

Capital → man made things
Organizations → MCOS creation of goods
PRODUCTION means

Chapter 7

PRODUCTION

And

FACTORS OF PRODUCTION

The basic and lifelong interest of human beings is to satisfy maximum number of their wants by consuming more and more of goods and services. But goods cannot be available unless they are produced. So production of goods and services is the first requirement in the process of satisfying our wants. Any activity which helps to satisfy material wants is called production.

Production

In ordinary use, the word production means creation of goods. But according to economics, Production refers to all the activities undertaken to provide goods and services for satisfying human wants for which people are willing to pay a price.¹

Production takes place in two forms:

- (a) Production of goods
- (b) Supply of services

Production of goods Nature has provided mankind with huge amount of earth's resources. Some of these can be directly consumed like spring water and air. But most of these require human effort to change them into a form, which can better satisfy our needs and wants. This human effort or activity is called production.

"Production of goods means to work on some material thing in such a way that it becomes more useful and its value is increased."

There are three ways for creating or increasing the value of something and producing goods and services.

(i) **Change in the form of material** Making a chair out of wood, bread out of wheat, ice cream out of milk and sugar, cement out of stone, glass out of sand, growing of wheat from seed are all productive activities. In brief, these activities can be called transformation of inputs into outputs.

(ii) **Change of place of availability**—transportation of goods e.g. fruit from farm to market or goods from factory to consumers. Mobility of goods from one place to another makes them readily and conveniently available for use.

(iii) **Change in time of availability**—storing and preserving of goods for use in future. Storage can increase the utility and value of something. For example, the whole stock of wheat produced in a country is not used at the time of harvest. It is stored to be available throughout the year. Thus growing and preserving of wheat are both productive activities.²

Production of Services refers to those human actions, which can satisfy needs of other fellows or to perform physical and mental work having market value. Examples of

¹ Production can be described in many different ways. It can be called as

- Production is any human activity that creates present or future value.
- Production means creation of utility.
- Production means creation of wealth, which in turn adds to society's welfare.

² The stockists of goods perform useful and a necessary economic function for the society provided they do not indulge in hoarding or black marketing.

production of services are: teaching, singing for money, examining of a patient by doctor, haircutting, work of a clerk in a office, services of policeman, bus driving etc.³

To see that whether some work can be counted as production or not we should see if the work assists towards the satisfaction of material wants or generates income. Thus when a cricketer plays cricket in a college match, it is not production since it does not generate income. But when he plays as a professional in a test cricket, it is production because it becomes a source of income for him. In this meaning, the work of a voluntary nature or work of a housewife and a student is not included in production. A beggar goes from place to place and sometimes has to do acting also. But since his work cannot be sold in the market, it is not treated as production.⁴ However if the same person does acting as a beggar in a film, his work is included in production. The amount, which he receives, is called income since he provides entertainment for viewers who are willing to pay for his work.

The people who make and sell goods or services are known as producers.

Importance of Production

The ultimate aim of all economic activity is consumption of goods and services. But consumption is possible only if goods and services are produced. If the people or nations want to raise their standard of living, they will have to produce more quantity of goods and services. A nation which patronizes idle classes like beggars, jagirdars, so-called peers, agents and social parasites that live on other's production and incomes, can have little hope for economic prosperity. In the modern world, only those nations, who produce more, have respectable status. Japan is a smaller country than India and Russia. But because its production is much greater than these countries, it is ahead of them and is an economic super power. If Pakistan wants economic prosperity, it will have to produce more. Pakistan has vast natural resources. Those need to be utilized for production. For this purpose we will have to change social and economic environment so that people willingly make greater productive efforts and so earn more income. The ratio of non-productive elements in the society must be reduced.

The total income earned in a country equals what it produces. If there is no production there is nothing to sell and no income.

