CHAPTER- 8

AGRICULTURE AND AGRICULTURAL SOCIETY

The Word 'Agriculture' is formed with the two Latin words 'Agros' and 'Culture'. 'Agros' means land and 'culture' is meant for ploughing. Thus, 'agriculture' means 'ploughing of land'. Though animal husbandry, forestry, fishery also fall under agriculture.

Agriculture began in the Neolithic age, but well-planned development of agriculture is seen in Indus valley civilization especially in the Bronze-age. The Indus river brought more alluvial soil with it than the Nile river of Egypt did and left it on the flood-affected plains which increases production. The proof of the use of ploughs in the Herappan civilization is available in Rajasthan. The Harappans perhaps used wooden ploughs. But it is not known whether the ploughs are drawn by men or oxen. The sickles made of stone were used for reaping the crops. But there was no tradition of irrigation from canals or drains.

The people of the Indus valley civilization produced wheat, barley, mustard, cotton, pea and corns. They grew two types of wheat and barley. The barley found in Banvoli is of the best quality. Besides them, they grew sesame and mustard. But the situation of the people living in Lothal in the Harappan age was different. It seems that the people of Lothal grew rice even in 1800 BC because its proof has been found there. In Mohanjodaron and Harappa and even in Kalibanga, corn was collected in big granaries. We can say this thing by the example of the cities of Mesopotamia where barley was given as wages.

The credit for growing cotton first goes to the people of the Indus valley civilization because the production of cotton first started in the Indus region. So the Greek called it 'Sindon' which originated from the word 'Indus'.

India is mainly an agricultural country. Indian society is a farmer society. So agriculture is an important joist of India economy. About two-third of the population depend on agriculture. Whereas 11% of world land is fit for agriculture. 51% of Indian land is fit for the cause. Agriculture contributes 35 percent to national gross income of India. There was a high percentage of fertile land in India. But a misfortunate aspect of Indian agriculture is its uncertainty both in quality and quantity. The farmers are not sure about their crops even till the last moment.

Agriculture is the backbone of life in India. The production was very less than labour just after independence due to excessive burden of population on agriculture and lack of modern technique and means of irrigation. But after independence the production increased by the efforts of the government of India.

Bihar is mainly an agricultural state. About 80% of population here depends on agriculture. Agriculture is the main source of livelihood for the people of the state. About 70% of the land of Bihar is fit for agriculture and 60% of it is pure farming area. In fact agriculture is their life style. There are many reasons of the importance of agriculture in Bihar. Most of its plain area is fit for agriculture and has been related to agriculture for centuries. The commercialization of agriculture, industrialization and unfamiliarity with modern technique are its agrettable aspects. Even today farming is done by old techniques in Bihar. The per hectare production is very minimum and the agriculture is in its backward state in Bihar due to growing burden of population on agriculture, absent land possession, lack of irrigation, small and scattered farms, insufficient use of fertilizers, old technique of farming and lack of good seeds. Due to dependence on the monsoon, the agriculture is called 'gamboling with the monsoon'. The farmers do not get proper price of crops due to defective system of marketing. This is why the condition of Bihari farmers is miserable and they are compelled to find shelter in another states for their livelihood keeping their farms aside. The agriculture of Bihar is intensive and about four crops are sown and cultivated here in a year. For example :

1. Bhadai crops : These crops are sown in May-June and reaped in August-September. Maize, millet, jute, udad, hemp, and madua are the main crops of this season.

2. Agahani crops : It is sown in July-August and prepared in November-December. Paddy, horse gram, sesame, potato, oilseeds, vegetables, maize, cotton, sugarcane, jute etc. are main crops.

3. Rabi crops : These are the crops of the spring season. These are sown in October-November and prepared by March-April. They need much more irrigation. Wheat is the main Rabi crop. Besides it, barley, gram, pea, mustard, lentil, chick ling vetch, pigeon-pea etc. are grown on a large quantity.

4. Summer crops: These are the crops of summer season which are grown in the area where there is arrangement **of** regular irrigation. These are sown in March-April and harvested in June. Paddy, maize, moong, gram, mango, banana, water-melon, cucumber, vegetables and onion are the main crops of this season.

These are verities of crops in Bihar. These crops are classified on the basis of their nature:

1. Food crops: Paddy, wheat, maize, millet, gram, barley, pulses, oilseeds, etc.
2. Commercial or Cash crops: Sugarcane, jute, cotton, tobacco, potato, oilseed, pulses, chilley, spices, etc.
3. Beverage crops: Tea is a beverage which is grown in Kishanganj.
4. Fibrous crops: Cotton, jute, silk, etc.
5. Fruit crops: mango, banana, litchi, guava, etc.
6. Spices: Chilley, garlic, turmeric, coriander, fenugreek, etc.

Rice or paddy: Rice is the main crop of Bihar.

Climate	:	Paddy is the crop of ward and humid climate
Temperature	:	20^0C 200^0C
Soil	:	Mould

According to the data of 1999-2000, the land fit for paddy is much more in Rohtas district.

Wheat: Wheat is the second main food crop of Bihar**.**


Wheat

Climate : Temperate zonal

Temperature : 10^0C 15^0C (at the time of sowing)

20^0C 30^0C (at the time of sowing)

Rain : 50 cm 75 cm

Soil : Light mould

Area : Rohtas, East Champaran, Siwan

Maize: Maize the third main food crop after rice and wheat.

Climate : Warm and humid

Temperature : 25^0C 30^0C

Rain : 50 cm 100 cm

Soil : Deep mould soil with nitrogen

Area : Saran, Siwan, Gopalganj, Muzaffarpur, Vaishali, East Champaran, West Champaran, Samastipur, Begusarai, Khagaria, Saharsa, Madhepur, Purnea, Katihar

History of different types of cultivation

About 70% of population in India depends on agriculture. That is to say that the society in India is an agricultural society. When the people knew about arming they lacked ways and means. Agriculture is only a chance.

Jhoom farming:

In the beginning of civilization, the people started cultivation after clearing the forests. Even these days, jhoom farming is very popular in the tribal society in Lids. Since the tribal society take the earty as their mother,

they do not want to plough it. So, they set the forest on fire before the rains, and scattered the seeds on ashes. There being rained, plants came out of them. Similarly, they set the downward forest on fire next year. However, this type of farming affects the environment.

Traditional farming:

The farmers did traditional farming. They kept some seeds from the production for next year use. They depended on rains for irrigation. It rains in India from the monsoon which is uncertain. There is sometime deluge and another time drought. Animals performed most of the agricultural activities. This type of traditional farming did not enhance production. The quality of seeds reduced due to their regular use. Traditional farming took much time and the fertility of soil reduced gradually. This type of farming is in vogue even today.

History of different types of cultivation

- Jhoom farming
- Traditional farming
- Intensive farming
- Crop cycle
- Composite farming
- Plantation or bagani farming

There was very less production due to British policy and mismanagement of land. The land got deserted because of compulsion for indigo production. It caused regular famine. But after independence, the production increased by the land management of the government and development in the means of irrigation.

In the decade of 1960, the production of food grains increased expectedly in green revolution. Modern technique and scientific system in agriculture are introduced. The seeds of higher quality were developed through hybridism. Agriculture is developed as a trade due to the use of fertilizers, insecticides, pesticides and development in irrigation by multi-purpose projects and farming with modern equipment.

Intensive farming:

Where there was arrangement of irrigation, the farmers started using fertilizers and insecticides on a large scale. Agriculture is mechanized by the use of machines to complete the different processes of agriculture. So, the production per hectare increased. Intensive farming means farming of more than one crops in the same farm.

Crop cycle: The fertility of soil reduces due to cultivating the same crop regularly. So a pulse is sown between two cereal crops. It is called crop cycle. There are nitrogen stabilizing bacteria in the roots of plants of pulses. They increase the fertility of soil by stabilizing nitrogen of atmosphere. These days the fertility of land is increased by using different types of fertilizers.

Composite farming: The farming of two or three crops in the same farm and at the same time is called composite farming. Through it more and different types of crops are grown.

Plantation or Bagani farming: Plantation farming is a special type of shrub farming or tree farming. It was started by the British in the 19th century. It is a single crop farming. Rubber, tea, coffee, coco, spices, coconut and fruits like apple, grapes, orange etc. are grown. This type of farming needs more capital. Factories for processing tea, coffee and rubber are established near the farms. This type of farming is done in the mountain area of north-east, Sub-Himalayan region of west Bengal and in the hills of Nilgiri, Annamalai, Ilaichi of Peninsular India.

Needs in Rural Economy:

Different types of farming is needed in rural economy because most of the rural population depend on agriculture. With the rapid growth of population there is need of different types of farming, the modern ones for more income. The fertility of soil is regained by modernisation of agriculture and economy is strengthened as well. Cash crops develop the industries and the farmers get more income.

Cotton farming

Changes in rural economy in present time

A great change has occurred in rural economy in present time. Rural farmers are changing their agricultural activities through awareness and modern technique.

By modern technique, the rural farmers are growing such types of crops that they get ore income. The government is also encouraging the cultivation of such crops. The government is providing loan for the benefit of farmers and for compensating the destruction of crops through crop insurance. This type of production helps industries and people get employment.

