

Exercise Worksheet

Chapter 2 — Land, Soil, Water, Natural Vegetation & Wildlife Resources

Class VIII | Resources and Development | NCERT Geography

SECTION A — Multiple Choice Questions (MCQ)

Choose the correct answer from the options given below.

- Land covers approximately _____ per cent of the total surface of the earth.
 - 10%
 - 30%
 - 50%
 - 70%

✓ **Answer:** (b) 30%
- Which of the following areas is most suitable for agriculture and dense settlement?
 - Steep mountain slopes
 - Thick forested areas
 - River valleys and plains
 - Desert regions

✓ **Answer:** (c) River valleys and plains
- Community lands owned by the whole community for common use are called:
 - Private land
 - Government land
 - Common property resources
 - Reserved forests

✓ **Answer:** (c) Common property resources
- Which of the following is NOT a factor of soil formation?
 - Time
 - Soil texture
 - Climate
 - Parent rock

✓ **Answer:** (b) Soil texture
- The thin layer of grainy material covering the surface of the earth is called:
 - Humus
 - Soil
 - Bedrock
 - Sand

✓ **Answer:** (b) Soil
- The breaking up and decay of exposed rocks by temperature, frost, plants and animals is called:
 - Erosion

- (b) Weathering
- (c) Leaching
- (d) Sedimentation

✓ **Answer:** (b) *Weathering*

7. Which method of soil conservation involves covering the bare ground between plants with organic material?

- (a) Contour ploughing
- (b) Terrace farming
- (c) Mulching
- (d) Rock dam

✓ **Answer:** (c) *Mulching*

8. Which one of the following methods is most appropriate to check soil erosion on steep slopes?

- (a) Shelter belts
- (b) Mulching
- (c) Terrace cultivation
- (d) Rock dam

✓ **Answer:** (c) *Terrace cultivation*

9. Fresh water accounts for only about _____ per cent of all water on earth.

- (a) 2.7%
- (b) 10%
- (c) 30%
- (d) 70%

✓ **Answer:** (a) *2.7%*

10. Nearly _____ per cent of fresh water is found in ice sheets and glaciers.

- (a) 30%
- (b) 50%
- (c) 70%
- (d) 90%

✓ **Answer:** (c) *70%*

11. Water can neither be added nor subtracted from the earth. Its total volume remains:

- (a) Decreasing
- (b) Increasing
- (c) Constant
- (d) Variable

✓ **Answer:** (c) *Constant*

12. Which of the following is NOT in favour of the conservation of nature?

- (a) Switch off the bulb when not in use
- (b) Close the tap immediately after using
- (c) Dispose polypacks after shopping
- (d) Plant more trees

✓ **Answer:** (c) *Dispose polypacks after shopping*

13. The narrow zone of contact between the lithosphere, hydrosphere and atmosphere is called:
- (a) Ecosystem
 - (b) Biosphere
 - (c) Habitat
 - (d) Food chain
- ✓ **Answer:** (b) *Biosphere*
14. The life-supporting system in the biosphere where living beings are interdependent is called:
- (a) Food web
 - (b) Ecosystem
 - (c) Biome
 - (d) Habitat
- ✓ **Answer:** (b) *Ecosystem*
15. Tundra vegetation found in cold polar regions consists mainly of:
- (a) Tall trees and shrubs
 - (b) Mosses and lichens
 - (c) Thorny cacti
 - (d) Bamboo and jute
- ✓ **Answer:** (b) *Mosses and lichens*
16. Which of the following is a major threat to natural vegetation and wildlife?
- (a) Afforestation
 - (b) Deforestation
 - (c) Building national parks
 - (d) Rainwater harvesting
- ✓ **Answer:** (b) *Deforestation*
17. CITES is an international agreement that aims to protect wild animals and plants from:
- (a) Climate change
 - (b) Hunting for food
 - (c) International trade
 - (d) Natural disasters
- ✓ **Answer:** (c) *International trade*
18. Which animal is listed as a scavenger and vital cleanser of the environment?
- (a) Tiger
 - (b) Peacock
 - (c) Vulture
 - (d) Elephant
- ✓ **Answer:** (c) *Vulture*
19. Rock dams are used to:
- (a) Store water for drinking
 - (b) Slow down water flow to prevent soil loss
 - (c) Provide shelter to animals
 - (d) Irrigate agricultural fields

✓ **Answer:** (b) Slow down water flow to prevent soil loss

20. Rows of trees planted in coastal and dry areas to check wind movement are called:

- (a) Intercropping
- (b) Contour ploughing
- (c) Shelter belts
- (d) Terrace farming

✓ **Answer:** (c) Shelter belts

SECTION B — Fill in the Blanks

Fill in the blanks with the correct word or phrase.

