



Ch. – 4 – Lecture Notes

Geography

“Agriculture”

Introduction

- Agriculture is the science and art of cultivating plants and livestock.
- In other words, **Agriculture refers to the science or practice of farming, including cultivation of the soil for the growing of crops and the rearing of animals to provide food, wool, and other products.**

Why agriculture is Important:

- **Two-thirds of India's population is engaged in agricultural activities.**
- Agriculture is a primary activity, which produces most of the food that we consume.
- Besides food grains, it also produces raw material for various industries.
- Moreover, some agricultural products like tea, coffee, spices, etc. are also exported.

Types of farming

- Agriculture is an age-old economic activity in our country.
- Depending upon the characteristics of physical environment, technological know-how and socio-cultural practices following farming systems are practised.

- **Primitive Subsistence Farming**

- Practices:** It is practised in few parts of India. Practised on small patches of land with the help of primitive tools like hoe, dao and digging sticks, and family/community labour.
- Requirements:** **This type of farming depends upon monsoon**, natural fertility of the soil and suitability of other environmental conditions to the crops grown. **It is a 'slash and burn' agriculture.** Farmers clear a patch of land and produce cereals and other food crops to sustain their family. When the soil fertility decreases, the farmers shift and clear a fresh patch of land for cultivation. This type of shifting allows Nature to replenish the fertility of the soil through natural processes.
- Land productivity in this type of agriculture is low as the farmer does not use fertilisers or other modern inputs.
- Different Names:** Known by different names in different parts of the country. **It is known as jhumming in north-eastern states** like Assam, Meghalaya, Mizoram and Nagaland; **Pamlou in Manipur, Dipa in Bastar district of Chhattishgarh, and in Andaman and Nicobar Islands.**



- **Intensive subsistence farming**

- Practices:** It is practised in areas of high population pressure on land.
- Requirements:** Labour- intensive farming, high doses of biochemical inputs and irrigation are used for obtaining higher production.
- Though the ‘right of inheritance’ leading to the division of land among successive generations has rendered land-holding size uneconomical,** the farmers continue to take maximum output from the limited land in the absence of alternative source of livelihood. Thus, there is enormous pressure on agricultural land.

- **Commercial farming**

- Characteristics:** The main characteristic of this type of farming is the use of higher doses of modern inputs, e.g. **high yielding variety (HYV) seeds, chemical fertilisers, insecticides and pesticides in order to obtain higher productivity.**
- In this type of farming, a single crop is grown on a large area. The plantation has an interface of agriculture and industry. **Plantations cover large tracts of land, using capital intensive inputs, with the help of migrant labourers.** All the produce is used as raw material in respective industries.
- The degree of commercialisation of agriculture varies from one region to another. For example, rice is a commercial crop in Haryana and Punjab, but in Odisha, it is a subsistence crop.
- Plantation is also a type of commercial farming.**
- In India, tea, coffee, rubber, sugarcane, banana, etc., are important plantation crops. Tea in Assam and North Bengal coffee in Karnataka are some of the important plantation crops grown in these states.
- Since the production is mainly for market, a well- developed network of transport and communication connecting the plantation areas, processing industries and markets plays an important role in the development of plantations.

CROPPING PATTERN

- Various types of food and fibre crops, vegetables and fruits, spices and condiments, etc. constitute some of the important crops.
- **India has three cropping seasons— rabi, kharif and Zaid.**

- **Rabi Crops**

- They are sown in **winter from October to December** and harvested in **summer from April to June.**
- Some important rabi crops are wheat, barley, peas, gram and mustard.
- **States from the north and north- western parts** such as Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Uttar Pradesh are important for the production of wheat and other rabi crops.
- Availability of precipitation during winter months due to the western temperate cyclones helps in the success of these crops.
- However, **the success of the green revolution in Punjab, Haryana, western Uttar Pradesh and parts of Rajasthan has also been an important factor in the growth** of the above-mentioned rabi crops.



