



Social Studies

(Geography)

Chapter 1: Resources and Development



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Resources and Development

Natural Resources and their Classification

Resources are an indispensable part of human development. Everything which is available in our environment and which can be technologically and economically exploited for satisfying human wants are known as resources.

Classification of Resources



Resources can be classified on the basis of

Origin	Biotic and abiotic	Biotic resources: These resources are obtained from nature and have life. Examples: Humans, forests, fisheries, livestock Abiotic resources: These resources are obtained from nature but are made of non-living things. Examples: Metals, air, soil
Exhaustibility	Renewable and non-renewable	Renewable resources: These resources are available in plenty in nature and can be replenished. Examples: Sunlight, wind, water Non-renewable resources: These resources are present in nature and are formed after millions of years. They can be exhausted or depleted after a particular period of time. Examples: Coal, petroleum
Ownership	Individual, community owned national and international	Individual resources are owned privately by a person such as farmlands and houses. Community resources are owned by a community and are accessible to the members of that community such as grazing lands and

	resources	burial grounds. National resources belong to a nation. Examples: Water resources, forests, minerals International resources are regulated by international laws and regulations. Example: Oceanic resources beyond 200 nautical miles of the Exclusive Economic Zone
Status of Development	Potential resources, developed resources, stock and reserves	Potential resources: These resources are available in the region but are not fully used such as wind energy and solar energy. Developed resources: These resources are surveyed and their quantity and quality are known. Examples: Coal mines, oil wells Stock: These resources can satisfy human needs but humans do not have the required technology to access and harness them. Examples: Geothermal power, hydrogen fuel Reserves: The use of such resources has not been fully started and they are used only up to a limited extent. Example: Dams

Resources are often centred in a few hands. This has led to a wide gap between the rich and the poor. Indiscriminate use of resources has resulted in its depletion and global ecological crises.

Development of Resources

Resources are vital for human survival as well as for maintaining the quality of life. It was believed that resources are free gifts of nature. Human beings used them indiscriminately and this has led to the following major problems:

- Depletion of resources for satisfying the greed of few individuals.
- Accumulation of resources in few hands, which, in turn, divided the society into two segments 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.

Resource Planning in India

Resource planning in India involves the following processes:

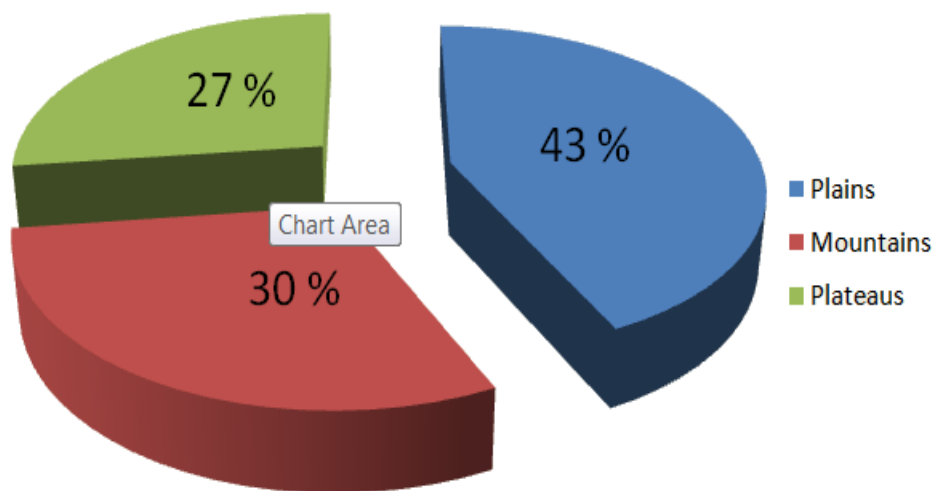
- To identify and make a list of existing resources across the country by surveying and mapping

- To frame a planning structure with the estimates of the level of technology, skill sets and institutions which are required for harnessing these resources
- To map the resource development plans with the national development plans

Land Resource

The land is among the most important natural resources. It covers only about thirty percent of the total area of the earth's surface. It supports natural vegetation, wild life, human life, economic activities, transport and communication systems. However, land is an asset of a finite magnitude, therefore, it is important to use the available land for various purposes with careful planning.

