance.

In 2003-04, total micro enterprises developed under PMRY was 1.2 lakh and total employment generated was 1.8 lakh. At the end of 2003-2004 PMRY has developed micro enterprises to the extent of 17.2 lakh and generated employment to the extent of 24.82 lakh since its inception in October 1993. Under PMRY, the Government assisted 20 lakh youth for self-employment during the Tenth Plan.

(iv) JRY:

Moreover, the achievement of JRY in respect of employment generation was 782 million man- days in 1992-93 and 1,026 million man-days in 1993-94. The 1994-95 budget provide for Rs 70.1 billion and set a target of employment generation

at 980 million man-days, against which the achievement of JRY in 1994-95 was 952 million man-days.

In 1998-99, the target of employment generation under JRY is fixed at 396.6 million man-days but during 1998-99, the achievement was 375.2 million man-days. Under JRY, about 50 per cent employment generation during 1998-99 came from SC/ST group.

(v) Nehru Rozgar Yojana (NRY):

Nehru Rozgar Yojana (NRY) contemplated by the Ministry of Urban Affairs was designed to create employment opportunities for urban poor. This programme was launched in October 1989 with the objective of providing employment opportunities to the unemployed and under employed urban poor.

The Yojana is applicable to household living below the poverty line in urban slums and within this broad category, SC/ST and women constitute a special target group.

Nehru Rozgar Yojana consists of three sub schemes:

(a) Scheme of Urban Micro enterprises. (SUME),

(b) Scheme of Urban Wage employment (SUWE) and

(c) Scheme of Housing and Shelter Upgradation (SHASU).

So far, 6.55 lakh beneficiaries have been assisted in setting up of micro enterprises under SUME. About 541.52 lakh man-days of work have been generated through the construction of economically and socially useful public assets under SUWE and SHASU till 1994-95. Under NRY, total number of families assisted was 2.37 lakh in 1992-93, 1.52 lakh in 1993-94, 1.25 lakh in 1994-95 and 0.6 lakh during 1997-98 as against the target of 1.2 lakh.

Total man-days of employment generated under NRY was 140.5 lakh in 1992- 93, 123.7 lakh in 1993-94, 92.9 lakh in 1995-96 and 44.6 lakh during 1997-98 as against target of 135.8 lakh. In December, 1997, this programme was amalgamated with SJSRY.

(vi) Prime Minister's Integrated Urban Poverty Eradication Programme (PMIUPEP):

The Prime Minister's Integrated Urban Poverty Eradication Programme (PMIUPEP) was launched in 1995-96 with a specific objective of effective achievement of social sector goals, community empowerment, employment generation and skill upgradation, shelter upgradation and environmental improvement with a multi-pronged and long-term strategy.

The Programme covered 5 million urban poor living in 345 class II Urban Agglomerations (towns) with a population of 50,000 to 1,00,000 each. There was a provision for Rs 800 crore as central share for the entire programme period of 5 years. In 1995-96, Rs 100 crore were allocated for the programme.

The programme benefitted about 150 lakh urban poor in 1996-97. As on October 1996, over 14,000 and 1,00,000 beneficiaries had been identified for self-employment and shelter upgradation respectively. In December 1997, this programme was amalgamated with SJSRY.

(vii) The Swarna Jayanti Shahari Rozgar Yojana (SJSRY)/National Urban Livelihoods Mission (NULM):

The Swarna Jayanti Shahari Rozgar Yojana (SJSRY) which subsumed the earlier three urban poverty programme viz., Nehru Rozgar Yojana (NRY), Urban Basic Services for the poor (UBSP) and Prime Minister's Integrated Urban Poverty Alleviation Programme (PMIUPEP) came into operation from December 1997.

This programme sought to provide employment to the urban unemployed or underemployed poor living below poverty line and educated up to XI standard through encouraging the setting up of self-employment ventures or provision of wage employment.

The scheme gives special impetus to empower as well as uplift the poor women and launches a special programme, namely, Development of women and children in Urban Areas (DWCUA) under which groups of urban poor women setting up self-employment ventures are eligible for subsidy up to 50 per cent of the project cost.

An allocation of Rs a 181.0 crore was provided in 1999-2000 (BE). In 1998-99, the DWCUA scheme had assisted 0.01 lakh women related to their self-employment schemes. During 2001-02, Rs 168 crore was allocated against which' Rs 45.50 crore was spent. In 2002-03, all allocation of Rs 105 crore was provided against which Rs 74.0 crore was spent.

Two special schemes of SJSRY include—the Urban Self-Employment Programme (USEP) and the Urban Wage Employment Programme (UWEP). SJSRY is funded on a 75: 25 basis between Centre and States. During 1997-98, 1998-99 and 1999-2000, a sum of Rs 102.51 crore, Rs 162.28 crore and Rs 123.07 crore respectively were spent in the States and Union Territories under different components of SJSRY.

About the performance of SJSRY, total number of beneficiaries under USEP was 0.04 million in 1998-99 and 0.10 million in 2003-2004 and total number of persons trained under USEP was 0.05 million in 1998- 99 and 0.12 million in 2003-2004. Again, total man-days of employment generated under UWEP was 6.60 million in 1998-99 and 10.14 million in 1999-2000 and 4.56 million in 2003-04.

The number of urban poor assisted for setting up micro/group enterprises in 2005-06 was 0.9 lakh against a target of 0.80 lakh. The number of urban poor imparted skill training in 2005-06 was 1.42 lakh against a target of 1.0 lakh.

Budget allocation for the SJSRY scheme for 2011-12 is Rs 813.0 crore of which Rs 676.80 crore had been utilized till February 16, 2012. During 2009-10, as reported by States/UTs, a total of 28,613 urban poor have been assisted in setting up individual enterprises, 13,453 urban poor women have been assisted in setting up group enterprises and 27,463 urban poor women have been assisted through a revolving fund for thrift and credit activities and also 85,185 urban poor have been imparted skill training. A total of 3,63,794 beneficiaries have been assisted in the year 2011-12.

NULM:

SJSRY was replaced by the NULM in September 2013. It aims to provide gainful employment to urban employed and under employed. The NULM will focus on organizing urban poor in SHGs, creating opportunities for skill development leading to market based employment, and helping them to set up self-employment ventures by ensuring easy access to credit.

The NULM aims at providing shelter with basic amenities to urban homeless. If also plans to address livelihood concerns of urban street vendors. During 2013-14, Rs 720.43 crore was released and the number of persons skill trained and assisted for self-employment was 6,83,452 and 1,06,250 respectively.

(viii) The Swarnajayanti Gram Swarozgar Yojana (SGSY) and NRLM:

SGSY was launched in April, 1999 and is the only self employment programme currently being implemented. It aims at promoting micro enterprises and to bring the assisted poor families (Swarozgaris) above the poverty line by organizing them into Self Help Groups (SHGs) through the process of social mobilization, training and capacity building and provision of income generating assets through a mix of Bank credit and Government subsidy.

The scheme is being implemented on a cost-sharing ratio of 75: 25 between the Centre and the States. Since inception of the Scheme up to December, 2012 a total allocation of Rs 42,16,842 crore was made available by the Centre and the States which formed 42.05 lakh SHG's and assisted 168.46 lakh Swarojgaris. The SGRY restructured as National Rural Livelihood Mission (NRLM).

The SGSY is restructured as National Rural Livelihood Mission (NRLM) and it has been renamed as Ajeevika and now being implemented in mission mode across the country since 2011.

The main features of Ajeevika are:

(a) One women member from each identified rural poor household to be brought under the SHG network;

(b) Ensuring 50 per cent of the beneficiaries from SC/STs, 15 per cent from minorities, and 3 per cent persons with disability while keeping in view the ultimate target of 100 per cent coverage of BPL families;

(c) Training for capacity building and skill development;

(d) Ensuring revolving fund and capital subsidy;

(e) Financial inclusion;

(f) Provision of interest subsidy;

(g) Backward and forward linkages and

(h) Promoting innovations.

The objective of NRLM is to ensure that each family, once it is in the SHG network for a period of 6- 8 years, it is able to achieve household food security

and have 3-4 stabilized livelihoods through a strong convergence with panchayati raj institutions (PRIs).

The mission has covered 97,391 villages and mobilized around 20 lakh SHGs, of which 3.8 lakh are new. During 2013-14, Rs 22,211.18 crore of SHG bank credit has been disbursed. For 2014-15, Rs 3,560 crore has been allocated to NRLM.

(ix) Sampoorna Grameen Rozgar Yojana (SGRY):

The Sampoorna Grameen Rozgar Yojana (SGRY) was launched in September 2001. The schemes of Jawahar Gram Samridhi Yojana (JGSY) and Employment Assurance Scheme (EAS) have been fully integrated with SGRY.

The objective of the scheme is to provide additional wage employment along with food security creation of durable community, social and economic assets and infrastructure development in the rural areas. The scheme envisages generation of 100 crore man-days of employment in a year. The cost of the programme is to be shared between the Centre and the State on a cost sharing ratio of 87.5 : 12.5 (including food grains component).

In 2005-06, 82.18 crore person-days of employment were generated with the centre releasing Rs 5497.43 crore as cash component and about 37.30 lakh tonnes of food grains to the states and UTs. Besides, under special component of SGRY with the states/ UTs meeting the cash components, centre released 15.64 lakh tonnes of food grains to the 11 calamity affected states.

In 2007-08, up to December 31, 2007, the number of person days of employment generated under SGRY was 11.60 crore while the centre's contribution in terms of cash and food grain component up to December 31, 2007 were Rs 1,142.27 crore and 9.55 lakh tonnes.

(x) Pradhan Mantri Gramodaya Yojana (PMGY):

PMGY was launched in 2000-2001 in all the States and the UTs in order to achieve the objective of sustainable human development at the village level. The PGMY envisages allocation of Additional Central Assistance to the States and UTs for selected basic minimum services in order to focus on certain priority areas of the Government.

PMGY initially had five components viz., Primary Health, Primary Education, Rural Shelter, Rural Drinking Water and Nutrition. Rural Electrification has been added as an additional component from 2001-02. The allocation for PMGY

in 2000-01 was Rs 2,500 crore. This was enhanced later on to Rs 2800 crore for 2001-02. For the year 2002-03, an amount of Rs 2,800 crore was provided.

During the last two annual plans, the six sectoral programmes of PMGY were managed by the concerned Central Administrative Departments. However, from the current year, the Planning Commission is to directly implement this programme. New guidelines on the implementation of the PMGY during Annual Plan 2002- 03 have been issued to all the State Governments and UTs.

(xi) Pradhan Mantri Gramodaya Yojana (Gramin Awas):

The scheme seeks to achieve the objective of sustainable habitat development at the village level. Central allocation for rural shelter component of PMGY. GA in 2001-02 was Rs 406.85 crore out of which an amount of Rs 291.51 crore was released by Ministry of Finance.

(xii) Pradhan Mantri Gramodaya Yojana—Rural Drinking Water Project:

Under this programme, a minimum 25 per cent of the-total allocation is to be utilised by the respective States/UTs on projects/schemes for water conservation, water harvesting, water recharge and sustainability of the drinking water sources in respect of areas under Desert Development Programme/Drought Prone Areas Programme.

(xiii) Pradhan Mantri Gram Sadak Yojana (PMGSY):

The PMGSY, which was launched on 25th December, 2000 is a programme to provide road connectivity through good all-weather roads to 1.60 lakh Unconnected Habitations with a population of 500 persons or more in the rural areas by the end of the Tenth Plan period (2007) at an estimated cost of Rs 60,000 crore.

The programme is being executed in all the States and Six Union Territories. While the focus of the programme is on providing road connectivity to Unconnected Habitations of stipulated population size, connectivity is being provided to all Panachayat Headquarters and places of tourist interest under the PMGSY irrespective of the population size.

Thus, the main objective of PMGSY is to provide all weather connectivity to all eligible unconnected habitations in rural areas of the country having population of 500 persons and above in plain areas and 250 persons and above (as per 2001 census) in special category states, selected tribal and desert areas.

It also permits upgradation of existing rural roads. In 2001-02, an amount of Rs 2,500 crore was allocated for this scheme. Since inception, projects for providing new connectivity to 1,44,717 habitations with a road, length of 5,44,462 km have been cleared at an estimated cost of Rs 1,82,560 crore including upgradation cost.

A total of 3,99,979 km road length have been completed and new connectivity have been provided to over 97,838 habitations up to March 2014. During 2013-14, about 25,316 km of all-weather road including new connectivity to 6,560 habitations has been completed at an expenditure of Rs 13,095 crore. Upgradation on selected existing roads has been taken up.

The present source of funding for PMGSY is the diesel cess, 50 per cent of which is earmarked for PMGSY. Efforts are underway to raise additional resources for the programme with financial assistance from the World Bank and the Asian Development Bank.

(xiv) Maharma Gandhi National Rural Employment Guarantee Act Scheme (MGNREGA):

The National Rural Employment Guarantee Act Scheme (NREGS) was formally launched on February 2, 2006 by Prime Minister Manmohan Singh at Bahdlapalle Gram Panchayat of Anantpur district of Andhra Pradesh marking an important milestone of the UPA Government's efforts to provide jobs to the rural poor.

The Act passed in August 2005 was launched in 200 districts and has been expanded to 330 districts in the second phase and by next four years, i.e., by 2008-09 all the districts was covered under the Act.

This is for first time a job guarantee scheme has been introduced in the country. Under this Act, one member of each of the country's 150 million rural households will have the legal guarantee to get at least 100 days of employment at minimum wages of Rs 65 for one person in each household irrespective of poverty levels they belong to.

Accordingly, rural household in selected districts will have the right to register themselves with the local Gram Panchayats as persons who seek employment under the Act. Thus this Act provides a social safety net for the vulnerable groups of people of our society and thereby makes an attempt to attain growth with equity.

The main features of this Act are:

(a) NREGA is not just a scheme but an Act providing legal guarantee to work.

(b) Any adult person in the notified are willing to do unskilled manual work, can apply for registration with Gram Panchayat. The Panchayat will then issue a job card to that person and the person will be entitled to apply for employment.

(c) The registered persons will then have the legal right to demand employment.

(d) The person will get the right to get employment within 15 days of their demand.

(e) The person will get the right to receive unemployment allowance if the employment is not given within 15 days.

(f) One third of the beneficiaries will be women.

(g) Employment will be given within 5 km. of the applicant's residence, else additional wags will be paid.

(h) Panchayati Raj Institutions ((PRIs) will have the principal role in planning, monitoring and implementation.

(i) The beneficiary will get the right for statutory wages.

(j) The beneficiary will get the right to worksite facilities like drinking water, sheds for children and first aid.

The Centre is bearing 80 per cent of the total cost of the programme and the State Government will have to play a crucial role. The wage component of the implementation of this Act will be borne by the centre and cost of materials and other components of the work would be shared between the Centre and the State Governments.

Thus this flagship programme of the government aims at enhancing livelihood security of households in rural areas by providing at least one hundred days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work with the stipulation of one-third participation of women.

The MGNREGA provides wage employment along with focusing on strengthening natural resource management through works that address causes of chronic poverty like drought, deforestation and soil erosion and thereby encourage sustainable development. The two-pronged objective of the Act are firstly to ensure food security through employment generation and secondly, creation of permanent assets.

However, the successful implementation of NREGA depends on two important factors, i.e:

(i) The efficient and regular functioning of Panchayati Raj institutions and

(ii) Proper use of the Right to Information Act.

However, the most striking feature of this Act, it is the first attempt of its kind at the national level to work out an employment guarantee programme with 80 per cent central funding and with its legal force which makes it quite different than that of other employment generation schemes introduced earlier in the country.

The MGNREGA, being a demand driven scheme, has its definite focus on works relating to water conservation, drought proofing, land development, flood protection/control and rural connectivity in terms of all-weather roads. Of the Rs11,300 crore allocated for NREGA in 2006-07 (BE) Rs 6,714.98 crore was released up to January 31, 2007.

Till January 31, 2007, about 3.47 crore job cards have been issued and of the 1.50 crore households, who have demanded employment, 1.47 crore households have been provided employment under the scheme. Under this scheme, up to December, 2006 of the 53.56 crore person-days of employment generated, 21.13 crore were for women, and of about 5.81 lakh work taken up, 2.34 lakh were completed.

As against the employment demanded by 2.61 crore rural households, 2.57 households have been provided wage employment during 2007-08. A budget allocation of Rs 12,000 crore (including NER Component) was made for 2007-08 and Rs 10,501.02 crore has been released till 30.01.2008. The Government is now considering a proposal of raising the number of days of guaranteed jobs from 100 days to 200 days.

In 2007-08, the IT-enabled network of India Post has been successfully utilised for disbursement of wages to the beneficiaries of NREGA in 19 districts of

Andhra Pradesh and in all 22 districts of Jharkhand. The scheme is also operative in Karnataka, Madhya Pradesh, and West Bengal.

In 2008-09, the Government has stepped up the allocation for its flagship programme of rural employment scheme NREGA by over 65 per cent to Rs 26,500 crore. The additional amount of Rs 10,500 crore has been provided to meet the additional requirement of NREGA Scheme.

Under phase II, 130 additional districts were notified and brought under its ambit with effect from April 1, 2007. Under the programme, so far 293.46 lakh jobs have been provided to households. In 2008-09, the entire Sampoorna Grameen Rozgar Yojana (SGRY) was subsumed in NREGA Scheme.

The coverage was extended to all the rural districts of the country in 2008-09. At present, 619 districts are covered under NREGA. During the year 2008-09, more than 4.51 crore households were provided employment under the scheme. As against the budgeted outlay of Rs 33.000 crore for the year 2013-14, an amount of Rs 25,894.03 crore has been released to the states/UTs till January, 2014.

The number of households covered under the scheme increased considerably from 3.39 crore in 2007-08 to 4.47 crore in 2008-09 and then to 4.78 crore in 2013-14 with an average wage employment of 46 person days.

Out of the 219.72 crore person days of employment created under the scheme during 2013-14, 23 per cent and 17 per cent were created in favour of SC and ST population respectively and 53 per cent were in favour of women. Thus NREGA provides a social safety net for the vulnerable groups of people of our society and thereby makes an attempt to attain growth with equity.

The MGNEGA is thus playing an important role in improving the livelihood security as well as improving the resource base at the rural level. At national level with the average wage paid under the MGNEGA increasing from Rs 65 in 2006-07 to Rs 115 in 2011-12, the bargaining power of agricultural labourer has increased as even private sector wages have increased as shown in many studies.

Improved economic outcomes, especially in watershed activities, and reductions in distress migration are its other achievements. Wages under MGNREGA are indexed to the consumer price index for agricultural labour (CPI-AL). Recently the government has taken some initiatives under MGNREGA to make it much more effective and transparent.

These are:

i. The basket of permissible activities has been expanded to make it more meaningful.

ii. Electronic fund management system (eFMS) in all states has been initiated in a phased manner to reduce delay in payment of wages.

iii. Additional employment over and above 100 days per household is notified in drought-affected talukas or blocks is now permissible.

iv. Provision has been made for seeding in Aadhaar into the MGNREGA workers records in order to prevent leakage.

v. Convergence of the MGNEREGA with the total Sanitation Campaign (TSC) has been undertaken.

While commending the success of MGNREGA, Prime Minister Dr. Manmohan Singh recently observed that **"MGNREGA has brought momentum in the financial inclusion of our rural population. Besides direct financial benefit, the scheme has given many indirect benefit to the people and brought down the migration graph".**

Nothing that more than four crore accounts have been opened in banks besides those in post offices, the Prime Minister observed that, "these bank accounts will assist the government in reaching the incentives of the Direct Benefit Transfer Scheme to the rural population. Moreover, the use of information technology in MGNREGA at many levels has helped making governance better and increase accountability and transparency in government work. There are enough proofs that the scheme has helped to a great extent in getting the small and very small farmers a better produce by increasing land productivity and water conservation."

Thus it can be observed that with better planning of project design, capacity building of panchayati raj institutions (PRTs), skill up-gradation for enhanced employability, and reduction of transaction costs, gaps in scheme implementation could be plugged to a greater extent and the assets so created could make a much larger contribution towards raising land productivity and improvement of living conditions of rural people in general.

Employment Policy in the Ninth Plan:

The Draft Approach Paper of the Ninth Plan gave due recognition to the problem of unemployment. With that purpose, the Approach Paper has incorporated one of its Objectives as "Giving priority to agriculture and rural development with a view to generate adequate productive employment and eradication of poverty."

The four dimensions of state policy as reflected in the strategy of the Ninth Plan has incorporated **"generation of productive employment"** as one of those dimensions. Accordingly the Ninth Plan has incorporated a primary objective to generate greater productive employment in the growth process of various sectors and by adopting labour intensive technologies in the unemployment prone areas.

In order to enhance employment opportunities for the poor, the Ninth Plan has Undertaken a National Employment Assistance Scheme, recognising the high incidence of under-employment and increasing casualization of labour.

The Approach Paper of Ninth Plan also mentioned that "Improvements in quality of employment can be achieved only in a situation of rapidly growing productivity to which the labour can lay a just claim. However, it is not merely enough to create the right kinds of employment opportunities, but also to provide the people with the human capital by which they can take advantage of these opportunities. Education and skill development are essential features of such empowerment. Free and compulsory education of children supported by an adequate midday meal programme in schools is the first step towards this end. In addition, special programmes will have to be implemented to develop skills, enhance technological levels and marketing channels for people engaged in traditional occupations."

"There is no simple or unique correlation in the short-run either in theory or in Indian experience between the rate of growth of output and the rate of growth of employment."

Under the present context, the growth process should be restructured in such a way so that employment opportunities grow at an accelerated pace and the country become successful to achieve the goal of full employment in the early part of new millennium.

In this connection, the Planning Commission has suggested the following measures to be adopted during the Ninth Plan period:

(a) Attainment of economic growth would be mostly from those sectors which have high employment potential.
(b) High priority would be accorded to attain growth and lines of production with high employment intensity along with the maintenance of demand-supply balance.

(c) Discouraging unnecessary and indiscriminate increase in capital intensity and encouraging the adoption of production techniques with higher employment potential per unit of capital.
(d) Lastly, reorienting public sector investment towards those sectors having employment bias and influencing private investment decisions to adopt technologies with high employment potential.

Again the draft Ninth Five Year Plan (1997-2002) approved by the National Development Council (NDC) on 19th February, 1999 has given priority to reduce the extent of unemployment and it has set a target to generate 50 million jobs during the Ninth Plan period.

Employment Policy in the Tenth Plan:

The Approach Paper to the Mid-Term Appraisal of the Tenth Plan has reiterated that employment growth should exceed the growth of labour force to reduce the backlog of unemployment.

Employment strategies advocated in the Approach Paper include:

i. Special emphasis to promote public investment in rural areas for absorbing unemployed labour force for asset creation.

ii. Identification of reforms in the financial sector to achieve investment targets in the Small and Medium Enterprises (SME) sector.

iii. Large scale employment creation in the construction sector, especially for the unskilled and semiskilled.

iv. Necessary support to services sector to fulfill their true growth and employment potentials and greater focus on agro-processing and rural services.

Thus the employment strategy in the Tenth Plan needs, therefore, to focus on adequate employment growth and on the qualitative aspects of employment. In order to enable the poor to access the opportunities and to ensure consistency between the requirement and availability of skills, emphasis will need to be placed on required skill development.

Thus the Tenth Plan document observed that the current backlog of unemployment at around nine per cent, equivalent to 35 million persons, is too high and every effort needs to be made to not only arrest the rising trend, but to actually reduce it during the Tenth Plan period itself.

On the whole, the Tenth Plan aimed at the creation of approximately 50 million employment opportunities during a period of 5 years, of which 30 million will be created from normal process of growth and rest 20 million will be created from special initiatives. The result of the 61st NSSO round show that above 47 million persons were provided employment during 2000 to 2005.

Employment Policy of the Eleventh Plan:

Generation of employment opportunities for the growing number of unemployed and new entrants to labour force is a great challenge. Doubling the growth of agricultural GDP to 4 per cent per annum will improve employment conditions in agriculture by raising real wages and reducing the number of underemployed in agricultural sectors.

The Approach Paper to the Eleventh Plan targets generation of additional employment opportunities in services and manufacturing, in particular, labour intensive manufacturing sectors such as food processing, leather product, footwear and textiles and in service sector such as tourism and construction.

It also calls for elimination of distorting fiscal incentives which foster capital intensity, infrastructure investment, removal of distortions that hinder competition, prevent entry and discourage graduation from unorganised to organised status; and greater emphasis on vocational training and skill development to improve employability of youth.

As Village and Small Scale Enterprises (VSE) will have to provide most of the employment during the Eleventh Plan, the Approach Paper also calls for redressing the problems faced by VSE units and home based workers, especially women which include non availability of timely and adequate credit, unrealizable or absence of power supply, requirement of permission from a number of

government agencies and burden of multiple inspections. However, some direct employment will be available in the social sector, i.e., on health and education. Besides the wage employment programme like NREGS will also improve employment scenario considerably.

In this connection the Economic Survey, 2007-08 observed "the Eleventh Plan envisages rapid growth in employment opportunities while ensuring improvement in quality of employment. It recognises the need to increase the share of regular employees in total employment and a corresponding reduction in casual employment. The employment Generation strategy of the Eleventh Plan is also predicted on the reduction of under employment and movement of surplus labour in agricultural sector to higher wage and more gainful employment in the non-agricultural sector. Agriculture sector is projected to generate no increase in employment during the Eleventh Plan period. Employment in manufacturing is expected to grow at 4 per cent while construction and transport and communication are expected to grow at 8.2 per cent and 7.6 per cent respectively. The projected increase in total labour force during the Eleventh Plan in 45 million. As against this, 58 million employment opportunities would be created in the Eleventh Plan. This would be greater than the projected increase in the labour force leading to a reduction in the unemployment rate to below 5 per cent."

But if we take into account the increasing participation of women, the total projected increase in labour force during the Eleventh Plan will be nearly 65 million. If we add the present backlog of unemployment of 35 million at the end of Tenth Plan then the total job requirements during the Eleventh Plan would be around 100 million.

But as 58 million employment opportunities will be created in the Eleventh Plan this would leave nearly 42 million workers to be absorbed in the non-agricultural unorganised sector, which is, no doubt, a difficult proposition.

If we consider the performance of the last decade with a negative employment growth in the organised sector, then the Eleventh Plan is too ambitious by expecting generation of 15 million jobs from the organised sector and in total generating 58 million employment opportunities during the Plan. Thus the estimates made by the planners is found highly unrealistic and over-optimistic considering the ground realities.

However, the projected increase in total labour force during the Eleventh Plan is estimated at 45 million. It is also projected that 58 million employment opportunities would be created during the Eleventh Plan.

This would be greater than the projected increase in labour force leading to a reduction in the unemployment rate below 5 per cent by the terminal year of the plan. It is expected that agriculture sector may not contribute towards any increase in employment during the Eleventh Plan.

Hence, the employment generation strategy of the Eleventh Plan is based on the reduction of underemployment and movement of surplus labor in agriculture sector to higher wage and more gainful employment in non-agricultural sector.

The Eleventh Plan has especially identified labour intensive manufacturing and services sectors with employment potential like food processing, leather products, footwear, textiles, wood and bamboo products, gems and jewellery, handicrafts, handlooms, tourism and construction for this purpose.

Thus the key strategy for achieving inclusive growth in the Eleventh Plan has been generation of productive and gainful employment, with decent working conditions, on a sufficient scale to absorb the growing labour force. The Eleventh Plan (2007-12) aims at generation of 58 million work opportunities in twenty one high growth sectors so that unemployment rate falls to 4.83 per cent by the end of the Plan.

The International Commission on Peace and Food, a non-government organisation headed by Dr. M.S. Swaminathan, made a study on the unemployment problem of the country. The Committee has come to the conclusion that a minimum of 100 million new jobs are needed by the year 2000 in the unorganised sector to achieve full employment and to eradicate poverty.

The findings of the team were in the form of a strategy statement which emphasises that there is potential to increase employment with emphasis on higher productivity, and income through extension of irrigation and green revolution to areas not hitherto covered and having potential, waste land development and diversification of agriculture to other productive activities like horticulture, aquaculture, sericulture and agro-processing.

The Centre of Advanced Development Research (CADR) has also criticised various employment generation programmes launched by the Government which

has touched only a fringe of the problem and has suggested measures for labour-intensive, and land based programmes.

These include diversification of crop programme, which places high priority on the needs of the poor and on the transformation of the crop pattern from the present low-value to high-value and labour intensive programmes.

The Centre also suggests a jump in the production of milk and eggs, making the best use of water and land resources and improving 175 million hectares of degraded land which is about half of the total geographical area, mainly through afforestation.

Taking all these factors into considerations, it can be said that the future employment programmes of the country should be redressed in such a manner so that it can meet requirements of the people with maximum utilisation of scarce resources. Moreover, considering the depth of the problem it can be safely said that the government alone cannot tackle this problem alone.