Theory of production is an important topic in economics. It explains how factors of production can be combined to get maximum output of goods and services. It includes concept of production function and laws of returns. Theory of cost of production is also based on it

³ Structure of Production: In modern economies, production of goods can be classified into three stages i.e

(i) **Primary industries.** The firms in such industries mostly provide raw materials e.g. agriculture and mining

(ii) **Secondary Industries.** When raw materials are used by some industries to produce semi-finished or finished goods, the industry is called secondary industry e.g. textile industry, plastic industry, chemicals, and engineering. Secondary industries are called **manufacturing sector**

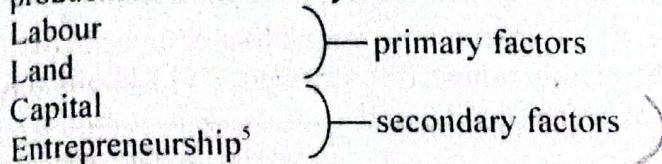
(iii) **Tertiary Industries.** Services sector of the economy is called tertiary industries. Administration, banking, communications, education and health services, hair dressing, tailoring etc.

The development of a country can be measured by the ratio of labour force employed in tertiary industry and the contribution of services sector in national income. As a country develops, the ratio of labour force in primary sector and its share in national income decreases. The % share of tertiary industries rises in national output

Transfer Income The amount, which the beggar receives, is not income or earning. This amount is called transfer payment or transfer income. It is called transfer income because his fellow human beings feel that due to some reason, the beggar is unable to earn his living. On moral grounds or taking pity on his poor condition people share their income (purchasing power) with the beggar. They transfer a part of their income to the beggar. The people do not receive any service from the beggar against the money paid.

FACTORS OF PRODUCTION

All things which we need to produce goods and services are called factors of production. Traditionally, the economists have classified these into four kinds i.e.



The first two are termed primary factors since they are basic and do not depend on some previous economic activity. The secondary factors are the result of some economic effort done on primary factors.⁶

Factors are also called inputs or productive resources. Every kind of produce is due to them. Production capacity of a country depends on the ready availability of factors, the degree of specialization, and the state of technology. Not only the quantity but also the quality of the factors matters.⁷

LAND (Natural Resources)

Land is the basic resource without which nothing can be produced. The term land means all the free gifts of nature (natural resources) available for human use. This includes land surface for farming or building, soil, minerals, forests, mountains, deserts, rivers, seas, location, climate etc.

Characteristics: Land has some special characteristics: (i) It is free gift of nature and has no cost of production⁸ (ii) Its total supply is fixed. (iii) It lacks geographical mobility.

Land is a passive factor. Labour is required to put land to productive uses. Those countries which have abundance of land (natural resources) have better chances for economic development.

LABOUR (Human Resources)

Nothing can be produced without human labour. In general, by labour we mean the work done. But in economics, this second factor of production has broader meaning. Labour means any physical or mental effort of the human beings for some monetary reward.⁹

The work of a mason who accepts wages, work of a barber, clerk, teacher, doctor or an officer are different forms of labour. Any work undertaken for pleasure or as a hobby is not a part of labour (e.g. painting as a hobby, the work done by Mr. Edhi for Edhi Foundation).

The number of people who are available for productive work with their physical and mental abilities, skills and training and experience are called Labour force or Human

⁵ Entrepreneurship is also called organization.

⁶ Some economists prefer to talk of only three factors. They want to include entrepreneurship in labour.

⁷ The classification of factors is not completely satisfactory. It is sometimes difficult to allocate the real world resources into these neat categories. For example, land which has been fertilized, drained and fenced is really a combination of land and capital. A canal is also an example of combination of capital and land.

⁸ The individual who is trying to rent a piece of land may have to pay a great deal of money but it never cost society as a whole anything to produce land.

⁹ We can also say 'labour comprises the physical energy, manual skill and mental ability that humans apply for production of goods and services'.

resources or human capital. The size and ability of a country's labour force determines the quantity and quality of the goods and services the country can produce. With greater number of working people and with higher standard of education and skill, more goods can be produced.

Labour has its own characteristics i.e. (i) It is inseparable from labourer himself. (ii) It can not be stored. (iii) Its supply cannot be readily adjusted to demand. (iv) Labour has dual character i.e. human effort is used to create goods; and humans use all goods produced.¹⁰

CAPITAL (Man-made material resources)

All man-made things which help in production of more goods and services are known as capital. Thus all types of buildings (houses, workshops, offices, factories, shops, roads etc), equipment, machinery, tools, motors, engines, computers, transport goods, tractors and raw materials are called capital.) Physical capital can exist in one of the three forms:¹¹

- buildings,
- equipment and machinery
- stocks of materials¹²

Use of capital makes the task of production easier and quicker. Capital goods enhance the productive capacity of labour and land e.g. agricultural production with a tractor will be much greater than without it. Thus **more capital means more economic power.** We should know that:

- (i) capital is the result of some past labour and past saving¹³
- (ii) capital goods are not wanted for their own sake but because of its role in production.
- (iii) increase in the stock of capital during a period is called **investment.**

ORGANIZATION (Entrepreneurship)

An entrepreneur is a person (or group of persons) who plans and undertakes production of goods and services. He hires the services of other factors (land, labour and capital) and combines them in good proportion to get maximum output. He supervises all productive activities including the marketing of his product. It is the entrepreneur who faces

Labour is an active factor. It works with passive factor capital to convert natural resources into valuable goods.

Money is not an economic resource The term capital is usually used to refer to two things: 'financial capital' (or money capital) and 'real' capital (physical capital). When we refer to capital as a factor of production, we mean real capital. However when we talk of money kept by firms as working capital, it is equally important like labour and capital. But since money itself produces nothing; money is not an economic resource. So-called 'money capital' is simply a means for purchasing real capital.

¹⁰ **Special character of labour:** Although labour is a factor of production, yet it demands a different treatment than that of land or capital. There are social and psychological problems, which have to be taken into account. For example the question how many hours a machine should be operated will be judged solely in terms of efficiency, output and costs. The same question when applied to human labour will raise many additional issues like freedom and human rights.

¹¹ **Physical and monetary capital.** In ordinary language, sometimes, by capital we mean the amount of surplus money that can be invested somewhere to increase income. But in economics, when we talk of capital as factor of production, we mean physical form of capital consisting of all man-made resources.

¹² **Fixed and working capital:** Buildings or machinery which are usable again and again is called fixed capital while stocks of raw materials are called working capital because it is used up in one round of production.

¹³ From a given quantity of potatoes, a part may be consumed while the other is saved for seed. The potatoes saved and used as seed become capital.

uncertainty of business and takes responsibility of success or failure, profit or loss. It is the entrepreneur,¹⁴ who decides what to produce and how to produce. The basic difference between entrepreneur and other three factors of production is that while land, labour and capital are hirable, entrepreneur is not hirable.

Relative Importance of Factors

An act of production always involves all the four factors of production. If the services of any of these are missing, the whole productive process fails. However, the economists think that, basically, there are only two factors; land (nature) and labour (man). Nothing can be produced without people. Similarly natural resources are required for the people to live and work with. Capital and organization are the result of the services of land and labour.

If we investigate the role of factors of production in the historical perspective, we find that the relative importance of various factors has changed over time. In the early period of civilization when human needs were very simple, they were easily fulfilled from land by applying a little labour. For instance, a person could get burning wood and drinking spring water without much effort. With the passage of time, the relative importance of labour increased because the land available to mankind became scarcer and human needs grew more sophisticated. For instance a comfortable house needed more labour content than a simple hut. After Industrial Revolution,¹⁵ when the productive process became complex, the importance of capital increased. Manufacturing machines, building of roads or houses and construction of dams involved huge amount of capital. So much so that the countries which accumulated capital, started dominating the economies of the world. The superiority of Europe and America in economic field during past two centuries has been due to the huge amount of capital available there.

In the new era of 21st century, with number of people rising fast, total demand for goods has grown manifold. As a result, scarcity of resources is felt more than ever. At the same time, competition in producing and marketing of goods and services has also increased. To meet this difficult situation, optimum utilization of first three factors of production (land, labour, capital) is required more than in the past. To produce goods in greater quantity and at lower cost, combining the factors in correct proportions is very important. This motive highlights the key role of organization in modern environment of business and industry. Efficient organization is the mainstay of banking, marketing and other financial or commercial practices.

Economists, sometimes broadly speaking, classify resources as:
Property resources—land, raw materials and capital.
Human resources—labour and entrepreneurial ability.

As an economy grows in wealth, it devotes less percentage of its total resources to agriculture, and more to manufacturing and services.

