Revision Notes

Class 10 - Social Science (Geography)

Chapter 1 - Resources and Development

Everything that our environment provides us, that is economically feasible, culturally acceptable, and technologically accessible are called 'Resources.'
It forms an interactive relationship between nature, technology, and institutions which aid the acceleration of economic development.
Human beings are a part of resources as they themselves utilize these resources and use them. They are a part of human resources.
The resources can be classified on the following basis:
(a) On the basis of origin – biotic and abiotic
(b) On the basis of exhaustibility – renewable and non-renewable
(c) On the basis of ownership – individual, community, national and international
(d) On the basis of the status of development – potential, developed stock and reserves.

Types of Resources

1. On the basis of origin

I. Biotic

Obtained from the biospheres such as flora, fauna, fisheries etc.

II. Abiotic

Obtained from non-living resources such as rocks and metals.

2.On the basis of exhaustibility

I. Renewable

- These resources are the ones that can replenish once they are exhausted.
- Example: solar energy, wind energy

II. Non-renewable

- Once exhausted these resources cannot replenish themselves again. If we consume them completely without planning we can lose them forever.
- Example: fossil fuels

3. On the basis of ownership

I. Individual

- Owned privately by individuals
- Example: Plantation, pasture lands

II. Community

- All the members of the community can access these resources
- Example: Grazing grounds, burial grounds

III. National

- All the resources belong to the nation and the country has legal autonomy over them.
- Private property can be acquired by the government for the public good.

IV. International

- The oceanic resources beyond 200 nautical miles of the Exclusive Economic Zone belong to the open ocean.
- No individual country is allowed to utilize these without prior permission from international organizations.

4. On the basis of the status of development

I. Potential

- Resources that are found in a region, but have not been utilized to their full potential are termed as potential resources.
    - Example: Rajasthan and Gujarat have enormous potential for the development of wind and solar energy, but so far these resources have not been utilized properly.

II. Developed

- Resources whose quality and quantity have been determined for utilization are termed as developed resources.
- The extent to which these resources are utilized depends on technology and the level of their feasibility.

III. Stock

- Resources that are available in the nature to be used but human beings don't have the right equipment and technology to utilize these resources.
- Example: Water can be broken down to extract hydrogen and oxygen. Hydrogen is a great source of energy but we don't know how to carry out this process on a large scale.

IV. Reserves

- Human civilization has proper technology to utilize these resources but a further development of technology is required to exploit these resources to their fullest potential.
- Example: Hydropower is being generated from water and hence only put out for limited use.

Development of resources

Human beings have excessively exploited resources which has led to following problems:

- Depletion of resources for satisfying the greed of a few individuals.
- Accumulation of resources in few hands which has created two class of people, i.e. haves and have nots or rich and poor.
- Indiscriminate exploitation of resources has led to global ecological crises such as, global warming, ozone layer depletion, environmental pollution and land degradation

Sustainable Development

- Development that takes place without over-exploiting the nature is termed as sustainable development.
- It focuses on the idea that 'the development in the present should not compromise with the needs of the future generations.'
- Rio de Janeiro Earth Summit, held in June 1992 was a global submit where more than 100 heads of states met in Rio de Janeiro in Brazil, for the first International Earth Summit.
- The Summit was convened for addressing urgent problems of environmental protection and socioeconomic development at the global level.

- A declaration was signed by the global leaders on Global Climatic Change and Biological Diversity.
- The Rio Convention endorsed the global Forest Principles and adopted Agenda 21 for achieving Sustainable Development in the 21st century.
  - It aimed at achieving global sustainable development.
- It is an agenda which aims at combating environmental damage, poverty, disease through global co-operation on common interests, mutual needs and shared responsibilities.
- One major objective of the Agenda 21 is that every local government should draw its own local Agenda 21.

Resource planning in India

- Planning is the widely accepted strategy for judicious use of resources as there are certain areas that have sufficient resources while others don't have enough.
- For example, the states of Jharkhand, Chhattisgarh and Madhya Pradesh are rich in minerals and coal deposits. Arunachal Pradesh has abundance of water resources but lacks in infrastructural development.
- The state of Rajasthan is very well endowed with solar and wind energy but lacks in water resources.
- The cold desert of Ladakh is isolated from the rest of the country. It has extraordinarily rich cultural heritage but it is deficient in water, infrastructure, and some vital minerals.