Thus private sector should be fully involved in the employment programme of the country. Accordingly, the Planning Commission should chalk out programme for the private sector in order to involve the sector into the employment generation programme of the country.

Thus an appropriate joint strategy involving both the public sector and private sector is to be taken in order to tackle both the rural as well as urban unemployment of the country.

Essay # 8. Growth of Employment in India in Recent Years:

It would be better to look at the growth rate of employment both in organised and unorganised sectors in recent years. In an overpopulated country like India with a high rate of growth of population, the rate of growth of population should be consistently higher and steady.

But the rate of growth of employment prevailing in a country like India are not very much conducive and encouraging. Table 12.6 reveals the growth rate of employment during the period from 1972-73 to 1993-94.

TABLE 12.6. Growth Rate of Employment in India (per cent)

Period	*Growth rate overall employment*	*Growth rate of employment in the organised sector*		
		Public	*Private*	*Total*
1972-73 to 1977-78	2.75	—	—	2.45
1977-78 to 1983	2.36	2.99	1.41	2.48
1983 to 1987-88	1.77	2.17	0.43	1.38
1987-88 to 1993-94	2.37	1.00	1.18	1.05
1993-94 to 1999-2000	1.57	—	—	—
1999-2000 to 2004-05	2.48	—	—	—

Source : Planning Commission (as Reproduced in Economic Survey, 1998-99, p. 147) and 2006-07, p. 208.

Table 12.6 shows that the average annual growth rate of overall employment attained both in organised and unorganised sectors declined continuously from 2.75 per cent during 1972-78 to 1.77 per cent in 1983- 88, but again increased to 2.37 per cent in 1987-94.

The same growth rate again declined to 1.57 per cent during 1993-2000 and then again increased to 2.48 per cent during 1999-2005. However, the annual average growth rate of employment in organised sector maintained its declining trend from 2.45 per cent during 1972- 78 to 1.38 per cent during 1983-88 and then to 1.05 per cent during 1987-94.

The growth rate of employment in the organised public and private sector has declined from 2.99 per cent during 1977-83 to a mere 1.00 per cent during 1987-94. But the growth rate of organised employment in the private sector has initially declined from 1.41 per cent during 1977-83 to 0.43 per cent during 1983-88 but the same rate again increased to 1.18 per cent during 1987-94.

For the first time, the growth rate of employment in the organised private sector exceeded the employment growth rate in public sector. It would also be better to look into the growth rates of employment in India during the post-reform period. Table 12.7 will clarify the position.

Table 12.7 reveals the annual growth rates of employment in the organised public and private sector during 1991 to 1999. It is observed that the growth rate of employment in the public sector has declined from 1.52 per cent in 1991 to 0.60 per cent in 1993 and 0.11 per cent in 1995 and to even (-) 0.09 per cent in 1998 and finally to (-) 0.90 per cent in 2001.

Again the growth rates of employment in the organised private sector increased from 1.24 per cent in 1971 to 2.21 per cent in 1992 and after maintaining a lean period reached the peak level of 5.62 per cent in 1996 and then again maintained

a moderate rate of 2.04 per cent in 1997 and then declined to 0.1 per cent in 2001.

Thus the growth rate of employment in the organised sector remained relatively stable i.e., from 1.44 per cent in 1991 to 0.55 per cent in 1995, 1.51 per cent in 1996 and then declined to only (-) 0.6 per cent in 2001. Thus it can be observed that the private sector contributed pre-dominantly to the increase in the organised sector employment in the reform period since 1991 except in 1993.

TABLE 12.7. Growth Rates of Employment in Organised Sector (Per cent)

Year	*Public Sector*	*Private Sector*	*Total Organised*
1991	1.52	1.24	1.44
1992	0.80	2.21	1.21
1993	0.60	0.06	0.44
1994	0.62	1.01	0.73
1995	0.11	1.63	0.55
1996	(–) 0.19	5.62	1.51
1997	0.67	2.04	1.09
1998	(–) 0.09	1.72	0.46
1999	(–) 0.02	(–) 0.57	(–) 0.19
2000	(–) 0.68	0.97	(–) 0.17
2001	(–) 0.9	0.1	(–) 0.6
1983-1994	1.53	0.44	1.20
1994-2008	(–) 0.65	1.75	0.05

Source : Planning Commission (As reproduced in Economic Survey, 2002-03, p. 149 and 2010-11, p. 299)

However, the employment growth in the organised sector, public and private sector confined, declined during the nineties. Annual employment growth in establishments covered by Employment Market Information System of Ministry of Labour decelerated from 1.20 per cent during 1983-1994 to 0.05 per cent per annum during 1994-2008.

This deceleration happened in spite of an acceleration in annual employment growth in the private sector from 0.44 per cent to 1.75 per cent during the reference periods as these acceleration was not enough to make up for the corresponding decline of employment in the public sector from 1.53 percent to (-) 0.65 per cent during the reference period.

Considering the situation, the Government has decided to set up the Second National Commission on Labour with a view to provide protection to millions of workers. The main focus of the Commission would be to suggest rationalisation of the existing labour laws in the organised sector and also to suggest an umbrella legislation for ensuring a minimum level of protection to the workers in the unorganised sector.

In recent years, employment in India has declined marginally in both the urban and rural areas according to the results of the latest survey conducted by the national Sample Survey Organisation (NSSO). The results of the 55th round of NSSO survey revealed that in 1999-2000, employment in rural areas among males was down by two percentage points, while it was lower by three percentage points for females compared to 1993- 94 when the last NSSO survey was conducted.

In urban areas, employment for females decreased by more than one percentage point in 1999-2000, while it remained at the same level for males. The survey brings out that the workforce participation rate during 1999-2000 is higher in rural areas than in urban areas and the participation is higher for males than, females.

Moreover, employment levels among the states reveal that work participation among males in rural areas is highest in Andhra Pradesh which has 605 males employed per 1,000 males, followed by Karnataka and Tamil Nadu. The lowest rates are reported by Haryana with 475 males employed per 1,000 males followed by Uttar Pradesh and Bihar.

The 64th round (2004-08) of NSSO survey on employment-unemployment indicates creation of 4 million work opportunities between 2004-05 and 2007-08.

The employment situation of the country in recent years has been showing marginal improvement. As highlighted in Economic Surveys of previous years based on NSSO data, employment on a current daily status (CDS) basis during 1999-2000 to 2004-05 had accelerated significantly as compared to the growth witnessed during 1993-94 to 1999-2000.

During 1999-2000 to 2004-05, about 47 million work opportunities were created compared to only 24 million the period between 1993-94 and 1999-2000 and employment growth accelerated from 1.25 per cent per annum to 2.62 per cent per annum.

However, since the labour force grow at a faster rate of 2.84 per cent than the workforce, unemployment also rose the incidence of unemployment on CDS basis increased from 7,31 per cent in 1999-2000 to 8.28 per cent in 2004-05.

In recent period, the country in facing sluggish employment growth as there is a deceleration in the compound annual growth rate (CAGR) of employment during 2004-05 to 2011-12 to 0.5 per cent from 2.8 per cent during 1999-2000 to 2004-05 period as against CAGRs of 2.9 per cent and 0.4 per cent respectively in the labour force for the same periods.

After a period of slow progress during 2004-05 to 2009-10, employment generation picked up during 2009-10 to 2011-12 adding 13.9 million persons to the work force, but not keeping pace with the increase in labour force (14.9 persons). Based on current daily status (CDS), CAGR in employment was 1.2 per cent and 2.6 per cent against 2.8 per cent and 0.8 per cent in the labour force respectively for the same periods.'

Employment scenario in India is likely to improve in recent years. Recently, a study conducted by a industry group in December 2013 among more than 5,600 firms across 12 industry sectors. The survey report observed that the job seekers can look forward to a prosperous new year (2014) as more than 8.5 lakh new jobs are expected to be created across various sectors, including FMCG and healthcare.

Coming against the backdrop of uncertain economic conditions, the projected number of new jobs in 2014 is 8.5 lakh which is higher than the estimated 7.9 lakh employment opportunities created in the year 2013. All the opportunities have been projected in for the organised sector.

Besides FMCG, more jobs are expected in healthcare, IT, retail and hospitality sectors. Banking and financial services (61,400), manufacturing and engineering (51,500), education, training and consultancy (42,900), media and entertainment (42,800) and real estate (38,700) are also expected to create job opportunities.

According to the report of the Sixth Economic Census conducted by the National Statistical Commission, the number of employed persons in the country grew by 34.35 per cent to 12.77 crore in eight years period (2005-2013). The growth rate in employment at 34 per cent in eight years period is a good rate as it had grown at an annual rate of over 4 per cent when the population is growing at around 2 per cent.

Employment in urban areas increased by 37.46 per cent to 6.14 crore in 2013 whereas in rural areas the growth was 31.59 per cent to 6.62 crore compared to

2005. The proportion of women in total workforce rose to 25.56 per cent in 2013 from about 20 per cent in 2005.

Taking all these into considerations it can be said that the future employment programmes of the country should be redressed in-such a manner so that it can meet requirements of the people with maximum utilisation of scarce resources. Moreover, considering the depth of the problem it can be safely said that the government cannot tackle this problem alone. Thus private sector should be fully involved in the employment programme of the country.

Accordingly, the Planning Commission should chalk out programme for the private sector in order to involve the sector into the employment generation programme of the country. Thus an appropriate joint strategy involving both the public sector and private sector is to be taken in order to tackle both the rural as well as urban unemployment of the country.

Essay # 9. Is the New Economic Policy Promoting Jobless Growth?

It is a very pertinent question—whether the New Economic Policy is promoting jobless growth in India. In the mean time, various studies have been made in this direction. Some of these studies are pointing affirmative answer to this question and again some other studies are pointing a different answer to this question.

It would be better to start with the following observation of Dr. L.C. Jain, former member, Planning Commission, "The gravest crisis Indian political, economic and social order faces today is in the mounting unemployment. Nothing exposes the barrenness of pure growth rate observed development strategies than the empirical results of the past decade in India. GDP has shot up from 3.5 to 5.3 in the period, but the employment growth rate has fallen from 2.82 during 1973-78 to 1.55 during 1983 to 1987-88. In agriculture, the employment growth rate declined from 1.8 to an insignificant 0.07 in the 15 years period ending 1988."

Another study made by Mr. Sudipto Mundle of the National Institute of Public Finance and Policy, New Delhi has simply shown the employment effects of New Economic Policy under two different assumptions of a high and a low growth situations.

The study revealed that by 1994, even with the achievement of high growth rate, this stabilisation and structural adjustment programme will increase "unemployment rate from less than 4 per cent in the current year (1991-92) to about 5 per cent in 1992-93. This implies extra unemployment of about 4 million persons in 1992-93 and the year after as a net consequence of stabilisation programme."

In respect of high growth situation, Mr. Mundle has assumed growth rates of 3.9, 3.0 and 5.7 per cent for 1991- 92, 1992-93 and 1993-94 respectively. But the CSO estimates of GDP growth rates for these three years were—1.1 per cent for 1991-92, 4.0 per cent for 1992-93 and 3.8 per cent (advance estimates) for 1993-94.

Thus it is found that under structural adjustment programme, the actual growth rates of GDP are even lower than the growth rates assumed by Mr. Mundle. Accordingly, it can now be observed that the actual growth rates of unemployment are much higher than the growth rates predicted by Mr. Mundle.

With the introduction of New Economic Policy, the country has initiated the programme of technological upgradation leading to promotion of capital intensive technologies. This has resulted in fall in employment elasticities.

The study made by Mr. B.B. Bhattacharya and Arup Mitra on the employment elasticities of various sectors of the economy, on the basis of the data obtained from 1981 and 1991 censuses revealed that employment elasticity (as measured by the ratio of employment growth rate to income growth rate) of various sectors varied significantly.

Employment elasticity for the economy as a whole was estimated at 0.45 but the employment elasticity of the various sectors were as follows: primary sector—0.74, manufacturing sector— only 0.19, trade and commerce—0.37 and storage and communications-—0.34. But this employment elasticity worked out by Mr. Bhattacharya and Mr. Mitra and the actual observed growth rates of GDP, the probable additions to employment were estimated.

Table 12.8 reveals that the total number of unemployed persons increases sharply from 11 million in 1990-91 to 17 million in 1991-92 and then to 19 million in 1992-93. Accordingly the rate of unemployment increased sharply from 3.1 per cent in 1990-91 to 5.1 per cent in 1992-93. This is no doubt an alarming situation.

Later on, as per NSSO survey it was revealed that the total number of unemployed persons in the country increased from 9.0 million in 1993-94 to 10.5 million in 1999-2000 and then to 13.1 million in 2004- 05. Accordingly, the rate of unemployment also gradually increased from 2.62 per cent in 1993-94 to 2.78 per cent in 1999-2000 and then to 3.06 per cent in 2004-05.

Moreover, in India, the major portion of additional employment generation has come from unorganised sector and the organised sector has a little contribution in this regard. Unorganised sector provided employment at poor wage rates and was also relatively insecure as compared to organised sector.

Besides, the structural adjustment programme introduced in the organised sector has reduced its employment potential leading to retrenchment of workers in the organised sector. This increased the burden of unemployment through displacement of labour. Thus the structural adjustment programme may result in "undue hardships" for the people if implemented unimaginatively.

In India, faster economic growth would not be relevant unless it was job-oriented. India was not for **"jobless growth"** as it was not conducive to sustained economic development and might lead to social tensions.
The advocates of structural adjustment programme are of the opinion that due to liberalisation, privatisation and globalisation of the economy, there will be increase in the magnitude of unemployment in the short run but with the

growing flow of foreign direct investment as well as domestic private investment, employment elasticity of different sectors will improve gradually in recent years.

But with the gradual disinvestment of the public sector and increasing capital intensity of the private corporate sector, chances of acceleration of growth of employment is almost nil. In India, the contribution of the corporate sector in employment generation is very poor.

In the mean time, although the GDP growth rate of the country are increasing gradually from 3.8 per cent in 1993-94 to about 5.5 per cent in 1994-95 but the rate of growth of employment achieved in the country is far from satisfactory.

As per one recent Government report, over 100 million job seekers will seek employment in the country. Therefore, substantial amount of additional employment opportunities per year will have to be generated in the remaining period of the Eighth Five Year Plan to eventually meet the goal of reducing unemployment to "negligible levels" by the year 2002.

But this is really a stupendous task and underscore the necessity of achieving a higher average annual growth rate of the economy than targeted in the Eighth Plan and vigorous pursuit of the employment strategies envisaged in different sectors of the plan.

At the outset of the Eighth Plan in 1992-93, open unemployment was estimated at 17 million, of which the educated accounted for seven million. Severe underemployment was estimated at 6 million. Thus, the backlog of unemployment for plan purposes was thus reckoned at 23 million in April, 1992.

