26
AGRICULTURE

26.1 INTRODUCTION

Land is the crucial factor of production of a country. Land is used for growing crops, raising forests, constructing roads, factories, houses and so on. Cultivable land is the source of food both for human beings and animals. It is also a source of raw materials for most industrial products. You can imagine what will happen if the amount of land is insufficient or the land available for cultivation is not properly managed. In that case we will not get sufficient food, our animals will not get enough fodder, our industries will starve of raw materials.

In this lesson you will read about the importance of the agricultural sector in the Indian economy. You will also read about the various problems faced by this sector and the measures taken to solve these problems.

26.2 OBJECTIVES

After going through this lesson you will be able to :

- explain the role of agriculture in the Indian economy;
- state the need for increasing agricultural production;
- define the term productivity of land;
- compare the level of productivity in India with other countries;
- establish that productivity in Indian agriculture is low.
- identify the different factors that cause low productivity.
- list the steps taken to increase productivity.

26.3 ROLE OF AGRICULTURE IN THE INDIAN ECONOMY

Agriculture is the most important sector of the Indian economy for the following reasons :

1. Provides food and fodder

The three basic needs of human beings are food, clothing and shelter. Of these food is the most important. If we do not get food, we will not be able to survive. Agriculture is the most important sector of the Indian economy because it provides us with food and fodder to our animals.

In India, the demand for food is continuously increasing due to the rising population and the rising level of income. Therefore, agriculture will continue to play its role in the country's development.

2. Source of raw materials

Agriculture provides raw materials for various industries. It provides raw cotton for producing cotton yarn and cotton textiles, raw jute for jute products, sugarcane for producing sugar, oil seeds for oil, natural rubber for rubber products like tyres and tubes etc.

As industries grow, the demand for raw materials also grows. As a result the agriculture sector must also grow in order to meet the growing requirements of industries.

3. Main source of livelihood

Agriculture has been and continues to be the main source of livelihood in India. Even today about 2/3rd of the Indian population is engaged in agriculture and allied activities. It is likely to continue to be the major source of employment in India.

4. Contribution to foreign trade

Agriculture occupies an important place in India's foreign trade. Traditionally, India has been an exporter of agriculture related commodities e.g. tea, coffee, sugar, cocoa, tobacco, cotton textiles, jute, raw wool, vegetable oils. Agriculture is a big earner of foreign exchange for India.

In recent times, the importance of agriculture in foreign trade has increased further. India now also exports foodgrains such as wheat and rice. India also exports a number of varieties of fruits and flowers which are in great demand abroad.

5. Market for industrial products

From the income that we earn we just buy food and then spend our income on satisfying other wants such as clothes, shoes, furnitures, sewing machines, gas stoves, radio, T.V., fridge etc. All of these goods are produced in factories.

You know that approximately 2/3rd of the Indian population depends on agriculture for livelihood. These people need goods like cloth, houses, kerosene, diesel, furniture, shoes, books and many other goods for their consumption. All these goods are produced by the industrial sector. Therefore, people in the agricultural sector is a large potential market for the goods produced by the manufacturing sector.

As agricultural development takes place, the income of the people increases. This increases demand for manufactured goods leading to industrial development.

6. Contribution to national income

Nearly one-third of the national income of our country originates from agriculture and allied activities. As such it is one of the biggest contributor to national income of India.

POINTS TO REMEMBER

- Agriculture is the most important sector of the Indian economy.
- It provides us with food and fodder for our animals.
- It supplies raw materials to industries. It is a source of livelihood of approximately 2/3rd of the population.
- Agriculture has a major role in India's foreign trade.
- It contributes approximately 1/3rd share in the national income.

INTEXT QUESTIONS 26.1

1. Fill in the blanks from the words given in the bracket.
(one-third, two-third, industrial, important, incentive, agriculture)

   (i) _____ is the most important sector in the Indian economy.
   (ii) Nearly_____ of the total population of India is engaged in agriculture.
   (iii) Things such as clothes, shoes, furniture, radio, T.V. etc. are produced by the_____ sector.
   (iv) Increasing demand for manufactured goods creates an_____ for the expansion of industries.
   (v) Agriculture plays an_____ role in India's foreign trade.
   (vi) Nearly_____ of India's national income originates from agriculture.