Land under important Relief Features



Land Utilisation

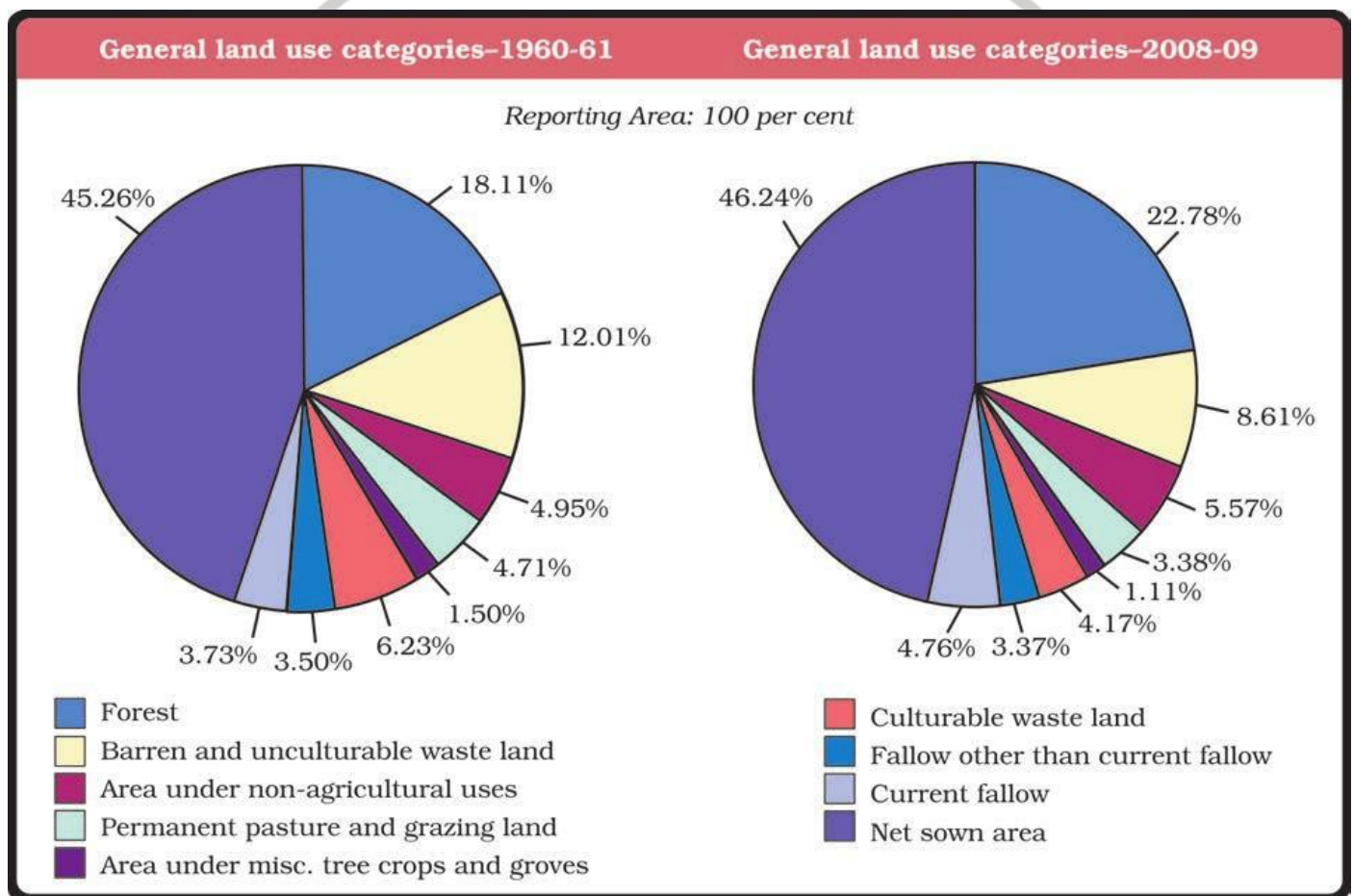
1. Forests
2. Land not available for cultivation
 - (a) Barren and waste land
 - (b) Land put to non-agricultural uses, e.g. buildings, roads, factories, etc.
3. Other uncultivated land (excluding fallow land)
 - (a) Permanent pastures and grazing land,
 - (b) Land under miscellaneous tree crops groves (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 forest cover of the country is less than the prescribed 33% of the total country's land. Forests occupy about 23.81% of the total land surface in India.

The total net sown area of India is 46.24% of the total land in the country. The net sown area differs from state to state. While in Punjab and Haryana, the net sown area is more than 80% of the total land in the state, it is less than 10% in Arunachal Pradesh, Mizoram, Manipur and the Andaman and Nicobar Islands. 3.38% of the total land is used for grazing, while the remaining lands are fallow and waste lands.



Waste land is the land put to other non-agricultural uses which include rocky, arid and desert areas, roads, railways, industry etc. Continuous use of land over a long period of time without taking appropriate measures to conserve and manage it, has resulted in land degradation.

Reasons for the Degradation of Land in India

- **Mining:** It is the most important factor for land degradation.
 - The mining sites are abandoned after excavation work is over. The excavation work leaves deep scars and other material which degrades the soil. This is common in states like Jharkhand, Chattisgarh, Madhya Pradesh and Orissa.

- Mineral processing, grinding of lime stone, ceramic industry releases a heavy amount of dust, which later settles down in the surrounding areas.
- **Overgrazing:** Overgrazing of land by animals results in removal of grass over a large area making it easy for wind and water to remove the soil. Example Gujarat, Rajasthan, Madhya Pradesh, Maharashtra etc.
- **Water Logging:** Over irrigation of land is also responsible for land degradation, water logging, increases salinity and alkalinity in soil making it unfit for cultivation.
- **Industrialisation:** Industrial waste also leads to water and land degradation.
- Deforestation
- Erosion of land because of flooding
- Excess irrigation of lands

Mining and deforestation have deteriorated the quality of land in Chhattisgarh, Madhya Pradesh, Jharkhand and Odisha. Overgrazing is one of the main reasons for the land degradation in Gujarat, Rajasthan, Maharashtra and Madhya Pradesh. In Punjab, Haryana and western Uttar Pradesh, excess irrigation has resulted in water logging leading to increased soil salinity. In major metropolitan cities, industrial effluents have degraded the land.

