

AGRICULTURE

Types of Farming

The cultivation methods depend upon the characteristics of the physical environment, technological know-how and socio-cultural practices. Farming varies from subsistence to commercial type. In different parts of India, the following farming systems are practised.

Primitive Subsistence Farming

It is a 'slash and burn' agriculture. Farmers clear a patch of land and produce cereals and other food crops. When the soil fertility decreases, the farmers shift and clear a fresh patch of land for cultivation. It is known by different names in different parts of the country. It is known as **jhumming** in north-eastern states.

- Land productivity is low in this type of agriculture.
- This type of farming depends on monsoon.
- This farming is practised in a few parts of India.

Intensive Subsistence Farming

- This type of farming is practised in areas of high population pressure on land.
- It is labour-intensive farming, where high doses of biochemical inputs and irrigation are used for higher production.

Commercial Farming

This type of farming uses higher doses of modern inputs such as high yielding variety (HYV) seeds, chemical fertilisers, insecticides and pesticides to obtain higher productivity.

Plantation is a type of commercial farming in which a single crop is grown on a large area. Plantations cover large tracts of land, using capital intensive inputs, with the help of migrant labourers. All the produce is used as a raw material in industries.

Eg: Tea, Coffee, Rubber, Sugarcane, Banana.

Cropping Pattern

India has three cropping seasons:

1. Rabi
2. Kharif
3. Zaid

	Rabi	Kharif	Zaid
Sowing Season	Winter from October to December	Beginning of the rainy season between April and May	In between the Rabi and the Kharif seasons, there is a short season during the summer months known as the Zaid season (in the months of March to July)
Harvesting Season	Summer from April to June	September-October	
Important Crops	Wheat, Barley, Peas, Gram and Mustard.	Paddy, Maize, Jowar, Bajra, Tur (Arhar), Moong, Urad, Cotton, Jute, Groundnut and Soyabean.	Watermelon, Muskmelon, Cucumber, Vegetables and Fodder crops

Major Crops in India

A variety of food and non-food crops are grown in different parts of India, depending upon the variations in soil, climate and cultivation practices. Major crops grown in India are:

- Rice
- Wheat
- Millets
- Pulses
- Tea
- Coffee
- Sugarcane
- oil seeds
- Cotton
- Jute

We will discuss all of these one by one, in detail.

Rice

1. It is a kharif crop.
2. It requires high temperature and high humidity with annual rainfall above 100 cm.
3. India is the second largest producer of rice in the world after China.
4. It is grown in the plains of north and north-eastern India, coastal areas and the deltaic regions.

Wheat

1. This is a rabi crop.
2. It requires a cool growing season and bright sunshine at the time of ripening.
3. It requires 50 to 75 cm of annual rainfall evenly distributed over the growing season.
4. The Ganga-Satluj plains in the north-west and black soil region of the Deccan are two main wheat-growing zones in India.
5. It is the second most important cereal crop and main food crop, in the north and north-western part of India.

Millets

1. Jowar, Bajra and Ragi are the important millets grown in India.
2. These are known as coarse grains and have very high nutritional value.

Jowar	Bajra	Ragi
3rd most important food crop with respect to area and production.	Grows well on sandy soils and shallow black soil.	It is a crop of dry regions.
It is a rain-fed crop mostly grown in the moist areas.		Grows well on red, black, sandy, loamy and shallow black soils.
Mainly produced in Maharashtra, Karnataka, Andhra Pradesh and Madhya Pradesh.	Major producing states are Rajasthan, Uttar Pradesh, Maharashtra, Gujarat and Haryana.	Major producing states are Karnataka, Tamil Nadu, Himachal Pradesh, Uttarakhand, Sikkim, Jharkhand and Arunachal Pradesh.

Maize

1. It is a Kharif crop.
2. It requires temperature between 21°C to 27°C and grows well in old alluvial soil.
3. It is used both as food and fodder.
4. Major maize-producing states are Karnataka, Madhya Pradesh, Uttar Pradesh, Bihar, Andhra Pradesh and Telangana.

Pulses

1. India is the largest producer and consumer of pulses in the world.
2. Pulses are the major source of protein in a vegetarian diet.
3. Major pulses grown in India are Tur (Arhar), Urad, Moong, Masur, Peas and Gram.
4. Pulses are mostly grown in rotation with other crops so that the soil restores fertility.
5. Major pulse producing states are Madhya Pradesh, Rajasthan, Maharashtra, Uttar Pradesh and Karnataka.