2. Match the following raw materials with the products they help to produce :

(i)	sugarcane	A.	oil
(ii)	oil seeds	B.	textiles
(iii)	raw cotton	C.	tyres and tubes
(iv)	rubber	D.	sugar

26.4 THE NEED FOR INCREASING AGRICULTURAL PRODUCTION

Agriculture is essential because it provides us with food, gives us fodder for our animals, raw materials for our industries, a market for manufactured products, employment to approximately 2/3rd of the population and an increasing number of items for export to earn foreign exchange.

The population of India in 1951 was approximately 36 crores. According to the last census (in 1991) it had increased to about 85 crores. With increasing population demand for food etc. is increasing.

As the population increases demand for industrial products also increases. As such industries would require more and more raw materials, which are derived from agriculture. This increasing requirement can be obtained only by increasing the agricultural production. In the next section, 26.5 you will read about the different ways of increasing agricultural production.

26.5 HOW CAN AGRICULTURAL PRODUCTION BE INCREASED?

Agricultural production can be increased in the following ways :

(a) Extensive Cultivation

By extensive cultivation we mean increasing the total area under cultivation. The total area under crops can be increased by bringing under cultivation, cultivable land which was lying waste or making uncultivable land suitable for growing crops through agricultural research.

However, this method of increasing production has only a limited scope. This is because of the following reasons :

(i) In any country, the supply of land is fixed. Once the available land has been brought under cultivation, any further increase in agricultural production is not possible through this method.

(ii) Land is needed not only for cultivation but also for other uses such as building houses, constructing factories. Therefore, land available for cultivation is limited.

Thus, you can see that extensive cultivation (i.e. bringing more and more land under crops) cannot be a permanent solution of increasing agricultural production due to limited land supply and unlimited uses for that land. When there is no scope of extensive cultivation and the entire land has been exhausted, further increase in agricultural production is possible through intensive cultivation.

(b) Intensive Cultivation

Intensive cultivation implies growing more on the same area. How can this be done? This can be done through the use of better and modern methods of cultivation, use of better quality seeds, fertilizers, pesticides, proper irrigation facilities. In other words by using better inputs we can grow more on the same piece of land. For example, the traditional method of cultivation involves growing a single crop and then leaving the land fallow for the rest of the year to restore its fertility. However, what is done now is to first grow a crop such as wheat or rice and after this is harvested then some other crop which gives back to the soil all the nutrients which had been absorbed by the earlier crop is sown.

In a country like India where the availability of land is limited intensive cultivation is the only solution to increase agricultural production.

26.6 PRODUCTIVITY OF AGRICULTURAL LAND

(a) Meaning

The term productivity in general means the total output per unit of the factor input. For example, land productivity means output per hectare of land. Productivity is an average and is calculated by dividing the total output of a particular crop by the total cultivated area under that crop.

$$\text{Productivity of land} = \frac{\text{Total physical output of a crop}}{\text{Total cultivated area of the crop}}$$

Thus, if we have a piece of land with an area of 2 hectares and the total amount of wheat grown on it is 50 quintals, then the productivity of land is 25 quintals per hectare.

(b) Trends in Productivity

Let us now look at the trends in productivity or yield per hectare of some crops like rice, wheat, oil seeds, sugarcane, cotton and raw jute in India.

In 1950-51, the yield per hectare in case of nearly all crops in India was low. But since then due to the planned efforts through the five year plans there has been significant increase in productivity over the 44 years period. The largest increase can be seen in the case of wheat where productivity in 1994-95 is 4 times the level of 1950-51 (table 26.1).

Table 26.1
Crop Productivity Per Hectare (in quintals)

Crops	1950-51	1994-95	Approximate increase
Rice	6.7	19.2	3 times
Wheat	6.6	25.5	4 times
Oil seeds	4.8	8.5	2 times
Sugarcane	33.0	68.0	2 times
Cotton	88.0	260.0	3 times
Jute	10.4	19.6	2 times

Although there has been an increase in productivity over the last 44 years, yields in India are still very low as compared to those in other countries.