Some of the ways through which we can solve the problems of land degradation are:

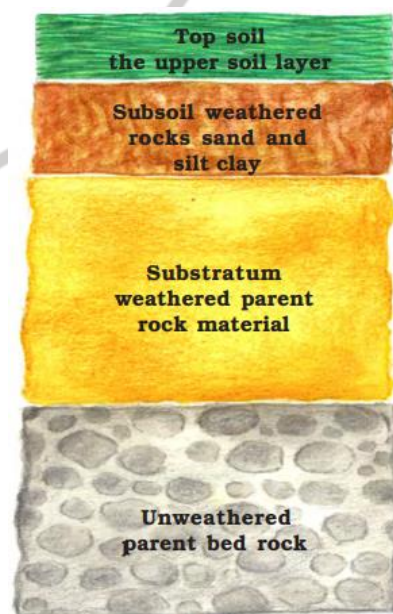
- Afforestation and proper management of grazing.
- Planting of shelter belts of plants.
- Stabilisation of sand dunes by growing thorny bushes.
- Proper management of waste lands.
- Control of mining activities.
- Proper discharge and disposal of industrial effluents and wastes after treatment.

Soil Resource

Soil is a renewable natural resource. It supports various living organisms and is a medium of plant growth. Topsoil is the uppermost layer of the Earth. It consists of humus. Factors such as variation of temperature, parent rock, decomposers and running water affect the formation of soil. Soil in India can be classified based on their texture, thickness, age, chemical and physical properties.

Classification of Soils

Alluvial Soil: It is the most widely spread soil in India. It has been deposited by three Himalayan river systems—Ganga, Indus and Brahmaputra. Alluvial soil is composed of sand, silt and clay particles. The entire North Indian Plains are made of this soil. It is also found in the eastern coastal plains and some



Soil Profile

parts of Rajasthan and Gujarat. The soil is suitable for the cultivation of paddy, wheat, sugarcane and other cereal and pulse crops.

On the basis of age, soil can be classified as bangar and khadar soils.

Differences between bangar and khadar soils

Bangar Soil	Khadar Soil
(i) Bangar is the old alluvium. In other words, Bangar is older than Khadar. (ii) Bangar often contains kankar nodules with calcium carbonates in sub-soil. (iii) Bangar is not renewed frequently. Hence, it is less fertile. (iv) Bangar is found away from the river and higher than ground level.	(i) Khadar is the new alluvium. In other words, Khadar is younger in age. (ii) Khadar is finer, more sandy and free from kankar nodules. (iii) Khadar is renewed frequently and is more fertile. (iv) Khadar is found near river channels in deltas and in flood plains.

Black Soil:

- This soil is black and is also known as regur. Because the soil is ideal for growing cotton, it is also known as black cotton soil.
- This soil is found in the plateau regions of Saurashtra, Maharashtra, Malwa and Chhattisgarh. The soil is made of fine clayey material and is known for holding moisture.
- The soil is rich in calcium carbonate, magnesium and potash. It is most suitable for growing cotton.

Red and Yellow Soils:

- These soils are found in parts of Odisha, Chhattisgarh, southern parts of middle Gangetic plains and some parts of Western Ghats.
- The soil becomes reddish because of the presence of iron oxides. It looks yellow in a hydrated form. Potatoes, maize and cotton are crops which are grown in red soil. Vegetables, tobacco and citrus fruits such as grapes are grown in yellow soil.

Laterite Soil:

- This soil is found in areas of high temperature and heavy rainfall. This soil has low humus content as most of microorganisms get destroyed because of high temperature.
- This soil is found in Kerala, Karnataka, Tamil Nadu, Madhya Pradesh and hilly regions of Assam.
- This soil is suitable for growing tea and coffee. Cashew nuts are grown in red laterite soils of Tamil Nadu, Andhra Pradesh and Kerala.

Arid Soils:

- These soils are sandy in texture and saline in nature. They are found in areas of high temperature and dry climate.
- Because of dry climate, the moisture and humus content of the soil is very low. In some areas, common salt is obtained by evaporating the water from the soil.
- These soils are not fertile but can become fertile after adequate irrigation of the soil.
- The arid soil is found in Rajasthan and in the northwestern parts of Gujarat.

Forest Soil:

- This soil is found in the hilly and mountainous regions. It is made of sand and silt. In the snow regions of the Himalayas, the soil lacks humus content because of the loss of top cover of the soil.
- The forest soil found in the lower parts of the Himalayas is fertile.



Alluvial Soils



Black Soil



Red and Yellow Soils



Laterite Soil



Arid Soils

Soil Erosion

The wearing away (because of the action of winds) and washing down of soil cover (because of running water) is known as soil erosion. Because the processes of erosion and soil formation occur simultaneously, there is a balance between the two. However, overgrazing and deforestation at a rapid pace can disturb this balance. Different kinds of erosions are

Gully Erosion: This occurs when running water cuts through the soil making deep channels. The land thus becomes unsuitable for cultivation and is known as **bad land**.

**Gully Erosion****Sheet Erosion****Wind Erosion**

Sheet Erosion: The washing away of the topsoil because of the flowing of water as a sheet over large areas is known as sheet erosion.

