

## **08.PRODUCTION – FACTORS OF PRODUCTION – LAND & CHARACTERISTICS; LABOUR – QUANTITY AND QUALITY OF LABOUR- - DIVISION OF LABOUR – EFFICIENCY OF LABOUR - MALTHUSIAN**

In the theory of production, it is assumed that the entrepreneur aims at maximizing his profits. A profit-maximizing entrepreneur will seek to minimize his cost for producing a given output, or to put it in another way; he will maximize his output for a given level of outlay.

### **A. FACTORS OF PRODUCTION**

Productive resources used to produce a given produce are called factors of production. These productive resources may be raw materials, services of various categories of labourers, or capital supplied by capitalists or entrepreneurship of an entrepreneur who assembles the other factors of production. These factors or resources are also called inputs. Thus, the factors of production are traditionally classified as land, labour, capital and organization. Production, in economics, is understood as the transformation of inputs (or) factors into outputs.

#### **i) Land**

Land, as ordinarily understood, refers to earth's surface. But in economics, the term land is used in a very wider sense. Marshall defined land as "the materials and forces which nature gives freely for man's aid in land and water, in air and light and heat". Land refers to those natural resources that are useful and scarce. In other words, land stands for all natural resources, which yield an income or have an exchange value.

#### **a) Characteristics Features of Land**

Land as a factor of production has the following characteristic features:

1) Land is fixed in quantity. It is said that land has no supply price. That is, price of land prevailing in the market cannot affect its supply; the price may be high or low, its supply remains the same.

2) Land has original and indestructible properties.

3) Land lacks mobility in the geographical sense.

4) Land differs in fertility.

## **ii) Labour**

Labour would mean any work, manual or mental, which is done for a reward. Marshall defined labour as “any exertion of mind or body undergone partly or wholly with a view to some good other than the pleasure derived directly from the work”. A person who is working in his rose-garden as a hobby is not a labourer. But, if he works in rose garden, which is cultivated for sales, then he is a labourer.

### **a) Characteristics of Labour**

1) Labour cannot be separated from the labourer. Hence, a labourer has to sell his labour in person.

2) Labour is highly perishable. A labourer cannot preserve his labour and deliver it in the future. A day without work in a worker’s life is lost forever.

3) Labourer has a weak bargaining power. As labour is perishable, it has no reserve price. Hence, labourers have to accept low wages rather than being idle or unemployed.

4) The supply of labour changes slowly. Supply of labour cannot be curtailed immediately, even if wages fall. This is due to the fact that labourers must earn their subsistence, somehow. Conversely, increase in labour supply depends on new births and a long period of training.

5) Labour is not so mobile as capital due to differences in language, environment, habits, etc in different localities.

### **b) The amount of labour available in a country depends on two factors:**

- 1) Quality of labour and
- 2) Quantity of labour

#### **1.a) Qualitative Aspect of Labour**

Qualitative aspects of labour refer to the efficiency of labour. Efficiency of labour means the amount of work, which a labourer can do with minimum cost and minimum time. Efficiency of labourer refers to the work turned out by a labourer per unit cost and per unit time. The following are some of the important factors, which influence efficiency of labour:

**i) Race:** Hereditary and racial characters influence the efficiency of labour. The efficiency of Japanese is higher than that of other human races.

**ii) Climate:** Cool climate is more conducive for hard work than the hot climate.

**iii) Education:** A higher educated or technically trained man has more efficiency than an uneducated or untrained person.

**iv) Personal Qualities:** If a person has a strong physique, mental alertness and intelligence, his efficiency will be greater.

**v) Organization and equipment:** A well-organized labour combined with sophisticated equipments would improve labour efficiency.

**vi) Environment:** Good lighting, ventilation and recreation facilities would improve labour efficiency.

**vii) Working hours:** Long working hours without sufficient intervals will reduce the efficiency of labour.

**viii) Fair and prompt payment:** High and prompt payment to a labourer would increase his efficiency.

**ix) Labour organization:** If labourers are properly organized in the form of strong trade union, their efficiency will go up.

**x) Welfare activities:** Welfare activities like provision of housing, transport and educational facilities, insurance benefits, social security scheme etc. would increase labour efficiency.

## **b) Division of Labour**

When the making of an article is split up into several processes and each process is entrusted to a separate set of workers, it is called division of labour. Division of labour is associated with the labour efficiency and it helps in large-scale production. For instance, making the number of chairs will be more, if the process is split up into different parts like making seat, back-rest, and legs and then assembling the parts instead of making the chairs individually.

### **1) Advantages of Division of Labour**

**i) Increases productivity:** As the individual worker concentrates on only one process of the work, he is able to do it quickly and thus, the productivity of labour increases.

**ii) Increases dexterity and skill:** The worker becomes an expert due to repetitive performance of the same work (process).

**iii) Large scale production:** Division of labour improves production not only in terms of quantity but also in quality since goods are made by specialists.

**iv) Right man in the right place:** Under division of labour, workers are so distributed among various works that each worker is put according to his ability.

## **2. Disadvantages of Division of Labour**

**i) Monotony:** As the worker repeats the same work for a long time, it becomes monotonous to the worker and soon he lacks interest in his work.

**ii) Risk of unemployment:** If a worker (specialist) happens to lose his present job, he may not be able to get similar job elsewhere immediately.

### **c) Mobility of Labour**

Since the labour has to be delivered by labourer himself, he has to move from one place to another in order to get employment. There are different kinds of mobility of labour.

**i) Geographical mobility:** It is the movement of labourer from one place to another. This is also called migration. If labourers move out of the country (India), it is called emigration. If they enter in to the country (India), it is called immigration.

**ii) Vertical mobility:** This implies a change in occupation from a lower to a higher order. (E.g.) An Assistant Professor is promoted as Associate Professor.

**iii) Horizontal mobility:** This means mobility from one occupation to another without any change in the occupational status. (E.g.) A stenographer shifting from one department/firm to another without any promotion or change in his/her occupational status.

## **2) Quantitative Aspect of Labour**

Quantitative aspect of labour refers to the size of working population in a country. There are certain theories of population, which explain why and how population increases and they also indicate the optimum size of population. Theories of population can be classified into two categories on the basis of (i) food supply (Malthusian theory) and (ii) per capita output (optimum theory).

**i.a) Malthusian Theory of Population:** Thomas Robert Malthus (1766-1834), an English clergyman, propounded this theory in his famous book entitled "An

Essay on the Principles of Population”(1798). He deplored the strange contrast between over-care in breeding animals and carelessness in breeding men. The fundamental propositions of the Malthusian theory are given below:

1) The size of population in a country is dependent on the production of food grains. If food supply is large, the country can support a large population. If food supply is small, the country can support only a small population. In other words, population is necessarily limited by the means of subsistence (food).

2) Population tends to grow in geometric progression, viz., 1,2,4,8,16 and so on. In short, population gets doubled every 25 years.

3) Food production tends to grow in arithmetic progression, viz., 1,2,3,4,5 and so on. In short, there will be a constant addition to food supply every 25 years. He thought that there is no limit to fertility of human beings. He said, “ Men multiply like mice in the barn-yard”. But the power of land to produce food is limited.

4) Population increases at a faster rate than food production. Population always increases when the means of subsistence increases, unless prevented by some powerful and obvious checks.

5) There are two types of checks, which can keep population at a level with the means of subsistence. They are the preventive and positive checks. Preventive checks would reduce the size of population by bringing down the birth rate. They are applied by man himself voluntarily. They include (a) celibacy, (b) late marriage and (c) self control in married life. Positive checks reduce the growth of population by increasing the death rate. If people do not adopt preventive checks, nature will tend to be furious and impose certain checks to arrest the growth rate of population and they are known as positive checks. The positive checks are famines, epidemics, wars, earthquakes, floods, etc. Malthus recommended the use of preventive checks, if mankind was to escape from the nature’s positive checks i.e., misery.

#### **b) Criticism of Malthusian Theory**

1) In later editions of his book, Malthus dropped the expressions of geometric and arithmetic progressions but still maintained that the increase in population would exceed the growth in food supply. However, in many Western countries, through the use of more capital and technology, food grain production

was increased tremendously. In fact, the rate of increase of food production has been much greater than the rate of population growth in these countries.

2) Malthus said that the population would increase, if the means of subsistence increase. However, when the standard of living of people increases in a country, the size of family gets reduced.

3) Malthus compared population only with food production. He should have compared the growth of population with total production of all commodities. For example, Great Britain is able to export industrial products to other countries in exchange for food grains.

4) Along with the expansion of population, it is not only the demand, but also the supply of food grains, which increases with the increase in the labour power of the country. It is argued that a child, on being born, has not only a mouth to be fed, but also has two hands to work.

5) According to professor Seligman, the problem of population is not merely one of size, but of efficient production and equitable distribution. If with the expansion of population, production also increases and the increased production and national income are equitably distributed, then increase in population may do no harm to the country.

### **c) Does the Malthusian Theory Apply to India?**

The Malthusian Theory is applicable to India to some extent. The population growth rate was 2.14 per cent per annum (1981-91) and the food grain production growth rate was 2.52 per cent (1949-50 to 1995-96). However, birth rate and death rate are very high in India. This is a symptom of over population. The average expectation of life is still very low. Standard of living in India is also very low. The country is being suffered by natural calamities like flood, drought, epidemics, and so on. Finally, there is a very heavy toll of human life due to communal clashes in India. Thus, except food grain production, all other development indicators are not favourable for the development of the country.

### **ii) Optimum Theory of Population**

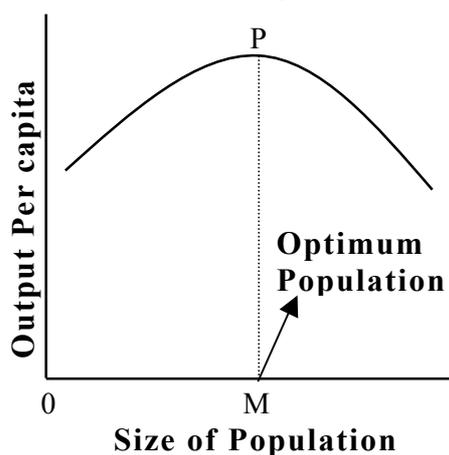
The optimum theory attempts to define what would economically be the ideal size of population for a particular country. According to the optimum theory, there is a particular size of population, which along with the existing natural resources and a given state of technology yields the highest income per capita in a country.

**a) Under population:** If population of a country is below the optimum size, the country is said to be under-populated. In under populated country, the natural and capital resources are not fully exploited (utilized).

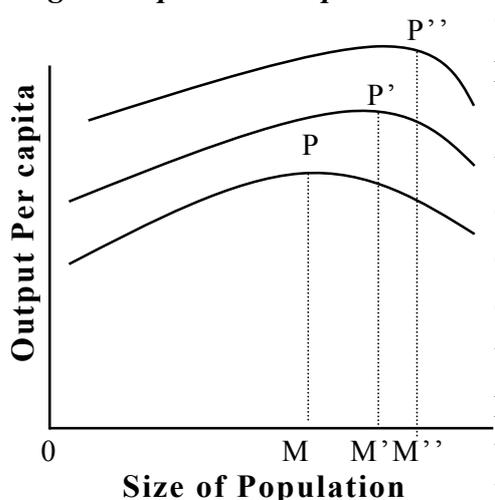
**b) Over population:** If the population is in excess of optimum size, the country is said to be over populated. Following are some of the problems to be faced by over-populated country.

- 1) Average productivity will decrease.
- 2) Per capita income will be very low.
- 3) Standard of living will fall.

If the quantity of labour is small relative to the natural resources, then even the actually available resources remain under-utilized. If the population increases and more labourers become available to be combined with the given stock of the natural resources and capital equipments, output per capita or per capita income will rise. As population continues to increase, a point will finally be reached when capital and natural resources are fully utilized and, therefore,



**Fig.4.1 Optimum Population**



**Fig.4.2 Shifts in Optimum Population**

output per capita is the highest. The level of population at which per capita output (income) is the maximum is called the optimum population. If population still goes on increasing, that is, crosses the optimum point, output per capita will start declining. The country would then become over-populated. In the figure 4.1, at OM level of population, the output per capita (MP) is the highest. If the population increases beyond OM, output per capita falls. Therefore, OM is the optimum population. If the population of the country is less than OM, it will be under-populated and if the population is more than OM, it will be a case of over population. The per capita output curve may change ( $M'P'$  and  $M''P''$ ) as a result of an increase in resources or progress in technology and their effects on optimum population are shown in the figure 4.2. That is, the size of optimum population also increases. Dalton has given a formula with which we can judge the extent to which the actual population of a country deviates from the optimum

population. The extent of deviation is called mal-adjustment. The formula is  $M = A - O / O$ . Where M is maladjustment, A is actual population and O is optimum population. If M is negative, the country is under-populated. If M is zero, the country has optimum population and if M is positive, the country is over populated. For instance, if the actual population is 80 crores and the optimum population is 40 crores, then  $M = 80 - 40 / 40 = 1$ . This indicates that the country is over populated.

### **c) Criticism on Optimum Theory of Population**

1) It is almost impossible to determine the optimum size of population, as it is very difficult to estimate the level of capital stock available in a country.

2) As the natural and capital resources continuously change, the size of optimum population is also subject to change.

### **d) Malthusian Theory and Optimum Theory of Population**

1) Malthus focused his attention on food production, whereas the optimum theory takes into consideration of economic development in all its aspects.

2) Malthus seemed to be thinking of maximum number for a country, which, if exceeded, would bring misery. According to the optimum theory, there is no rigidly fixed maximum population.

3) According to Malthus, famine, war and disease were the indicators of over population. But the declining trend of per capita output would indicate the over population as per the optimum theory.