1. Land covers only about _____ per cent of the total area of the earth's surface.

✓ **Answer:** thirty (30)

2. Ninety per cent of the world population occupies only _____ per cent of land area.

✓ **Answer:** thirty (30)

3. Land used for growing crops, building houses, mining, and setting up industries is commonly termed as _____.

✓ **Answer:** land use

4. Community lands used for collecting fodder, fruits, nuts or medicinal herbs are called _____.

✓ **Answer:** common property resources

5. The thin layer of grainy substance covering the surface of the earth is called _____.

✓ **Answer:** soil

6. The organic matter deposited on the top layer of the soil is called _____.

✓ **Answer:** humus

7. The breaking up and decay of rocks by temperature changes, frost action and plants is known as _____.

✓ **Answer:** weathering

8. It takes _____ of years to make just one centimetre of soil.

✓ **Answer:** hundreds

9. Covering the bare ground between plants with organic matter like straw is called _____.

✓ **Answer:** mulching

10. Ploughing parallel to the contours of a hill slope to form a natural barrier is called _____.

✓ **Answer:** contour ploughing

11. Water is a vital _____ natural resource.

✓ **Answer:** renewable

12. Three-fourths of the earth's surface is covered with water, which is why earth is called the '_____'.
The blank space is intended for the word 'blue planet'.

✓ *Answer: water planet*

13. Fresh water accounts for only about _____ per cent of all water on earth.

✓ *Answer: 2.7*

14. Only _____ per cent of fresh water is available and fit for human use.

✓ *Answer: one (1)*

15. The constant movement of water through evaporation, precipitation and run-off is called the _____.

✓ *Answer: water cycle*

16. Natural vegetation and wildlife exist in the narrow zone called the _____, where land, water and air meet.

✓ *Answer: biosphere*

17. The life-supporting system in the biosphere where all living beings are inter-related is called the _____.

✓ *Answer: ecosystem*

18. In the eastern and north-eastern humid regions of India, _____ grows in plenty.

✓ *Answer: bamboo*

19. Silk is obtained from silk worms that are bred on _____ trees.

✓ *Answer: Mulberry*

20. The international convention _____ lists several species of animals and birds in which trade is prohibited.

✓ *Answer: CITES*

21. Land degradation, _____, soil erosion, and desertification are major threats to the environment.

✓ *Answer: landslides*

22. Broad flat steps or terraces made on steep slopes to grow crops are called _____.

✓ *Answer: terrace farming*

23. A dripping tap wastes _____ litres of water in a year.

✓ *Answer: 1200*

24. National parks, wildlife sanctuaries and _____ are made to protect natural vegetation and wildlife.

✓ *Answer: biosphere reserves*

25. The movement of rock, debris or earth down a slope is called a _____.

✓ *Answer: landslide*

SECTION C — Short Answer Questions (2–3 marks each)

Answer the following questions in 2–4 sentences.

1. What is land use? Name any three ways in which land is used.

✓ **Answer:** Land use refers to the use of land for different purposes such as agriculture, forestry, mining, building houses, roads, and setting up industries. Three common ways land is used are: (1) Agriculture — for growing food crops, (2) Forestry — for obtaining timber and other forest produce, and (3) Construction — for building houses, roads, and industries.

2. What are common property resources? Give two examples.

✓ **Answer:** Common property resources are community lands owned and managed by the whole community for common uses. They are used for collecting fodder, fruits, nuts, or medicinal herbs. Examples: community grazing lands and village ponds.

3. What is soil? What is it made up of?

✓ **Answer:** Soil is the thin layer of grainy substance covering the surface of the earth. It is made up of organic matter, minerals, and weathered rocks. The right mix of minerals and organic matter makes the soil fertile and suitable for growing crops.

4. What is weathering? How does it help in soil formation?

✓ **Answer:** Weathering is the breaking up and decay of exposed rocks by temperature changes, frost action, plants, animals, and human activity. It breaks solid parent rock into smaller and smaller particles over hundreds of years, which eventually form soil along with organic matter.

5. Name any four factors of soil formation.

✓ **Answer:** The four major factors of soil formation are: (1) Parent rock — determines the colour, texture, and minerals in the soil; (2) Climate — temperature and rainfall influence the rate of weathering and humus formation; (3) Relief — altitude and slope determine the accumulation of soil; and (4) Flora, fauna and micro-organisms — affect the rate of humus formation.

6. What is mulching? How does it help in soil conservation?

✓ **Answer:** Mulching is a method of soil conservation in which the bare ground between plants is covered with a layer of organic matter such as straw. It helps to retain soil moisture, prevents surface runoff, and reduces soil erosion caused by rain or wind.

7. Why is fresh water scarce even though water covers most of the earth?

✓ **Answer:** Although three-fourths of the earth's surface is covered with water, most of it is ocean water which is salty and unfit for human use. Fresh water accounts for only about 2.7 per cent of all water. Of this, nearly 70 per cent is locked in ice sheets and glaciers. Only about 1 per cent of fresh water is actually available and accessible for human use.

8. What is the water cycle?

✓ **Answer:** The water cycle is the constant circulation of water through the processes of evaporation, precipitation, and run-off. Water evaporates from oceans and water bodies, rises into the atmosphere, forms clouds, falls back as rain or snow (precipitation), flows over land or soaks into the ground, and eventually returns to the oceans. This cycle keeps the total volume of water on earth constant.

9. What are the major causes of water shortage in the world?

✓ **Answer:** The major causes of water shortage are: (1) Irregular or insufficient rainfall in certain regions, (2) Over-exploitation of groundwater and surface water sources, (3) Pollution of water bodies through industrial effluents, sewage, and agricultural chemicals, and (4) Increasing population and rising demand for water for agriculture, industries, and domestic use.

10. What is the biosphere? Why is it important?

✓ **Answer:** The biosphere is the narrow zone of contact between the lithosphere (land), hydrosphere (water), and atmosphere (air) where natural vegetation and wildlife exist. It is important because it supports all life on earth. In the biosphere, all living beings are inter-related and interdependent on each other for survival, forming the ecosystem.

11. What is an ecosystem?

✓ **Answer:** An ecosystem is the life-supporting system in the biosphere in which all living beings — plants, animals, birds, insects, and aquatic life — are inter-related and interdependent on each other for survival. Every organism, big or small, plays a role in maintaining the balance of the ecosystem.

12. Name any four factors responsible for the distribution of natural vegetation.

✓ **Answer:** Natural vegetation is distributed according to: (1) Temperature — warmer areas support tall dense forests, colder areas support only mosses and lichens; (2) Moisture/Rainfall — heavy rainfall supports forests, moderate rainfall supports grasslands, low rainfall supports scrubs and thorny plants; (3) Soil type — fertile soils support dense vegetation; (4) Altitude — vegetation changes with height above sea level.

13. What is poaching? Name any four animals that are being poached in India.

✓ **Answer:** Poaching is the illegal killing or capturing of wild animals for their hides, skins, nails, teeth, horns, feathers, or other body parts for collection and illegal trade. Four animals being poached in India are: tiger, elephant, rhinoceros, and snow leopard.

14. What is CITES? What is its purpose?

✓ **Answer:** CITES stands for the Convention on International Trade in Endangered Species of Wild Fauna and Flora. It is an international agreement between governments that aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Roughly 5,000 species of animals and 28,000 species of plants are protected under CITES.

15. What is a landslide? Name two mitigation techniques for landslides.

✓ **Answer:** A landslide is the mass movement of rock, debris, or earth down a slope. It often occurs due to heavy rainfall, earthquakes, floods, or volcanoes. Two mitigation techniques are: (1) Construction of retention walls to stop land from slipping, and (2) Increase in vegetation cover to arrest the landslide by binding the soil.

SECTION D — Long Answer Questions (4–5 marks each)

Answer the following questions in detail (6–10 sentences).

1. Why is land considered an important resource? How is land use determined?

Land is considered one of the most important natural resources because all human activities — farming, construction, industries, and transport — depend upon it. It supports the growth of vegetation that provides food, timber, and oxygen. It is the base on which cities, towns, roads, factories, and farms are built. Without land, human civilisation as we know it would not exist.

Land use is determined by both physical and human factors. Physical factors include topography (shape of land), type of soil, climate, minerals available, and water supply. For example, flat plains with fertile soil are used for agriculture while hilly regions may be used for forests or pastures. Human factors such as population size, technological development, and economic needs also shape how land is used. In densely populated areas, land is used intensively for housing and industry, while sparsely populated areas may have large tracts of forest or grassland. The pattern of land use also reflects cultural and social changes in society.

2. Describe any five methods of soil conservation.

Soil is a precious resource that takes hundreds of years to form. Once damaged or eroded, it cannot be replaced easily. The following five methods are used to conserve soil:

✓ **Answer:** 1. **Mulching:** The bare ground between plants is covered with a layer of organic matter such as straw or dead leaves. This helps to retain moisture in the soil and reduces surface runoff that causes erosion.

✓ **Answer:** 2. Contour barriers: Stones, grass, and soil are arranged along the contours of a slope to build barriers. Trenches are made in front of them to collect water and prevent it from flowing away rapidly.

✓ **Answer:** 3. Rock dam: Rocks are piled up across small streams or channels to slow down the flow of water. This prevents the formation of deep channels called gullies and reduces further soil loss.

✓ **Answer:** 4. Terrace farming: Broad flat steps or terraces are cut into steep hillsides so that flat surfaces are available for growing crops. These terraces slow the flow of water and greatly reduce surface runoff and soil erosion.