The net additions to labour force during tile Eighth Plan (1992-97) and during 1997-2002 were estimated at 35 million and 36 million, respectively. Thus the total number of people seeking employment will be 58 million during 1992- 97 and a little over 94 million over the 10 year period ending 2002.

At the end of March 1994, there were 37 million job seekers on the live register of employment exchanges in different parts of the country. In order to reduce this extent of unemployment to negligible levels by 2002 A.D., it implies that the employment should grow at the average annual growth rate of 2.6 to 2.8 per cent over this period.

Expansion of employment opportunities is an important objective of the Eighth Five Year Plan and the plan strategy lays emphasis on the faster growth of sectors, sub sectors and areas having employment potential to accelerate the employment growth.

Therefore, the Eighth Plan seeks to achieve 2.6 per cent rate of growth of employment corresponding to an average annual growth of Gross Domestic Product of 5.6 per cent as envisaged in the plan.

A relatively high rate of economic growth combined with a pattern of sectoral growth yielding a higher aggregate employment elasticity will be necessary for achieving the rate of employment growth envisaged. Raising employment in aggregate will require faster growth of sectors, the sub-sectors and the areas which have relatively high employment potential.

This is sought to be achieved by laying emphasis on crop-wise and geographic diversification of agricultural growth, wasteland development for crop cultivation and forestry, promotion of agro-based activities, rural non-farm activities, including rural industries.

It will also include decentralization of the small-scale sector, the urban informal sector and the services sector, expansion of rural infrastructure, housing and health and educational services, especially in rural areas, revamping of the training system and streamlining of the special employment programmes to integrate them with area development plans.

All these sectors and areas are identified as basic elements of an employment growth strategy.

Under the present circumstances, where the organised industry has created no new jobs in the last decade, and budgetary constraints mean that government service has little extra job potential, agriculture alone cannot hold the key to additional job creation.

Rather, a growing body of evidence suggests that labour absorption in agriculture is gradually falling in many areas. In fact, there has been a veritable boom in non- farm employment of rural areas, i.e., in its construction, transport, trade and manufacturing.

Therefore, the major future thrust in additional job creation should probably be neither in agricultural sector nor in industry but in what Prof. R.P. Misra of the Delhi School of Economics termed it "urbanisation"—that indicates the urbanisation in rural areas. Historically, agriculture has resulted about 70 per cent of all jobs.

But in the latest period, 1986-92, for which NSS data are readily available only 11.7 per cent of males and 0.3 per cent of females entering the work force got farm jobs. Most of the remaining part of workforce went into construction, trade and manufacturing.

In 1983-88, about 70 per cent of females entering into workforce in rural areas found jobs in construction works. In the decade ending 1987-88, jobs in farming activities rose by only 0.74 per cent annually, which is barely one-third of the rate of growth of population of the country.

Prof. Shiela Bhalla of Jawaharlal Nehru University has come up with a startling finding that in five states—Uttar Pradesh, Rajasthan, Madhya Pradesh, Bihar and Tamil Nadu, farm employment has been actually falling with the rise in their yield rates.

This type of finding negates the conventional ideas that employment goes on rising with production. These five states account for nearly half of the population of the country. Naturally, it is time for considerable rethinking on agriculture as an avenue of employment.

Prof. Bhalla's research shows that new technology is not the problem. In more than 90 per cent of cases, farmers started to adopt economizing on labour whenever real wages rose and this so happened whether or not the farmers mechanised their farms.

The most important reason behind such rise in real wages in rural areas is that non- farm jobs are paying much more wages in rural areas, and this has simultaneously drawn labour away from farming and pushed up farm wages significantly.

It is seen from the above observation that the main factor responsible for slow growth of employment is the capital intensive method of production. It is also expected that private participation would give a fillip to the growth of employment in the medium term.

But it is known to everybody that the private investment from Indian Corporate sector or foreign direct investment from multinationals is very much capital-intensive.

Therefore, under such a capital-intensive strategy employment generation at a quicker pace is impossible. Besides, the idea of **"growth of employment in the medium term"** is also in vogue. Thus under such a situation it is quite necessary to finalize the strategy of growth of employment in the country concretely, otherwise the economy of the country will proceed towards a jobless growth leading to social tensions.
Addressing the fifth conference of the Labour Ministers of non-aligned and other developing countries on January 20, 1995, the then Finance Minister, Dr. Manmohan Singh asserted that the economic reforms unleashed in 1991 had the support of the **"broad mass"** of population, particularly the labour force, as the Government realised that mass support was the pre-requisite for their success.
Observing that three odd years was too short a period to judge the success of any economic reform programme in such a big and diverse country like India, Dr. Singh said that the positive impact could be gauged from the fact that India was not only able to pull out itself from serious imbalances on financial and external sectors but had embarked on balanced growth on all fronts.

Dr. Manmohan Singh further observed, in this connection, **"All our reforms aim at achieving a rapid and sustained growth of output and employment. Liberalization is being pursued keeping in view the comparative advantage the country had in labour-intensive methods of production."**
Therefore, economic reforms which would bring with them modernization, upgradation and introduction of new technologies—might cause some job losses on one hand. On the other, however, job opportunities would expand because of the growth of the economy and fresh investments.

Moreover, higher outlays had been provided in the Eighth Plan in the agriculture, rural development, village and small industries and environment sectors with the aim of providing better job opportunities.

In the meantime, a sign of hope has been noticed. In 1991-92, total employment grew by only 3 million but in 1992-93 and 1993-94 employment increased twice

as fast, i.e. 6 million new jobs added each year. The increase is expected to be higher in 1994-95.

As per one recent estimate, new enterprises in India provided 17 million fresh jobs in 2003, the second highest in the world after China where 84 million employment opportunities were created in the new enterprises.

This estimate is made by Global entrepreneurship Monitor report of the London School of Business. According to the report entrepreneurship in India rose marginally in 2003 over the previous year. Nearly 18 per cent of India's population in the age group of 18 to 64 is engaged in some sort of entrepreneurial activities.

However, downsizing of the government has also created a serious impact on the employment scenario of the country.

As on December, 2003, the central government had identified about 55,000 posts for abolition in various ministries and departments in line with the recommendations of the Expenditure Reforms Commission (ERC) and over 25,000 posts were abolished in different ministries and departments, including Information and Broadcasting and Petroleum.

The ministries and departments concerned identified 24,000 posts for immediate abolition.

Moreover, a wave of Voluntary Retirement Schemes (VRS) and closure of industrial units led to shrink in jobs in the organised sector by over 4.2 lakh in 2001-02. Apart from this, the reduction in jobs in the organised sector has been going on continuously for five years.

While presenting a grim picture of the job scenario in the organised sector, the recent study made by the government says, the total employment in the public sector as on March 31, 2001 was over 277.54 lakh which came down to 273.32 lakh on March 31,2002.

As per the latest quick estimates of employment available with the Directorate General of Employment and Training of the Labour Ministry, though the decline is to the extent of only 1.5 per cent during the prior under review, what is of more concern is the fact that reduction in jobs in the organised sector has been going on continuously five years.

In case of women, the employment in the States and Union Territories during the said period under review fell by 35,000 from 50.71 lakh on March 31, 2001 to 50.36 lakh on March 31, 2002.

The report further observes that with a whopping 97 per cent of the country's total work force eking out a living in the unorganised sector, the organised sector accounts for a meagre seven per cent of the overall employment in the country.

The reasons cited for the decline in the organised sector jobs include closures of industrial units and a wave of Voluntary Retirement Scheme in an effort to **"right size"** PSUs. Public sector banks shed over 1.0 lakh jobs between 2000-01 and 2001-02 through VRS. Official figures show that nearly 90,000 employees in various PSUs took VRS in 1999-2000 and 2000-01.
It would be better to look into the estimates of employment generation in India in recent years from the Table 12.9.

TABLE 12.9. Estimates of Employment

Year	*Total Employment (million)*	*Annual Percentage increase in total employment*	*Additional Employment Generated (million)*
1989-90	292.89	—	—
1990-91	298.73	1.99	5.84
1991-92	301.73	1.00	3.00
1992-93	308.31	2.18	6.58
1993-94	313.33	1.63	5.02
1994-95	320.51	2.29	7.18
1996-97	389.70	2.47	—

Source : Planning Commission (Reproduced in Economic Survey, 1995-96, p.182) and 1997-98. p. 138.

Table 12.9 reveals that the country experienced an increasing trend in additional employment generation, i.e., from 3.00 million in 1990-91 to 7.18 million in 1994-95.
The annual percentage increase in total employment registered an increasing trend from 1.00 per cent in 1991-92 to 2.18 per cent in 1992-93 and thereafter registering a decline of 2.29 per cent in 1994-95, the rate of increase in employment further increased to 2.47 per cent in 1996-97.

The Economic Survey, 1995-96 made the following observation in connection with the employment generation during the post-reform era. "By according the highest priority to labour intensive growth in its economic reform policies, the additional employment increased from 3.00 million in 1991-92 to 7.18 million in 1994-95. Additional employment opportunities of the order of 18.48 million were generated during 1992-93 to 1994-95. This implied an average rate of

employment growth at 2.03 per cent per annum, which is higher than the annual average rate of employment growth of 1.78 per cent during the preceding seven years (1985-92). These trends are reassuring that the employment content of growth has increased in the process of economic reforms."

In the mean time, various employment generating schemes have been introduced in India during this period of economic reforms. Now it is to be seen how far all these schemes are implemented properly and can provide additional job opportunities practically.

If all these schemes failed to provide sufficient number of job opportunities then it may lead to a situation similar to "jobless growth" which might lead to social tensions.

Essay # 10. Global Economic Recession and its Impact on Unemployment Problem in India:

After facing the brunt of the Great Depression of 1930, the world economy again started to experience the current recessionary trend in its economic activity since 2007 along with a serious degree of financial turmoil.

The current recession has once again shown its ugly need with a slump in aggregate demand in most of the developed and developing countries of the world especially in industries related to motor vehicles, electronics, consumer durables, textiles, realty sector etc.

The first sign of recession was experienced in USA in December 2007 and that has gradually deepened in US and other countries of the world under the present regime of globalisation.

Indian economy has also started to face the brunt of global recession in 2008-09. As a result, the growth rate attained by the industrial sector has come down from 11.2 per cent in 2006-07 to mere 3.0 per cent in 2008-09. The global recession has seriously affected some of our export oriented industries leading to huge laying off of workers.

India's export oriented leather industry employing 2.5 million workers would be forced to lay off around 5.0 lakh workers with the worsening scenario in USA and Europe. Similar threat is apprehended in vehicle industry, diamond Jewellery

industry, garments industry, readymade garments industry, handicrafts industry etc.

Impact of the economic recession was also felt in terms of job losses in different industries. Industry Department opined the impact of job losses to the extent of over 10.0 lakh in the handicraft sector and another 10.0 lakh in the textile sector in the years that followed.

The Labour Bureau of the Ministry of Labour and Employment conducted a survey on the economic slowdown on employment in India. A sample size of 2581 units taken from eight major sectors, covering 20 centres across 11 states were taken up for the survey.

The survey report reveals that the total employment in all these eight sectors had come down from 16.2 million in September 2008 to 15.7 million by December 2008 showing a total job losses of 5.0 lakh during this three month period.

However, the scenario of lay-offs would be much more serious in the coming months. According to the latest study made by Citigroup, the country does not appear to have remain unscathed from the massive lay-offs witnessed throughout the world and the extent of unemployment could rise further with the home coming of migrant workers or declining remittances from abroad.

The report further stated that although there is a job loss of about 5.0 lakh during the three month period (Oct—Dec. 2008), with export oriented sectors such as genes and jewellery and textiles being most impacted but this statistics only covers the organised sectors which comprises just 10 per cent of the country's work force close to 385 million.

Although India's unemployment rate in officially stated at 8.2 per cent but the extent of disguised unemployment prevailing especially in rural areas can magnify the problem into serious proportion.

However, employment opportunities in 2009-10 were affected by the global financial crisis and economic slowdown in India. While comprehensive employment data for the year are not available, some sample surveys conducted by the Labour Bureau, Ministry of Labour and Employment, indicated employment losses in the wake of global financial crisis and economic slowdown.

The Government was concerned about the possible impact of financial crisis on the Indian economy, including employment and several measures, financial and fiscal, were taken. Sample survey of the Labour Bureau indicated job gains in the sectors covered.

Thus, even on the basis of this small sample, estimated employment in the selected sectors had experienced a net addition of 1.51 lakh during the last one year from October 2008 to September 2009. However, the situation has improved in India in recent years due to stimulus packages provided by the government and improvement in global scenario.

Urb**anization in India**

In this essay we will discuss about Urbanization in India. After reading this essay you will learn about: 1. Meaning of Urbanisation 2. Trends of Urbanisation in India 3. Degree 4. Causes 5. Consequences 6. Role in Economic Development of India.

Contents:

1. Meaning of Urbanisation:

Urbanisation is one of the common characteristics of economic development. With the gradual growth of the economy, the process of urbanisation depends on the shift of surplus population from rural to urban areas along-with the growth of some industrialised urban centres.

Due to social and economic pressures, people from backward villages started to move towards urbanised centres in search of job, where newly established industries and ancillary activities continuously offer job opportunities to those people migrating to cities.

The pace of urbanisation is fast if the industrial growth is fast. The pace of urbanisation gradually declines only when the proportion of urban population to total population of the country becomes too high.

Essay # 2. Trends of Urbanisation of India:

In India, an increasing trend towards urbanisation has been recorded from the very beginning of this present century. The census data on the rural-urban composition reveal a continuous rise in the rate of urbanisation in India and more particularly during the second half of the present 21st century.

The proportion of urban population to total population which was only 11 per cent in 1911 slowly increased to 11.3 per cent in 1921 and then gradually rose to 14 per cent in 1941.

With a liberal definition of urban area adopted in 1951, the proportion of urban population suddenly rose to 17.6 per cent. But with a slightly strict definition, the proportion of urban population recorded a small increase to 18.3 per cent in 1961. In the 1971 census, a new definition of an urban unit was adopted and that definition was continued in 1981 census.

This definition was as follows:

(a) All places with a municipality, corporation, cantonment board or notified town area committee etc.

(b) All other places which satisfy the following criteri

(i) Minimum population of 5,000;

(ii) At least 75 per cent of male working population engaged in non-agricultural pursuits; and

(iii) A density of population of at least 400 persons per sq km (1,000 persons per sq mile).

