

# CHAPTER RESOURCES AND DEVELOPMENT

### **Syllabus**

> Resources and Development: Types - natural and human; Need for resource planning, natural resources, land as a resource, soil types and distribution; changing land-use pattern; land degradation and conservation measures.



### TOPIC-1 Resources : Types and Planning

TOPIC - 1 Resources : Types and Planning ... P. 136

**TOPIC - 2**Land and Soil as Resource... P. 140

### **Quick Review**

- Everything available in our environment which can be used to satisfy our needs, provided, it's technologically accessible, economically feasible and culturally acceptable can be termed as 'Resource'.
- Natural endowments in the form of land, water, vegetation and minerals are called natural resources. Resources are materials which can be transformed in such a way that they become more valuable and useful for fulfilling human needs.
- > Resources can be classified in the following ways:

On the basis of origin :	
(i) Biotic	(ii) Abiotic
On the basis of exhaustibility :	
(i) Renewable	(ii) Non-renewable
On the basis of ownership :	
(i) Individual	(ii) Community
(iii) National	(iv) International
On the basis of status of development :	
(i) Potential	(ii) Developed
(iii) Stock	(iv) Reserves

- > Resources are compulsory for human survival as well as for maintaining the quality of life.
- Human beings use resources indiscriminately and this has led to global ecological crises such as, global warming, ozone layer depletion, environmental pollution and land degradation.
- Development of Resources : Resources are vital for human survival. It was believed that resources are free gifts of nature. As a result, man used them indiscriminately which led to the following problems:
  - Depletion of resources.
  - Accumulation of resources in a few hands.
  - Indiscriminate exploitation of resources.
- > For a sustained quality of life and global peace, it is essential that resources should be distributed equally.
- 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 generation.
- > Rio de Janeiro Earth Summit, 1992
- In June 1992, for achieving sustainable development in the 21st century, more than 100 heads of states participated in the First International Earth Summit in Rio de Janeiro in Brazil. The main focus of this summit was to protect environment and socio economic development at the global level. The leaders of the states signed the Declaration on Global Climate Change and Biological Diversity.

- Agenda 21 : It has been signed by world leaders at the United Nations Conference on Environment and Development (UNCED). The aim of this agenda is to achieve global sustainable development by combating environmental damage, poverty and disease through global co-operation on common interests, mutual needs and shared responsibilities. The major objective of this agenda is that every local government has the power to draw its own local Agenda 21.
- > Resource-Planning is a technique of proper utilization of resources.
- Resource planning involves the following steps :
  - Identification and inventory of resources, which involves surveying, mapping and quantitative as well as qualitative estimation and measurement of resources.
  - For implementing resource development plans, evolve a planning structure with appropriate technology, skill and institutional set up.
  - Match resource development plan with overall national development plans.
  - Resource development and planning reduces wastage, keeps the environment pollution free and takes care of future needs.
  - The management of resources by the humans is known as conservation. It is the judicious and planned use of the natural resources.
  - Conservation of resources includes a judicious and planned use of resources. Proper exploitation is must, but over exploitation should be checked.

### **Know the Terms**

- > **Resources** : All the useful elements of environment that satisfy our basic needs are called resources.
- Biotic resources : These are obtained from biosphere and have life such as human beings, flora and fauna, fisheries, livestock, etc.
- > Abiotic resources : Resources that comprise of non-living things, such as rocks, minerals, etc.
- Renewable resources : The resources which can be reproduced by physical, chemical or mechanical processes are known as renewable or replenishable resources. For example: solar and wind energy.
- Non-renewable resources : These are the resources that once used, can't be reproduced or replenished. For example: fossil fuels, minerals like copper and iron ore.
- Natural resources : A natural resource is something that is found in nature and can be used by people for economic gain. Earth's natural resources include light, air, water, plants, animals, soil, stone, minerals, Fossil fuels, etc.
- Man-made resources : Man-made resources are resources that are created by humans to transform and use the gifts of nature, for example buildings; roads; vehicles; machinery, equipment, etc.
- > Individual resources : The resources owned privately by individuals.
- > **Community-owned resources :** Resources which are accessible to all the members of the community.
- National resources : All the resources, which are present in the political boundary of a nation up to 12 nautical miles in the ocean from the coast.
- > International resources : The resources that do not belong to any individual country.
- > **Potential resources :** Resources, which are available in a region, but have not been utilized.
- Developed resources : Resources which are surveyed and their quantity and quality have been determined for utilization.
- Stock : Materials present in the environment, which have the potential to satisfy human needs, but human beings do not have the appropriate technology to access these materials.
- Reserves : They are the subsets of the stock, which can be put into use with the help of existing technology but their use has not been started yet.
- Sustainable development : It means development should take place without damaging the environment and development in the present should not compromise with needs of the future generations.
- **Resource planning :** It is the widely accepted strategy for judicious use of resources.
- Resource conservation : Conservation of natural resources refers to the sustainable utilisation of natural resources, like soils, water, plants, animals, minerals, topsoil, pastureland, and minerals, and also to the preservation of forests-forestry, watershed areas, etc.

