Land Use Categories, Land-use Changes in India, Common Property Resources

Land is a vital resource used for production, residence, and recreation. The Land Revenue Department maintains land-use records, which differ from the geographical area measured by the Survey of India. The main land-use categories are:

- **Forests:** Areas demarcated by the government for forest growth, which may differ from actual forest cover.
- **Land Put to Non-agricultural Uses:** Includes settlements, infrastructure, industries, and shops.
- **Barren and Wastelands:** Lands unsuitable for cultivation with current technology, such as deserts and ravines.
- **Permanent Pastures and Grazing Lands:** Mostly owned by village panchayats or government, with some private ownership.
- **Miscellaneous Tree Crops and Groves:** Orchards and fruit tree lands not included in net sown area.
- **Culturable Wasteland:** Land left fallow for more than five years.
- **Current Fallow:** Land left uncultivated for one or less than one agricultural year.

- **Fallow Other Than Current Fallow:** Cultivable land left uncultivated for more than one but less than five years.
- **Net Area Sown:** Land on which crops are sown and harvested.

Land use changes in India are influenced by economic growth, population increase, and shifts from primary to secondary and tertiary sectors. This has led to increased land under non-agricultural uses and changes in forest area demarcation. Land ownership is broadly classified into private land and common property resources (CPRs), which are community-owned natural resources used collectively without individual property rights. CPRs provide essential resources like fodder, fuel, and minor forest products, especially important for rural women.

Exam Questions

Q1: What are the main categories of land use recorded in India?

A1: The main categories include forests, land put to non-agricultural uses, barren and wastelands, permanent pastures and grazing lands, miscellaneous tree crops and groves, culturable wasteland, current fallow, fallow other than current fallow, and net area sown.

Q2: Define common property resources and explain their importance.

A2: Common property resources are community-owned natural resources where every member has access and usage rights without individual ownership. They provide fodder, fuel, and other products essential for rural livelihoods, especially benefiting women who collect these resources.

Agricultural Land Use in India, Cropping Seasons in India, Types of Farming

Agriculture is a land-based activity crucial for rural livelihoods and poverty alleviation. Land quality directly affects agricultural productivity. Land ownership also has social and

economic significance in rural areas.

The total agricultural land includes net sown area, fallow lands, and culturable wasteland. Despite some decline in cultivated land, agriculture remains vital.

India has three main cropping seasons:

- **Kharif:** Coincides with the South-West Monsoon; crops include rice, cotton, jute, jowar, bajra, and tur.
- **Rabi:** Begins in winter (October-November) and ends in March-April; includes wheat and other winter crops.
- **Zaid:** Short summer season after rabi harvest; includes crops like watermelon and cucumber.

In southern India, cropping seasons are less distinct due to favorable temperatures year-round.

Farming types based on moisture source:

- **Irrigated Farming:** Uses artificial water supply.
- **Rainfed Farming:** Depends on natural rainfall; further classified into dryland (less than 75 cm rainfall) and wetland farming (excess rainfall, prone to floods and erosion).

Exam Questions

Q1: What are the three cropping seasons in India and their characteristics?

A1: Kharif (monsoon crops like rice and cotton), Rabi (winter crops like wheat), and Zaid (summer crops grown between rabi and kharif).

Q2: Differentiate between irrigated and rainfed farming.

A2: Irrigated farming uses artificial water sources for crops, while rainfed farming relies on natural rainfall and is classified into dryland and wetland farming based on moisture availability.

Cropping Patterns

Foodgrains dominate cropping patterns across India and are classified into cereals and pulses. Cereals cover about 54% of cropped area, with India producing 11% of the world's cereals, ranking third globally.

Rice: Staple food for most Indians, grown in diverse agro-climatic regions with about 3,000 varieties. India ranks second worldwide in rice production. Major producers include West Bengal, Punjab, and Uttar Pradesh.

Wheat: Second most important cereal, contributing 13.1% of world production. Leading states are Uttar Pradesh, Punjab, Haryana, Rajasthan, and Madhya Pradesh.

Coarse Cereals: Include jowar, bajra, and maize, occupying about 16.5% of cropped area. Maharashtra leads in jowar production; bajra is grown in hot, dry regions; maize is grown in semi-arid areas.

Pulses: Important protein source, covering 11% of cropped area. Gram and tur are major pulses with specific regional production.

Oilseeds: Grown mainly in dryland regions; include groundnut, rapeseed, and mustard. India produces significant groundnut and rapeseed quantities.

Cash Crops: Cotton, jute, sugarcane, tea, and coffee are important. Cotton is grown in semi-arid areas; jute in West Bengal; sugarcane in tropical regions; tea in northeastern

hills and Western Ghats; coffee in Western Ghats.

Exam Questions

Q1: Name the major foodgrains grown in India and their leading producing states.

A1: Rice (West Bengal, Punjab, Uttar Pradesh), wheat (Uttar Pradesh, Punjab, Haryana, Rajasthan, Madhya Pradesh), and coarse cereals like jowar and bajra in Maharashtra and other states.

Q2: What are the main cash crops of India and their growing regions?

A2: Cotton (Maharashtra, Gujarat), jute (West Bengal), sugarcane (Uttar Pradesh, Maharashtra), tea (northeastern hills, Western Ghats), and coffee (Western Ghats in Karnataka, Kerala, Tamil Nadu).