(c) Comparison of productivity levels with other countries

Let us now compare the productivity (yield per hectare) for some countries (including India) for the major crops : rice, wheat, maize, groundnut and jute.

Table 26.2
Productivity Comparisons

Crop	Country	Productivity (in 1994-95) (in quintals per hectare)
Rice	North Korea	75
	China	55
	India	19
Wheat	Ireland	75
	China	31
	India	25
Maize	Greece	85
	USA	68
	India	15
Groundnut	Israel	64.5
	India	10
Jute	Bhutan	36
	India	20

You can see from the table 26.2 that in 1994-95 (when there had already been an increase in productivity as compared to 1950-51 levels), India's rice productivity was 1/3rd of that of China and 1/4th of that of North Korea. In the case of wheat we were able to produce per hectare only 1/3rd of the amount produced by Ireland. Even a country like Bhutan which is less developed can produce twice the amount of jute per hectare that India produces.

Thus, inspite of increases in productivity that have taken place in the last 40 years, India is still behind many countries in almost all agricultural crops in terms of productivity.

POINTS TO REMEMBER

- Agriculture provides us food, fodder, raw materials, a source of livelihood, export products. It is necessary to increase agricultural production.
- Agricultural production may be increased by the following methods : extensive cultivation and intensive cultivation.
- Productivity of land may be defined as the physical output produced per hectare of land.
- Productivity of various crops has increased from the 1950-51 level in India. However, compared to the productivity levels in other countries, those in India are quite low.

INTEXT QUESTIONS 26.2

1. Fill in the blanks from amongst the words given in bracket.
(intensive, output, extensive, 20 quintals, 30 quintals)

   (i) The method of increasing production by bringing more land under cultivation is known as_____cultivation.

   (ii) The method of growing more on the same piece of land is known as_____cultivation.

   (iii) Productivity of land is defined as the _____ produced per hectare.

   (iv) If 60 quintals of rice is produced on 3 hectares of land, then productivity is equal to_____per hectare.

2. Match each crop with the country where productivity was highest in 1994-95.

(i)	Maize	A.	North Korea
(ii)	Rice	B.	Bhutan
(iii)	Wheat	C.	Israel
(iv)	Groundnut	D.	Greece
(v)	Jute	E.	Ireland

26.7 CAUSES FOR LOW PRODUCTIVITY

1. Lack of incentive for making improvements on land

Many cultivators do not own the land. They are tenant farmers (farmers who had taken the farm on lease or rent). A tenant farmer would not be interested in making any permanent improvement on the land unless he is sure that he continues to be tenant in future.

Also, the tenant farmers have to pay such high rents that they hardly left with any resources for making improvements on land they cultivate.

The owners of the land cultivated by the tenant farmers are also not interested in making improvement on land. This keeps productivity of land low.

2. Subdivision and fragmentation of land holdings

The increase in population along with the law of inheritance has led to subdivision and fragmentation of land holdings. Consider the following example :

A farmer has 100 hectares of land. He has 4 sons. Then after his death the land would be subdivided into 4 parts of 25 acres each. Now if each of the 4 sons has 4 sons then each grandson of A would receive 25/4 i.e. about 6 hectares of land. As this process goes on, the size of piece of land under individual ownership i.e. land holding goes on becoming smaller and smaller. It makes the use of modern machinery and tools difficult. As a result productivity remains low.

3. Lack of proper irrigation facilities

Water is an essential input in agriculture. Yet, even today, due to the absence of proper irrigation facilities, 70% of the total cultivated area depends on the uncertain monsoon. Therefore, the success or failure of the monsoon determines the success or failure of agricultural production. The rains, as a source of irrigation, are unreliable due to two factors:

(a) Untimely rains : The rains are sometimes received when the crops are ready for harvesting. The ready crop may be ruined due to untimely rain.

(b) Inadequate rains : There are regions in India which do not get adequate rain and face a difficult situation every now and then. There are other regions where there are excessive rains which are harmful for the crops. The dependence on the uncertain rainfall is a factor that contributes to low productivity of land.

