Class 12 Geography Notes Chapter 5 Land Resources and Agriculture

Land use Categories
Land revenue department is responsible for categorising land and maintaining its records. These records contains reporting area.
Under the land revenue records land use categories are as follows:

1. Forest
2. Land put to non-agricultural uses.
3. Barren and Wastelands.
4. Area under permanent pastures and grazing lands.
5. Area under miscellaneous tree crops and groves.
6. Culturable wastelands
7. Current fallow
8. Net sown area

Land use Changes in India
Unlike other natural resources, land is fixed, it does not change by size or area. Economic activities are the major causes that affect land use. The three main economic changes that changes the land use are:

1. The size of the economy.
2. The composition of an economy (proportion of different sectors).
3. Increasing pressure on agricultural lands.

During the period of 1960-61 to 2008-09 some land use changes are worth mentioning which show an increase and decrease in these categories:

Area Records Increase in Land use

- Area under forest.
- Current fallow lands.
- Area under non-agricultural use.
- Net sown area.

Area Records Decrease in Land use

- Barren and wasteland.
- Culturable wasteland
- Area under permanent pastures and tree crops.
- Fallow other than current fallow.

On the basis of ownership land can be classified into two categories:
Private land Owned by individual or group of individuals.

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Common Property Resources (CPRs) Available for all and can be used by any person. It provides fodder for the livestock and fuel for the households. In rural areas, such land is of particular relevance for livelihood of the landless and marginal farmers.

Agricultural Land Use in India

Most of the Indians are dependent on agriculture, directly or indirectly for their subsistence. Agriculture is mainly Land-based activity unlike secondary and tertiary sectors. The role of quality of land is important in agriculture. The more the land is fertile the more it gives output/production. Ownership of land resource is considered as a social status in rural areas. It is also seen as security for credit, natural hazards or life contingencies. Availability of total resources for agricultural uses is calculated by adding up net sown area, all fallow lands and culturable wastelands.

Cropping Intensity (Cl)'is calculated as follows:
Cropping Intensity in percentage = GCA (Gross Cropped Area)/NSA (Net Sown Area) x 100

Cropping seasons in India

Cropping season	Major crops cultivated	
	Northern states	Southern States
Kharif: June-September	Rice, cotton, bajra, maize, jowar, tur	Rice, maize, ragi, jowar, groundnut
Rabi: October-March	Wheat, gram, rapeseeds and mustard barley	Rice, maize, ragi, groundnut, jowar
Zaid: April-June	Vegetables, fruits, fodder	Rice, vegetables, fodder

Types of Farming

In India farming is classified on the basis of moisture available for crops:

- **Irrigated Farming** The main source of moisture for this farming is irrigation by various methods i.e. wells, tubewells, etc. Two types are protective and productive farming.
- **Rainfed Farming** (Barani) The main source of moisture for this farming is rainfall. Two types are dryland farming and wetland farming.

Dryland farming is largely confined to the regions having rainfall less than 75 cm. These regions grows hardy and drought resistant crops such as ragi, bajra, moong, gram and gaur. On the other hand in wetland farming, the rainfall is in excess of soil moisture requirement of plants during rainy season. Such regions may face flood and soil erosion hazards. These areas grow various water intensive crops such as rice, jute and sugercane.

Cropping Pattern

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Food grains
Foodgrains are important for agriculture economy which constitute about two-third of total cropped area in the country. The foodgrains are classified on the basis of structure of grains:

Cereals
India ranks 3rd in the production of cereals after China and USA. India produces 11% of the world and covers about 54% of the total cropped area in India. These cereals are:

- **Rice** It is the most important food crop of India which feeds more than half of our population. India ranked second with the production nearly 22% after China in the world. States like West Bengal, Punjab and Uttar Pradesh were major rice producing states in India. In North-Western and in. Himalyas regions, it is grown as a Kharif crop, whereas in West Bengal, farmers grow three crops of rice called 'aus', 'aman' and 'boro'.
- **Wheat** India share 12% of total wheat production of the world. It is cultivated on about 14% of the total cropped area. About 85% of this area comes under the Indo-Gangetic Plain, Malwa Plateau and Himalayas in North and central parts of the country. The major wheat producing states of India are Uttar Pradesh, Punjab, Haryana, Rajasthan, and Madhya Pradesh, Bihar and Jammu and Kashmir.

Coarse Grains
These crops are grown in almost 16.50% of total cropped area in the country. These coarse grains are:

- **Jowar/Sorghum** It is grown in about 5.3% of total cropped area. Maharashtra is the largest producer of Jowar in India. The major producer of Jowar are central and Southern states i.e. Karnataka, Madhya Pradesh and Andhra Pradesh.
- **Bajra** It is grown in about 5.2% of the total cropped area in the country. The major producers of bajra are Maharashtra, Gujarat, Uttar Pradesh, Rajasthan and Haryana.
- **Maize** It is grown in about 3.6% of total cropped area in the country. There is no particular region under maize. It is sown all over India except Eastern and North Eastern regions. The leading producers are Madhya Pradesh, Andhra Pradesh, Telangana, Karnataka, Rajasthan and Uttar Pradesh.
- **Pulses** Pulses are grown in India on about 11% of the total cropped area. India is one of the largest producers of pulses, as it cultivates about 20% pulses of the world. Pulses are legume crops. These are largely confined to the drylands of Deccan and Central plateaus and North-Western parts of the country.
- **Gram** It is grown in 2.8% of the total cropped area. The major producers are Madhya Pradesh, Uttar Pradesh, Maharashtra, Andhra Pradesh and Rajasthan.
- **Tur** (Arhar) This is grown in 2% of the total cropped area of India. It is the second important pulse crop in the country. Maharashtra is the leading producer of tur which produces about 75% of tur in India. It is also called as red gram or pigeon pea.