The definition of an urban unit in 1961 census was also similar to the above mentioned definition. Thus the data on rural-urban distribution during the last three censuses are comparable. The proportion of urban population to total population of India as per this new definition was estimated at 20.2 per cent in 1971 census and then marginally rose to 23.7 per cent in 1981.

Again in 2001, the total size of urban population in India increased to 285 million as compared to that of 217 million in 1991. This shows that the proportion of urban population to total population of India has increased from 25.8 per cent in 1991 to 27.8 per cent in 2001.

The provisional figure of total urban population of India in 2011 is estimated at 377 million which is estimated at 31.16 per cent of the total population of the country. Moreover, the total number of towns in India which was only 1627, gradually rose to 3060 in 1951, 3126 in 1971, 4029 in 1981 and then to 5166 in 2001. Table 6.7 reveals the detailed picture of this trend in urbanisation.

TABLE 6.7. Trends of Urbanisation in India

Year	*Urban Population (in million)*	*Urban as % of total population*	*No. of towns*
1901	26	11	1,627
1951	62	17.6	3,060
1961	79	18.3	2,700
1971	109	20.2	3,126
1981	160	23.7	4,029
1991	217	25.8	4,689
2001	285	27.8	5,166
2011	377	31.16	N.A.

Moreover, urbanisation has an increasing impact on the concentration of population towards relatively higher income categories. Therefore, urban areas have higher percentage of lower middle income, middle income, upper middle income and higher income group of people than that of rural areas. Table 6.8 clarifies this point.

Thus it is found from Table 6.8 that the percentage of households in the lower middle income category was 34.75 per cent in urban areas as compared to that of 23.88 per cent in the rural areas.

Similarly, the percentage of households in the middle income and the upper middle income categories were 17.89 per cent and 6.46 per cent in the urban areas as compared to that of only 7.06 per cent and 1.16 per cent in the rural areas. Again, the percentage of households in the higher income category was 3.75 per cent in the urban areas in comparison to that of only 0.56 per cent in the rural areas.

The size of total urban population increased from about 26 million in 1901 to 62 million in 1951, showing an increase of 36 million in just 50 years.

But during the next three decades (1951-81), the absolute increase was to the extent of 94 million and this shows that the population absorption capacity in urban areas has increased substantially due to industrialisation in the country. The census data shows that the annual growth rate of urban population which was 3.26 per cent during 1961-71, gradually increased to 3.86 per cent during 1971-81.

Essay # 3. Degree of Urbanisation in India:

Measurement of the degree of urbanisation in a country like India is considered very important. Various measures are being used for the purpose. As per the first simple method we observed that the total urban population in India in 1981 was

a little less than one fourth of the total population in comparison to that of one-ninth in 1921 and one-sixth in 1951.

The second method, i.e., the urban-rural growth differential (URGD) method also revealed that the growth rates of both rural and urban population are very close to each other at present.

Third method showing the growth of urban population reveals that as the total population of the country rose by about three times since 1921 but the total urban population of the country increased by about six-times. Thus all the methods observed more or less same results.

If we compare degree of urbanisation in India with that of developed countries then we can find that India is lagging far behind the high-income countries. In 1985, the proportion of urban population to total population was 92 per cent in U.K., 86 per cent in Australia, 76 per cent in Japan, and 74 per cent in U.S.A. as against only 25 per cent in India.

In India, towns are classified into six different classes. From the census data, it has been observed that in Class I town (having a population more than 1 lakh) the proportion of urban population concentration has increased from 25.7 per cent in 1901 to 60.4 per cent in 1981. Thus there is an increasing trend towards huge concentration of population in the bigger towns.

In Class II and Class III towns together, the proportion of urban population remained almost constant at the level of 26 to 28 per cent during the period 1901-81. But in the remaining Class IV, Class V and Class VI towns together, the relative proportion of urban population concentration declined sharply from 47.2 per cent in 1901 to only 13.6 per cent in 1981.

Besides continuation of urbanisation process, a number of Class II towns have been transformed into a Class I town and the number of Class I towns has thus increased from 74 in 1951 to 216 in 1981.

Accordingly, the total population of Class I towns also increased from 273 lakhs in 1951 to 943 lakh in 1981 showing an increase of nearly 245 per cent. During the same period, the number of Class II towns has increased from 95 to 270 and that of Class III towns increased from 330 to 739 in 1981

Total population of Class II and Class III towns increased from 330 to 739 in 1981. Total population of Class II and Class III towns increased by 130 per cent, i.e., from 97 lakh in 1951 to 224 lakh in 1981. While the number of class IV towns has increased from 85 lakh to 149 lakh, the number of Class V and class VI towns and their total population declined sharply during the same period.

Again the number of big cities with million plus population has increased from 12 in 1981 to 27 in 2001 and their total population also increased from 42.1 million in 1981 to 73.0 million in 2001. As per 2001 census the size of population of four-cities of India are 11.9 million for Mumbai, 4.58 million for Kolkata, 9.8 million for Delhi and 4.2 million in Chennai.

Essay # 4. Causes of Rapid Urbanisation in India:

Rapid urbanisation is taking place in different parts of the country in and around some big cities and towns of the country. The growing trend of urbanisation as reflected in growing concentration of major proportion of urban population in some big cities.

The factors which are largely responsible for such rapid urbanisations are mentioned below:

(i) Natural Increase in Population:

Rapid unbanisation is taking place as a result of high rate of natural increase in population. Natural increase is taking place when the birth rate in urban areas exceeds the death rate. The natural growth rate of urban population is higher than that of rural due to higher net survival rate arising out of better health and medical facilities.

Improvement in health and medical facilities, drinking water supply and sanitation facilities have reduced the incidence of water-borne diseases, communicable diseases etc.

Accordingly, the birth rate in urban areas in 1971 was estimated at 30.1 per thousand as compared to the death rate of 9.7 per thousand which subsequently reduced to 24.3 and 7.1 per thousand in 1991. Thus the natural growth rate is stated too high because of large difference between birth and death rates.

The death rate in urban areas declined considerably due to better availability of medical and health service, safe drinking water supply and improved sanitation facilities.

This natural increase in population is largely responsible for phenomenal growth of population in urban areas i.e. 46 per cent in 1971-81 and 36 per cent in 1980-91 decade as compared to that of 19 per cent and 20 per cent growth rate attained in rural areas of India during these two decades.

(ii) Migrations:

Rural-urban migration is considered another important factor responsible for rapid urbanisation in India. The rural to urban migrations have been resulted due to many factors during the post independence period. Creation of many activities of manufacturing and trading as a result of industrial development has resulted migration of rural people to urban areas for seeking jobs and higher incomes as well.

After the partition of the country in 1947 rural uprooted people started to settle down in urban areas. Poor living conditions and negligible arrangement in respect of education and health have also attracted large number of rural people to migrate and settle in urban areas in search of good education, health facilities, better living conditions and securities of life.

As a result of heavy public investments in industry and mining, huge industrial development and sustained agricultural development urbanisation takes place. Thus due to these "pull factors", large number of rural people migrate to urban areas.

However there are certain **"push factors"** where due to worse economic conditions a number of rural people are pushed out of villages due to economic compulsions. Thus in the current phase of urbanisation both the **"pull factor"** and "push factor" are very much operational.

(iii) Expansion of Industry and Trade:

In recent years, urbanisation takes place with the growing expansion of industry and trade in a particular state of region. Growth of an industry with its ancillaries along with localisation of industry would always create a favourable situation for the growth of an urban set up.

Similarly, growth of business and trade along with establishment of an active market always provides adequate support toward growing urbanisation in those places related to the development of industry and trade.

(iv) Boundary Changes of Towns:

With the extension of the boundaries of cities and towns, more and more rural areas are gradually being included in rural areas. Although life in these newly extended areas remains rural initially but the inclusion of these areas into these towns and cities necessarily increases the number of urban population.

5. Consequences of Rapid Urbanisation:

The rapid urbanisation is subjected to both healthy and unhealthy consequences and aspects.

(i) Healthy Aspects:

Rapid industrialisation results the development and setting up of many industrial cities. Along with manufacturing units, ancillaries and service sector started to grow in those urban areas. Secondly, new and additional employment opportunities are created in the urban areas in its newly expanding manufacturing and service sector units.

This would result rural-urban migration and **"industrialisation-urbanisation process"** to set in. Thirdly, growth of cities can give rise to external economies so as to reap the benefit of economies of scale for various services and activities.

Finally, urbanisation results changes in attitudes and mind set of the urban people resulting modernisation in behaviour and proper motivation which indirectly helps the country to attain faster economic development.

(ii) Unhealthy Aspects:

Although development of the economy are very much associated with urbanisaition but it has resulted some serious problems. Firstly, growing urbanisation is largely responsible for increasing congestion in the urban areas. Too much congestion has resulted problems like traffic jams, too much concentration of population, the management of which is gradually becoming very difficult and costly.

Secondly, too much of population is another unhealthy aspect of urbanisation which creates urban chaos related to housing, education, medical facilities,

growth of slums, unemployment, violence, overcrowding etc. All these would result in deterioration in the quality of human life.

Finally, as a result of urbanisation, large scale migration takes place from rural to urban areas. Such large scale migration of active population from rural areas would result loss of productivity in rural areas, leading to poor conditions in village economy. Thus urbanisation, beyond a certain point, would result in unhealthy consequences.

(iii) Urban Policy Measures:

Considering unhealthy consequences of rapid urbanisation, it is quite important to formulate an urban policy which can provide urban development with minimum undesirable effects.

The measures which can be largely followed include:

(i) Integrating urbanisation process with the development plans of the country for developing non-agricultural activities like manufacturing services and infrastructure leading to attainment of external economies,

(ii) Making arrangement for selective urban development so as to minimise the disadvantages of these large sized towns,

(iii) To develop rural districts, by developing towns in highly rural districts,

(iv) To develop satellite townships in and around large cities; and

(v) Relieving pressure on large urban centres by developing urban amenities in adequate quantities so as to make urban living peaceful.

Role of Urbanisation in Economic Development of India:

Urbanisation and economic development are closely associated. Economic development of a country indicates increase in the level of per capita income and standard of living along-with the enlargement of employment opportunities for its growing population. With the attainment of economic development and growing industrialisation, the process of urbanisation starts at a rapid scale.

Some areas emerge as a large urbanised centre with large scale industrial and trading activities. These areas started to offer increasing number of employment

opportunities leading to a shift of population from rural areas to these urbanized centres. Thus economic development of a country assists in its process of urbanization.

Growing industrialisation raises the rate of economic development along-with the pace of urbanization in the country. Increase in the rate of economic development raises the level of per capita income and standard of living of the people which in turn enlarges the demand for various goods and services.

This increase in aggregate demand expands the production system leading to a large scale production of various goods and services.

All these lead to increase in the pace of urbanization in the country. Thus there is a good correlation between the level of per capita income and the pace of urbanization. In India, the coefficient of correlation between the proportion of urban population to total population and the level of per capita income is estimated at 0.5, which is significant.

Moreover, economic development paves way for growth of cities and towns. Thus with the increase in the number of cities and towns the proportion of urban population to total population is also increasing.

But higher degree of urbanisation cannot reduce the degree of unemployment in India significantly through the absorption of increasing number of surplus labour force from rural areas as the scope for raising urban employment is also limited. In India there is an insignificant positive correlation (0.18) between the proportion of urban population and the rate of daily status of unemployment.

Moreover, there is a mild negative correlation, i.e., 0.22, between the proportion of urban population and the percentage of population below the poverty line in India.

Factors which are responsible for this typical situation are:

(a) neglect of urban slums in our planning coverage;

(b) growing exploitation of unorganised sectors by capitalists, contractors, landlords etc. and

(c) increasing application of capital intensive techniques in urban areas.

Thus in comparison to the degree of urbanisation achieved in India, the absorptive capacity of the urban centres is very low. This shows the reason why urbanised centres in India could not make much headway in reducing the degree of unemployment in the country.

Thus, in conclusions, it can be observed that the attainment of high rate of economic development paves the way for growing urbanization along-with the increase in the level of per capita income and the development of various urbanized infra-structural facilities like transportation and communication, housing, education, health, trade, banking etc.

But this growing urbanisation has also led to huge concentration of population in urban areas, resulting in various evils side by side such as growth of slums, increasing congestion and pollution, problems of transportation, housing, water supply, health services, unemployment and poverty.

Understanding Poverty and Inequality in Urban India since Reforms

Bringing Quantitative and Qualitative Approaches Together

Vamsi Vakulabharanam, Sripad Motiram

Having grown considerably in the past two decades, Indian cities have become highly unequal spaces – economically, spatially, socially and culturally. Both quantitative approaches and qualitative methods have been used to study and measure the rising levels of inequality and the extent of poverty of the cities. While both have their problems, this paper claims that notwithstanding their respective limitations, these two approaches have captured different dimensions of the complex Indian urban process, even if they have rarely made an effort to speak to each other. The authors offer their own perspective on how these approaches can learn from each other and move forward.

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Introduction

The urban process[1] in India is fundamentally constitutive of the high growth that India has been witnessing since the 1980s. This process has received major impetus from the infl ux of agrarian capital into the cities from the 1980s onwards, the consolidation and growth of old and new urban capital, as well as the entry of foreign capital since the 1990s (Damodaran 2008; RBI 2012 and various issues). State investments of a facilitating kind (for example, urban infrastructure, as opposed to state-owned enterprises) have increased, too. Cities have witnessed signifi cant in-migrations of working populations from agricultural hinterlands since colonial times (Chandravarkar 2006), and this process has intensifi ed further in recent decades (Shrivastava 2011). City spaces have also undergone rapid reconfi gurations over the last two or three decades with the emergence of wealthy enclaves and new towns (Bhattacharya and Sanyal 2011), which have tended to be located away from older parts of the cities, viewed as congested, mixed (for example, in terms of income) and largely unplanned (or not amenable to modern planning). Across Indian cities, there has also been a signifi cant growth in slums and pockets of poor neighbourhoods that house the poorer recent migrants and the older urban poor.

All the above processes have coalesced in such a way that Indian cities have become highly unequal over the last two decades – economically, spatially, socially and culturally (Motiram and Vakulabharanam 2012; Vakulabharanam 2012; Zacharias and Vakulabharanam 2011). Quantitative approaches,[2] using large macro surveys and measures, which have been relatively more popular with economists, do refl ect these rising urban inequality levels. By all anecdotal accounts, Indian cities are also characterised by high levels of poverty, and what has been achieved (if at all) on the front of poverty reduction is modest. However, there is no consensus on the question of poverty.

It is important to understand at the outset that there are several problems with the quantitative approaches. On the question of poverty (urban or rural) in India, there is considerable controversy and disagreement on basic questions such as: How many poor are out there? What is the trend/rate of changes in poverty? On the question of inequality, too, there are strong reasons to believe that there is serious underestimation of both the levels and increases in inequality (Jayadev et al 2007). In

general, scholars using quantitative approaches have tended to focus on macro databases that come with a claim of an

"objective" representation of reality, when it is not at all clear if such a strong claim can be justifi ed. There could be problems concerning how representative these data samples are of the whole population; whether the questions in the surveys are equally comprehensible to all respondents; whether these questions adequately refl ect the agency of the respondents; and whether the mechanisms involved in social dynamics can be unearthed through these questions. Also, similar looking macro/statistical outcomes of poverty or inequality may hide the varied mechanisms that produce these outcomes. Therefore, quantitative approaches alone are not adequate to make sense of these deeper phenomena, which require an appreciation of the structural and historical context in which the present-day urban centre is located.

In our reading, the qualitative literature (for example, from geography, anthropology, sociology or political science),[3] which has mostly relied on research methods such as ethnog raphy, participant observation and spatial mapping, has been very insightful in contextualising the changes that we are witnessing in urban India, and in engaging with the actual proce sses and mechanisms, and with the diversity and heterogeneity that characterises the urban. However, these approaches are rooted in particular traditions, with their own blind spots. A lthough there are notable exceptions, these studies have tended to focus on micro contexts (for example, particular slums) without investing adequate effort into theorising the relations between these micro contexts and the larger macro context. We also perceive a contradictory set of tendencies among these studies. On the one hand, there is a strong belief that it is epistemologically unfeasible to go beyond the subjective, and the micro contexts. On the other, there is also a tendency to theorise the entire social totality from a micro-study, which may produce a whole range of confl icting claims that are somewhat impossible to resolve rigorously or satisfactorily. As a r esult, this literature is characterised by a deep fragmentation, from which a coherent picture of the larger s ocial reality is somewhat hard to construct.

In this paper, which is intended for a broad audience of social scientists and policymakers, one of our claims is that notwithstanding their respective limitations, these two (that is, quantitative and qualitative) approaches have captured different dimensions of the complex Indian urban process, even if they have rarely made an effort to speak to each other. We present below (Sections 2 and 3) both the insights provided by an analysis of the larger macro databases, as well as the insights from various qualitative and conceptual appro aches to produce a richer account of the questions of

equity and justice in the Indian urban context. We also offer our own perspective (in Section 4) on how these approaches can learn from each other and move forward.

Quantitative Approaches

Our focus in this section is on studies that have used large, nationally representative databases (National Sample Surveys (NSS), Census, and National Family Health Surveys (NFHS)) to understand urban poverty and inequality in India. There is an abundance of such studies, so given the restrictions of space, we survey this literature selectively. We focus on more recent studies (that have appeared since the late 1990s) and present the latest available evidence on the extent, trends and determinants of poverty, and the mechanisms through which it persists.

Do We Know Anything Definitive about Urban Poverty?

We fi rst look at the studies that have tried to estimate the number of urban poor, the rate/extent of urban poverty and their trends. In the moneymetric or unidimensional appr oach, which is by far the dominant one and on which controversies have centred,[4] a poverty line in monetary terms is postulated and various measures (for example, the percen tage of people below the poverty line, viz, the head count r atio (HCR)) are computed, based upon this. At the outset, we should acknowledge that any discussion of this approach has to be conducted in the shadow of the recent controversy on o ffi cial poverty lines (that is, the recommendations of the T endulkar Commi ttee). There has been a series of critiques (for example, Subramanian 2011; Suryanarayana 2011; Swaminathan 2010), and there is near consensus now that the methodology adopted by this committee is shown to be fl awed – essentially, there is no consistent norm that one can discern, beyond an attempt to fi nd a poverty line that would result in a poverty rate perceived as reasonable, that is, neither too high nor too low. In a way, the government itself has recognised these problems, since it has recently appointed a new committee (chaired by Rangarajan) to set a new poverty line.

In a lucid and comprehensive account, Subramanian (2011) has shown how this is but the latest chapter in a long saga of problems and inconsistencies that have plagued the setting of Indian offi cial poverty lines since Independence. There are several details (which i nterested readers can refer to in Subramanian 2011), but in the interests of space, we skip these and illustrate one i mportant controversy. The method suggested by the 1993 expert group involved rural and urban poverty lines for a "base year" (1973-74), and the updating of these lines regularly based upon the prevailing prices. The poverty lines for the base year were set (based upon results from the NSS consumption e xpenditure survey for 1973-74) so that they corresponded to a minimum calorie requirement (2,100 and 2,400 kcal for urban and rural areas, respectively), although the correspondence of these lines with these requirements was rough (at best). The problem with this approach is that if one agrees with it, one is equally justifi ed in taking any year (and not just 1973-74) as the base year and using this procedure of updating. Put simply, for the year that one is interested in, one could just examine the proportion of people who fail to meet the calorie requirement to obtain the HCR. This is problematic since, depending upon the base year chosen, the trends and extent of poverty differ.

Choosing an offi cial base year (1973-74) provides the comforting trend of a secular decline in urban poverty using NSS consumption expenditure surveys. This is what many scholars (including us; for example, Sen and Himanshu 2004a, 2004b; Himashu 2006) have found using offi cial poverty lines and NSS surveys on monthly consumption expenditure. The all-I ndia urban HCR has declined from about 42-44% (various estimates) in 1983 to about 26% in 2004-05. However, Patnaik (2007: Table 2) uses the same data and takes a direct approach by looking at the proportion of people in urban areas who fall short of the nutrition norm of 2,100 kcal. She fi nds that this proportion has declined

from 58.5% in 1983 to 57% in 1993-94, but then increased to 64.5% in 2004-05. From the above discussion, it is clear that one could claim that the offi cial method ology is consistent with both these trends (and several o thers).

Other estimates are available for this period (based upon the NSS Employment and Unemployment Surveys) from the National Commission for Enterprises in the Unorganised

Sector (NCEUS). The NCEUS was constituted in 2004 by the then United Progressive Alliance (UPA) government to investigate and report on the conditions of the informal sector. It estimates that in 2004-05, the unorganised sector[5] contributed about half of the GDP (NCEUS 2008: Table 2), and that unorganised workers[6] comprised 92% of the total workforce
(NCEUS 2007: 1). It uses a consumption threshold of Rs 20 per person per day and estimates that in 2004-05, as high as about

77% of India (rural and urban, NCEUS 2007: Table 1.2 and p 1) fell below this threshold. The number of these "poor and vulnerable" has actually steadily increased: 732 million in 1993-94, 811 million in 1999-2000, and 836 million in 2004-05, although their proportion in the population has steadily declined. It is worth pointing out here that the number of poor (and not just the percentage of poor) is relevant if we want to budget for and target the poor; therefore, an increase in the number of poor has important implications.

The Planning Commission (2012: Tables 2, 3), using the Tendulkar Committee's poverty lines, documents that the urban HCR declined from 25.4% (814.1 million people) in 2004-05 to 20.9% (764.7 million people) in 2009-10, but no one takes these estimates seriously. Essentially, we will have to wait for the recommendations of the latest committee for a consensus to emerge on the extent of urban poverty and the number of urban poor.

However, the above controversies do not distract from some basic trends, correlates and mechanisms; we discuss these below. One can use the distribution of consumption expenditure for various socio-economic groups and experiment with various poverty lines to examine which of these groups has a higher prevalence of poverty. Motiram and Naraparaju (2012) do so[7] using data from the 61st (2004-05) and 66th (2009-10) rounds of the NSS consumption expenditure survey, and fi nd a clear pattern for caste and occupational groups. Among caste groups in urban areas, poverty is highest among the scheduled castes (SCs), followed by the Other Backward Classes (OBCs), scheduled tribes (STs), and others. Among occupational groups, urban poverty is highest among those involved in casual labour, followed by the self-employed. Apart from caste and occupation, other interesting dimensions have also been explored, for example, the size of the city and migrant status. Dubey et al (2001) use NSS data to show that for all o ccupational groups, the incidence of poverty declines with city size, that is, the larger the city or town, the lower is the incidence of poverty (a fi nding also supported by Hashim 2009 and Kundu and Sarangi 2007). They argue that this could be due to better economic and social infrastructure in larger c ities – while the former contributes through better opportunities, the latter does so through transfers. Migration status has also been found to be negatively associated with urban poverty. U sing NSS data, Kundu and Sarangi (2007) show that migrants have a lower likelihood of being poor as compared to the non-poor, although there are differences among migrants, with rural- urban migrants displaying a higher likelihood compared to urban-urban migrants.

No discussion of urban poverty and urbanisation is complete without a reference to slums. Data from slums are present in the census, NSS and NFHS. Gupta et al (2009) use NFHS data for 2005-06 to examine eight large cities.[8] They defi ne the poor in relative terms, as those falling in the lowest

quartile of a wealth index. Defi ned this way, poverty varies from 7% in Mumbai to 20% in Nagpur. They fi nd that the percentage of slum-dwellers varies across cities and depends upon the defi nition of a slum – whether it is designated a slum in the 2001

Census, or by the NFHS enumerator. Using the census defi nition, the variation is from 56.9% in Mumbai to 17.4% in Hyderabad, whereas using the NFHS, it varies from 57.4% in Mumbai to 2.8% in Indore. As expected, the prevalence of poor is much higher in slums as compared to non-slums (except in Indore) by both the above defi nitions; for example, according to the census, 41.7% of slum-dwellers in Delhi are poor, whereas the corresponding fi gure for non-slum-dwellers is 5%. However, there is a substantial percentage of poor in non-slum areas, too, for example, 14.7% in Nagpur.

Urban Inequality after Economic Reforms

A discussion of poverty is not complete without referring to inequality or relative deprivation, broadly speaking. In the liter ature on inequality, a distinction has been made between two different kinds of inequality – interpersonal (or vertical) inequality and horizontal inequality (among subgroups of the population). Motiram and Vakulabharanam (2012) present an overview of the relevant literature and changes in both vertical and horizontal inequality in nominal consumption expenditure since the 1990s, based upon the 50th (1993-94), 61st (2004-05) and 66th (2009-10) rounds of the NSS consumption expenditure survey. They show that interpersonal inequality has displayed a steadily rising trend in urban areas – the urban Gini index has increased from 34.4% in 1993-94 to 37.6% in 2004-05, and then to 39.3% in 2009-10. This is also true for most of the states – they have witnessed an increase in urban inequality (as measured by the Gini index) during the period 1993-94 to 2009-10.

When it comes to horizontal inequality, there are several subgroups that can be considered, for example, caste, class, state/region and sector – rural/urban. One way to understand changes in horizontal inequality is to decompose the overall inequality into “between” and “within” components using an inequality measure that belongs to the single-parameter entropy family of inequality measures (for example, Theil). An increase in the share contributed by the between component can be interpreted as an increase in inequality among subgroups. Motiram and Vakulabharanam (2012) show that at the all-India level, rural-urban inequality and inequality among states have increased since 1993-94. Vakulabharanam (2012) decomposes the Gini index using the Yitzhaki (1994) methodology (which yields an overlapping component in addition to the between and within components) to show that class-based inequality (that is, inequality among classes) has increased since the 1980s. While the Indian growth experience in the 1980s was not inequality inducing, it has become sharply inequality inducing since the 1990s.

The story of the divergence of urban elites (owners, managers and professionals) from urban workers as well as the rural population comes across clearly from the 1980s itself. In fact, the urban elite, consti tuting about 10-15% of the total population in the country, has monopolised almost the entire relative gains after the economic reforms. Using the NSS All-India Debt and Investment Survey, Jayadev et al (2011) show that during 1991-2002, the median *wealth* of the urban elite was much higher and grew faster compared to that of the middle classes and manual workers. All this brings out the story of an emerging urban enclave in class terms, which indicates an extremely skewed and unequal growth. On caste, using the same survey, Z acharias and Vakulabharanam (2011) show that urban SCs are at the bottom of the urban wealth ladder, with urban STs having a marginally higher median wealth, followed by the OBCs and non-Hindus. The so-called “forward caste” Hindus are almost like an urban wealth enclave too, and overlap l ittle with the other caste

groups. Starting from a low wealth base, the urban SCs have registered a higher growth rate in median wealth compared to the other groups

(especially the urban STs).

While studies using the statistical approaches discussed above have been insightful in providing broad and nationally representative trends, these insights come with certain limitations. They have scarcely provided clues as to why urban poverty persists and why/how people in urban areas move in and out of poverty (more on this below). Moreover, they have been somewhat silent on the larger structural and historical forces that help us understand and locate urban poverty, inequality and exclusionary processes. Studies that have used qualitative approaches have been more illuminating in this regard, and we turn to them next.

Qualitative and Conceptual Approaches

It is hard to provide a synthesis of the qualitative and conceptual approaches because of the presence of considerable heterogeneity. Examining the myriad studies that defi ne this literature, we can discern disciplinary differences, differences in epistemology, and in scope. Given this, what we aim to do below is select representative studies that provide insights into the living and working conditions of the urban poor, and the processes of exclusion operating in Indian cities.

How Do the Urban Poor Live and Work?

From the above discussion, it is clear that the urban poor are disproportionately concentrated in casual labour and among the self-employed. Most of these are in the "informal sector", a term coined by anthropologist Keith Hart in his 1973 study of Ghana to describe a variety of occupations taken up by people in cities in developing countries. Since its fi rst use, this term has been deployed widely and this sector studied extensively. In a series of works based upon an intensive study of the state of Gujarat over a long period of time, Jan Breman (1996, 1999, 2010, particularly Chapter 1) provides several insights into the functioning of the informal sector in urban India. We draw upon these works below.

He argues that there is a considerable number and proportion of labourers who "circulate" between rural and urban areas, working when they are employed in the informal sector and returning to their villages otherwise. The extent of this phenomenon, which can be described as "footloose" or "nomadic" labour, is seriously underestimated in national surveys (for example, the NSS), which have provided a fi xity of residence for the respondents.[9] These labourers are drawn from backward communities and lack land, education, or social networks. Poverty persists among them because they cannot fi nd sustainable livelihoods in the agrarian economy, and their temporary status does not allow them to fi nd a foothold in the urban economy. Interestingly, the process of circulation is not completely a function of demand and supply, and is sometimes a deliberate strategy on the part of employers to gain access to a pliable workforce, which also serves the purpose of disciplining the local labour. Since the conditions of this group (for example, the costs that they incur) are not adequately captured, one consequence of the above is that poverty may be underestimated using the NSS surveys.

Supplementing Breman's work, Gidwani and Sivaramakrishnan (2003) argue that the standard marginalist (used in neoclassical economics) and Marxian narratives of migration are reductionist and economistic. The authors bring in larger concerns of space, culture, politics and labour mobility to argue that the logic of circulation or circular migration is governed also (and sometimes mainly) by non-economic considerations, which can arise out of counter-hegemonic politics as well. They

emphasise the role of agency and the subjectivity of the migrants, who may use consumption or labour deployment as ways of countering certain oppressive cultural or political processes in their places of origin.

The informalisation and circulation of labour have to be understood in the context of a larger intellectual discourse (for example, on the part of the World Bank) supporting these processes, and viewing labour mobility in a positive light. The diffi cult living conditions of informal workers are a result of certain major failures on the part of the Indian state, which, unlike states in the west, did not provide adequate (cooperative) housing for the workers (Breman 2010: Chapter 1). Since the early waves of migration induced by industrialisation (particularly in cities like Mumbai) began in the colonial period, this has to also be located in the context of the particular regime of colonialism that India witnessed, and the relationship between the colonial state and its "subjects".[10]

Other features of the informal sector, which are not wellknown, have also been highlighted in the works of Breman and in some other studies. The informal sector is not homogeneous, but differentiated by the presence of a hierarchy of jobs. Moreover, contrary to received wisdom, the purpose of the informal sector is not a temporary one, providing respite to migrants who could use it to move to better jobs in the formal sector. It also does not have an infi nite absorptive capacity and is actually characterised by unemployment and underemployment, phenomena that are not well understood. The informal and formal sectors are actually locked together and interact with each other in complex ways (also see Guha-Khasnabis et al 2006); therefore, the dualistic framework which has hitherto been the dominant paradigm informing both policymakers and scholars is simplistic.

The complexity and internal differentiation of the informal sector is confi rmed by several fi eld-based studies, which have focused on particular occupations and sectors. These have also provided valuable insights into the conditions under which informal workers live and work. We focus on two of these occupations – scrap/waste picking and street vending. There is extensive literature on the former, for example Furedy (1984), Chikarmane and Narayan (2000) and Chikarmane (2010). Chikarmane and Narayan (2000) document the different layers that characterise this industry – waste pickers, itinerant buyers and scrap dealers, with the waste pickers at the bottom of the hierarchy. While the waste pickers are mostly female, the itinerant buyers are mostly male. There are particular caste groups that enter this trade, and given this, a patronal but exploitative arrangement is formed between the traders and itinerant buyers/waste pickers. This industry also illustrates the fact that for the people involved in low-skilled occupations, there may be hardly any mobility and escape from poverty. Most people involved in waste picking spend their whole lives in this activity – starting as children and continuing till they become physically incapacitated.

Unlike waste picking, street vending has not received much scholarly attention (Sood 2011), despite being the ubiquitous and prominent face of the informal sector and providing livelihood to more than a crore individuals (EPW 2007). However, there are some recent scholarly studies that one can draw upon, for example Anjaria (2006); Kalhan (2007); and Bhowmik (2010). A study of street vending provides a good illustration of the relationship of the informal sector vis-à-vis the state and the urban elite/middle classes. The state tries to regulate street vending and views it as a source of revenue, while on the ground, it is predatory and rent-seeking (extracting bribes). The affl uent urban elite view street vendors as a nuisance and an eyesore, obstacles in the path of Indian cities moving on to "world class" status. The less affl uent middle classes take an ambivalent view, seeing vendors as a source of cheap bargains while at the same time sharing the above attitudes. The withdrawal of the state and the wave of decentralisation in recent times have created a space for elite non-governmental organisations (NGOs) and residential welfare associations, which have been

able to promote the above ideas and attitudes with some success – Bhan (2009) is another example in this regard. He shows how “slum clearance” and “slum evictions” have increa sed dramatically in Delhi since the turn of the (21st) century. One of the important differences between these evictions and those of the past is that the former have been carried out at the behest of courts, which have themselves ruled in favour of non-poor resident welfare and trade associations.

It is well known that many people in the urban informal sector, particularly the migrants, live in slums. In his path-breaking work, Davis (2006) provides further insights into the process of slum formation, the growth of the informal sector, and the growth of cities in general. A few fi ndings from his study are worth pointing out. In India, in contrast to China, it is the medium-sized – and not the larger – cities that have seen enormous growth. Moreover, in larger cities (for example Mumbai) growth has proceeded concomitantly with deindustrialisation. Across the developing world (including India), an important contributor to this growth is migration from the countryside; however, the countryside is itself becoming urbanised while sending migrants to the cities. Several fi eld-based studies have also provided further insights into slum conditions and the question of how poor households, particularly in slums, could get trapped in poverty. Banerjee (2000), based on a study from Delhi and Mumbai, argues that many slum children are not in school due to the inadequacies of the schooling system, rather than the economic backgrounds of their families. Kumar and Agarwal (2003), based on evidence from Delhi, documents the surprising fi nding of considerable inequality within slums, for example between men and women, and among migrants from various states.

Urban Growth, Rising Inequality and Processes of Exclusion

Sanyal (2007) makes a few general arguments about postcolonial capitalism that are applicable to the urban development in India as well. His main argument is that postcolonial capitalism operates on a twin trajectory of creating a space of capital that functions on the one hand with the dynamics of capitalism (as thinkers like Marx have described it), and on the other, creates a “need economy” for all those not incorporated into the domain of capital. The relation between these two is not one of annihilation, but one of exclusion, primitive accumulation, and at the same time a reversal of primitive accumulation through what Sanyal refers to as “developmental governmentality”. Applied to the urban, the fast-growing urban formal sector can coexist with a large informal sector that c aters to the need economy of the majority of the workforce (“the dispossessed and the outcasts”). In this process, the formal/ capitalist sector could dispossess the informal continuously at the same time as it transfers some of its surpluses to renew the informal/need economy. This complex interaction precludes a larger narrative of historical transition in favour of an understanding that shows how capital itself constantly r einforces a non-capitalist space to ensure its own continued survival. While Sanyal’s description of the urban process as one that simultaneously includes a select minority and excludes the large majority is insightful, it simplifi es the relations between the two into one that is only mediated through developmentalist welfarism and dispossession. In reality, the so-called excluded are on the fringes of the formal economy – subsidising it and feeding various cheap inputs to it, while being periodically dispossessed by it. Sanyal’s insights, along with the logic of circular migration (described above), which shows how the informal workers participate and leave the circuits of capital using their agency (or due to structural factors), may provide a better framework to explain how the urban process is unfolding in India. Also, if we take the insights offered by the work on “waste” and its circulation in Indian cities, the solid boundary that Sanyal draws between the world of capital and the world of need/subsistence becomes far more porous.

Despite this, Sanyal's arguments throw considerable light on the inequality inducing growth processes that have characte rised urban d evelopment in India over the last two decades.

Other studies, too, have provided insights into the complex processes of exclusion and inclusion occurring in India today. For example, Gooptu (2011) focuses on the process of reimagining cities as entrepreneurial and dynamic, and as keys to the future growth of India. This results in a contradictory set of tendencies. On the one hand, it leads to elite and middle class revolt against the poor and to their distrust of politics (particularly electoral politics), which they see as disruptive of the developmental process and one that allows the poor to be "vote banks". On the other hand, there is also a realisation that the poor have to be "included" in the growth process, which is done in two ways – as entrepreneurs and as stakeholders. The former is accomplished through NGO, international donor and state-sponsored schemes like self-help groups, microfi nance, and so forth. The latter has gone along with decentralisation (the 74th amendment, which empowers local bodies), and the poor have been incorporated through local institutions and projects, for example, Ward Committees, Slum Works Maintenance Committees. The net effect of these contradictory tendencies has been that while inequality has grown and the poor are still vulnerable, their dissent is muted, lacking overt political mobilisation.

Harriss (2006) examines a different source of exclusion in modern India by focusing on "civil society" activism, which has grown in recent times. He draws upon survey-based and ethnographic evidence from Delhi, Mumbai and Chennai to throw light on the tensions and confl icts between the middle classes and the informal working classes. The middle classes dominate civil society activism, and those belonging to the informal sector are largely excluded from it. To the extent that participation in civil society organisations contributes to political participation, this is a mechanism through which political inequality is accentuated. The one exception to this trend is struggles over women's rights, livelihoods and housing. In these movements, women belonging to informal, working-class households are also active. However, housing and livelihood are issues over which the middle classes and working classes come into confl ict. Middle-class apathy has also been used to explain why the sanitary conditions under which many of the urban poor in Indian cities live are appalling. Chaplin (1999) argues that the Indian middle classes (having monop olised the basic services provided by the state) have little incentive to support moves to improve sanitary conditions in general, since compared to the poor, they are largely protected from ill health resulting from poor sanitation. Moreover, there is inadequate pressure "from below", in contrast to mid-19th century Britain, where there was considerable organised trade union pressure.[11]

While we have discussed exclusionary processes occurring on the basis of class and caste, some studies have focused on religion, particularly on the status of Muslims. In a recent study combining statistical data with ethnography (Jaffrelot and Gaynor 2012),[12] several scholars studied the conditions of Muslims in 10 Indian cities.[13] Muslims (along with Parsis and Jews) are the most urbanised community in India, although more than half of them live in seven states. Their urban poverty levels are much higher than their rural poverty levels, and are also higher than the urban poverty levels of the Hindus. As pointed out by the Sachar Committee, compared to the n ational average, urban Muslims are substantially under- represented in the formal sector. The marginalisation of M uslims can be located in a historical context – with the advent of British colonialism, partition, and the loss of the princely states. In recent times, an important contributing factor has been the rise of Hindu nationalism and the concomitant rise in communal violence. Repeated bouts of communal violence have resulted in ghettoisation in some cities (for example, Ahmedabad), and spatial segregation. Ghettoisation has taken a particular form, wherein despite other differences (for example class and caste), Muslims have begun to stay in the same locality, insulated from the rest of the city, a locality where the state services (schools, roads, etc) are very

poor. Paradoxically, given that Muslims belonging to different socio-economic strata are resident in the same locality, the poor in these ghettos are better off compared to poor Muslims living in cities (Mumbai, for instance) where the Muslim elite and middle classes do not interact with them. Muslims are better off in the south and the east, compared to their compatriots in the west and the north.

Discussion and Conclusions

What is the composite picture of distributional changes in urban India that we get from the quantitative and qualitative approaches? First, on the question of urban poverty (along any single dimension like consumption or income), the evidence from quantitative approaches is not adequate to come to any consensus in answering even simple questions, like: How many people are poor in urban settlements in India? What has been the trend/rate of poverty? What is the pace of poverty reduction over time? To a large extent, the blame can be laid on the Planning Commission and successive committees, which have been unable and/or unwilling to adopt a set of coherent and defensible norms in fi xing the poverty line. The Indian situation is not unique in this regard; the World Bank has created considerable controversy and confusion through its international poverty lines ($1 per day, $2 per day, etc; see the contributions in UNDP 2004).

This is not the place to go into details, but one good way out of this mess is to adopt a capability-based approach (although it is diffi cult to implement) by fi xing the threshold (that is, poverty line) at a level such that people above this threshold can afford some basic capabilities (for example, housing, shelter, food) – a proposal conceptually similar to the one made by Reddy (2004; also see Pogge and Reddy 2003) in the debate on international poverty lines. We suspect that if such an approach is adopted, the poverty levels in India will be much higher than what the offi cial fi gures have hitherto told us (since the offi cial poverty lines have been kept artifi cially low). We also expect this approach to result in rates of poverty reduction that are lower than the corresponding offi cial rates. Also, although there are some conceptual and operational issues that need resolution, it may be worth moving beyond analyses of urban poverty along a single dimension (for instance, consumption) and strengthening the tradition of multidimensional analyses in the Indian context.[14]

Due to a paucity of nationally representative panel data, it has not been possible to rigorously understand how/why people move in and out of poverty, and the mechanisms through which urban poverty persists and is reproduced.[15] However, we have some evidence showing that access to credit, education and family characteristics[16] play an important role.

Second, the evidence on inequality is much clearer from quantitative approaches (although there is an understatement of the levels of inequality). Since the advent of economic reforms, the fast-paced growth in India has become intertwined with rising inequality, primarily driven by the increasing urban inequality and rising gap between urban and rural areas. Within urban spaces, there has been a rapid increase in the gap between urban elites and urban workers (formal and informal), and this rise in class inequality is the basis for the increasing urban inequality. In the past two decades, as Indian growth has become centrally constituted by the Indian urban process, the rural populations (particularly agricultural populations, who have been unevenly affected by a nationwide agrarian crisis since the late 1990s) have been left behind, giving rise to the growing urban-rural gap.

The qualitative approaches on urban poverty and inequality add valuable insights to this picture, by showing how the specifi cally urban dynamics that Indian growth has unleashed have affected the livelihoods of the urban poor and their inclusion in the growth process. By focusing both on the nature of working groups and their dynamics, these approaches point to the need for a correction in

our understanding, sourced from the estimates of large-scale surveys. It is clear that urban poverty levels probably run much deeper and are chronic by nature, given the kind of occupational continuities and the low valuation of the labour that the working poor in cities (especially in the informal sector) are forced to perform. It is also probably true that the poor perceive their condition in myriad ways, some of which are different from those of "experts" and policymakers.[17] The qualitative and conceptual work on inequality has delineated the deeper processes at stake, such as postcolonial capitalist dynamics, or the nature of the entrepreneurial and neo-liberal city, or the nature of middle class civil society activism, or exclusion and segregation based on caste or religion, which have shaped urbanisation and its iniquitous tendencies in the recent Indian experience. Studies that have combined quantitative and qualitative approaches in a nalysing poverty have provided richer and counter-intuitive insights. For example, Baud et al (2008) combine census data with geographic information systems techniques to map multidimensional urban poverty at the ward level for the city of Delhi. They explore the spatial c oncentration of poverty and the association between voting patterns and poverty levels. An interesting fi nding from their study is that areas of serious concerns ("hotspots") are not concentrated in slums – this is in contrast to the fi ndings from NFHS that we described above.

Way Forward

In this paper, we have attempted to collate the various insights into urban poverty and inequality in India from separate quantitative and qualitative studies, and a few composite works. We strongly believe that combining these approaches in a more organic manner will produce better insights. There have been earlier attempts to bring these approaches together. An early attempt to do so produced inconclusive conversations between economists and anthropologists (Bardhan 1989).[18] Another consistent effort has been by the "Q-Squared" group (see, for example, the special issue of *World Development* (2007; 35, 2; and Addison et al 2009). This expression refers to the combining of quantitative and qualitative methods (hence the "squared") in the understanding of poverty, carried out by a group of scholars from various social sciences (economics, sociol ogy, anthropology, etc). They have achieved modest success while working through the serious tensions that conversations between these approaches generate. Some scholars associated with this group (Kanbur and Shaffer 2007) have argued that these tensions could arise at a very fundamental level, such as on the epistemological plane or at the level of normative theory in analysing poverty. Beall et al (2012) argue for a multidisciplinary approach in understanding urbanisation, on the basis that economists have tended to focus more on density (agglomeration effects) and dynamics (migration), while the other social scientists have focused more on diversity and heterogeneity in discussing politics, culture, social relations, change, and so forth.