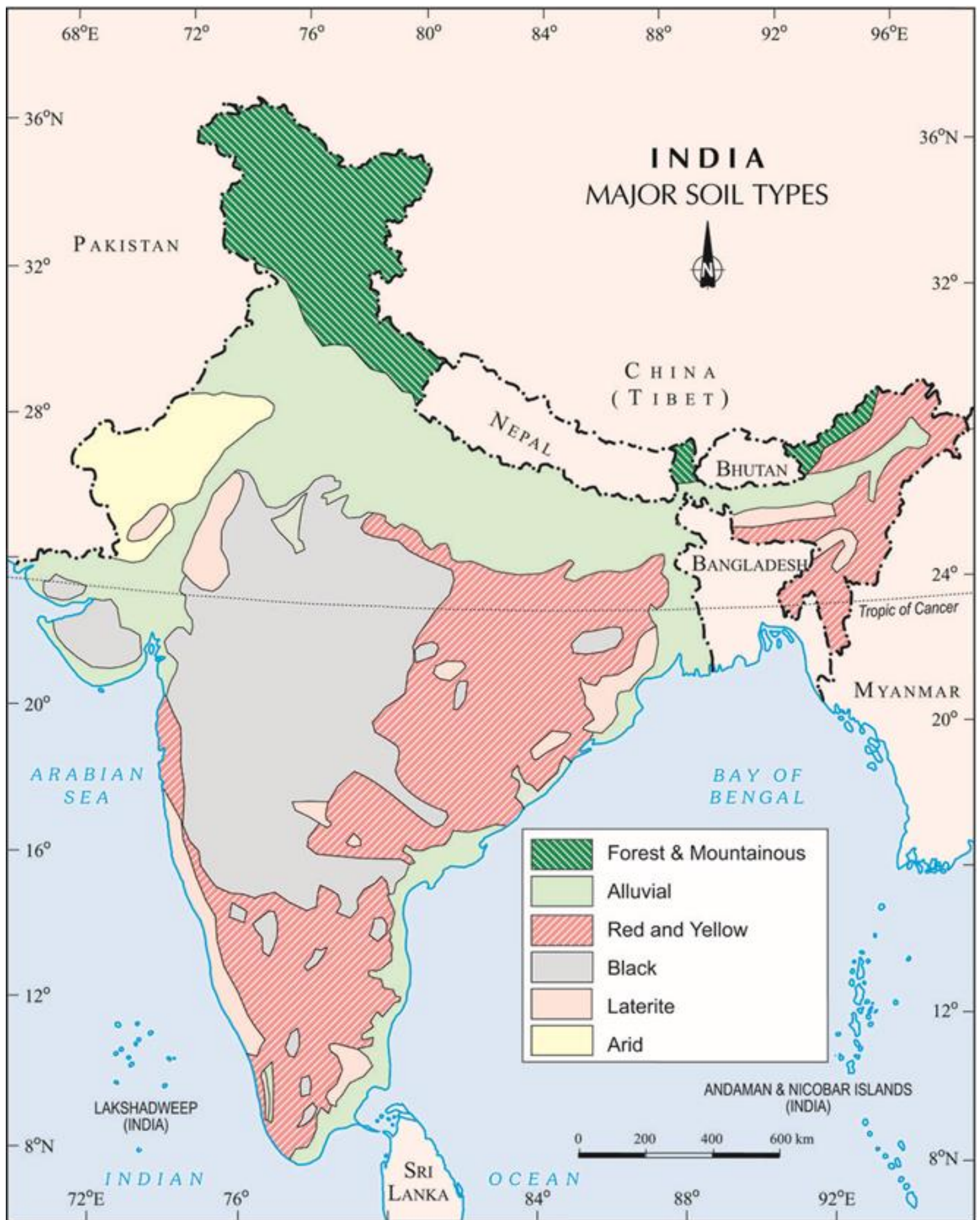
Wind Erosion: When the wind blows away the topsoil, it is known as wind erosion.

Soil Conservation

Soil can be conserved in the following ways:

- **Contour Ploughing:** When one ploughs along the contour lines, it is called contour ploughing. It decreases the flow of water down the slopes and thus helps in soil conservation.
- **Terrace Farming:** When steps are cut out on the slopes of the hills making terraces, it reduces soil erosion.
- **Strip Cropping:** When strips of grass are grown between the strips of crops, it is known as strip cropping. It breaks down the speed of winds.
- **Shelter Belts:** When trees are planted in a row, it breaks the force of winds. This method has proved very useful in destabilising the sand dunes in the deserts of western India.