### Know the Links

- > http://agricoop.nic.in/statistics/stexple.html
- > http://www.worldsummit2002.org/index.htm?
- > http://www.worldsummit2002.org/guide/unced.html

# Yery Short Answer Type Questions

U Q. 1. Give one difference between renewable and nonrenewable resources.

[Board Term-I, (CB4QHT1) 2016-17]

Ans. Renewable: Replenished by nature and may be overused, *e.g.*, crops and plants.Non-renewable: which get exhausted after years of use, *e.g.*, crude oil.

(CBSE Marking Scheme, 2016) 1

U Q. 2. Give an example of non-renewable resources. [Board Term-I, (6HTQ4TF) 2016-17]

Ans. Coal/Minerals. (CBSE Marking Scheme, 2016) 1

# Ans. Ladakh.

#### U Q. 1. What is Agenda 21? List its two principles. [Board Term-I, (CB4QHT1) 2016-17]

- **Ans. (i)** Agenda 21 was adopted at first International Earth Summit held in 1992 at Rio de Janerio Brazil.
  - (ii) The two principles are as follows :
  - (a) To combat environmental damage, poverty disease through global cooperation on (common interests, mutual needs and shared responsibilities).
  - (b) Every local government should draw its own local Agenda 21.

1 + 2 = 3 (CBSE Marking Scheme, 2016)

- Q. 2. What is meant by the term "resource"? List the types of resources classified on the basis of its ownership. [Board Term-I, (55) 2012]
- **Ans. (i) Resource :** Everything available in our environment, which can be used to satisfy our needs, provided, it is technologically accessible, economically feasible and culturally acceptable, is known as a resource.
  - (ii) Types of resources on the basis of ownership are : Individual, community, national and international. 2+1=3
- U Q. 3. Distinguish between the renewable and nonrenewable resources. [Board Term-I, (72) 2012] OR

Explain the types of resources on the basis of exhaustibility with the help of examples. [Board Term-I, (5800 18, 24, 40) 2011

**Ans.** (i) Renewable resources : Resources which can be renewed or reproduced by mechanical, physical or chemical processes are known as renewable or replenishable resources, *e.g.*, solar and wind energy, water, forests and wildlife, etc.

(ii) Non-renewable resources : These occur over very long geological times. Minerals and fossil fuels are examples of such resources. These resources take millions of years in their formation. Some of the resources like metals are recyclable and some of them such as fossil fuels cannot be recycled and get exhausted with their use.

1<sup>1</sup>/<sub>2</sub>+1<sup>1</sup>/<sub>2</sub>=3 (CBSE Marking Scheme, 2011)

<sup>U</sup>Q. 4. Distinguish between stock and potential resource. Give one example of each.

[Board Term-I, Set-(62) 2012]

#### Ans. (i) Stock :

- (a) Material in the environment, which have the potential to satisfied human needs.
- (b) They are not accessed due to the lack of technology.
- (c) Example : Water is a compound of two inflammable gases—hydrogen and oxygen, which can be used as a rich source of energy. But we do not have the required technical knowhow to use them for this purpose.
- (ii) Potential resources :
- (a) They are found in a region.
- (b) They have not been utilized or developed.
- (c) Example: Rajasthan and Gujarat have enormous potential for the development of wind and solar energy, but they are yet to be developed for various reasons.

#### 1<sup>1</sup>/<sub>2</sub>+1<sup>1</sup>/<sub>2</sub>=3 (CBSE Marking Scheme, 2012)

U Q. 5. Differentiate between stock and reserve stating two points of difference.

#### [Board Term-I, (5800 26) 2011]

**Ans. Stock** : Materials, which have the potential to satisfy human beings, but human do not have the

(3 marks each)

(1 mark each)

1

1

- but have not been utilised called? Ans. Potential resources. 1 A Q. 4. Which resources are surveyed and determined on the basis of their quantity and quality for utilisation?
- Ans. Developed resources. 1

Ans. Human beings, flora, fauna, fisheries, livestock, etc.1

**A Q**. 7. Which cold desert is relatively isolated from the

A Q. 3. What are resources which are found in a region

A Q. 5. Give examples of abiotic resources?