While some progress has been made through these initiatives, the common problem facing all these efforts is that the disciplinary divide is really powerful and disabling where conversations are concerned. Future efforts will have to move from multidisciplinary efforts to interdisciplinary initiatives, a distinction emphasised by Harriss (2002), which we fi nd insightful.[19] It is important to proceed with composite concepts, categories and approaches at the point of analysing the fi eld, rather than trying to set up conversations at a later stage.

Given the strong infl uence of positivism in quantitative approaches, and the multiple and fragmented epistemological approaches that populate critical qualitative studies, the best that a post facto conversation can achieve is the small concessions that the two sides of this divide will make for each o ther.[20] Instead, it should be admitted at the outset that both quantitative and qualitative methodologies ought to be integrated (indeed, it is apparent that both are needed in any

meaningful research) in studies on urban (or rural) poverty and inequality. Apart from the descriptions and characterisations that defi ne this fi eld currently, there should be an attempt to examine causal structures that blend various levels of being – the spatio-temporal nature of global capitalist dynamics, national political and economic regimes, and the local aspects of political economy and culture.

We believe that this will invariably produce a multiplicity of such c onceptualisations (which also combine quantitative and qualitative methodologies) and there can then be a debate between these composite approaches, rather than going ahead with the current unproductive divide between quantitative and qualitative approaches. Quantitative scholars will have to move out of their comfort zone of observing/analysing the world through large databases, to analysing the fi eld through an expanded conceptual apparatus that grapples with the logic of power structures on the ground, and their role in producing different regimes and dynamics of poverty and inequality. Qualit ative scholars should better attempt to integrate analyses of microcontexts with the larger structures in which they are located. Quantitative forays by these scholars towards understanding micro or macro structures (without attaching any necessary "objectivity" to numbers considered absent in other kinds of material by traditional quantitative scholars) may help reduce the i ntense fragmentation characterising their discussions. Movements of the above kind, coupled with a willingness to start from a set of composite research practices on the part of both may produce better conversations in the future. This might also go a long way in making sense of the mechanisms through which constructions of just and equitable urban spaces are being thwarted in India, and elsewhere

Urbanization and Economic Development in India

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Introduction

In developing countries of the world the focus of attention remains in the rural sector but the haphazard growth of cities has brought in its train several problems like deterioration in housing and public health facilities, not to speak of the growing crime rate. Urbanization is a process of population increase in urban area following some non-agricultural activities. The percentage of urban population to the total population of a country reveals the level of urban population growth. Higher is this percentage; greater is the level of urbanization and *vice versa.* Similarly, the per capita income is a clear indicator of the level of economic development achieved by a nation. A country which is highly developed therefore enjoys a very high per capita income and this brings a high standard of living for its people. The economic development of a region always leads to greater

urbanization. A high standard of living always leads to greater demand for goods and services. The need for greater production results in mechanization, division of labour, specialization of jobs and large scaled production. In short, economic development induces further urbanization through industrial development. It can even"be stated that the extent of industrialization acts as a common indicator in understanding the level of economic development and urban growth achieved by the economy. In this way, urbanization becomes a part and parcel of economic development.

This should be understood from the fact that in recent times, with the development of our economy, there has also been an increase in the number of people living in urban areas from 2.58 crores in 1901 to 10.90 crores in 1971, 22 crores in 1991, 28.36 crores in 2001 and 37.70 crores in 2011 for India as a whole. Only 30 percent of India's population lives in urban areas. Level of urbanization increased from 27.81% in 2001 census to 31.16% in 2011 census.

Data Base and Research Methodology

The present research is based on secondary collected through various secondary data sources. The necessary secondary data has been collected from the sources relative reference books, journals and other information regarding to the study was collected from economic survey of India and socio economic survey of India. **Objective of the Study**

This paper endeavours to illuminate on the process of urbanization in India with emphasis on level, tempo of urbanization and urban morphology using Indian Census data. In this paper researcher has tried to trace pattern of urbanization, urban problems and related policy issues.

Urbanization and Economic Development

The effect of economic development on urbanization is always positive in the sense that it always results in greater urbanization, the reverse is not always true in the case of India. This Chapter tries to analyze the positive and negative impact of urbanization on the economic development of our country. The growth of small and medium sized urban centres always leads to expansion of existing facilities. This is reflected in the improvement in transport, communication, housing, education, employment facilities, trade and commerce, civic amenities, etc. These improvements induce the 'pull factors' in attracting immigrants towards these regions. The population shows an upward trend. Correspondingly the demand for goods and services increases. The need for a greater supply of commodities and services to meet the increasing demand encourages investment activity in the economy. The multiplier effect becomes significant. This result in more opportunities for greater investment and the pull factors become dominant and the region continues to attract more and more immigrants. In such a situation, urbanization acts as a stimulant in furthering economic growth.

However, such a situation cannot continue for ever. After a particular stage, which one may call the optimum, the negative effect of urbanization on economic development starts operating. The optimum level can be stated to be that level where the burden on civic finance as a result of huge inflow of immigrants just equalizes the beneficial results of urbanization. The optimum, in a way, shows that the civic finance can do only that much and no more with regard to the provision of all the necessary

amenities to the public up to the level of optimum. Though the burden on the civic finances for providing the basic amenities to the public increases. Undoubtedly, this happens due to immigration. The greater burden under such circumstances is confidently met by the administrative machinery because of high level of industrialization and greater taxable capacity of the people. At this stage, urbanization does not contribute to further economic development.

Effect of Urbanization

This situation only serves as a warning signal for the negative effect of urbanization. Sooner or later, the downward trend starts exhibiting all the evils of over-urbanization. With the gaining momentum of full factors, the administrative machinery finds it burdensome to maintain the quality and quantity of public utilities and other amenities to the people. As the inflow of people towards these regions increases, the administrative machinery becomes less capable of meeting the additional requirements of the people and to maintain the desirable standard in the case of all civic amenities. This is the situation one comes across in big metropolitan cities like Calcutta in India. Over-urbanization in such a metropolitan cities reflects all the evils like housing problem, water scarcity, lack of medical aid, employment problem, spread of slums, increase in the number of beggars, lot of pavement dwellers, higher crime rate, atmospheric pollution and so on. This affects the economic development in two ways. Firstly, the rural migrant who comes to the metropolitan city with the hope of getting a decent job is disillusioned once he realizes the situation there. Having left his village in search of a job, he does not like to go back with a feeling of defeat. He struggles hard to find a job. Sometimes, he fails in his attempt and becomes one among the jobless and houseless poor. Even when he gets a job, it may not be to his satisfaction and may not be equivalent to his qualification. Poverty, lack of job satisfaction, under-employment, lack of proper accommodation and other minimum comforts of life become the root cause of frustration. With this anticipation about the outcome of over urbanization, the administrative machinery is compelled to change the pattern of expenditure. The primary concern of the administration becomes the provision of basic civic amenities and other requirements to the people and the multiplier starts working in the reverse direction. Urbanization, beyond optimum level, acts as an impediment for further economic development. The optimum level of urbanization depends upon the capacity of the region in providing all the amenities to the public in a fair manner. Grater capacity always raises the level of optimum and a lower of optimum is an indication of lesser monetary fiscal, administrative and other capacities of the administrative machinery. The following factors are responsible for this trend. The first factor relates to the attitude of the migrant. The migrant in most cases desires to move towards a big metropolitan city, ignoring all small and medium-sized towns and cities, because of the desire to live in a well known metropolitan city. The natural outcome is the over crowding in these big cities. This is evident from the data available. It can even be pointed out that urban growth in India has been mostly due to the urbanization of very few big cities. For example, Calcutta, has a population of 108 lakhs as on 1991 and has reached 132.17 lakh in 2001. The corresponding figure for the year 1991 was 108 lakhs. This is followed by Greater Mumbai, Delhi, Chennai, Bangalore, Hyderabad, Ahmedabad,

Kanpur, Pune, Nagpur, Lucknow and Jaipur. In 2001 Mumbai has reached a population of 196 lakhs which is the primate city of India.

The growth of small and medium sized towns and cities

The growth of small and medium sized towns and cities is not quite significant. In fact, there has been a degeneration of smaller towns. The period from 1901 to 1991, there has been a decrease in the number of Class V and VI towns. Partly, this may be due to the tendency of the smaller towns to go up to the higher classes. Still, the fact remains that the smaller and medium sized towns and cities are not given their due importance in our development programmes. The other factors responsible for such a situation relates to the lack of proper planning of the towns and cities in India. It is even said that many cities and towns in India are nothing but overgrown villages. Further, the investment decisions are biased by other considerations rather than favourable economic factors. The third factor which is of no less importance relates to the tremendous increase in population. The 1947 census shows that the population of India has 350 million and in 2001 population has increased to 1.02 billion and further 2011 population show that 1.21. billion. Though the percentage of growth has been more or less steady, there has been an absolute increase in the total population. This is mainly due to improved medical aid, lower death rate, increased life expectancy, etc. The birth rate has actually declined from 29 per thousand in 1991 to 24.28 in 2001 and 20.97 in 2011. The death rate however decreased from 13 per thousand in 1991 ,8.74 in 2001 and 7.48 in 2011. The life expectancy has increased from 62 years in 1991, 61.97 in 2001 and 64.8 in 2009. The density of population as a result of absolute increase in population has risen to 274 in 1991 people per square kilometer, 324 people in 2001 and 382 people in 2011. All these have led to over crowding everywhere.

On the other hand, the supply of land cannot be enhanced; the additional labour force in rural areas as a result of the population increase cannot be absorbed in agriculture. The surplus labour force will have to engage in occupations other than agriculture and in the absence of sufficient non-agricultural occupations in the villages the villager has to turn towards the city for a job. If urbanization has to induce further economic development, then the present trend should be reversed and measures which will improve the situation have to be undertaken. They include: (i) Rural development programmes which reduce the rural-urban dichotomy and minimize the push and pull factors leading to over-urbanization of a few cities. This will also lead to balanced regional development which is necessary for achieving a high level of economic development for any nation; (ii) Proper planning of towns and cities, particularly relating to the land utilization pattern, industrial development, educational development, cultural and civic amenities development; (iii) Development of smaller and medium sized towns and cities for diverting the attention of the migrant towards these places; and (iv) Further efforts should be taken to reduce the birth rate in a significant manner through various methods of family planning have been enforced.

Conclusion

The economic development of India requires economic growth. Cities are engines of growth because there is a bi-directional link between urbanization and

growth. Great progress has been made in developing the framework for reform linked investment in urban infrastructure. As per population projection in 2026, level of urbanization will be different in various states. India's future urban strategy should recognize these differences and plan accordingly. To improve urban governance and delivery of services there should be constitutional amendments as well administrative actions. Most importantly, inter-government transfers should have built-in incentives to improve performance and capacity building should be an important component of the future urban program.

Policy Implication:

Redirection of investment is recommended to develop strong economic base for small and

Medium city neglected so far. Redirection of migration flows is required. Since the mega cities have reached saturation level for employment generation and to avoid over-crowding into the over congested slums of mega cities i.e Bombay, Calcutta, Delhi, Madras etc it is required to build strong economic sector (Kundu and Basu,1998) in the urban economy, growth efforts and investments should be directed towards small cities which have been neglected so far so that functional base of urban economy is strengthened. Then redirection of migration to these desirable destinations will be possible.

Policy should also relate to proper urban planning where city planning will consist of operational , developmental and restorative planning.Operational planning should take care of improvement of urban infrastructure, e.g roads, traffic, transport etc. Developmental planning should emphasize on development of newly annexed urban areas. Various urban renewal processes can be used. Restorative planning should aim to restore original status of old building monuments which have historic value.

In general urban planning must aim at :

a) Balanced regional and urban planning (Mukherji, 2001)
b) Development of strong economic base for urban economy
c)Integration of rural and urban (Kundu, Sarangi and Dash, 2003) economy--

emphasis on Agro-based industry.

ACE INTERNATIONAL SCHOOL

1. WHAT IS YOUR NAME ?

ANS. _____-

SUB : SCIENCE

2. WHAT IS YOUR MOTHERS NAME ?

ANS. _____

3. WHERE DO YOU LIVE ?

ANS.

_____

{+}

SUB: MATH

27 + 10 = _____ 80 +30 = _____ 62 +12 = _____ 24 +17 = _____ 35 + 16 = _____ {- } 28 – 15 = _____ 16 – 13 = _____ 34 – 28 = _____ 19 – 14 = _____

SUB: ENGLISH

MY NAME IS _____ I LIVE IN _____ I AM _____ YEARS OLD

CAN I LIVE WITH OUT WATER _____ CAN I LIVE WITH OUT HOUSE _____

SUB: G.K

MY NAME IS MUJTABA .

I AM 7 YEARS OLD .

I LIVE IN KOKERNAG.

I GO SCHOOL DAILY.

I HAVE 2 CARS IN THE HOME

SUB: COMPUTER

COMPUTER- COMPUTER IS A MACHINE.

COMPUTER IS VERY FAST MACHINE.

COMPUTER WORKES ON ELECTRICCITY.

COMPUTER MAKES OUR WORK EASY.

2. WRITE YES OR NO

COMPUTER MAKES OUR WORK EASY. _____

COMPUTER CAN NOT WORK FAST. _____

COMPUTER WORKS ON FUEL. _____

COMPUTER CAN NOT THINK. _____

SUB: ENGLISH GRAMMER

SPECIAL NAMES

RAMESH IS A BOY GEETA IS A GIRL. KITTY IS THE PET CAT OF GEETA

BOY AND GIRL ARE COMMON NAMES OF THESE PERSONS.BUT THEY ALSO HAVE SPECIAL NAMES. THE BOYS SPECIAL NAME IS RAMESH. THE GIRLS SPECIAL NAME IS GEETA. OUR PETS ALSO HAVE SPECIAL NAMES. CAT IS A COMMON NAME. KITTY IS A SPECIAL NAME.

THREE ARE TWO TYPES OF NAMING WORDS.

NAMING WORDS: COMMON NAMES BOY, GIRL, DOG SPECIAL NAMES RAVI, SONA, KITTY.