Resource planning is a complex process which involves:
(i) Identification and inventory of resources across the regions of the country. This involves surveying, mapping and qualitative and quantitative estimation and measurement of the resources.
(ii) Evolving a planning structure endowed with appropriate technology, skill and institutional set up for implementing resource development plans.
(iii) Matching the resource development plans with overall national development plans.

Land Resources

They form a major share of resources that mankind has.

Land utilization

Land resources are used for the following purposes:

1. Forests
2. Land not available for cultivation
    (a) Barren and waste land
    (b) Land put to non-agricultural uses, e.g. buildings, roads, factories, etc.
3. Other uncultivated land (excluding fallow land)
    (a) Permanent pastures and grazing land,
    (b) Land under miscellaneous tree crops groves (not included in net sown area),
    (c) Culturable waste land (left uncultivated for more than 5 agricultural years).
4. Fallow lands
    (a) Current fallow-(left without cultivation for one or less than one agricultural year),
    (b) Other than current fallow-(left uncultivated for the past 1 to 5 agricultural years).
5. Net sown area: Area sown more than once in an agricultural year plus net sown area is known as gross cropped area.

Land Use Pattern in India

- The use of land is determined both by physical factors such as topography, climate, soil types as well as human factors such as population density, technological capability and culture and traditions
- The land under permanent pasture has also decreased.
- The pattern of net sown area varies greatly from one state to another. It is over 80 per cent of the total area in Punjab and Haryana and less than 10 per cent in Arunachal Pradesh, Mizoram, Manipur and Andaman Nicobar Islands.
- Forest area in the country is far lower than the desired 33 per cent of geographical area, that was stated in the National Forest Policy (1952).
- A part of the land is termed as waste land and land put to other non-agricultural uses.
- Waste land includes rocky, arid and desert areas and land put to other non-agricultural uses includes settlements, roads, railways, industry etc.

Land Degradation and Conservation Patterns

- Human activities like deforestation, over grazing, mining and

quarrying, excessively for a very long period of time over an area can lead to land degradation.

- Mining sites are abandoned after excavation work is complete and leaves deep scars and traces of over-burdening.
- In states like Jharkhand, Chhattisgarh, Madhya Pradesh and Odisha deforestation due to mining have caused severe land degradation.
- In other states like Gujarat, Rajasthan, Madhya Pradesh and Maharashtra overgrazing is a major contributor for land degradation.
- In the states of Punjab, Haryana, western Uttar Pradesh, over irrigation is responsible for land degradation which occurs due to water logging leading to increase in salinity and alkalinity in the soil.
- The mineral processing like grinding of limestone for cement industry and calcite and soapstone for ceramic industry generate huge quantity of dust in the atmosphere. It retards the process of infiltration of water into the soil after it settles down on the land.

Conservation

- Afforestation or planting of more trees and proper management of grazing can help to control land degradation.
- Planting of shelter belts of plants, stabilisation of sand dunes by growing thorny bushes are some of the methods to check land degradation in arid areas.
- Proper management of waste lands, control of mining activities, proper discharge and disposal of industrial effluents and wastes after treatment can reduce land and water degradation in industrial and suburban areas.

Types of soil

1. **Alluvial Soils**
    - Himalayan river system- the Indus, Brahmaputra and Ganga carry sediments with them and form the regions of alluvial deposits. The entire northern plains are made of alluvial soil.
    - These soils also extend in Rajasthan and Gujarat through a narrow corridor.
    - Alluvial soil is also found in the eastern coastal plains particularly in the deltas of the Mahanadi, the Godavari, the Krishna and the Kaveri rivers.
    - This type of soil has various proportions of sand, silt and clay.

- According to their age alluvial soils can be classified as old alluvial (Bangar) and new alluvial (Khadar).
- The bangar soil has higher concentration of kanker nodules and has more fine particles and is more fertile than the bangar.
- Alluvial soil is highly fertile and has adequate proportions of potash, phosphoric acid and lime which are ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops.

2. **Black Soil**
    - It is black in colour and is also known as regur soil.
    - Black soil is ideal for growing cotton and is also known as black cotton soil and is made up of lava flows.
    - This type of soil is found in the Deccan trap (Basalt) region and is spread over northwest Deccan plateau.
    - They cover the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extend in the south east direction along the Godavari and the Krishna valleys.
    - They are made up of clayey material. They retain moisture and are rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime
    - They develop deep cracks during hot weather, which promotes aeration of the soil but do get sticky when wet and difficult to work on.