¹⁴ Enterprise: The ability to run a production process is known as enterprise
¹⁵ During 18th and 19th centuries.

In the light of the above discussion, it is not difficult to conclude that although the relative importance of the factors has been different at different stages of economic development, yet in every process of production all are needed at a time. However in various productive activities, we find that some factor is more important than the others.

Sector	More important factor
Agriculture	land
Manufacturing	capital
Marketing, finance	organization
Services	labour

Production and productivity

Total volume of production in a country depends upon the **quantity and quality** of the resources used and the **productivity** or efficiency of factors. Therefore volume of production can be increased in two ways — by using more quantity of inputs or by increasing the productivity of existing inputs.

Productivity of a factor is its ability to produce output.

Productivity is measured as the output per unit of input.

$$\text{Productivity} = \frac{\text{quantity of output}}{\text{quantity of inputs}}$$

In this sense, productivity of a worker means average product per worker

PRODUCTION FUNCTION

(See at the end of chapter 11)

LAND
Or
NATURAL RESOURCES

Meaning

The word land, as used in economics, has wide meaning. It includes all natural things, which can be used for producing goods and services. Thus not only soil and farming land is called land but also natural resources such as rivers, lakes, fisheries, forests, mountains, oceans, minerals, sunlight, climate and rainfall will be considered as part of land.¹⁶

Characteristics

Land, as a free gift of nature and the prime factor of production, has the following important characteristics.

1. **Free Gift of Nature** Land is available to mankind without human effort. It has no cost of production. All resources of land exist even if there is nobody to utilise them.¹⁷

2. **Fixed Quantity and Inelastic Supply** Total supply of land is limited. Human effort cannot change its quantity. Using labour and capital, some waste land may be reclaimed, or by clearing forests and diverting rivers more land may be made available for a particular use, still the total supply of land will not be much affected.

3. **Land is Permanent** Man made resources like machines and buildings are perishable but land is not destructible. However some resources like minerals, oil or gas fields, natural forests etc. may be exhausted.

4. **Land is Immovable (immobile)** Land can not be transferred from one place to another. Only its products can be taken anywhere. Ownership and use of land may be shifted but location remains fixed.

5. **Land differs**

- **in fertility and productivity** Some regions possess greater quantity of natural resources than others.
- **in situation and location.** Some lands are better situated e.g. they lie nearer to town markets, business centres, main roads etc.

7. **Land is Passive Factor¹⁸** *which cannot be used itself* Land and resources it contains, have passive role in production. It is with the help of labour only that natural resources become usable.

8. **Productivity** of land can be increased by application of labour and capital.

¹⁶ Natural resources can be divided into four kinds:

(a) Non-renewable: fuels (coal, oil, gas) top soil, chemical deposits..

(b) Replaceable at great cost: top soil, wilderness, natural beauty sites, some rivers and lakes, clean shorelines.

(c) Renewable: forests, fish, grass cover. (d) Virtually inexhaustible: fresh air, solar heat. A person owning thousands of acres of land or some mine will die while his land will remain there to be used by someone else.

¹⁸ This is the reason that in Islamic way of life and economy, the material things like land, animals, trees, minerals, machines etc. are treated only as means and servants to meet the needs of human race. Man is the gem and final end of universe. Man's labour gives things value.

9. It needs conservation Since coal and iron ore, oil or natural gas etc. cannot be replaced, efforts are needed to conserve them.¹⁹ Recently the world has come to realise the importance of conservation of natural resources to avoid serious shortage in future.

Importance of Land as a Primary Factor

Land is a primary factor. For all kinds of production, we have to start with land. For example, all industries use raw materials, which come from land. Growing of cotton needs land. So, when a textile mill is established, it means we are depending upon land for providing cotton. In this way, in all economic activities, we find that ultimately it is land, which accommodates and provides necessary resources to work at. If a country is rich in land resources, its national production can be very high and it can attain high standard of living for its population. However, we need to keep in mind that many countries of the world own huge land resources, yet they are poor. The reason is that the people do not have the necessary skill and will to make full use of the productive possibilities granted by nature in different regions.