A Q. 6. Give examples of biotic resources?

Ans. Rocks and metals.

rest of the country?

appropriate technology to access these, are termed as stock. We do not have the required technical 'know-how' to use them for a specific purpose. For example, water which is a compound of two inflammable gases—hydrogen and oxygen and can be a rich source of energy. We do not know how to use them.

**Reserves :** These are subset of the stock. They can be put into use with existing know-how, but their use has not been started. For example, river water is used as a source of hydroelectricity, but to a limited extent. Thus, the water in the dams, forests, etc., is reserve which can be used in the future  $.1\frac{1}{2}+1\frac{1}{2}=3$ 

A Q. 6. Why is it essential to have resource planning? Explain any three reasons.

[Board Term-I, (OEQL2HT) 2016-17]

- **Ans. (i)** If the present trend of resource depletion by few individuals continues the future of our planet is in danger
  - (ii) Planning is essential for sustainable existence of all forms of life.
- (iii) Indiscriminate exploitation of resources has led to global ecological crises.
  - $1 \times 3 = 3$  (CBSE Marking Scheme, 2016)
- Q. 7. What are the three stages of resource planning in India?

[Board Term-I, (5800 17, 23, 35, 36, 50) 2012, 2011]

## Cong Answer Type Questions

- A Q. 1. Explain the resources on the basis of origin and<br/>exhaustibility.[2010, 2011]
- Ans. Resources on the basis of origin :
  - (a) **Biotic** : Those resources which are available in biosphere and have life such as human beings flora and fauna, etc.
  - (b) Abiotic : All those things which are non-living are called abiotic resources. For example, rocks, soils and minerals.

**Resources on the Basis of Exhaustibility :** 

- (a) **Renewable resources :** The resource which can be renewed are Renewable resources. For example: water, forest wind, etc.
- (b) Non-renewable resources : These resources occur over a very long time and get exhausted minerals and fossil fuels are examples of these resources. 5
- Q. 2. What are 'resources'? Distinguish between renewable and non-renewable resources.
- **Ans.** Natural endowments which can be utilised to satisfy our needs, provided they are technologically accessible, economically feasible and culturally acceptable, are termed as resources.

- **Ans. (i)** Identification and inventory of resources across the regions of the country.
- (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.
   1×3=3 (CBSE Marking Scheme, 2012)
- Q. 8. "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.

[Board Term-I, (6HTQGTF) 2016-17]

- **Ans.** Yes, there are regions which are rich in certain types of resources, but are deficient in some other resources.
  - (i) Jharkhand, Chhattisgarh and Madhya Pradesh are rich in minerals and coal deposits.
- (ii) Arunachal Pradesh has abundance of water resources, but lacks in infrastructural development.
- (iii) Rajasthan is endowed with solar and wind energy but lacks in water resources.
- (iv) Ladakh has rich cultural heritage but lacks in water resources and infrastructure.

(Any three)  $1 \times 3 = 3$ (CBSE Marking Scheme, 2016)

#### (5 marks each)

Resources may be classified into renewable and non-renewable resources on the basis of their exhaustibility.

S. No.	Renewable Resources	Non-Renewable Resources
1.	Resources whose quantity is not reduced due to use and which can be repeatedly used without fear of exhaustion are termed as renewable resources. They are inexhaustible resources.	Substances whose stock get reduced and are gradually exhausted with use are termed as Non- renewable resources.
2.	Renewable resources like sunlight, wind, water are flow resources whose stock is continuous and are being used since time immemorial.	Fossil fuels are exhausted totally with use while metals can be recycled. These resources can never be renewed or replenished.
3.	<b>Examples:</b> Solar and wind energy, water, forests, wildlife, etc.	<b>Examples:</b> Fossil fuels like coal and petroleum, minerals.



### **Quick Review**

- India has a variety of relief features like mountains, plateaus and plains. 43% of the country is covered by plains and they provide cultivable land for growing crops. 30% of the country is covered by mountains and they provide natural resources like forests and wildlife. 27% of the country is covered by plateaus, which contain mineral resources, forests and some arable land.
- > Land resources are used for the following purposes:
  - Forests
  - Land not available for cultivation.
  - Other uncultivated land (excluding fallow land)
  - Fallow land
  - Net sown area
- The total geographical area of India is 3.28 million sq km. Land use data, however, is available only for 93% of the total geographical area.
- At present there are about 130 million hectares of degraded land in India of which 28% belong to the forest degraded area, 56% of it is water eroded and the rest is affected by saline and alkaline deposits.
- The landuse pattern in India is determined by both physical factors such as topography, climate, soil types, human factors such as population density, technological capability, and culture and traditions, etc.

#### > Factors Causing Land Degradation

- Deforestation
- Overgrazing
- Mining and quarrying
- Over irrigation making land saline and alkaline
- Dust generated from cement ceramic industry
- Industrial effluents
- > Suggestions for Conservation of land
  - Afforestation
  - Proper management of grazing
  - Shelter belts of plants
  - Stabilization of sand dunes by planting thorny bushes
  - Proper management of wasteland
  - Control on mining
  - Discharge of industrial effluents and wastes after treatment
- Soil is the most important renewable natural resource. It is the medium of plant growth and supports different types of living organisms on the earth.
- Relief, parent rock or bed rock, climate, vegetation and other forms of life and time are important factors in the formation of soil.
- > Soil also consists of organic (humus) and inorganic materials.
- On the basis of the factors responsible for soil formation, colour, thickness, texture, age, chemical and physical properties, the soils of India can be classified into different types.
- India has varied relief features, landforms, climatic realms and vegetation types. These features contributed in the development of various types of soils. They are:
  - \* Alluvial soils :
    - Widely spread in north Indian plains, alluvial Soils as a whole are very fertile.
    - Classified as Khadar (new alluvial) and Bangar (old alluvial).
    - Contain adequate proportion of potash, phosphoric acid and lime.
    - Ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops.
  - **\*** Black soil :
    - Also called regur soils. These soils are black in colour.
    - Ideal for growing cotton.

- They cover the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh.
- Rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime, but poor in phosphorus contents.
- The black soils are made up of extremely fine i.e., clayey material. They are well-known for their capacity to hold moisture.
- ★ Red and yellow soils :
  - Developed in areas of low rainfall or crystalline igneous rocks.
  - Found in Odisha, Chhattisgarh and the piedmont zone of the Western Ghats.
  - Due to diffusion of iron in crystalline and metamorphic rocks, its colour becomes reddish.
- ★ Laterite soil :
  - Develops in areas of high temperature and heavy rainfall.
  - Humus content is low.
  - Mainly found in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh and hilly areas of Assam and Odisha.
  - Good for tea, coffee, cashew nuts, etc.
- Arid soils :
  - Sandy in texture and saline in nature.
  - Lacks in humus and moisture.
  - Found in Western Rajasthan, Punjab and Haryana.
  - The lower horizons are occupied by Kankar.
- Forest soils :
  - Found in hilly and mountainous regions.
  - Loamy and silty in valley sides, while coarse grained in the upper slopes.
- > Soil Erosion :
  - The denudation of top soil cover by agents of nature e.g. wind, water and air is called soil erosion.
  - Removal of soil due to heavy rainfall and strong wind from one place to another.
  - A narrow, steep-sided channels formed in loose earth by running water are called gullies.
  - Land unfit for cultivation is known as bad land.
  - Human activities that are responsible for soil erosion are deforestation, overgrazing, construction and mining, etc.
- > Measures for soil conservation :
  - Contour ploughing
  - Terrace farming
  - Strip cropping
  - Shelter belts of trees
  - Plugging of gullies
  - Afforestation
  - Control of mining activities

### Know the Terms

- Gross cropped area : Area sown more than once in an agricultural year plus net sown area is known as gross cropped area.
- Fallow land : A land, which is left without cultivation for one or less than one agricultural year for increasing its fertility is known as the fallow land.
- > Waste land : Land, which is not suitable for cultivation is known as waste land.
- > Net sown area : Area sown once in a year is known as the net sown area.
- > **Pasture :** Grassland, which is used for providing food for animals.
- Soil erosion : The removal of top fertile soil cover due to various reasons such as wind, glacier and water is called soil erosion.
- **Gullies :** The running water cuts through the clayey soil and makes deep channels known as gullies.
- > Sheet erosion : When the top soil is washed away due to heavy flow of water down the slopes, it is known as sheet erosion.
- > Wind erosion : When the top fertile soil blows off due to wind, it is known as wind erosion.
- Strip cropping : Large fields can be divided into strips. Strips of grasses are left to grow between the crops. This breaks up the force of the wind. This method is known as strip cropping.

Contour ploughing : Ploughing along the contour lines can slow down the flow of water down the slopes. This is called contour ploughing.

Shelter belts : Planting lines of trees to create shelter breaks up the force of the wind. Rows of such trees are called shelter belts.

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### Know the Links

- http://www.winentrance.com/general\_knowledge/geography/soils-india.html
- http://www.fotosearch.com/photos\_images/soil\_erosion.html

# Yery Short Answer Type Questions

A Q. 1. Which regions of India have well developed terrace farming ?

[Board Term-I, Set (6AP67LB) 2015]

[Board Term-I, (R9UJGYG) 2014]

Ans. Western and central Himalayas. 1
(CBSE Marking Scheme 2015)

 $\mathbb{A}$  Q. 2. Which soil types is made up of lava flows?

- Ans. Black soil.
- Q. 3. In which states has mining caused severe land degradation?
- Ans. Jharkhand, Chhattisgarh, Madhya Pradesh and Odisha. 1
- A Q. 4. What is the percentage share of plains in the total land area?
- **Ans.** 43%.
- Q. 5. What is the main cause of land degradation in Punjab?
- Ans. Over irrigation.
- $\square$  Q. 6. Name three states having black soil.
- Ans. Maharashtra, Gujarat and Madhya Pradesh are three states having black soil. 1
- $\bigsqcup$  Q. 7. Which soil is ideal for growing cotton?
- Ans. Regur soil.

# Short Answer Type Questions

#### U Q. 1. Define the following terms:

- (i) Current fallow land
- (ii) Other than current fallow
- (iii) Culturable waste land [Board Term-I, Set-(H3) 2013]
- **Ans. (i)** Current fallow land : Left uncultivation for one or less than one agricultural year.
  - (ii) Other than current fallow : Left uncultivated for past 1 to 5 agricultural years.
  - (iii) Cultural waste land : Left uncultivated for more than 5 agricultural years. 1×3=3

(CBSE Marking Scheme, 2013)

UQ. 2. Distinguish between red soil and laterite soil stating any three points of distinction.

[Board Term-I, Set (XOKG2SB) 2015]

#### Q. 8. In which states overgrazing is responsible for land degradation?

- Ans. Madhya Pradesh, Rajasthan, Gujarat and Maharashtra. 1
- A Q. 9. In which states laterite soil is found?
- Ans.Karnataka, Kerala, Tamil Nadu, Madhya Pradesh,<br/>and hilly areas of Odisha and Assam.1
- Q. 10. Which soil type is the result of intense leaching due to heavy rainfall?
- Ans. Laterite soil.
- A Q. 11. Name the land with deep channels that is unfit for cultivation.
- Ans. Bad land. 1
- A Q. 12. Which state has the largest area under black soil?
- Ans.Maharashtra.1
- A Q. 13. What are the methods of checking soil erosion?
- Ans. Strip cropping, terrace farming and contour ploughing. 1
- U Q. 14. Gully erosion is common in which basin?
- Ans. Chambal Basin.
- ▲ Q. 15. Which relief features of India has 30 percent of the total surface area of country?
- Ans. Mountain. 1

(3 marks each)

(1 mark each)

1

1

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Ans.			
S.No.	Red soil	Laterite soil	
1.	Red soil develops on crystalline igneous rocks in areas of low rainfall.	Laterite soil develops in areas with high temperature and heavy rainfall.	
2.	Red soil is found in parts of Odisha and Chhattisgarh, southern parts of the middle of Ganga plain and along the piedmont zone of the Western Ghats.	Laterite soil is mainly found in Karnataka, Kerala and the hilly areas of Odisha and Assam.	
3.	Formed due to weather- ing.	Formed due to leaching.	

#### UQ. 3. Distinguish between Khadar and Bangar soils? [Board Term-I, (63) 2012, (5800 16, 22, 34) 2011] OR

How are alluvial soils formed? How is Bangar different from Khadar?

Ans. Alluvial soils : These soils are formed by the sediments deposited by rivers.

S.No.	Khadar soil	Bangar soil
1.	It is a new alluvial soil.	It is an old alluvial soil.
2.	Lower concentration of kankar nodules.	Higher concentra- tion of kankar nod- ules.
3.	It has more fine parti- cles.	It has less fine particles.
4.	It is more fertile.	It is less fertile.

<sup>(</sup>CBSE Marking Scheme, 2012) 1×3=3

A Q. 4. Which is the main cause of land degradation in Gujarat, Rajasthan and Madhya Pradesh? How can it be checked? Explain.

#### [Board Term-I, Set (C5]WEVD) 2015]

- Ans. (i) Main Cause : Large scale overgrazing has caused severe land degradation.
  - (ii) Measures to check include :
  - (a) Afforestation and proper management of grazing.
  - (b) Planting of shelter belts of plants.
  - (c) Stabilization of sand dunes by growing thorny bushes.
  - (d) Control on overgrazing. (Any three)  $1 \times 3 = 3$ (CBSE Marking Scheme, 2015)

#### **U** Q. 5. Mention any three features of arid soils. [Board Term-I, (X30T4XE) 2014]

- Ans. (i) Arid soils range from red to brown in colour.
  - (ii) They are generally sandy in texture and saline in nature.
- (iii) Due to dry climate, high temperature, evaporation is faster and the soil lacks humus and moisture.
- (iv) The lower horizons of the soil are occupied by Kankar because of the increasing calcium content downwards. (Any three)  $1 \times 3 = 3$

#### **U Q**. 6. Enumerate any three features of "regur" soil. [Board Term-I, (38), 2012 (5800 14, 20, 32, 38) 2011]

Ans. (i) Regur soil is also known as black soil.

- (ii) It is ideal for growing cotton, so it is also known as "black cotton soil".
- (iii) It is made up of extremely fine clayey material.
- (iv) It is rich in soil nutrients, calcium carbonate, magnesium, potash and lime.
- (v) It develops cracks in hot weather.
- (vi) It can hold moisture and become sticky when (Any three)  $1 \times 3 = 3$ wet.

(CBSE Marking Scheme, 2012)

A Q. 7. Explain any three factors responsible for soil formation.

[Board Term-I, (40), (5800 29, 43) 2011, 2012]

- Ans. (i) The parent rock is the first factor which provides the basic material for the formation of soil.
  - (ii) Climate breaks the parent rock into small pieces.
- (iii) Vegetation : Plant and animal organisms help in the weathering of the rocks slowly but continuously.
- (iv) Various forces of nature such as change in temperature, actions of running water, wind and glaciers, activities of decomposers, etc., contribute to the formation of soil.

(Any three)  $1 \times 3 = 3$ (CBSE Marking Scheme, 2012)

**A** Q. 8.Describe any three measures of controlling land degradation. [Board Term-I, DDE-E, Set-E 2015 Set-(X30T4XE) 2014, (39) 2012]

OR

Explain any three steps taken to solve the problem of land degradation in India.

[Board Term-I, (5800 25) 2011]

- Ans. (i) Afforestation and proper management of grazing can help to some extent.
  - (ii) Planting of shelter belts, control on overgrazing, stabilisation of sand dune by growing thorny bushes.
- (iii) Contour ploughing is another step to conserve land. The fields are ploughed, harrowed and sown along the natural contour of the hills.

1×3=3 (CBSE Marking Scheme, 2011)

- A Q. 9. State any three physical factors as well as three human factors which determine the use of land in India.
- Ans. (i) The use of land is determined by physical factors such as topography, climate, soil types, etc.
- (ii) It is also determined by human factors such as population density, technological capability, cultural and traditions, etc.  $1\frac{1}{2} + 1\frac{1}{2} = 3$

A Q. 10. 'Land is a natural resource of utmost importance'. Justify the statement with appropriate arguments. [Board Term-I, DDE-2014]

- Ans. (i) We live on land, we perform our economic activities on land and we use it in different ways.
- (ii) It supports natural vegetation, wildlife, human life, economic activities, transport and communication systems.
- (iii) It is an asset of a finite magnitude.  $1 \times 3 = 3$
- UQ. 11. Which geographical factors are responsible for the evolution of black soil? Why is it considered the most suitable for growing cotton?

[Board Term-I, (56) 2012]

Ans. (i) Climatic conditions along with present rock material are important factors for making of black soil. The parent rock is volcanic rock.

- (ii) It is ideal for growing cotton because of the following reasons :
- (a) It has capacity to hold moisture.
- (b) It is rich in soil nutrients such as calcium carbonate and potash.
- (c) Deep cracks in the soil help in aeration. 1+2=3(Any two) (CBSE Marking Scheme, 2012)
- A Q. 12. Mention any two human activities which are responsible for the process of soil erosion. Explain the two types of soil erosion mostly observed in India?

[Board Term-I, DDE Set-M, 2015, (45) 2012]

- **Ans. (i)** Two human activities which are responsible for the process of soil erosion are deforestation and overgrazing, mining, construction, etc.
  - (ii) Types of Soil Erosion :
  - (a) Gullies : The running water cuts through the clayey soil and makes deep channels/gullies. The unfit land caused by gullies is called bad land or ravines.

# **Constant Service Answer Type Questions**

#### P. Q. 1. Describe any five distinct characteristics of 'Arid soils'. [Board Term-I, Set (6AP67LB) 2015]

Ans.(i) Arid soils range from red to brown in colour.

- (ii) Sandy in texture and saline in nature.
- (iii) Evaporation is faster, soil lacks humus and moisture.
- (iv) Soil occupied by Kankar.
- (v) Kankar restricts the infiltration of water.

 $1 \times 5 = 5$ 

(CBSE Marking Scheme 2015)

A Q. 2. Why is soil considered as a resource? Explain with five arguments.

#### [Board Term-I, Set (C5JWEVD) 2015]

- **Ans. (i)** Soil is considered as a resource because it is used to satisfy our needs.
  - (ii) It is the most important renewable natural resource.
  - (iii) It is the medium of plant growth.
  - (iv) It supports different types of living organisms on the Earth.
  - (v) It is the base of our life. 1×5=5 (CBSE Marking Scheme 2015)
- Q. 3. What type of soil is found in the river deltas of the eastern coast? Give four main features of this type of soil. [NCERT]

#### OR

- ☑ Describe alluvial soil under the following heads :
  - (i) Formation
  - (ii) Distribution
  - (iii) Nutrients [Board Term I (3K) 2013]

- (b) Sheet erosion : Water flows as a sheet over large areas down a slope. The top soil is washed away. This process is known as sheet erosion. 1+2=3 (CBSE Marking Scheme, 2012)
- Q. 13. What does the term 'sustainable economic development' mean? How can we eradicate irrational consumption and over-utilisation of resources?
- **Ans. (i)** 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.
  - (ii) We can eradicate irrational consumption and over-utilisation of resources through conservation of resources. Irrational consumption and over-exploitation of resources lead to many socioeconomic and environmental problems. To overcome these problems and to preserve resources for our future generation as well, proper management and conservation of resources is essential.

#### (5 marks each)

Ans. Alluvial soil is found in the eastern coastal plains particularly in the deltas of the Mahanadi, the Godavari, the Krishna and the Kaveri.

Main features of alluvial soil :

- (i) It is formed by the deposition of alluvium brought down by the east flowing peninsular rivers.
- (ii) It is highly fertile.
- (iii) It consists of various proportions of sand, silt and clay.
- (iv) It is rich in potash, phosphoric acid and lime but deficient in organic matter. (Any four) 1 + 4 = 5
- A Q. 4. Which is the most widely spread and important soil of India? State four characteristics of this type of soil.
- **Ans.** Alluvial soil is the most fertile, widely spread and important soil of India. The six main characteristics of this soil type are :
  - (i) Alluvial soil is riverine soil, transported and deposited by rivers.
  - (ii) Alluvial soil consists of various proportions of sand, silt and clay.
- (iii) Alluvial soils are agriculturally most productive and densely populated.
- (iv) They mostly contain adequate proportion of potash, phosphoric acid and lime.
- (v) Alluvial soil is divided into new alluvium or khadar, which is fine, sandy and fertile and older alluvium or bangar, which is clayey, dark in colour, contains kankar nodules and is less fertile.
- (vi) Alluvial soil forms the Northern Plains and in the Eastern Coastal Plains. (Any four) 1 + 4 = 5

# **?** Value Based Questions

- Q. 1. How can you contribute to minimize the pollution? Explain. [Board Term-I, KVS-2014]
- Ans. We can contribute to minimize the pollution by :
- (i) Planting more plants and trees.
- (ii) Using non-conventional sources of energy such as solar and wind energy.
- (iii) Using public transport instead of personal car/ motor bike etc.
- (iv) Saving water and electricity. (Any three) 1×3=3
- Q. 2. Explain any three human activities responsible for land degradation in India.

[Board Term-I, 2013 (05), 2012 (51)] OR

How are human activities responsible for the degradation of land?

**Ans. (i) Mining :** Mining sites are abandoned after excavation work is complete leaving deep scars in states such as Jharkhand, Chhattisgarh, Madhya

Pradesh and Odisha. Deforestation due to mining has caused severe land degradation.