Agricultural Development in India, Growth of Agricultural Output and Technology

Agriculture occupies about 60% of India's land, much higher than the global average. Since Independence, India has made significant progress despite challenges.

Partition led to loss of about one-third of irrigated land. The government focused on increasing foodgrain production by shifting from cash crops to food crops, intensifying cropping, and bringing more land under cultivation.

High Yielding Varieties (HYVs) of wheat and rice introduced in the 1960s, along with chemical fertilizers and irrigation, led to the Green Revolution, significantly boosting foodgrain production, especially in irrigated areas.

The Planning Commission later addressed rainfed areas. Agricultural output and technology have improved, with increased production and yield of major crops and expansion of irrigation. Chemical fertilizer use has increased fifteenfold since the mid-1960s.

Exam Questions

Q1: What was the Green Revolution and its impact on Indian agriculture?

A1: The Green Revolution was the rapid increase in foodgrain production due to HYVs, chemical fertilizers, and improved irrigation, leading to higher yields and food security, mainly in irrigated areas.

Q2: How did the government aim to increase foodgrain production after Independence?

A2: By switching from cash crops to food crops, intensifying cropping on existing land, and bringing cultivable and fallow land under plough.

Problems of Indian Agriculture

Indian agriculture faces diverse problems due to agro-ecological and historical factors. Unreliable monsoon affects irrigation supply, and droughts and floods are common, especially in dryland areas.

Labour productivity is low due to high pressure on land and predominance of rainfed drylands with low yields. Modern agricultural inputs are expensive, burdening small and marginal farmers, leading to indebtedness.

Land reforms have been inadequately implemented, resulting in inequitable land distribution and fragmented holdings, which are uneconomic.

Seasonal unemployment is widespread, especially in unirrigated areas.

Environmental degradation from faulty irrigation and excessive chemical use threatens soil fertility. Soil erosion by water and wind, often human-induced, further degrades land.

Exam Questions

Q1: What are the major problems faced by Indian agriculture?

A1: Problems include unreliable monsoon, droughts and floods, low labour productivity, expensive inputs, fragmented land holdings, indebtedness, seasonal unemployment, and environmental degradation.

Q2: How does land fragmentation affect Indian agriculture?

A2: Fragmented land holdings are uneconomic, reducing efficiency and productivity, and hindering agricultural development.

Solved Examples

Example 1: Explain the difference between current fallow and culturable wasteland.

Solution: Current fallow is land left uncultivated for one or less than one agricultural year, while culturable wasteland is land left fallow for more than five years.

Example 2: Describe the impact of the Green Revolution on Indian agriculture.

Solution: The Green Revolution introduced HYVs, chemical fertilizers, and improved irrigation, leading to increased foodgrain production, especially wheat and rice, enhancing food security and agricultural growth.

Practice Set

Easy

- List the main land-use categories in India.
- What are the three cropping seasons in India?

Moderate

- Explain the significance of common property resources in rural India.
- Compare irrigated and rainfed farming.

Challenging

- Discuss the causes and consequences of land degradation in Indian agriculture.
- Evaluate the impact of the Green Revolution on different regions of India.

Answer Key

Easy:

1. Forests, land put to non-agricultural uses, barren and wastelands, permanent pastures and grazing lands, miscellaneous tree crops and groves, culturable wasteland, current fallow, fallow other than current fallow, net area sown.
2. Kharif, Rabi, and Zaid seasons.

Moderate:

1. CPRs provide essential resources like fodder and fuel, support livelihoods, especially for women, and are community-managed natural resources.
2. Irrigated farming uses artificial water sources; rainfed farming depends on rainfall and is less reliable.

Challenging:

1. Land degradation is caused by overuse of chemicals, faulty irrigation, soil erosion, leading to reduced fertility and productivity.
2. The Green Revolution increased production in irrigated regions but had limited impact in rainfed areas, leading to regional disparities.

Quick Reference

- **Land Use Categories:** Different types of land use recorded for planning and management.
- **Cropping Seasons:** Kharif (monsoon), Rabi (winter), Zaid (summer).
- **Farming Types:** Irrigated and rainfed (dryland and wetland).
- **Green Revolution:** Introduction of HYVs and technology boosting foodgrain production.
- **Common Property Resources:** Community-owned natural resources.
- **Problems:** Drought, floods, land fragmentation, low productivity, environmental degradation.

Glossary

- **Net Sown Area:** Land on which crops are sown and harvested.
- **Fallow Land:** Land left uncultivated for a period.
- **High Yielding Varieties (HYVs):** Crop varieties developed to increase production.

- **Green Revolution:** Period of increased agricultural production due to HYVs and technology.
- **Common Property Resources (CPRs):** Natural resources owned and used by the community.
- **Cash Crops:** Crops grown for sale rather than consumption.
- **Food Crops:** Crops grown for consumption.
- **Land Degradation:** Decline in land quality and fertility.
- **Consolidation:** Process of making land holdings stronger and more efficient.

Time Period / Year	Event / Change	Importance
1950s	Land use records maintained; partition causes loss of irrigated land	Set baseline for land use; affected agricultural resources
1960s	Introduction of High Yielding Varieties and Green Revolution	Significant increase in foodgrain production
1980s	Focus on rainfed agriculture by Planning Commission	Addressed challenges in non-irrigated areas
2000s	Increased use of chemical fertilizers and irrigation expansion	Improved yields but raised environmental concerns