**Contour Ploughing****Terrace farming****Strip farming****Shelter belt**

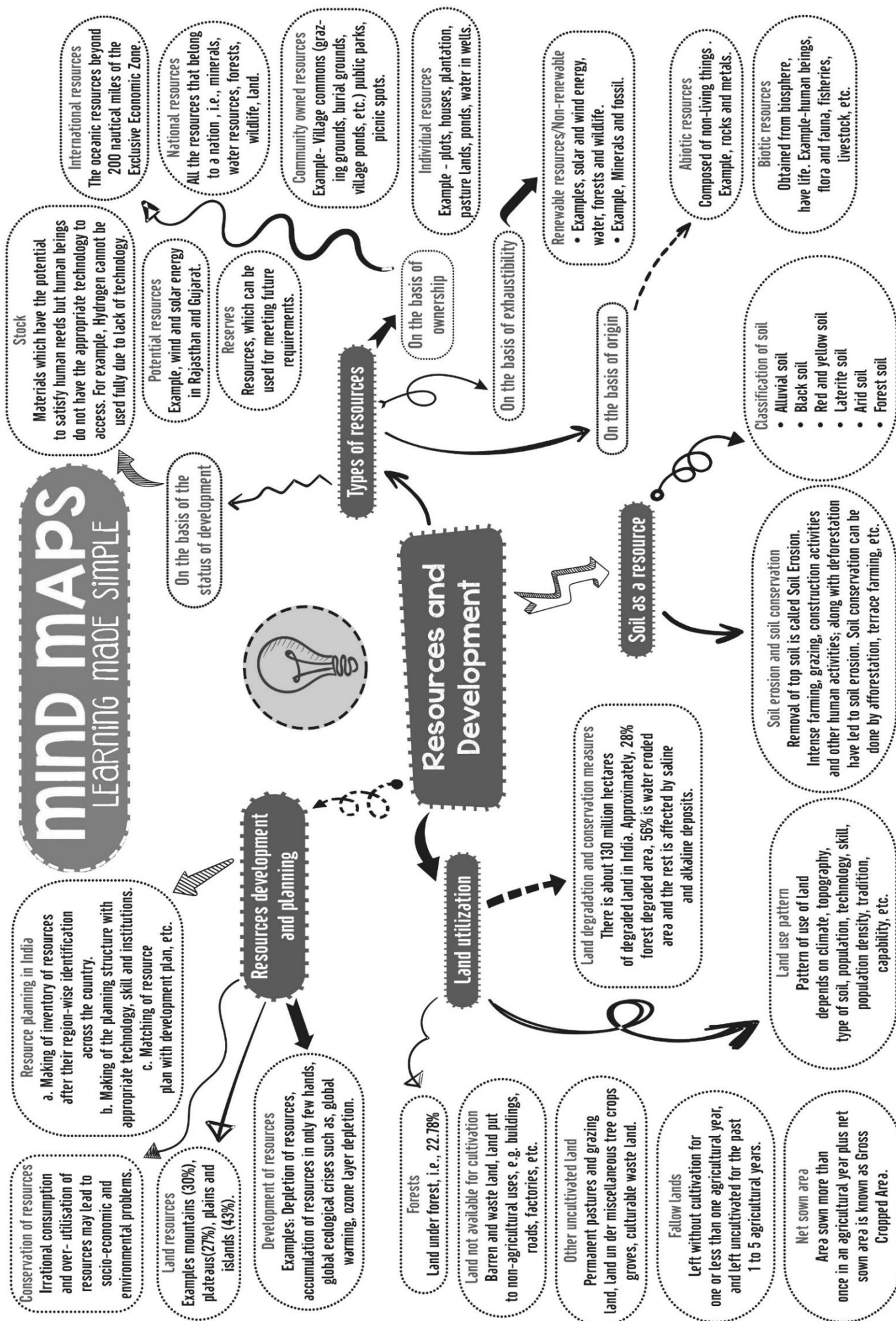


India: Distribution of Iron Ore, Manganese, Bauxite and Mica

RESOURCES AND DEVELOPMENT

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Important Questions

Multiple Choice questions-

1. Which one of the following soils is ideal for growing cotton?[CBSE 2011]
 - (a) Regur soil
 - (b) Laterite soil
 - (c) Desert soil
 - (d) Mountainous soil
2. Soil is formed by the process of
 - (a) Denudation
 - (b) Gradation
 - (c) Weathering
 - (d) Erosion
3. Land left without cultivation for one or less than one agricultural year is called
 - (a) Culturable waste land
 - (b) Current fallow land
 - (c) Waste land
 - (d) None of the above
4. "There is enough for everybody's need but not for anybody's greed". Who said this?
 - (a) Jawahar Lai Nehru
 - (b) Atal Bihari Vajpai
 - (c) M. K. Gandhi
 - (d) Sunder Lai Bahuguna
5. Resources which are surveyed and their quantity and quality have been determined for utilisation are known as [CBSE 2011]
 - (a) Potential resources
 - (b) Stock
 - (c) Developed resources
 - (d) Reserves
6. Which one of the following statements is correct as regard to international resources?
 - (a) Resources which are regulated by international institutions.
 - (b) Resources which lie beyond the territorial waters.
 - (c) Resources which are found along the international frontier.

(d) Resources which are not yet developed.

7. The first International Earth Summit was held in

(a) Geneva

(b) New York

(c) Japan

(d) Rio de Janeiro

8. The most widespread relief feature of India is

(a) Mountains

(b) Forests

(c) Plains

(d) Plateaus

9. Resources which are found in a region, but have not been utilised

(a) Renewable

(b) Developed

(c) National

(d) Potential

10. Which one of the following statements is true about the term resources?[CBSE 2011]

(a) Resources are free gifts of nature.

(b) They are the functions of human activities.

(c) All those things which are found in nature.

(d) Things which cannot be used to fulfill our needs.

11. The red soil is red in colour because

(a) it is rich in humus.

(b) it is rich in iron compounds.

(c) it is derived from volcanic origin.

(d) it is rich in potash.

12. Soil formed by intense leaching is

(a) Alluvial soil

(b) Red soil

(c) Laterite soil

(d) Desert

13. Which one of the following type of resource is iron ore? (Textbook)

- (a) Renewable
- (b) Biotic
- (c) Flow
- (d) Non-renewable

14. Under which of the following type of resource can tidal energy be put? (Textbook)

- (a) Replenishable
- (b) Human-made
- (c) Abiotic
- (d) Non-renewable

15. Which one of the following is the main cause of land degradation in Punjab? (Textbook)

- (a) Intensive cultivation
- (b) Deforestation
- (c) Over-irrigation
- (d) Overgrazing

Very Short-

Question 1. What do you understand by Resource ?

Question 2. Classify resources on the basis of exhaustibility.

Question 3. Classify resources on the basis of development.

Question 4. Give an example of Biotic resources.

Question 5. What types of resources are solar and wind energy ?

Question 6. Mention a non-renewable source that cannot be recycled and get exhausted with their use.

Question 7. What do you understand by international resources ? Give example.