Food Crops other than Grains

Sugarcane

1. It is a tropical as well as a subtropical crop.
2. It grows well in hot and humid climates with a temperature of 21°C to 27°C and annual rainfall between 75cm to 100cm.
3. It can be grown on a variety of soils.

4. Needs manual labour from sowing to harvesting.
5. India is the second largest producer of sugarcane only after Brazil.
6. Sugarcane is the main source of Sugar, Gur (Jaggery), Khansari and molasses.
7. The major sugarcane-producing states are Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, Bihar, Punjab and Haryana.

Oil Seeds

Different oil seeds are grown covering approximately 12% of the total cropped area of India. Main oil-seeds produced in India are:

- *Groundnut*: is a Kharif crop and accounts for half of the major oilseeds produced in India. Gujarat is the largest producer of groundnuts.
- *Mustard*: is a rabi crop.
- *Sesamum (til)*: is a Kharif crop in the north and rabi crop in south India.
- *Castor seeds*: It is grown as both Rabi and Kharif crop.
- *Linseed*: is a rabi crop.
- *Coconut*
- *Soyabean*
- *Cotton seeds*
- *Sunflower*

Tea

1. It is also an important beverage crop introduced by the British in India.
2. The tea plant grows well in tropical and sub-tropical climates with deep and fertile well-drained soil, rich in humus and organic matter.
3. Tea bushes require warm and moist frost-free climate all through the year.
4. Tea is a labour-intensive industry.
5. Major tea producing states are Assam, hills of Darjeeling and Jalpaiguri districts, West Bengal, Tamil Nadu and Kerala.

Coffee

Yemen coffee is produced in India and this variety of coffee is in great demand all over the world. Its cultivation was introduced on the Baba Budan Hills and is confined to the Nilgiri in Karnataka, Kerala and Tamil Nadu.

Horticulture Crops

India is a producer of tropical as well as temperate fruits. Major crops produced are pea, cauliflower, onion, cabbage, tomato, brinjal and potato. Some of the famous horticulture crops grown in India are:

- **Mangoes** of Maharashtra, Andhra Pradesh, Telangana, Uttar Pradesh and West Bengal **Oranges** of Nagpur and Cherrapunjee (Meghalaya), bananas of Kerala, Mizoram, Maharashtra and Tamil Nadu.
- **Lichi and Guava** of Uttar Pradesh and Bihar
- **Pineapples** of Meghalaya
- **Grapes** of Andhra Pradesh, Telangana and Maharashtra
- **Apples, pears, apricots and walnuts** of Jammu and Kashmir and Himachal Pradesh

Non-Food Crops

Rubber	Fibre	Cotton	Jute
It is an equatorial crop.	Cotton, Jute, Hemp and Natural Silk are the four major fibre crops.	It is a Kharif crop.	It is known as the golden fibre.
It requires a moist and humid climate with rainfall of more than 200cm and temperature above 25°C.	Cotton, Jute and Hemp are grown in the soil.	It requires high temperature, light rainfall, 210 frost-free days and bright sunshine for its growth.	It grows well on well-drained fertile soils in the flood plains. High temperature is required for its growth.
It is an important industrial raw material	Natural Silk is obtained from cocoons of the silkworms fed on green leaves	Cotton grows well in black cotton soil of the Deccan plateau.	It is used in making gunny bags, mats, ropes, yarn, carpets and other artefacts.
Mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar islands and Garo hills of Meghalaya.	Rearing of silkworms for the production of silk fibre is known as Sericulture .	Major cotton-producing states are Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Telangana, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.	Major jute producing states are West Bengal, Bihar, Assam, Odisha and Meghalaya.

Technological and Institutional Reforms

Agriculture provides a livelihood for more than 60% of its population, so this sector needs some serious technical and institutional reforms. The Green Revolution and the White Revolution were some of the reforms initiated by people to improve agriculture.

Some Initiatives taken by the Government are:

- Schemes introduced by Government such as Kisan Credit Card (KCC), Personal Accident Insurance Scheme (PAIS).
- Special weather bulletins and agricultural programmes for farmers on the radio and television were introduced.
- The government also announces minimum support price, remunerative and procurement prices for important crops to check the exploitation of farmers by speculators and middlemen.