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- **Oil seeds** Oil seeds are produced for extracting edible oils. Oil seeds include groundnut, (3.6%), rapeseed and mustard (2.5%), soybean, sunflower, etc. These different oilseeds are grown in India about 14% of total cropped area in the country. Drylands of Malwa Plateau, Maharashtra, Gujarat, Rajasthan, Telangana and Rayalseema of Andhra Pradesh and Karnataka plateau are leading producers of oilseeds. Soybean and sunflower are other important oil seeds grown in India.

Fibre Crops

Fibre crops are one which provides fibre for preparing cloth. These includes:

- **Cotton** India grows both short staple (Indian) cotton as well as long staple (American) cotton. India produces about 8.3% of the world's cotton. This makes India the fourth largest producer of cotton after China, USA and Pakistan. Largest producers of cotton in India are Maharashtra, Gujarat, Andhra Pradesh, Punjab and Haryana.
- **Jute** India accounts for about 60% of the world's jute production. West Bengal (75%) is the largest producer of jute in the country. Other producers are Bihar and Assam.

Other Crops

- **Sugarcane** It is an important cash crop in India. India's sugarcane production is about 23% of the world's total production, which makes India the 2nd largest producer after Brazil. Major producers are Uttar Pradesh, Maharashtra, and Gujarat. Uttar Pradesh accounts 40 percent of sugarcane production and secures a position of the largest producer of India.
- **Tea** Assam (53.2%) is the largest producer of tea in India. Other states are West Bengal and Tamil Nadu.
- **Coffee** India is the 7th largest producer of coffee in the world which accounts about 3.2% share. Karnataka is the largest producer of coffee that produces more than 66% of India's total coffee.

Agricultural Development in India

- About 54.6% of population is engaged in agricultural activity. According to census (2011) and about 57% of its land is used for cultivation of various crops in India whereas world average is only about 12%.
- The land-human ratio in India is only 0.31 hectare whereas, the world is almost double of this figure i.e. 0.59 hectare.

Strategy of Development

Before Independence, Indian agriculture was largely subsistence in nature, this period was frequently witnessed severe droughts, famines and food shortage. About l/3rd of the irrigated area went to Pakistan. Consequently, Government took several steps to increase the production of food grains. Following three strategies were adopted to achieve this goal:

1. Switching over from cash crops to food crops.

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2. Intensification of cropping over already cultivated land.
3. Increasing cultivated area by bringing cultivable and fallow land under plough.

However, Indian agriculture could not progress much, then Government introduced modem technology into agriculture. These were:

- High Yielding Variety (HYV) of seeds
- Fertilisers
- Mechanisation
- Improved irrigation and credit marketing facilities.
- Intensive Area Development Programme

All the above inputs were the main components of what is known as Green Revolution. This strategy of agricultural development in the country made the country self-reliant in foodgrain production. But, green revolution was initially confined to irrigated areas only. This led to regional disparities in agricultural development in the country till the seventies. Consequently, Planning Commission prepared plans to solve the problems of agriculture in rainfed areas in 1980s. It initiated agro-climate planning in 1988 to induce regional balance.

Growth of Agricultural Output and Technology

- Since independence, there has been improvement in technologies used for agricultural production. As a result, increase in agricultural production has been recorded.
- India is now became 1st largest producer of pulses and jute and 2nd largest in rice, wheat, groundnut, sugarcane and vegetables.
- New technologies also came up to increase the production of food grains, for e.g. HYV seeds, chemical fertilisers raised 15 folds since mid 1960s.

Problems of Indian Agriculture
These problems are:

- **Dependence on Erratic Monsoon** There is only 33% cultivated area is under irrigation. The nature of South-West monsoon is very fluctuating which causes flood and drought situation in India.
- **Low Productivity** India also lag behind in terms of per hectare production and per person production and also behind at International level. This low productivity is a result of high population which creates a heavy pressure on available land resources.
- **Constraints of Financial Resources and Indebtedness** Lack of money and financial resources are the major constraints to the development of agriculture in India. As majority of farmers are small, marginal and poor, they cannot afford highly expensive inputs to increase their production.
- **Lack of Land Reforms** Lack of land reforms and unequal distribution of land resources led to the worst condition of poor and marginal farmers and also become constraint in the development of agriculture in India.

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- **Small Farm Size and Fragmentation of Landholdings** 'Inheritance law' is mainly responsible for small and fragmented farm size.
- **Lack of Commercialisation** As most of the farmers are poor and marginal, farmers practice subsistence agriculture for their living.
- **Vast Under-employment** There is seasonal unemployment in agricultural sector. There is no income during ploughing field to harvesting crops.
- **Degradation of Cultivable Land** After green revolution degradation has started in India. Excessive use of irrigation, chemical fertilizers, etc created problems of water lodging and solemnization. Fertility of land is also decreasing day by day.

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