

AGRICULTURE IN INDIA

Soils

- Soil is the finest particle found on the earth surface.
- Soil is the uppermost layer of the land surface, usually composed of minerals, organic matter, living organisms, air and water.
- Alluvial soil, black soil, red soil and laterite soil are the major types of soil in India.
- Khadar - Newer alluvium soil found in valley flooded almost every year.
- Bhangar - Older alluvium soil found in 30 mts above flood level.

Soil Types and their Distribution in India

| Soil Type | Distribution | Crops growing |
|---------------------------|--|---|
| Alluvial soil | Ganga and Brahmaputra River valleys; Plains of Uttar Pradesh, Uttarakhand, Punjab, Haryana, West Bengal and Bihar | Rice, Wheat, Sugarcane and Oilseeds |
| Black soils | Maharashtra and Malwa plateaus, Kathiawar peninsula, Telangana and Rayalaseema region of Andhra Pradesh and northern part of Karnataka | Cotton, Millets, Tobacco and Sugarcane |
| Red soils | Eastern parts of Deccan plateau, southern states of Kerala, Tamil Nadu, Karnataka and Chota Nagpur plateau (Jharkhand) | Wheat, Rice, Cotton, Sugarcane and Pulses |
| Laterite soils | Assam hills, hill summits of Kerala and Karnataka and eastern Ghats and region of Odisha | Coffee, Rubber, Cashew nut and Tapioca |
| Forest and mountain soils | Coniferous forest belts of Jammu and Kashmir, Himachal Pradesh, Uttarakhand and Sikkim, Eastern and Western Ghats | Coffee, tea, rice, maize, potato, barley, tropical fruits and various types of spices |
| Arid and desert soils | Rajasthan, Northern Gujarat and southern Punjab | millets, barley, cotton, maize and pulses |
| Peaty and marshy soils | Kottayam and Alappuzha districts of Kerala; and coastal areas of Odisha and Tamil Nadu, Sundarbans of West Bengal, in Bihar and Almora district of Uttarakhand | Paddy, jute |

Irrigation

- The main sources of irrigation used in different parts of the country are Canal irrigation, Well irrigation and Tank irrigation.
- Canal irrigation is the second most important source of irrigation in our country. Percentage of area under canal irrigation in our country is 24%.
- Well irrigation is the most important source of irrigation as it contributes about 62 percent of net irrigated area in India.
- A tank is a natural or man-made hollow on the surface developed by constructing a small bund around it across a stream.

Cropping Seasons in India

India has three cropping seasons — Rabi, Kharif and Zaid

| Cropping Seasons | Major crops cultivated in Northern States | Major crops cultivated in Southern States |
|-----------------------------------|---|---|
| Kharif Season June – September | Rice, Cotton, Bajra, Maize, Jowar, Tur | Rice, Ragi, Maize, Jowar, Groundnut |
| Rabi Season October–March | Wheat, Gram, Rapeseeds, Mustard, Barley | Rice, Maize, Ragi, Groundnut, Jowar |
| Zaid Season April–June | Vegetables, Fruits, Fodder | Rice, Vegetables, Fodder |

Major Crops Cultivated in India

Food Crops - Rice, Wheat, Jowar, Bajra, Maize, Barley, Ragi, gram and Tur are some important food crops.

Rice

- It is the staple food crop of a majority of the people in India.
- India is the second largest producer of rice in the world after China.
- It is a kharif crop which requires high temperature, (above 25°C) and high humidity with annual rainfall above 100 cm.
- The first 10 leading rice producing states are West Bengal (First in India) Uttar Pradesh, Punjab, Tamil Nadu, Andhra Pradesh, Bihar, Chhattisgarh, Odisha, Assam, and Haryana.

Wheat

- This is the second most important cereal crop. It is the main food crop, in north and north-western part of the country.
- This rabi crop requires a cool growing season and a bright sunshine at the time of ripening.

- The major wheat-producing states are Uttar Pradesh, Punjab, Haryana, Rajasthan and Madhya Pradesh.

Millets

- Jowar, bajra and ragi are the important millets grown in India.
- Jowar is the third most important food crop with respect to area and production.
- Jowar is essentially a crop of the Peninsular India.
- Major Jowar producing States were Maharashtra, Karnataka, Andhra Pradesh and Madhya Pradesh.
- Bajra grows well on sandy soils and shallow black soil.
- Bajra is a crop of dry region.
- Rajasthan is the largest producer of bajra followed by Uttar Pradesh, Haryana, Gujarat and Maharashtra.
- Ragi is a crop of dry regions and grows well on red, black, sandy, loamy and shallow black soils.
- Major Ragi producing states are: Karnataka, Tamil Nadu, Himachal Pradesh, Uttarakhand, Sikkim, Jharkhand and Arunachal Pradesh.

Maize

- It is a kharif crop which requires temperature between 21°C to 27°C and grows well in old alluvial soil.
- Major maize-producing states are Karnataka, Uttar Pradesh, Bihar, Andhra Pradesh, Telangana and Madhya Pradesh.

Pulses

- India is the largest producer as well as the consumer of pulses in the world.
- The major pulse growing areas are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Andhra Pradesh.

Cash Crops - Sugarcane, tobacco, fibre crops (cotton, jute, and mesta) and oilseeds are some important cash crops.

Sugarcane

- India is the second largest producer of sugarcane only after Brazil.
- Uttar Pradesh is the leading producer of sugarcane in India followed by Maharashtra, Karnataka, Tamil Nadu and Gujarat.
- 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.

Cotton

- India ranks second next to China in the production of cotton.
- Top cotton producing countries are Gujarat, Maharashtra, Andhra Pradesh and Punjab.
- Cotton is the most important cash crop of India. It provides raw material to the largest industry of India.
- It is a kharif crop and requires 6 to 8 months to mature.

Jute

- It is a tropical fibre crops, grows well in the alluvial soil.
- West Bengal is the leading state both in cultivation and production of jute. The other cultivators of jute are Bihar, Assam and Meghalaya.
- It is known as the golden fibre.

Oil Seeds

- Main oil-seeds produced in India are groundnut, mustard, coconut, sesamum (til), soyabean, castor seeds, cotton seeds, linseed and sunflower.
- Groundnut is a kharif crop and accounts for about half of the major oilseeds produced in the country. Gujarat was the largest producer of groundnut.
- 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.

Plantation Crops - Tea, coffee, rubber and spices are the major plantation crops of India.

Tea

- Tea is an evergreen plant that mainly grows in tropical and subtropical climates.
- India is the second largest producer of tea after China in the world.
- Assam is the larger producer of tea in India. Other states are Tamil Nadu, Kerala and West Bengal.

Coffee

- Coffee is grown in shade and it grows effectively in the altitudes between 1,000 and 1,500 m above mean sea level.
- India is the 7th largest producer of coffee globally.
- Karnataka is the leading producer of coffee in India. It produces 71% in India, and 2.5 % in the world

Spices

- Pepper, chillies, turmeric, ginger, cardamom, clove and areca nut are the major spices cultivated in India.
- Kerala is the leading producer of spices in India.

Rubber

- Rubber plantation were first established in Kerala in 1902.

- It needs hot and wet climatic conditions.
- The major rubber growing areas are Tamil Nadu, Kerala, Karnataka and Andaman and Nicobar Islands.

Horticulture Crops

- It refers to the cultivation of fruits, flowers and vegetables.
- India was the second largest producer of fruits and vegetables in the world after China.
- India contributes about 13% of the world's production of vegetables.

Largest Crops Producing States

Food Grains

| CROP | STATE |
|--------|----------------|
| Rice | West Bengal |
| Bajra | Rajasthan |
| Wheat | Uttar Pradesh |
| Maize | Andhra Pradesh |
| Pulses | Madhya Pradesh |

Oil Seeds

| CROP | STATE |
|-----------|----------------|
| Groundnut | Gujarat |
| Soya bean | Madhya Pradesh |
| Mustard | Rajasthan |
| Sunflower | Karnataka |

Cash Crops

| CROP | STATE |
|-----------|----------------|
| Sugarcane | Uttar Pradesh |
| Cotton | Gujarat |
| Coffee | Karnataka |
| Tea | Assam |
| Silk | Karnataka |
| Rubber | Kerala |
| Tobacco | Andhra Pradesh |

List of Important Agricultural Revolutions in India

| Revolution | Related Product |
|-------------------------|--|
| Green Revolution | Food Grains |
| White Revolution | Milk Production |
| Round Revolution | Potato |
| Red Revolution | Meat Production / Tomato Production |
| Silver Fibre Revolution | Cotton |
| Silver Revolution | Egg Production / Poultry Production |
| Evergreen Revolution | Overall Production of Agriculture |
| Yellow Revolution | Oil seed Production (Especially Mustard and Sunflower) |
| Blue Revolution | Fish Production |
| Brown Revolution | Leather / Cocoa / Non-Conventional Products |
| Golden Fibre Revolution | Jute Production |
| Golden Revolution | Fruits / Honey Production / Horticulture Development |
| Grey Revolution | Fertilizers |
| Pink Revolution | Onion Production / Pharmaceuticals / Prawn Production |