4. Dependence on traditional methods of cultivation

Another factor that leads to low productivity is the dependence of a large number of farmers on traditional methods of cultivation. The illiteracy and traditional beliefs and attitudes

towards production are an obstacle in the adoption of new farming techniques. Even today a large number of farmers in our country use wooden ploughs and bullocks. Also, there is widespread ignorance about the use of modern inputs and techniques such as multiple cropping. Instead of using proper quality and quantity of fertilizers, a number of farmers leave the land fallow so that it can regain its fertility. These factors contribute to low productivity of land.

5. Lack of use of other inputs

(a) Seeds

Good quality seed is an important factor in agricultural productivity. The use of good quality seeds leads to higher land productivity. However, it is seen that many farmers are not in a position to use good quality seeds due to many reasons.

i) Farmers do not have enough resources to purchase these seeds.
ii) Farmers are unwilling to accept the HYV (High Yielding Variety) seeds, about which you will study later, developed through agricultural research.

(b) Fertilizers

Fertilizer is a necessary input for increasing agricultural productivity. The most commonly used fertilizer in India is manure which is prepared from cowdung and other waste products.

Then there are chemical fertilizers which are broadly divided into 3 types : nitrogenous, phosphatic and potash. These fertilizers are useful in two ways. First, they are helpful in restoring fertility of fallow lands. Second, they are useful in raising productivity of land. In India, however, there are two limitations in the use of fertilizers. First, these fertilizers are most useful when they are used on land which is adequately irrigated. But in India approximately 70% of the land is dependent on rainfall. Therefore, these fertilizers cannot be effectively used on 70% of the total cultivated area in India.

Secondly, these fertilizers should be used in the given proportion of 4:2:1. However, in India this proportion is not maintained. More of nitrogenous fertilizers e.g. urea is used then is actually required because it is cheaper. The fertilizer use proportion in India is approximately 8.5:2.5:1. It is important to understand that the use of nitrogenous fertilizers is not bad for the soil - it has a positive effect. If it is used in the right proportion, then the increase in agricultural production is greater.

(c) Pesticides

More than 5% of the crop in India is damaged by pests, insects and also weeds. It is because of the lack of use of pesticides. However, we must not make indiscriminate use of toxic pesticides as they can have an adverse effect not only on human health but can also lead to environmental degradation through soil, water and air pollution.

6. Lack of rural credit

A major problem that leads to low agricultural productivity is lack of proper credit facilities. Farmers need credit for two main purposes :

(i) For the purchase of various inputs such as seeds, pesticides, fertilizers and for the repair of implements.

(ii) For meeting long term investment needs e.g. for buying land or for investment to improve the quality of land, buying new implements and developing proper irrigation facilities.

At the time of Independence the Indian farmers were mostly dependent on traders or money lenders. This dependence has reduced over the last 50 years on account of the setting up of banking and non-banking institutions in the country. But still a big number of farmers is dependent on money lenders. The farmers faced many problems with these money lenders. First, they charge very high rates of interest.

Second, often the farmers had to mortgage their lands to get credit. When they are not unable to pay back these loans the money lenders confiscate their lands.

Third, the tenant farmers were not able to get loans because they were not able to provide any security for the same.

7. Lack of other facilities such as storage and marketing

A farmer would be encouraged to produce more only if he gets a fair price for his produce. For this it is necessary that proper marketing and storage facilities are available. The main alternatives available to a farmer to sell its produce are (a) selling to local traders, (b) selling in local fairs and (c) selling in regulated markets. The main problems faced by farmers in selling their produce are :

Firstly, farmers are often unable to transport their ready-to-sell crop to a market or mandi because of lack of proper means of transport and proper roads. Secondly, the farmers do not have proper storage facilities so that 5-10% of the crop is damaged during defective storage. In view of this the farmers have no option but to sell off their crop at whatever price is offered.

POINTS TO REMEMBER

Some of the reasons for low productivity are as follows :

- the tenant farmers have no incentive to invest in the improvement of land due to absence of security of tenure and lack of resources.
- subdivision and fragmentation of land holdings make it difficult to use modern techniques of cultivation.

- absence of proper irrigation facilities.
- lack of availability of good quality inputs such as seeds, pesticides, fertilizers.
- dependence on traditional methods of cultivation.
- lack of rural credit.
- non-availability of proper marketing and storage facilities.

INTEXT QUESTIONS 26.3

Fill in the blanks from amongst the words given in the bracket :

(70, landlord tenant, 4:2:1, 5% to 10%, nitrogenous, 8.5:2.5:1, 60, 5:4:3, 10%-20%)

(i) Farmers who cultivate a piece of land that they have taken on rent are known as _____farmers.

(ii) _____percent of the total cultivated area in our country lacks adequate irrigation facilities.

(iii) The optimum N:P:K ratio is_____

(iv) The actual N:P:K use ratio in India is_____.

(v) Urea is an example of_____fertilizer.

(vi) _____% of the crop gets damaged due to lack of proper storage facilities.

26.8 MEASURES TO INCREASE AGRICULTURAL PRODUCTIVITY

There are large number of measures which can be taken to improve agricultural productivity. These measures are broadly classified into institutional and technological. The institutional measures aim at rational distribution of cultivable land among the actual cultivators, improving the size of farms and providing security to the tenant cultivators. The institutional measures are popularly called 'land reforms'. The technological measures aim at the use of improved methods of cultivation and improved inputs. All these measures are briefly explained below:

(a) Institutional measures (or land reforms)

The main measures are :

1. Abolition of intermediaries

By intermediaries is meant the intermediaries between the tiller and the State. These were mainly responsible for collection of revenue from the tiller and handing over to the State. In this process they exploited farmers. There was no incentive for the farmers to make improvements on land. So the Government has passed legislation in all the states and legally abolished the intermediaries from the scene.

2. Providing security to tenant farmers

Tenant farmers are those who take cultivable land on rent and share the produce with the land owners. The main problems they faced were (i) high rent and (ii) fear of eviction from land by the landlords. Government has passed many laws to regulate rent and providing security from eviction from land. Government also took steps to provide ownership rights to the tenants.

3. Ceiling on land holdings

Ceiling here means fixing a maximum limit to which an individual can own agricultural land. The purpose is to take away surplus land and distribute the same among the landless and the small farmers. To fulfil this aim government has fixed the maximum limits in different states.

4. Consolidation of land holdings

We have observed in the earlier section that fragmentation and subdivision of land holdings is a major factor responsible for low land productivity because it does not allow the use of modern techniques and implements for cultivation. This problem can be solved through consolidation of land holdings. This is possible by grouping small pieces of land into one large block through the mutual exchange of land. A farmer in village may have 2 pieces of land which are not adjacent to each other. Through the process of exchange he may be able to get one compact block of land instead of scattered pieces of land.

Consolidation of land holdings was started in India on a voluntary basis through the formation of cooperatives. Consolidation has had a favourable effect in certain regions such as Punjab, Haryana and Western U.P. where farmers have begun to use modern farm practices and this has led to a growth in agricultural production. However, the pace of consolidation across the country is still very slow.

(b) Technological measures

1. Irrigation facilities

Irrigation is an important factor that affects agricultural production. Even today 70% of the cultivated land is dependent on the monsoon for irrigation. There are two main types of sources of irrigation.

(i) Surface water sources - Water found on the surface of the land e.g. rivers, lakes, ponds, tanks, reservoirs etc.

(ii) Ground water sources - Water found below the ground surface : this can be harnessed through wells, tubewells, pumpsets etc.

The cropped area of the country is approximately 2000 lakh hectares. In 1950-51 only 225 lakh hectares of area was irrigated. This has increased to 1135 lakh hectares. The increase in irrigated area is one of the factors that has led to the increase in productivity levels of the various crops. However we can also see from the above figures that there is a lot of scope for extension of irrigation facilities.

2. Availability of better quality of inputs

(i) Seeds

Since the mid-60s, the government has introduced high yielding varieties of seeds to increase agricultural productivity. These seeds have been developed after years of agricultural research and are of improved quality and disease resistant and have been developed keeping in mind the varying local conditions. For increasing agricultural production, production of high yielding variety (HYV) seeds was necessary on a large scale. To this effect the union government had set up the National Seeds Corporation in 1963 and various state governments also set up their seeds corporations for production and distribution of good quality seeds.

Initially HYV wheat seeds were used for cultivation during the mid-60s on an experimental basis in those areas where proper inputs of irrigation, fertilizers, pesticides etc. were available. The programme was a success and the output of wheat doubled in 4 years from 1966-67 to 1970-71. Later good results were also seen with HYV rice seeds as well. However the use of HYV seeds for coarse cereals such as jowar, bajra and ragi has not been very successful. This may be attributed to inadequate supply of water and inadequate use of fertilizers.

There has been a lot of progress in the use of HYV seeds but a lot is still to be done. There is a need to convince the farmers to adopt these seeds and provide adequate credit to them so that they can purchase seeds easily.

(ii) Fertilizers

The peasant farmer has from times immemorial been using organic manures to restore the fertility of the soil. Another method is to leave the land fallow to restore its fertility. However, to achieve greater yields there is a need for more use of chemical fertilizers. There has been an increase in the use of chemical fertilizers from 2 lakh tons in 1960-61 to 139 lakh tons in 1995-96 in India.

Part of this increase may be attributed to the HYV seeds which require more fertilizers than the traditional manure.

The use of fertilizers is most efficient when the land under cultivation is adequately irrigated. Thus, adequate irrigation facilities must go hand in hand.

Also, the ratio of use of nitrogenous, phosphatic, potash fertilizers in India is 8.5 : 2.5 : 1 when the ideal ratio is 4 : 2 : 1. Thus, we need move towards the use of not only greater amount of chemical fertilizers but use in ideal ratio.

(iii) Pesticides

Pests and various plant diseases destroy crops. There are two types of measures to solve the problem. Firstly, agricultural research is being undertaken to develop such varieties of crops which can more effectively resist pests and diseases - this is a **preventive measure.**

Secondly, there is a **curative measure** - spraying of pesticides and insecticides. However, we must be sure that the pesticides used are harmless to both crops and the health of human beings. These should be environmentally friendly. Bio-pesticides, e.g. those based on neem and other bio-chemical products, are being used to control the problem of pests. In India there is an Integrated Pest Management (IPM) programme. It aims at controlling pests and gives training to farmers in method of controlling pests.

3. Provision of Rural Credit

After Independence, a number of institutional agencies have been set up to provide credit to the farmers on easy and fair terms. Cooperative credit societies, regional rural banks and commercial banks are some examples. The apex body of all these institutions is the National Bank for Agricultural and Rural Development (NABARD).

(i) Cooperative Credit Societies

The most important source of institutional credit is the cooperative credit societies. Cooperative credit is one of the cheapest and best sources of rural credit.

(ii) Banks including Regional Rural Banks

When the 14 major banks were nationalized in 1969, agriculture was designated as a priority sector. In addition to commercial banks there are Regional Rural Banks and Land Development Banks. Regional Rural Banks give loans to agricultural labourers, small and marginal farmers and rural artisans. Land Development Banks (LDBs) give loans for land reclamation, digging of wells, buying of land and machinery etc.

(iii) NABARD

NABARD was set up in July 1982. It is the apex body in the field of rural credit. NABARD provides credit to the agricultural sector through cooperative credit societies, regional rural banks, commercial banks etc. It provides financial support and ensures coordination in the working of various rural credit institutions.

The contribution of institutional sources has increased considerably. In 1950-51 it was only 7 percent. By 1981 it had increased to 63 percent.

4. Provision of other facilities

Regulated markets have been set up all over the country. These markets have a system of competitive trading which makes it possible for farmers to sell their crop at the maximum available price. These markets are managed by committees comprising growers, traders, local bodies and the state government. The farmers have a number of benefits in this market. They get correct information about the market, correct weights and fair market price.

The government set up the Central Warehousing Corporation in 1957. Warehousing Corporations have also been set up in states. These corporations acquire and build godowns and run warehouses for the storage of agricultural produce. In recent years, there has been considerable improvement in the warehousing facilities in the country. These help prevent small farmers from making distress sale of their crops immediately after the harvest.

POINTS TO REMEMBER

Some of the ways in which the productivity of land may be increased are:

- Providing security to the tenant farmers.
- Ceiling on land holdings and distributing surplus land among the landless.
- Consolidation of small land holdings.
- Developing adequate irrigation facilities.
- Use of good quality inputs - HYV seeds, fertilizers and pesticides.
- Provision of rural credit.
- Setting up of proper marketing, storage and warehousing facilities.