Contribution of Agriculture to the National Economy, Employment and Output

- In 2010-11 about 52% of the total workforce was employed by the farm sector.
- The share of agriculture in the GDP is declining.

- Indian Council of Agricultural Research (ICAR), agricultural universities, veterinary services and animal breeding centres, horticulture development, research and development in the field of meteorology and weather forecast, etc. are a few of the initiatives introduced by the government to improve Indian agriculture.

Exercise Page No 46

1. Multiple choice questions.

(i) Which one of the following describes a system of agriculture where a single crop is grown on a large area?

(a) Shifting Agriculture (b) Plantation Agriculture (c) Horticulture (d) Intensive Agriculture

Answer:

Plantation agriculture

(ii) Which one of the following is a rabi crop?

(a) Rice (c) Millets (b) Gram (d) Cotton

Answer:

Gram

(iii) Which one of the following is a leguminous crop?

(a) Pulses (c) Millets (b) Jawar (d) Sesamum

Answer:

Pulses

2. Answer the following questions in 30 words.

(i) Name one important beverage crop and specify the geographical conditions required for its growth.

Answer:

One important beverage crop is tea.

The tea plant grows well in tropical and sub-tropical climates endowed with deep and fertile well-drained soil, rich in humus and organic matter. Tea bushes require warm and moist frost-free climate all through the year. Frequent showers evenly distributed over the year ensure continuous growth of tender leaves. Tea is a labour-intensive industry. It requires abundant, cheap and skilled labour. Tea is processed within the tea garden to restore its freshness.

(ii) Name one staple crop of India and the regions where it is produced.

Answer:

Rice is a major staple crop of India.

It is grown in the following regions.

1. Plains of North
2. North East India
3. Coastal Areas
4. Deltaic Regions

(iii) Enlist the various institutional reform programmes introduced by the government in the interest of farmers.

Answer:

Various institutional reform programmes introduced by the Government are

1. MSP (Minimum Support Price)
2. Subsidy on Fertilisers
3. Crop insurance
4. Establishment of Grameen banks to provide low-interest loans

(iv) The land under cultivation has got reduced day by day. Can you imagine its consequences?

Answer:

1. Shortage of food
2. The rise in prices of food
3. Imports increase will put stress on the economy
4. Rise in Unemployment

3. Answer the following questions in about 120 words.

(i) Suggest the initiative taken by the government to ensure the increase in agricultural production.

Answer:

The Government of India embarked upon introducing agricultural reforms to improve Indian agriculture in the 1960s and 1970s. The Green Revolution based on the use of package technology and the White Revolution (Operation Flood) were some of the strategies initiated to improve a lot of Indian agriculture. But, this too led to the concentration of development in a few selected areas. Therefore, in the 1980s and 1990s, a comprehensive land development programme was initiated, which included both institutional and technical reforms. Provision for crop insurance against drought, flood, cyclone, fire and disease, the establishment of Grameen banks, cooperative societies and banks for providing loan facilities to the farmers at lower rates of interest were some important steps in this direction. Kisan Credit Card (KCC), Personal Accident Insurance Scheme (PAIS) are some other schemes introduced by the Government of India for the benefit of the farmers. Moreover, special weather bulletins and agricultural programmes for farmers were introduced on the radio and television. The government also announces minimum support price, remunerative and procurement prices for important crops to check the exploitation of farmers by speculators and middlemen.

(ii) Describe the impact of globalisation on Indian agriculture.

Answer:

Globalisation is not a new phenomenon. It was there at the time of colonisation. In the nineteenth century, when European traders came to India, at that time too, Indian spices were exported to different countries of the world and farmers of south India were encouraged to grow these crops. Till today, it is one of the important items of export from India. Under globalisation, particularly after 1990, the farmers in India have been exposed to new challenges. Despite being an important producer of rice, cotton, rubber, tea, coffee, jute and spices, our agricultural products are not able to compete with the developed countries because of the highly subsidised agriculture in those countries. Today, Indian agriculture finds itself at the crossroads. To make agriculture successful and profitable, proper thrust should be given to the improvement of the condition of marginal and small farmers.