Question 8. What are developed resources ?

Question 9. Which are the results of using resources indiscriminately by human beings ? Mention any one.

Question 10. What is sustainable development?

Short Questions-

Question 1. What is meant by resource ? Mention the four basis to classify the resources.

Question 2. Are resources free gifts of nature ?

Question 3. What are biotic and abiotic resources ? Give two examples for each.

Question 4. Highlight any three problems associated with the indiscriminate use of

resources by the human beings.

Question 5. Why is the issue of sustainability important for development ? Explain.

Question 6. Write a note on the Rio de Janeiro Earth Summit 1992.

Question 7. Explain Agenda 21.

Question 8. Explain the three stages of Resource Planning in India. [CBSE 2016-17]

Question 9. Describe the relief features of land in India and their importance.

Question 10. What are the ways to solve the problem of land degradation ?

Long Questions-

Question 1. Provide a suitable classification for resources on the basis of ownership. Mention main features of any three types of such resources.

Question 2. How are the resources divided on the basis of the status of development ? Give example of each type.

Or

Differentiate between stock resources and reserves.

Question 3. "In India some regions are rich in certain types of resources but deficient in some other resources." Do you agree with the statement ? Support your answer with any three examples.

Question 4. Explain causes for land degradation.

Or

Explain any four human activities which are mainly responsible for land degradation in India.

Question 5. Describe features of laterite soil. Mention the places where they are found in India.

Question 6. Describe the features of Arid soils and Forest soils. Mention the places where they are found in India.

Assertion Reason Questions:

1. **DIRECTION:** Mark the option which is most suitable:

- If both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- If both assertion (A) and reason (R) are true, but reason (R) is not the correct explanation of assertion (A).
- Assertion (A) is true, but reason (R) is false.
- Both assertion (A) and reason (R) are false.

ASSERTION (A): The black soils are made up of extremely fine i.e, clayey material.

REASON (R): They are well known for their capacity to hold moisture.

2. **DIRECTION:** Mark the option which is most suitable:

- a. If both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- b. If both assertion (A) and reason (R) are true, but reason (R) is not the correct explanation of assertion (A).
- c. Assertion (A) is true, but reason (R) is false.
- d. Both assertion (A) and reason (R) are false.

ASSERTION (A): Terrace cultivation is done in plains.

REASON (R): Running water cuts through the clayey soils and makes deep channels as gullies. The land becomes good for cultivation of crops.

Case Study Questions:

1. Read the text given below and answer the questions that follow:

This is the most widely spread and important soil. In fact, the entire northern plains are made of alluvial soil. These have been deposited by three important Himalayan River s systems– the Indus, the Ganga, and the Brahmaputra. 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 River.

i. Name the soil which is being described in the above paragraph.

- a. Black soil.
- b. Alluvial soil.
- c. Laterite soil.
- d. Forest soil.

ii. The soil mentioned in the para is _____

- a. Very dry.
- b. Rocky.
- c. Very fertile
- d. Red in colour.

iii. This soil is mainly good for cultivation of.

- a. Sugar cane.
- b. Paddy.
- c. Wheat.
- d. All of the above.

iv. This soil is found in.

- a. Northern coastal plains.

- b. Eastern coastal plains.
- c. Southern coastal plains.
- d. Western coastal plains.

2. Read the text given below and answer the questions that follow:

The village of Jhabua and the district of Jhabua have shown that it is possible to reverse land degradation. Tree density in Jhabua increased from 13 per hectare in 1976 to 1, 272 per hectare in 1992: Regeneration of the environment leads to economic well-being, as a result of greater resource availability improved agriculture and animal care, and consequently increased incomes. Average annual household income in Jhabua ranged from Rs. 10, 000 - 15, 000 between 1979 and 1984: people's management is essential for ecological restoration. With people being made the decision-makers by the Madhya Pradesh government, 2.9 million hectares, or about 1 percent of India's land area, are being greened across the state through watershed management.

- i. The village Sukhomanjiri is located in the state of ____.
 - a. Uttaranchal.
 - b. Andhra Pradesh.
 - c. Rajasthan.
 - d. Madhya Pradesh.
- ii. Which one of the following is not helpful to reverse land degradation?
 - a. Using high doses of fertilizers.
 - b. Practicing crop rotation.
 - c. Permaculture.
 - d. Developing Argo Forestry.
- iii. Benefits of Ecological Restoration
 - a. Helps to solve challenges of water security
 - b. Helps to solve challenges of food.
 - c. Helps in securing livelihoods and wellbeing.
 - d. All of the above.
- iv. Which one of the following is not part of Watershed management?
 - a. Percolation ponds.
 - b. Canals with cement lining.
 - c. Check dams and Gully
 - d. Diversion drains.

Map Question:

1. The shaded region in the outline map of India represents which soil type.



- a. Laterite soil.
- b. Mountain soil.
- c. Black soil.
- d. Alluvial soil.

MCQ Answers-

Answer: a

Answer: c

Answer: b

Answer: c

Answer: c

Answer: a

Answer: d

Answer: c

Answer: d

Answer: b

Answer: b

Answer: c

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Answer: d

Answer: a

Answer: c

Very Short Answers-

Answer 1: Everything available in our environment which can be used to satisfy our needs, provided, it is technologically accessible, economically feasible and culturally acceptable can be termed as 'Resource'.

Answer 2: Renewable and non-renewable resources.

Answer 3: Potential, developed stock and reserves.

Answer 4: Human beings, flora and fauna are examples of biotic resources.