PRODUCTIVITY OF LAND²⁰

Agricultural production in a country depends upon two factors; total land available and the productivity of land. All land does not possess equal productive capacity. Some pieces of land are so fertile that with small amount of labour and capital, they produce sufficient output while some lands are barren desert. The productivity of land is a relative term, depending upon many factors. These are:

1. Natural Factors are the most important factors in determining productivity of land. Some lands have more fertile soil and better rainfall are naturally more productive e.g. the lands in Punjab have higher productivity.

2. Human Factors Land itself is a passive element. It is the quantity and quality of human labour applied that determines land productivity.

3. Use of Capital Capital in the form of agricultural tools, fertilisers etc. increases the productivity of land. In intensive form of cultivation, more capital is used to increase yield per hectare.

4. Ownership of Land²¹ Land owned by very big landlords cannot be properly cultivated. Too small farms also have low productivity. Productivity of medium sized farms will be higher because it can be better managed and are suitable to use of modern machines.

5. Means of Transport also determine productivity of land. If network of roads is available for farmers to bring inputs and sell their products in the markets, the productivity of land will be higher. Lands not easily approachable are less productive.

6. Location Better located lands i.e. near the markets, around towns having easy approach bring more revenue. Some commercial property at famous business centres like the Mall Lahore, Sadar Rawalpindi or Karachi will be highly productive.

¹⁹ Conservation of land — see explanatory notes at the end of the chapter.

²⁰ Most of the discussion here is about productivity of agricultural land.

²¹ The pattern of ownership and cultivating rights is called land tenure system.

8. Properly conserved lands have higher productivity.

7. Man Behind The Plough (farmer) The productivity of land is closely linked to the efforts of the person working on it. If the farmer is intelligent, educated, expert and expects fair reward for his labour, he would apply his full capability and raise productivity of land.*

51Q EXTENSIVE Vs INTENSIVE CULTIVATION

When population in a region rises, requirement of food and other farm goods expands. People try to use land resources more efficiently. Two alternative methods are available in this regard.

(a) Extensive Cultivation (b) Intensive Cultivation

Statement:

Extensive Cultivation It is the method of increasing agricultural output by bringing new lands under cultivation. The method is applicable in a country where, compared to labour and capital stock, land is abundant and cheaper. For instance, Australia and Canada have vast areas of cultivable land. They can easily bring more lands under cultivation. In Pakistan, this method has been used in the past. Our total area under cultivation increased due to expansion of irrigation canals and installation of tubewells on large scale. Construction of Taunsa Barrage, Guddu Barrage and Sukhar Barrage, with a network of canals, has played a vital role in this regard. Now, although scope for extensive cultivation has decreased, yet we see large areas of land lying unused. This is fertile and cultivable land. Only we have to provide irrigation facilities and construction of roads. In some areas, leveling of land can also help to put more acres to cultivation. Many countries in Africa and Asia have cleared natural forests and increased their cultivated areas. But scope of this approach is limited. It destroys natural environment and wild life in the world.²²

Along with efforts to extend area of cultivation, we in Pakistan, have to attend to another aspect. Due to water logging and salinity, millions of hectares of fertile land has become either uncultivable or its productivity has fallen seriously. This wasteland is to be regained. The government of Pakistan, through WAPDA, has made a number of plans for reclamation of the affected land. Drainage channels have been dug and thousands of tube-wells have been installed so that water level may fall. In this way, valuable land has been saved.²³ By preventing deforestation and soil erosion more land can be made available. The government has made schemes to grow forests in these areas. The trees resist both water and wind erosion.²⁴

Intensive Cultivation means that agricultural output is increased not by using additional lands but by using more capital and labour on existing lands (in other words productivity is increased).²⁵ This method is applied in countries in Pakistan where cultivable

²² Deterioration of natural environment and balance in physical natural world has become a serious problem for mankind. If future generations are to be provided comfortable life, the use of land, water, minerals and other natural resources have to be regulated through national and international planning.

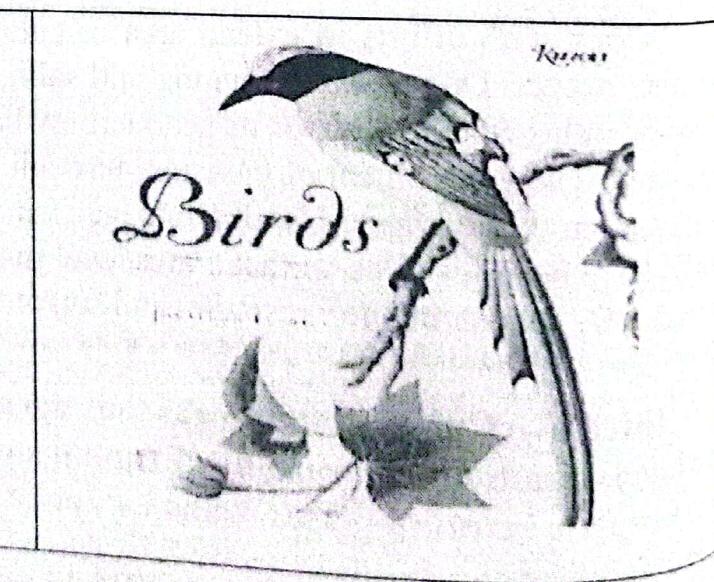
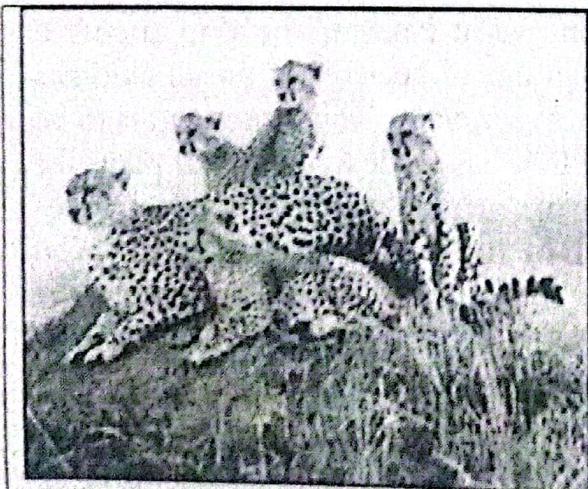
²³ During past few years, Pakistan is feeling water shortage. In some areas water level has fallen and vegetation is in danger. Tube-well pipes now need to be drilled much deeper to extract water. Per head availability of water has fallen very low.

²⁴ It is estimated that if Pakistan makes full use of its land resources, it can produce agricultural commodities in such a large quantity that after meeting local needs of growing population adequately it can have huge surplus to export and earn foreign exchange.

²⁵ Productivity = $\frac{\text{quantity of output}}{\text{quantity of inputs}}$

land is less abundant.) There, the *man-land ratio* is high and land is costly. Chances for extensive cultivation are negligible. Under such circumstances, method of intensive cultivation is useful. For example, the whole of Europe and Japan are thickly populated. New lands are not available for cultivation. These countries have increased agricultural output through intensive use of their lands. In this method, more and more quantity of capital and labour, machinery, fertilisers, improved seeds, better irrigation facilities and plant protection are applied. Greater use of machinery at various stages of cultivation i.e. preparation and ploughing of soil, sowing, weeding, harvesting and thrashing etc. increases output manifold. In all the developed countries agriculture is highly mechanised. Due to greater use of inputs per acre, they are getting very high yield of crops. Intensive cultivation has helped them to produce food and agricultural raw materials in huge quantities.

In Pakistan, the method of intensive cultivation is being used partially. Due to increased demand for agricultural goods, the prices of land have risen sharply. Moreover because scope for extensive cultivation is decreasing, farmers are adopting intensive cultivation. Unfortunately, although labour is cheap, enough of capital equipment and farm inputs are not available. However, as it appears, the pressure of population is so high that only intensive cultivation can provide food in the required quantities. Over the past three decades, use of fertilisers has increased and tubewells have been installed in large numbers. Consequently, per hectare productivity has risen. [Pakistan is still far behind other countries in the use of agricultural inputs. For most crops, our yield per hectare is lower in comparison to other countries. We must realise that in the face of growing population, intensive cultivation is the only hope for raising per capita income in future.]



Wildlife is also a natural resource
Their extinction will disturb balance of ecosystem