- (ii) Over irrigation : Over irrigation in the states of Punjab, Haryana, western Uttar Pradesh, has caused water logging and increase in salinity of soil.
- (iii) **Overgrazing :** Overgrazing in states such as Gujarat, Rajasthan, Madhya Pradesh and Maharashtra is a huge cause of land degradation.
- (iv) Industries : Mineral processing industry like grinding of limestone for cement industry and calcite and soapstone for ceramic industry generate huge quantity of dust, this retards the process of infiltration of water into the soil.
- (v) **Industrial Waste :** Industrial effluents also have become a major source of land degradation.

(Any three) 1×3=3 (CBSE Marking Scheme, 2013)

# High Order Thinking Skills (HOTS) Questions

[KVS]

Q.1. Explain resource planning. What are the steps involved in resource planning?

[Board Term-I, NCT-2014]

#### OR

Why is resource planning essential in India?

#### OR

What is resource planning? Why is resource planning essential? Explain it with three reasons.

- Ans. Resource planning is a technique or skill for proper utilization of resources.
  - (a) As resources are limited, their planning is necessary so that we can use them properly and also save them for our future generations.
  - (b) Resources are not only limited, but they are distributed over different parts of the country.
  - (c) Resource planning is also essential for production of resources and to protect them from over exploitation. 1+4=5
- Q. 2. Provide a suitable classification for resources on the basis of ownership. Mention main features of any three types of such resources.

#### [Board Term-I, (X30T4XE) 2014]

- Ans. (i) Classification for resources on the basis of ownership :
  - (a) Individual resources
  - (b) Community owned resources
  - (c) National resources
  - (d) International resources
  - (i) Individual resources : Resources which are privately owned against the payment of revenue by individuals, *e.g.*, ponds, pasture lands, etc.

- (ii) Community owned resources : Resources which are accessible to all the members of a community, *e.g.*, picnic spots.
- (iii) **National resources :** All the resources (minerals, water resources, forests, wildlife, land) which are present in the political boundaries and oceanic area of a nation up to 12 nautical miles in the ocean from the coast, termed as terrestrial water and resources therein belong to the nation.
- (iv) International resources : There are inter-national institutions which regulate some resources. The oceanic resources beyond 200 nautical miles of the Exclusive Economic Zone belong to open ocean and no individual country can utilise these without the concurrence of international institutions.

(Any three) 2+3=5

Q. 3. 'Indiscriminate use of resources had led to numerous problems.' Justify this statement.

[Board Term-I, KVS-2014, (WQ7FXWC) 2012, (5800 13, 19, 31, 33) 2011]

- Ans. Resources are vital for human survival and it was believed that resources are free gift of nature. The indiscriminate use of resources led to the following problems :
  - (i) To satisfy the greed of few individuals, depletion of resources has continued.
  - (ii) Due to the accumulation of resources in few hands, the society gets divided into two segments, i.e., rich and poor.
  - (iii) Indiscriminate use of resources has led to ecological crises, e.g., ozone layer depletion, land degradation, global warming and environmental pollution.
     1×3=3

(CBSE Marking Scheme, 2012)

Q.4. Suggest any three methods of soil conservation suitable to Indian conditions.

[Board Term-I, Set-(46) 2012] Ans. Methods of Soil Conservation :

- (i) Construction of terraces farming.
- (iii) Afforestation
- (iii) Control of overgrazing
- (iv) Control of mining activities

$$1 \times 3 = 3$$

(Any three)

Q.5. What steps can be taken to control soil erosion in hilly areas?

Ans. Methods of soil conservation :

- (i) Contour ploughing or ploughing along the contour lines of a highland can decelerate the flow of water down the slopes.
- (ii)Terrace cultivation or cutting of steps around the slopes to provide land for agriculture also checks downhill flow of water and controls soil erosion, e.g., as in Western and Central Himalayan region.
- (iii) Strip cropping : 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.
- (iv) Afforestation or planting of trees in the hilly regions can help in soil conservation.

(CBSE Marking Scheme, 2012) 1×3=3

#### Q. 6. What are the main advantages of India's land under a variety of relief features?

- Ans. India has land under a variety of relief features namely; mountains, plateau and plains.
  - (i) 43% Land is plain : provides facilities for agriculture and industry.
- (ii) 30% Land is mountainous : provides facilities for tourism and ecological aspects.
- (iii) Plateau (27%) : possesses rich reserves of minerals, fossil fuels and forests.



Q.7. Compare the diagrams showing land use patterns of India and answer the questions that follow : (i) Which is the most satisfying feature of our present land use pattern ? (ii) Give one reason for it.



146