Main commercial crops of Bihar

Banana: Hajipur and Navgachhiya region of Bihar is suitable for banana farming. The soil and climate here is fit for banana. So in this region, banana production is assuming the form of a trade. As a result, rural economy has been strengthened.

Sugarcane farming

Litchi: Muzaffarpur region is very popular for Shahi Litchi. The farmers here are increasing their income by growing litchi on a large amount. There is demand of Shahi litchi in international market. Litchi is adequately used in food processing industries.

Sugarcane: From the very earliest, Bihar is famous for sugarcane farming. It is produced on a large scale in Purnea, Saharsa, West Champaran region of Bihar. Sugarcane is an industrial crop. Sugar, jaggary etc. are made of it. Sugarcane farming is thus a great means of income. Besides it, the rural farmers can increase their income by establishing cottage industries of jaggary.

Sugarcane farming

Agriculture has a great contribution in Indian economy. Still, the conditions of farmers are not so good. At many places, the farmers have to commit suicides. So the government has to pay attention to it. The conditions of farmers may be improved by grading the agriculture as an industry. The forthcoming generations will have to be motivated to honour agricultural activities. Chapters related to agriculture should be added to their curriculum. Technical and scientific views should be encouraged for increasing agricultural production.

Agriculture can be a medium of social change. Through social change, agricultural production will increase. The economic conditions of farmers will be strengthened by producing raw material for industries and surplus production. When the economy is better, the standard of their living will be improved and they will move towards education. By increasing income, mechanised agriculture will begin. Thus there will be a change in society.

Scientific view in agriculture

Scientific view in agriculture will be very beneficial for farmers. The production is not very beneficial for farmers. The production is not very satisfactory in traditional farming. Whereas the quality of seeds will be reduced by using the same type of seeds again and again, the fertility of soil is also affected by producing the same type of food grains. Because of dependence on rains for irrigation, the crops are in deluge. However, the production increased because of the use of scientific methods. Through plant processing, high quality of seeds were produced by pollinating the plants of less desired quality with those of more desired quality. These seeds give better crops in a short time. The fertility of farms is regained by the production of fertilizers. Crops may be saved from destruction by sprinkling insecticides and pesticides.

Different means of irrigation help the plants maintain moisture. Agricultural activities are performed timely with the help of modern equipment and the time is saved. Crop-cycle, multi-crop farming, composite farming etc. helped in increasing agricultural production. That is why Green Revolution became possible in 1960. Scientific view in agriculture is thus very useful.

EXERCISE

I. Objective questions:

1. Which is found in the roots of pulse crops?
   a. Nitrogen stabilizing bacteria
   b. Potassium stabilizing bacteria
   c. Phosphate stabilizing bacteria
   d. None

2. Shahi litchi is mainly produced in
   a. Hajipur b. Samastipur
   c. Muzaffarpur c. Siwan

3. Rabi crops are sown in
   a. June-July b. March-April
   c. November d. September-October

4. Banana is produced in Bihar in
   a. Samstipur b. Hajipur
   c. Saharsa Muzaffarpur

5. Which district of Bihar is the greatest producer of Rice?
   a. Siwan b. Rohtas
   c. Sitamarhi d. Hajipur

6. in which season are the summer crops grown?
   a. summer season b. winter season
   c. rainy season d. spring season

7. Pick out the fibrous crop
   a. mango b. litchi
   c. Paddy d. Cotton

8. Chose the Agahani crop
   a. rice b. jute
   c. moong d. wheat

II. Fill in the blanks with appropriate words:

1. Cotton is a _____ crop.
2. Maize is a _____ crop.
3. India is mainly an _____ country
4. _____ third of the population in India depends on agriculture.
5. 'Agriculture' is formed with the two words of Latin _____ and _____
6. _____ district is the greatest produce of rice?
7. There is an intensive type of farming in Bihar under which _____ crops are sown and harvested in a year.
8. _____ climate is needed for rice.
9. _____ soil is needed for wheat.
10. Maize needs _____ climate.

III. Short answer type question:

1. How many types of farming are mainly done in India?
2. What is the difference between Rabi crops and Kharif crops?
3. What is plant hybridization?
4. What is composite farming?
5. What do you mean by Green Revolution?
6. What do you mean by intensive farming?
7. What do you mean by Jhoom farming?
8. Write about crop-cycle.
9. What do you mean by plantation or bagani farming?
10. Suggest the ways for changing rural economy in present time.

IV. Long answer type questions:

1. How can you say that India is mainly an agricultural country?
2. How is scientific view useful in agriculture?
3. The agriculture in Bihar is 'gambling with the monsoon'. How?
4. How can agriculture be a medium of social change?
5. What is the scientific view in agriculture? Explain.