INTEXT QUESTIONS 26.4

Fill in the blanks from amongst the following words :
(manure, 1963, 225, surface, cooperatives, wheat, rice, 1975, 250)

(i) Consolidation of land holdings was started through the formation of_____
(ii) Rivers, lakes, ponds, tanks, etc. are examples of_____ water sources.
(iii) The area of irrigated land in 1950-51 was_____ lakh hectares.
(iv) The National Seeds Corporation was set up in_____
(v) Initially HYV seeds were used for_____crop.
(vi) _____is the fertilizer which has been traditionally used by the Indian farmer.

WHAT YOU HAVE LEARNT

- Agriculture is the most important sector of the Indian economy.
- To meet the increasing requirement of food, raw materials, export items, there is a need for increasing agricultural production.
- Agricultural production can be increased in two ways extensive cultivation and intensive cultivation.

- Productivity of land is defined as the output produced per hectare of land.
- There has been an increase in productivity for various crops since 1950-51 but these productivity levels are lower than those achieved in other countries.
- Some of the reasons for low productivity are lack of incentive to improve the land, small size of land holdings; dependence on traditional inputs and methods of cultivation, lack of rural credit and storage and marketing facilities.
- Efforts have been made in India to raise the productivity of land.

TERMINAL EXERCISE

1. Explain the importance of the agricultural sector in the Indian economy.
2. What is the meaning of the term land productivity? Discuss the changes that have taken place in the productivity levels of different crops in India. How would these compare with the levels of productivity in other countries?
3. What are the causes of low productivity of agriculture in India?
4. Explain the measures taken to raise agricultural productivity in India.
5. Write short notes on
   (i) Extensive and intensive cultivation
   (ii) Productivity in Indian agriculture
   (iii) Sources of institutional rural credit.

ANSWERS

Intext Questions 26.1

1. (i) agriculture, (ii) two-third (iii) industrial
   (iv) incentive (v) important (vi) one-third
2. (i) D (ii) A (ii) B (iv) C

Intext Questions 26.2

1. (i) extensive (ii) intensive (iii) output (iv) 20 quintals
2. (i) D (ii) A (iii) E (iv) C (v) B

Intext Questions 26.3

(i) tenant (ii) 70% (iii) 4:2:1
(iv) 8.5:2.5:1 (v) nitrogenous (vi) 5% to 10%

Intext Questions 26.4

(i) cooperatives (ii) surface (iii) 225
(iv) 1963 (v) wheat (vi) manure

Terminal Exercise : Hints

1. (i) Sources of food and fodder
   (ii) Source of raw material
   (iii) Main source of livelihood
   (iv) Contributes to foreign trade.
   (v) Source of demand for industrial products.
   (vi) Contribution to national income.
   (Read section 26.3)
2. Land productivity refers to per hectare crop output. There is increase in land productivity in India over the last 44 years. It is quite low in comparison to other countries. (Read section 26.6)
3. (i) Lack of incentives to make improvements on land
   (ii) Subdivision and fragmentation of holdings.
   (iii) Lack of irrigation facilities.
   (iv) Traditional methods of cultivation.
   (v) Lack of use of HYV seeds, fertilizers, pesticides etc.
   (vi) Lack of rural credit.
   (vii) Lack of storage, marketing facilities etc.
   (Read section 26.7)

4.

(a) Institutional measures
   (i) Abolition of intermediaries.
   (ii) Security to tenant farmers.
   (iii) Ceiling on land holdings.
   (iv) Consolidation of holdings.

(b) Technological measures
   (i) Irrigation facilities.
   (ii) Improved inputs.
   (iii) Provision of rural credit.
   (iv) Other facilities.
   (Read section 26.8)

5. (i) Extensive cultivation implies increase in the area under cultivation. Intensive cultivation implies producing more on the same piece of land. (Read section 26.5)

(ii) Read section 26.6

(ii) (i) Cooperative credit societies.
   (ii) Commercial banks.
   (iii) Regional rural banks.
   (iv) NABARD
   [Read section 26.8(3)]