3. **Red and Yellow Soils**
    - Red soil develops on crystalline igneous rocks in areas of low rainfall in the eastern and southern parts of the Deccan plateau.
    - Yellow and red soils are also found in parts of Odisha, Chhattisgarh, southern parts of the middle Ganga plain and along the piedmont zone of the Western Ghats.

4. **Laterite Soil**
    - The laterite soil develops under tropical and subtropical climate with alternate wet and dry season.
    - Lateritic soils are acidic (pH<6.0), and deficient in plant nutrients.
    - They occur in southern states, Western Ghats region of Maharashtra, Odisha, some parts of West Bengal and North-east regions.

5. **Arid Soils**
    - Arid soils range from red to brown in colour.
    - Are sandy in texture and saline in nature.
    - The soil lacks humus and moisture.
    - The lower horizons of the soil are occupied by Kankar because of the increasing calcium content downwards and it restricts infiltration.

6. **Forest Soils**
    - The soils texture varies according to the mountain environment where they are formed.
    - They are loamy and silty in valley sides and coarse grained in the upper slopes.

Soil Erosion and Soil Conservation

- The denudation of the soil cover and subsequent washing down is described as soil erosion.
- Soil formation and soil erosion go hand in hand but if it goes beyond control then can lead to disastrous outcomes.
- Activities like deforestation, overgrazing, construction and mining etc., and natural forces like wind, glacier and water lead to soil erosion cause a lot of soil erosion.
- The running water cuts through the clayey soils and makes deep channels as gullies and makes land unfit for cultivation and is known as bad land.
- In the Chambal basin such lands are called ravines.
- Sometimes water flows as a sheet over large areas down a slope. In such cases the top soil is washed away. This is known as sheet erosion.
- Ploughing along the contour lines can decelerate the flow of water down the slopes. This is called contour ploughing.
- Steps can be cut out on the slopes making terraces. Terrace cultivation restricts erosion. In this steps are cut down to create terraces which helps to retain water.
- Large fields can be divided into strips. Strips of grass are left to grow between the crops. This breaks up the force of the wind. This method is known as strip cropping.
- Planting lines of trees to create shelter also works in a similar way. Rows of such trees are called shelter belts. These shelter belts have

contributed significantly to the stabilisation of sand dunes and in stabilising the desert in western India.

Frequently Asked Questions

1. Define resources. Give examples of any two renewable resources.

Ans: Everything that our environment provides us, that is economically feasible, culturally acceptable, and technologically accessible are called 'Resources.'

It forms an interactive relationship between nature, technology, and institutions which aid the acceleration of economic development.

Human beings are a part of resources as they themselves as they utilize these resources and use them. They are a part of human resources.

The resources can be classified on the following basis:

(a) On the basis of origin – biotic and abiotic

(b) On the basis of exhaustibility – renewable and non-renewable

(c) On the basis of ownership – individual, community, national and international

(d) On the basis of the status of development – potential, developed stock and reserves.

Two examples of renewable resources are solar energy and wind energy.

2. Give classification of resources.

Ans: The resources can be classified as follows:

<u>On the basis of origin</u>

Biotic: Obtained from the biospheres such as flora, fauna, fisheries etc.

Abiotic: Obtained from non-living resources such as rocks and metals.

<u>On the basis of exhaustibility</u>

Renewable : These resources are the ones that can replenish once they are exhausted.

Example: solar energy, wind energy

Non-renewable: Once exhausted these resources cannot replenish themselves again. If we consume them completely without planning we can lose them forever.

Example: fossil fuels

<u>On the basis of ownership</u>

Individual: Owned privately by individuals

Example: Plantation, pasture lands

Community: All the members of the community can access these resources

Example: Grazing grounds, burial grounds

National: All the resources belong to the nation and the country has legal autonomy over them. Private property can be acquired by the government for the public good.

International: The oceanic resources beyond 200 nautical miles of the Exclusive Economic Zone belong to the open ocean. No individual country is allowed to utilize these without prior permission from international organizations.

<u>On the basis of the status of development</u>

Potential: Resources that are found in a region, but have not been utilized to their full potential are termed as potential resources.

Example: Rajasthan and Gujarat have enormous potential for the development of wind and solar energy, but so far these resources have not been utilized properly.

Developed: Resources whose quality and quantity have been determined for utilization are termed as developed resources. The extent to which these resources are utilized depends on technology and the level of their feasibility.

Stock: Resources that are available in the nature to be used but human beings don't have the right equipment and technology to utilize these resources.

Example: Water can be broken down to extract hydrogen and oxygen. Hydrogen is a great source of energy but we don't know how to carry out this process on a large scale.

3. Explain the classification of resources on the basis of ownership with examples of each.

Ans: On the basis of ownership the resources can be divided into:

Individual: Owned privately by individuals

Example: Plantation, pasture lands

Community: All the members of the community can access these resources

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National: All the resources belong to the nation and the country has legal autonomy over them. Private property can be acquired by the government for the public good.

International: The oceanic resources beyond 200 nautical miles of the Exclusive Economic Zone belong to the open ocean. No individual country is allowed to utilize

these without prior permission from international organizations.

4. What is meant by the term 'sustainable economic development'?
Ans: Development that takes place without over-exploiting the nature is termed as sustainable development. It focuses on the idea that 'the development in the present should not compromise with the needs of the future generations.'

5. Explain briefly about the 'Agenda 21'?
Ans: Rio de Janeiro Earth Summit, held in June 1992 was a global submit where more than 100 heads of states met in Rio de Janeiro in Brazil, for the first International Earth Summit. The Summit was convened for addressing urgent problems of environmental protection and socioeconomic development at the global level. A declaration was signed by the global leaders on Global Climatic Change and Biological Diversity. The Rio Convention endorsed the global Forest Principles and adopted Agenda 21 for achieving Sustainable Development in the 21st century. It aimed at achieving global sustainable development.
It is an agenda which aims at combating environmental damage, poverty, disease through global co-operation on common interests, mutual needs and shared responsibilities. One major objective of the Agenda 21 is that every local government should draw its own local Agenda 21.

6. Write a note on black soil. Give examples of three states that have black soil.
Ans: It is black in colour and is also known as regur soil. Black soil is ideal for growing cotton and is also known as black cotton soil and is made up of lava flows. This type of soil is found in the Deccan trap (Basalt) region and is spread over northwest Deccan plateau. They are made up of clayey material. They retain moisture and are rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime. They develop deep cracks during hot weather, which promotes aeration of the soil but do get sticky when wet and difficult to work on.
They cover the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extend in the south east direction along the Godavari and the Krishna valleys.

7. What are the different types of soil erosion?
Ans: The follow are different types of soil erosion:

1. Gully erosion: The running water cuts through the clayey soils and makes deep channels as gullies and makes land unfit for cultivation and is known as bad land.

2. Sheet erosion: Sometimes water flows as a sheet over large areas down a slope. In such cases the top soil is washed away. This is known as sheet erosion.

3. Wind erosion: When the top fertile layer of soil gets eroded by wind then it is called as wind erosion. Planting trees can help to reduce soil erosion by wind.

8. Mention the factors that determine land use in India.

Ans: The use of land is determined both by physical factors such as topography, climate, soil types as well as human factors such as population density, technological capability and culture and traditions. The land under permanent pasture has also decreased.

The pattern of net sown area varies greatly from one state to another. It is over 80 per cent of the total area in Punjab and Haryana and less than 10 per cent in Arunachal Pradesh, Mizoram, Manipur and Andaman Nicobar Islands.

Forest area in the country is far lower than the desired 33 per cent of geographical area, that was stated in the National Forest Policy (1952). A part of the land is termed as waste land and land put to other non-agricultural uses.

Waste land includes rocky, arid and desert areas and land put to other non-agricultural uses includes settlements, roads, railways, industry etc.

9. "Resource planning is essential for sustainable development." Elaborate

Ans: Planning is the widely accepted strategy for judicious use of resources as there are certain areas that have sufficient resources while others don't have enough.

For example, the states of Jharkhand, Chhattisgarh and Madhya Pradesh are rich in minerals and coal deposits. Arunachal Pradesh has abundance of water resources but lacks in infrastructural development. The state of Rajasthan is very well endowed with solar and wind energy but lacks in water resources. The cold desert of Ladakh is isolated from the rest of the country. It has extraordinarily rich cultural heritage but it is deficient in water, infrastructure, and some vital minerals.

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10. What are the different types of soil found in India?
Ans: The different types of soil found in India are:

I. Alluvial soil
II. Laterite soil
III. Red and yellow soil
IV. Arid soil
V. Forest and mountainous soil
VI. Black soil

Characteristics of alluvial soil:

- This type of soil has various proportions of sand, silt and clay.
- According to their age alluvial soils can be classified as old alluvial (Bangar) and new alluvial (Khadar). The bangar soil has higher concentration of kanker nodules and has more fine particles and is more fertile than the bangar.
- Alluvial soil is highly fertile and has adequate proportions of potash, phosphoric acid and lime which are ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops.