

India and Agriculture

- India is a major agricultural nation.
- Two-thirds of the Indian population works in agriculture.
- Agriculture is a primary economic activity that produces most of our food.
- It also produces raw materials for various industries, such as the textile industry (cotton), sugar industry (sugarcane), and food processing industry.
- Some agricultural products like tea, coffee, and spices are exported.

Types of Farming in India

Farming practices in India vary depending on factors like the environment, technology, and culture.

- **Primitive Subsistence Farming**
 - Practiced on small plots of land with primitive tools and family labor.
 - Depends on monsoon rains and natural soil fertility.
 - Farmers practice shifting cultivation ("slash and burn").
 - Known by different names in different parts of India, such as *jhumming* in the Northeast.
 - Low productivity due to the lack of modern inputs like fertilizers.
- **Intensive Subsistence Farming**
 - Practiced in areas with high population pressure on land.
 - Labor-intensive with high use of biochemical inputs and irrigation.
 - Farmers try to get maximum output from limited land.
- **Commercial Farming**
 - Uses high doses of modern inputs like HYV seeds, fertilizers, and pesticides for high productivity.
 - The degree of commercialization varies by region.
 - Plantation agriculture is a type of commercial farming where a single crop is grown on a large area.
 - Examples include tea, coffee, rubber, sugarcane, and banana plantations.
 - Requires good transport and communication networks.
- **Types of Farming:** *Jhumming* is the type of farming practiced by Rinjha's family.
- **Crops Grown in Jhumming:** Common crops include rice, maize, millets, and vegetables.



- **States with Intensive Subsistence Farming:** This type of farming is practiced in states like Uttar Pradesh, Bihar, West Bengal, and Kerala.



Banana plantation in Southern part of India



Bamboo plantation in North-east

Cropping Patterns in India

India's diverse geography and culture influence its agricultural practices and cropping patterns. The country has three main cropping seasons:

- **Rabi:**
 - Sown in winter (October-December) and harvested in summer (April-June).
 - Important crops: wheat, barley, peas, gram, mustard.
 - Major producing regions: Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand, Uttar Pradesh.
 - Success factors: winter precipitation from western temperate cyclones, Green Revolution advancements.
- **Kharif:**
 - Sown with the onset of monsoon and harvested in September-October.
 - Important crops: paddy (rice), maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut, soybean.
 - Major rice-producing regions: Assam, West Bengal, coastal regions of Odisha, Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Maharashtra (Konkan coast), Uttar Pradesh, Bihar.
 - Three crops of paddy grown in a year in some states (Assam, West Bengal, Odisha): Aus, Aman, Boro.

- **Zaid:**
 - Short season between rabi and kharif (summer months).
 - Crops: watermelon, muskmelon, cucumber, vegetables, fodder crops.

Major Crops of India

- **Rice:**
 - Staple food for most Indians.
 - India is the second-largest producer globally.
 - Kharif crop requiring high temperature, humidity, and rainfall.
 - Grown in plains, coastal areas, and deltaic regions.
 - Irrigation allows cultivation in areas with less rainfall.



Rice Cultivation

Rice is ready to be harvested in the field

- **Wheat:**
 - Second most important cereal crop.
 - Staple food in north and northwestern India.
 - Rabi crop requiring a cool growing season and sunshine for ripening.
 - Grown in Ganga-Satluj plains and black soil region of the Deccan.



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- **Millets:**
 - Jowar, bajra, and ragi are important millets.
 - Highly nutritious despite being called coarse grains.
 - Grown in different regions depending on the specific millet type.
- **Maize:**
 - Used as food and fodder.

- Kharif crop, but also grown in the rabi season in some states.
- Production has increased due to modern inputs like HYV seeds, fertilizers, and irrigation.



Pulses

- India is the world's largest producer and consumer of pulses.
- Pulses are a major protein source in vegetarian diets.
- Major pulses grown in India: tur (arhar), urad, moong, masur, peas, gram.
 - **Kharif pulses:** Tur (arhar), moong, urad.
 - **Rabi pulses:** Masur, peas, gram.
- Pulses need less moisture and can grow in dry conditions.
- Most pulses are leguminous crops, helping in restoring soil fertility by fixing nitrogen (except arhar).
- Major pulse-producing states: Madhya Pradesh, Rajasthan, Maharashtra, Uttar Pradesh, Karnataka.

Food Crops other than Grains

- **Sugarcane:**
 - Tropical and subtropical crop.
 - Requires hot, humid climate with moderate rainfall.
 - India is the second-largest producer after Brazil.
 - Used to produce sugar, jaggery, khandsari, and molasses.
 - Major producing states: Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, Bihar, Punjab, Haryana.



- **Oilseeds:**

- India is a major producer of oilseeds globally.
- Different oilseeds cover about 12% of India's cropped area.
- Major oilseeds: groundnut, mustard, coconut, sesame, soybean, castor seeds, cotton seeds, linseed, sunflower.
- Uses: cooking mediums, soap production, cosmetics, ointments.
- Groundnut (kharif) accounts for about half of India's oilseed production.
- Linseed and mustard are rabi crops.
- Sesame is a kharif crop in the north and rabi in the south.
- Castor seed is grown in both kharif and rabi seasons.

- **Tea:**

- Plantation crop introduced by the British.
- Requires tropical/subtropical climate, well-drained soil, and warm, moist conditions.
- Labor-intensive industry.
- Major producing states: Assam, West Bengal (Darjeeling and Jalpaiguri), Tamil Nadu, Kerala.
- India is the second-largest tea producer after China.



Tea Cultivation



Tea-leaves Harvesting

- **Coffee:**

- Known for its good quality, particularly the Arabica variety.
- Cultivation is mainly confined to the Nilgiri hills in Karnataka, Kerala, and Tamil Nadu.

Horticulture Crops in India

- **Global Rank:** India was the second-largest producer of fruits and vegetables in the world in 2018, after China.
- **Fruit Production:**
 - India produces both tropical and temperate fruits.
 - **Major fruits and their producing regions:**
 - Mangoes: Maharashtra, Andhra Pradesh, Telangana, Uttar Pradesh, West Bengal
 - Oranges: Nagpur (Maharashtra), Cherrapunjee (Meghalaya)
 - Bananas: Kerala, Mizoram, Maharashtra, Tamil Nadu
 - Lichi and Guava: Uttar Pradesh, Bihar
 - Pineapples: Meghalaya
 - Grapes: Andhra Pradesh, Telangana, Maharashtra
 - Apples, Pears, Apricots, Walnuts: Jammu and Kashmir, Himachal Pradesh
- **Vegetable Production:**
 - India is a significant producer of vegetables like peas, cauliflower, onion, cabbage, tomato, brinjal (eggplant), and potato.



Apricots, apple and pomegranate



Cultivation of vegetables- peas, cauliflower, tomato and brinjal



Modern technological equipments used in agriculture