✓ **Answer:** 5. Shelter belts: In coastal and dry regions, rows of trees are planted to check the speed of wind. These rows of trees act as a barrier, reducing wind erosion and protecting the soil cover. The Sahel region of Africa and parts of Rajasthan in India use this method effectively.

3. What are the problems of water availability in the world? How can water resources be conserved?

Water availability is one of the most serious challenges facing the world today. Even though three-fourths of the earth's surface is covered with water, most of it is saline ocean water that cannot be used for drinking or farming. Fresh water is only about 2.7 per cent of all water, and most of that is locked in glaciers and ice sheets. Only 1 per cent is available for human use.

The main problems of water availability are: (1) Scarcity of fresh water in many regions, especially in most of Africa, West Asia, South Asia, parts of western USA, north-west Mexico, parts of South America, and entire Australia. (2) Increasing population and rising demand for water for agriculture, industry, and domestic use. (3) Pollution of water bodies through the discharge of untreated sewage, agricultural chemicals, and industrial effluents, which make water unfit for use. (4) Over-exploitation of groundwater in many regions, causing water tables to fall.

Water can be conserved through several methods: (1) Treating industrial and sewage effluents before releasing them into water bodies. (2) Planting forests to slow surface runoff and help water seep into the ground. (3) Water harvesting — collecting rainwater from rooftops and storing it for future use. One spell of rain for two hours can save 8,000 litres of water through this method. (4) Lining irrigation canals properly to prevent seepage loss. (5) Using sprinklers and drip irrigation to minimise water loss during farming. (6) Raising public awareness about the importance of saving water in daily life.

4. Explain the importance of natural vegetation and wildlife. Why is it necessary to conserve them?

Natural vegetation and wildlife are among the most valuable resources on earth. Together they form the biosphere — the narrow zone where land, water and air meet and support life. All living beings in the biosphere are part of the ecosystem, where every organism depends on every other for survival.

Plants are of immense value. They provide timber for construction, give shelter to animals, produce the oxygen we breathe, and protect the soil from erosion. They give us fruits, nuts, latex, rubber, gum, turpentine oil, and countless medicinal plants. The paper used for writing comes from trees. Bamboo is used for furniture and baskets, jute for bags and ropes, and silk — made by worms fed on mulberry trees — for clothing.

Wildlife is equally important. Animals provide milk, meat, hides, and wool. Insects like bees pollinate flowers, which is essential for growing many food crops, and produce honey. Birds act as decomposers, feeding on insects and dead matter. The vulture is a vital cleanser of the environment because it feeds on dead animals. Every living creature, big or small, plays an important role in maintaining the balance of the ecosystem.

Conservation is necessary because human activities are rapidly destroying natural habitats. Deforestation, construction, forest fires, tsunamis, and landslides destroy vegetation. Poaching and the illegal trade in animal products — hides, horns, teeth, feathers — are pushing many species towards extinction. Animals like the tiger, elephant, rhinoceros, snow leopard, black buck, and peacock are under serious threat.

To protect nature, governments have set up national parks, wildlife sanctuaries, and biosphere reserves. Laws against poaching and wildlife trade have been passed. The international convention CITES, signed by many governments, bans trade in endangered species. Social forestry programmes and awareness campaigns at school and community level also help protect this irreplaceable resource.

5. What is land degradation? What are its main causes and how can it be prevented?

Land degradation means the decline in the quality and productivity of land due to natural or human-induced factors. It is one of the most serious environmental problems of our time, threatening food security, water supply, and biodiversity.

The main causes of land degradation are: 1. Deforestation: Cutting down forests for agriculture, fuel, or construction removes the tree cover that holds the soil together, exposing it to rain and wind erosion. 2. Overgrazing: When too many animals graze on the same land, they strip it of vegetation, compact the soil, and leave it bare and infertile. 3. Excessive use of chemical fertilisers and pesticides: These chemicals disturb the natural balance of soil nutrients and kill micro-organisms that keep the soil healthy. 4. Rain wash and floods: Heavy rainfall and flooding carry away the fertile top layer of soil. 5. Landslides: On hilly terrain, sudden landslides strip large areas of soil and vegetation. 6. Waterlogging and salinity: Poor irrigation practices can cause the soil to become waterlogged or excessively salty, making it unfit for growing crops. 7. Urbanisation and construction: Building roads, factories, and housing on agricultural land permanently removes it from productive use.

Land degradation can be prevented by: (1) Afforestation — planting trees to restore forest cover, (2) Land reclamation — restoring degraded land to productivity, (3) Regulated use of chemical pesticides and fertilisers, (4) Checks on overgrazing through proper livestock management, (5) Contour ploughing and terrace farming to reduce soil erosion on slopes, and (6) Building retention walls and drainage channels to prevent landslides. Raising awareness about the importance of land as a finite resource is also essential for its long-term conservation.

◆ End of Exercise Worksheet ◆

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