Answer 5: Solar and wind energy are renewable resources.

Answer 6: Fossil fuel.

Answer 7: These resources are regulated by international institutions. Examples are the oceanic resources beyond 200 km of the Exclusive Economic Zone belong to open ocean and no individual country can utilise these without the concurrence of international institutions.

Answer 8: Resources which are surveyed and their quality and quantity have been determined for utilisation. The development of resources depends on technology and level of their feasibility.

Answer 9:

1. Accumulation of resources in a few hands.
2. Depletion of resources for satisfying the greed of few individuals.

Answer 10: Sustainable economic development means 'development should take place without damaging the environment and development in the present should not compromise with the needs of the future generations'.

Short Answers-

Answer 1: (1) Resource : Everything available in our environment which can be used to satisfy our needs provided, it is technologically accessible, economically feasible and culturally acceptable can be termed as resource.

(2) Four basis to classify resources are as mentioned below :

1. On the basis of origin – biotic and abiotic.
2. On the basis of exhaustibility – renewable and non-renewable.
3. On the basis of ownership – individual, community, national and international.
4. On the basis of status of development – potential, developed stock and reserves.

Answer 2: No. Resources are not free gifts of nature. Resources are a function of

human activities. Human beings themselves are essential components of resources. They transform material available in our environment into resources and use them.

Answer 3: On the basis of origin resources are divided as given below :

1. Biotic resources : These are obtained from biosphere and have life such as human beings, flora and fauna, fisheries and livestock.
2. Abiotic resources : All those things which are composed of non-living things are called abiotic resources e.g., rocks and metals.

Answer 4: The indiscriminate use of resources by the human beings has resulted in the following:

1. Depletion of resources for satisfying the greed of few individuals.
2. Accumulation of resources in few hands which has divided the society into rich and poor or have and have nots.
3. Indiscriminate exploitation of resources has led to global ecological crises such as global warming, ozone layer depletion, environmental pollution and land degradation.

Thus, an equitable distribution of resources has become essential for a sustained quality of life and global peace. If the present trend of resource depletion by some individuals and countries continues, the future of our planet is in danger.

Answer 5: Sustainable development means that a development should meet the needs of the present without compromising the ability of future generations to meet their needs. However, since the second half of the twentieth century, a number of scientists have been warning that the present type and levels of development are not sustainable. The issue of sustainable development has emerged from rapid industrialisation of the world in the past century. It is felt that the economic growth and industrialisation have led to reckless exploitation of natural resources. On the other hand, the stock of natural resources are limited. So, the growth of all countries in future is likely to be endangered if the limited resources are completely exhausted. Under these circumstances, the issue of sustainability has become important for development.

Answer 6:

(1) Place : In June 1992, more than 100 heads of states met in Rio de Janeiro in Brazil for the first International Earth Summit.

(2) Objective : The Summit was convened for addressing urgent problems of environmental protection and socio-economic development at the global level.

(3) Achievements :

1. The assembled leaders signed the Declaration on Global Climatic Change and Biological Diversity,
2. The Rio convention endorsed the Global Forest Principles and adopted Agenda

21 for achieving Sustainable Development in the 21st century.

Answer 7:

1. Declaration : It is the declaration signed by world leaders in 1992 at the United Nations Conference on Environment and Development (UNCED) which took place at Rio de Janeiro (Brazil).
2. Aims :
 1. It aims at achieving global sustainable development.
 2. It is an agenda to combat environmental damage, poverty, disease through global cooperation on common interest, mutual needs and shared responsibilities,
 3. One major objective of the Agenda 21 is that every local government should draw its own local Agenda 21.

Answer 8: Three stages of Resource Planning in India are as given below :

1. Identification and inventory of resources across the regions of the country. This involves surveying, mapping and qualitative and quantitative estimation and measurement of resources.
2. Evolving a planning structure endowed with appropriate technology, skill and institutional set up for implementing resource development plans.
3. Matching the resource development plans with overall national development plans.

Answer 9: India has a variety of relief features of land i.e., mountains, plateaus, plains and islands.

1. 43 per cent of land is plain. It is useful for agriculture and industry.
2. 30 per cent of the total land area is mountainous which ensures perennial flow of some rivers. The mountains provide facilities for tourism and ecological aspects.
3. 27 per cent area is plateau region which possesses rich reserves of minerals, fossil fuels and forests.

Answer 10: There are many ways to solve the problem of land degradation. These are as given below :

1. Afforestation – Plantation of trees should be encouraged.
2. Proper management of grazing – Separate sites should be fixed for grazing.
3. Planting of shelter belts of plants.
4. Control on overgrazing – Rules for grazing should be framed.
5. Stabilisation of sand dunes by growing thorny bushes to stop land degradation.
6. Proper management of waste lands, control of mining activities, proper

discharge and disposal of industrial effluents and wastes after treatment in industrial and suburban areas.

Long Answers-

Answer 1: These are divided as individual, community owned, national and international resources.

(1) Individual resources :

1. These are owned privately by individuals,
2. Many farmers own land in the villages which is allotted to them by government against payment of revenue,
3. Urban people own plots, houses and other property,
4. Plantation, pasture lands, ponds are also owned by individuals.

(2) Community owned resources :

1. These are owned by community.
2. These are accessible to all the members of the community,
3. Village commons (grazing grounds, burial grounds), public parks, picnic spots in urban areas are accessible to all the people living there.

(3) National resources :

1. These are owned and belong to the nation or state,
2. All the minerals, water resources, forests, wildlife land within the political boundaries and oceanic area upto 12 nautical miles (19.2 km) from the coast termed as territorial water and resources there-in belong to the nation.

(4) International resources :

These do not belong to any country. Some of these resources are regulated by international institutions. Oceanic resources beyond 200 km of the Exclusive Economic Zone belong to open ocean and no individual country can utilise these without the concurrence of international institutions.

Answer 2: These can be divided into four types :

(1) Potential resources : These are found in a region but have not been utilised, e.g., enormous potential for development of wind and solar energy in Rajasthan and Gujarat. But so far these have not been developed properly.

(2) Developed resources :

1. Resources whose quality and quantity have been determined for utilisation.
2. Their development depends on technology and their level of feasibility.

(3) Stock :

Materials in the environment which can satisfy human needs but human beings do not have the appropriate technology to access these e.g., two components of water

— hydrogen and oxygen can be used as a rich source of energy but we, human beings, do not have technology to use them. Hence it is considered as stock.

(4) Reserves :

1. These are the subset of the stock which can be used by present technology but their use has not been started fully.
2. River water can be used for generating hydroelectric power but presently it is being used only to a limited extent,
3. Such resources can be used for meeting future requirements,
4. Water in the dams, forests etc. is a reserve which can be used in the future.

Answer 3: (1) I agree with the statement that in India some regions are rich in certain types of resources but deficient in some other resources as mentioned below :

- Jharkhand, Chhattisgarh and Madhya Pradesh – rich in minerals and coal deposits.
- Arunachal Pradesh – abundance of water resources.
- Rajasthan — lot of solar and wind energy.
- Ladakh – rich cultural heritage.

(2) There is great variation in the availability of resources. Some regions are rich in one resource but deficient in other, as mentioned below :

- Arunachal Pradesh – Lack of infrastructural development.
- Rajasthan – Lack of water resources.
- Ladakh – Deficient in water, infrastructure and vital minerals.

(3) There is lack of technology in some regions. Thus there are regions that are rich in resources but these are included in economically backward regions.

Answer 4:

(1) At present there is about 130 million hectares of degraded land in India as mentioned below :

- Forest degraded area — 28%
- Water eroded area — 56%
- Wind eroded area — 10%
- Saline and Alkaline land — 6%

(2) Following factors/human factors are responsible for land degradation in India :

- Mining : Mining sites are abandoned after excavation work is complete leaving deep scars and traces of over burdening.
- Deforestation : In states of Jharkhand, Chhattisgarh, Madhya Pradesh and Orissa deforestation due to mining have caused severe land degradation.

- Overgrazing : In states like Gujarat, Rajasthan, Madhya Pradesh and Maharashtra overgrazing is the main reason for land degradation.
- Over-irrigation : In the states of Punjab, Haryana, Western Uttar Pradesh, over-irrigation is responsible for land degradation due to water logging leading to increase in salinity and alkalinity in the soil.
- The mineral processing like grinding of limestone for cement industry generate dust in the atmosphere. It retards the process of infiltration of water into soil after it settles down on the land. Thus industrial effluents as waste have become a major source of land and water pollution in many parts of the country.

Answer 6:

Laterite soil :

(1) Features :

- Laterite has been derived from the Latin word 'later' which means brick. It develops in areas with high temperature and heavy rainfall
- Humus content of the soil is low.
- They lack in elements of fertility and are of low value for crop production,
- They are composed of little clay and much gravel of red sandstones,
- They are suitable for cultivation with manures and fertilizers

(2) Places :

- They are found in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh and hilly areas of Orissa and Assam,
- After adopting appropriate soil conservation techniques particularly in the hilly areas of Karnataka, Kerala and Tamil Nadu, this soil is very useful for growing tea and coffee,
- Red laterite soils in Tamil Nadu, Andhra Pradesh and Kerala are more suitable for crops like cashew nut.

Answer 6:

(1) Arid soils :

1. Features

- They range from red to brown in colour.
- They are generally sandy in texture and saline in nature,
- In some areas the salt content is very high and common salt is obtained by evaporating the water. Due to the dry climate, high temperature, evaporation is faster and the soil lacks humus and moisture,
- The lower horizons of the soil are occupied by kankar because of increasing

calcium content downward.

- These soils can become cultivable if irrigation facilities are made available as has been in the case of western Rajasthan.

Places :

- These soils are found in arid areas of Rajasthan, Punjab and Haryana.

(2) Forest soils :

1. Features :

- They are found in mountainous area,
- They are loamy and silty in valley slides and coarse grained in the upper slopes,
- In the snow covered areas of the Himalayas they are acidic with low humus content.

2. Places: They are found in the hilly and mountainous areas where sufficient rain forests are available. These places are Meghalaya, Arunachal Pradesh, Uttarakhand, Himachal Pradesh and Jammu and Kashmir. The soils found in the lower parts of the valleys particularly on the river terraces and alluvial fans are fertile.

Assertion Reason Answer:

1. (B) If both assertion (A) and reason (R) are true, but reason (R) is not the correct explanation of assertion (A)
2. (c) Both assertion (A) and reason (R) are false.

Case Study Answer:

1. i (b) Alluvial soil.
 ii (c) Very fertile.
 iii (b) Paddy.
 iv (b) Eastern coastal plains.
2. i (d) Madhya Pradesh.
 ii (a) Using high doses of fertilizers.
 iii (d) All of the above.
 iv (a) Percolation ponds

Map Answer:

- d. Alluvial soil.