- **Kharif crops**
 - **Grown with the onset of monsoon** in different parts of the country and **harvested in September-October**.
 - Important crops are paddy, maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut and soyabean.
 - Some of the most important rice-growing regions are Assam, West Bengal, coastal regions of Orissa, Andhra Pradesh, Tamil Nadu, Kerala and Maharashtra, particularly the Konkan coast, along with Uttar Pradesh and Bihar. Recently, paddy has also become an important crop of Punjab and Haryana.
 - In states like Assam, West Bengal and Orissa, three crops of paddy are grown in a year. These are Aus, Aman and Boro.
- **Zaid Crops**
 - **In between the rabi and the kharif seasons, a short season crop during the summer months.**
 - Some of the crops produced during 'zaid' are water melon, muskmelon, cucumber, vegetables and fodder crops. Sugarcane takes almost a year to grow.

Major Crops

- **A variety of food and non-food crops are grown in different parts of the country** 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 and jute, etc.
- **Rice**
 - **It is the staple food crop** of a majority of the people in India.
 - India, second largest producer of rice in the world after China.
 - **Climate:** A kharif crop, **requires high temperature, (above 25°C)** and high humidity with annual rainfall above 100 cm. In the areas of less rainfall, it grows with the help of irrigation.
 - **Areas of Production:** Rice is grown in the plains of north and north-eastern India, coastal areas and the deltaic regions. Development of dense network of canal irrigation and tube wells have made it possible to grow rice in areas of less rainfall such as Punjab, Haryana and western Uttar Pradesh and parts of Rajasthan.
- **Wheat**
 - It is the **second most important cereal crop**.
 - It is the main food crop, in north and north-western part of the country.
 - **Climate:** Rabi crop requires a cool growing season and a bright sunshine at the time of ripening. It requires 50 to 75 cm of annual rainfall evenly- distributed over the growing season.
 - **Areas of Production:** There are **two important wheat-growing zones** in the country - **the Ganga-Satluj plains in the north- west and black soil region of the Deccan**. The major wheat-producing states are Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan and parts of Madhya Pradesh.



- **Millets**
 - Jowar, bajra and ragi are the important millets grown in India. **They are known as coarse grains**, have very high nutritional value.
 - It is the **third most important food crop** with respect to area and production.
 - Rain-fed crop mostly grown in the moist areas which hardly needs irrigation.
 - Areas of Production: Maharashtra is the largest producer of jowar followed by Karnataka, Andhra Pradesh and Madhya Pradesh.
- **Bajra**
 - **It grows well on sandy soils and shallow black soil.**
 - Rajasthan is the largest producer of bajra followed by Uttar Pradesh, Maharashtra, Gujarat and Haryana.
- **Ragi**
 - It is very rich in iron, calcium, other micro nutrients and roughage.
 - A crop of dry regions and **grows well on red, black, sandy, loamy and shallow black soils.**
 - Karnataka is the largest producer of ragi followed by Tamil Nadu.
 - Apart from these states, Himachal Pradesh, Uttarakhand, Sikkim, Jharkhand and Arunachal Pradesh are also important for the production of ragi.
- **Maize**
 - It is a crop which is used both as food and fodder.
 - **Climate:** Kharif crop which requires temperature between 21°C to 27°C.
 - **Areas of production:** Grows well in old alluvial soil. In some states like Bihar maize is grown in rabi season also. **Use of modern inputs** such as HYV seeds, fertilisers and irrigation have contributed to the **increasing production of maize**. Major maize-producing states are Karnataka, Uttar Pradesh, Bihar, Andhra Pradesh and Madhya Pradesh.
- **Pulses**
 - India is the largest producer as well as the consumer of pulses in the world.
 - These are **the major source of protein in a vegetarian diet.**
 - Pulses need less moisture and survive even in dry conditions.
 - Being leguminous crops, all these crops except arhar help in restoring soil fertility by fixing nitrogen from the air.
 - Therefore, these are mostly grown in rotation with other crops.
 - Major pulses are Tur (arhar), urad, moong, masur, peas and gram.
 - Major pulse producing states: Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka.



Food Crops other than Grains:

- **Sugarcane**
 - **India is the second largest producer** of sugarcane only after Brazil.
 - It is the main source of sugar, gur (jaggary), khandsari and molasses.
 - **Climate:** It is a tropical as well as a subtropical crop. It grows well in hot and humid climate with a temperature of 21°C to 27°C and an annual rainfall between 75cm. and 100cm. Irrigation is required in the regions of low rainfall.
 - **Requirement:** It can be grown on a variety of soils and needs manual labour from sowing to harvesting.
 - **Areas of Production:** The major sugarcane producing states are Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Bihar, Punjab and Haryana.

- **Oil Seeds**
 - **India is the largest producer** of oil- seeds in the world.
 - Different oil seeds are grown covering approximately 12 per cent of the total cropped area of the country.
 - **Main oil-seeds produced in India are** groundnut, mustard, coconut, sesamum (til), soybean, castor seeds, cotton seeds, linseed and sunflower.
 - Most of these are edible and used as cooking mediums.
 - However, some of these are also used as raw material in the production of soap, cosmetics and ointments.
 - **Area of production:** Groundnut is a kharif crop and accounts for about half of the major oilseeds produced in the country. Andhra Pradesh is the largest producer of groundnut followed by Tamil Nadu, Karnataka, Gujarat and Maharashtra - linseed and mustard are rabi crops.
 - Sesamum is a kharif crop in north and rabi crop in south India.
 - Castor seed is grown both as rabi and kharif crop.

- **Tea**
 - Tea cultivation is an example of plantation agriculture.
 - **It is the important beverage crop introduced in India** initially by the British. Today, most of the tea plantations are owned by Indians.
 - **Climate:** 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.
 - **Areas of Production:** Major tea - producing states are Assam, hills of Darjeeling and Jalpaiguri districts, West Bengal, Tamil Nadu and Kerala. Apart from these, Himachal Pradesh, Uttarakhand, Meghalaya, Andhra Pradesh and Tripura are also tea-producing states in the country. India is the leading producer as well as exporter of tea in the world.



- **Coffee**
 - **India produces about 4 per cent of the world's coffee production.**
Indian coffee is known in the world for its good quality.
 - The Arabica variety initially brought from Yemen is produced in the country.
 - This variety is in great demand all over the world.
 - **Area of Production:** Initially its cultivation was introduced on the Baba Budan Hills and even today its cultivation is confined to the Nilgiri in Karnataka, Kerala and Tamil Nadu.

Horticulture crops

- India is the largest producer of fruits and vegetables in the world.
- **India is a producer of tropical as well as temperate fruits.**
- Some of the famous fruits are:
 - Mangoes of Maharashtra, Andhra Pradesh, 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 and Maharashtra
 - Apples, pears, apricots and walnuts of Jammu and Kashmir and Himachal Pradesh are in great demand the world over.
- **India produces about 13 per cent of the world's vegetables.**
- It is an important producer of pea, cauliflower, onion, cabbage, tomato, brinjal and potato.

Non-Food crops

- **Rubber**
 - Rubber is an important industrial raw material.
 - India ranks fifth among the world's natural rubber producers.
 - **Climate:** It is an equatorial crop, but under special conditions, it is also grown in tropical and sub-tropical areas. It requires moist and humid climate with rainfall of more than 200 cm. and temperature above 25°C.
 - **Areas of Production:** It is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar Islands and Garo hills of Meghalaya.
- **Fibre crops**
 - Cotton, jute, hemp and natural silk are the four major fibre crops grown in India.
 - The first three are derived from the crops grown in the soil, the latter is obtained from cocoons of the silkworms fed on green leaves especially mulberry.
 - **Rearing of silk worms for the production of silk fibre is known as sericulture.**



- **Cotton**
 - India is believed to be the original home of the cotton plant.
 - Cotton is one of the main raw materials for cotton textile industry.
 - **India is the third-largest producer of cotton in the world.**
 - **Requirements:** Cotton grows well in drier parts of the black cotton soil of the Deccan plateau.
 - **Climate:** It requires high temperature, light rainfall or irrigation, 210 frost-free days and bright sun- shine for its growth. It is a kharif crop and requires 6 to 8 months to mature.
 - **Areas of Production:** Major cotton-producing states are Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.
- **Jute**
 - **It is known as the golden fibre.**
 - It is used in making gunny bags, mats, ropes, yarn, carpets and other artefacts.
 - **Climate:** Jute grows well on well-drained fertile soils in the flood plains where soils are renewed every year. High temperature is required during the time of growth.
 - **Areas of Production:** West Bengal, Bihar, Assam, Orissa and Meghalaya are the major jute producing states.
 - **Cost:** Due to its high cost, it is losing market to synthetic fibres and packing materials, particularly the nylon.

Technological and Institutional Reforms:

- Since agriculture has been practised in India for thousands of years.
- **Sustained uses of land without compatible techno-institutional changes have hindered the pace of agricultural development.**
- In spite of development of sources of irrigation most of the farmers in large parts of the country still depend upon monsoon and natural fertility in order to carry on their agriculture.
- For a growing population, this poses a serious challenge.
- Agriculture which provides livelihood for more than 60 per cent of its population, needs some serious technical and institutional reforms.
- **Steps taken after Independence:**
 - Collectivisation
 - Consolidation of holdings
 - Cooperation and abolition of zamindari, etc. were given priority.
 - **‘Land reform’ was the main focus of our First Five Year Plan.** The right of inheritance had already led to fragmentation of land holdings necessitating consolidation of holdings.



- **Problems –**

- The laws of land reforms were enacted but the laws of implementation were lacking or lukewarm.
- 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 the lot of Indian agriculture.
- But this too led to the concentration of development in few selected areas.

- **Comprehensive Land Development Programme**

- A comprehensive land development programme was initiated in the 1980s and 1990s which included both institutional and technical reforms.
- Provision for crop insurance against drought, flood, cyclone, fire and disease, 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.
- **Kissan 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.

Bhoodan – Gramdan

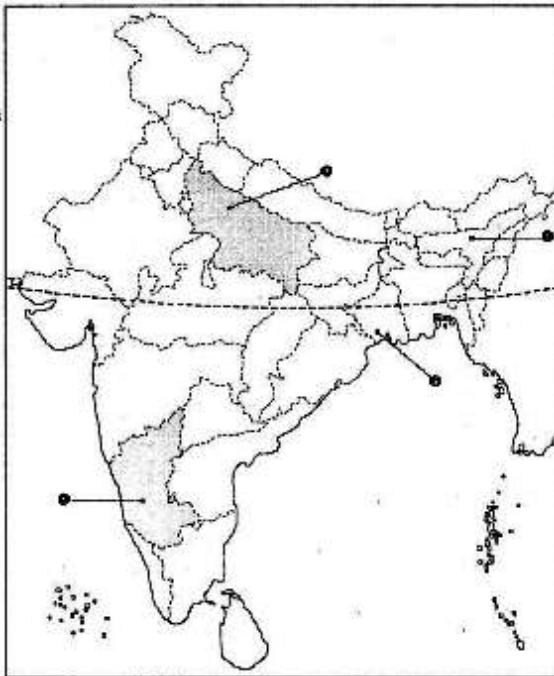
- Mahatma Gandhi declared Vinoba Bhave as his spiritual heir. He also participated in Satyagraha as one of the foremost satyagrahis. He was one of the votaries of Gandhi's concept of gram swarajya.
- After Gandhiji's martyrdom, Vinoba Bhave undertook padyatra to spread Gandhiji's message covered almost the entire country.
- Once, when he was delivering a lecture at Pochampalli in Andhra Pradesh, some poor landless villagers demanded some land for their economic well-being.
- Vinoba Bhave could not promise it to them immediately but assured them to talk to the Government of India regarding provision of land for them if they undertook cooperative farming.
- Suddenly, Shri Ram Chandra Reddy stood up and offered 80 acres of land to be distributed among 80 land-less villagers. This act was known as 'Bhoodan'.
- Some zamindars, owners of many villages offered to distribute some villages among the landless. It was known as Gramdan.
- This Bhoodan - Gramdan movement initiated by Vinoba Bhave is also known as the Blood-less Revolution.



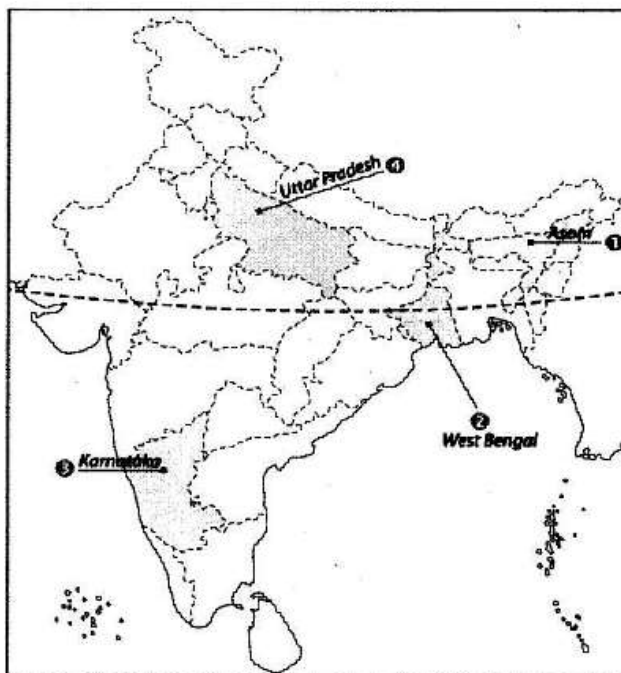
Map Work

Q1. Features are marked by a number in the given political map of India. Identify these features with the help of the following information and write their correct names on the lines marked in the map.

- (1) A beverage crop-producing state
- (2) The leading jute or Golden Fibre producing state
- (3) Leading coffee producing state
- (4) Major sugarcane producing state

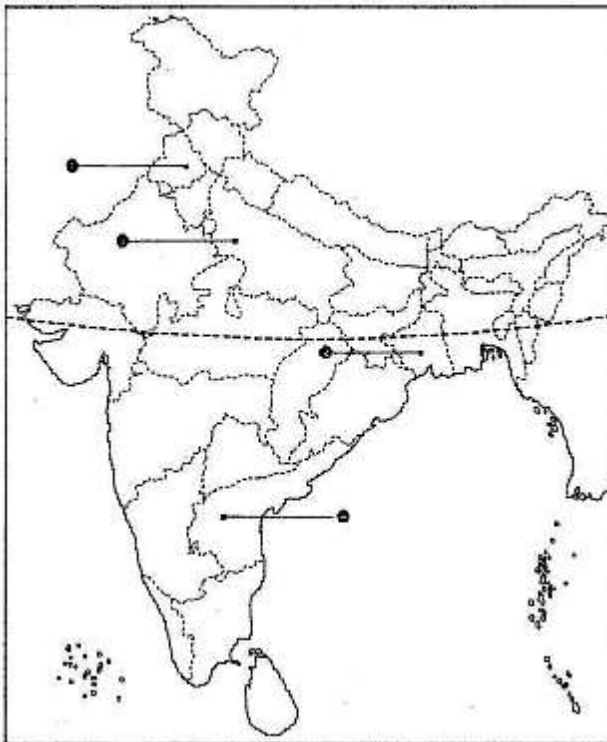


Ans:1





Q2. On the given political map of India, four leading rice-growing states of India are marked by 1,2,3 and 4. Identify these and write their correct names on the line drawn against each in the given map.



Ans:

