

# UNIQUE STUDY POINT

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<b>Class:</b> X	<b>Subject:</b> Social Science	<b>Session:</b> 2025-26
<b>Chapter:</b> 01 - Resources and Development	<b>Time:</b> 1½ Hours	<b>Max. Marks:</b> 40

## General Instructions:

1. All questions are compulsory.
2. This question paper contains 20 questions divided into five sections A, B, C, D and E.
3. Section A contains 10 MCQs of 1 mark each.
4. Section B contains 4 questions of 2 marks each.
5. Section C contains 3 questions of 3 marks each.
6. Section D contains 1 question of 5 marks.
7. Section E contains 2 Case Study Based questions of 4 marks each.

## SECTION A - Multiple Choice Questions (1 mark each)

**Q1.** A resource must be technologically accessible, economically feasible and:

- (a) Politically viable
- (b) Culturally acceptable
- (c) Socially popular
- (d) Environmentally safe

**Q2.** Which of the following is a classification of resources on the basis of ownership?

- (a) Biotic and abiotic
- (b) Renewable and non-renewable
- (c) Individual and community
- (d) Potential and developed

**Q3.** The main reason for overgrazing causing land degradation is in which states?

- (a) Punjab, Haryana, Uttar Pradesh
- (b) Gujarat, Rajasthan, Madhya Pradesh, Maharashtra
- (c) Kerala, Tamil Nadu, Karnataka
- (d) Jharkhand, Chhattisgarh, Odisha

**Q4.** Land degraded into bad land in Chambal basin is called:

- (a) Gullies
- (b) Ravines
- (c) Duars
- (d) Terai

**Q5.** Alluvial soils in piedmont plains like Duars, Chos and Terai are:

- (a) Very fine grained

- (b) Coarse grained
- (c) Medium grained
- (d) Mixed texture

**Q6.** Which soil is deficient in phosphoric content but rich in calcium carbonate?

- (a) Alluvial soil
- (b) Black soil
- (c) Red soil
- (d) Forest soil

**Q7.** Forest soils found on river terraces and alluvial fans are:

- (a) Acidic and infertile
- (b) Fertile
- (c) Sandy and dry
- (d) Rocky and shallow

**Q8.** Which crop is especially suitable for red laterite soils?

- (a) Cotton
- (b) Wheat
- (c) Cashew nut
- (d) Sugarcane

**Q9.** How long does it take for soil to form up to a few cm in depth?

- (a) Thousands of years
- (b) Millions of years
- (c) Hundreds of years
- (d) Decades

**Q10.** In which year was Gandhian philosophy presented in the book "Small is Beautiful"?

- (a) 1968
- (b) 1974
- (c) 1987
- (d) 1992

### SECTION B - Short Answer Questions (2 marks each)

**Q11.** Explain the classification of resources on the basis of status of development.

**Q12.** What is meant by 'sheet erosion'? How is it different from gully erosion?

**Q13.** Why do arid soils become cultivable after proper irrigation? What is the role of Kankar layer in these soils?

**Q14.** What were the two main outcomes of the Rio de Janeiro Earth Summit, 1992?

### SECTION C - Short Answer Questions (3 marks each)

**Q15.** "Resources can contribute to development only when they are accompanied by appropriate technological development and institutional changes." Explain this statement with reference to India's colonial experience.

**Q16.** Describe the characteristics of alluvial soil. Why is it considered the most important soil in India?

**Q17.** Explain how industrial activities contribute to land degradation. Suggest three measures to control this

degradation.

#### SECTION D - Long Answer Question (5 marks)

**Q18.** Explain the concept of sustainable development in detail. Discuss the major international initiatives taken for promoting sustainable development, including the Club of Rome (1968), Brundtland Commission Report (1987), and Rio Earth Summit (1992). Why is sustainable development essential for the future of our planet?

#### SECTION E - Case Study Based Questions (4 marks each)

**Q19.** Read the following case study and answer the questions that follow:

*"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. The soil is a living system. It takes millions of years to form soil upto a few cm in depth. Relief, parent rock or bed rock, climate, vegetation and other forms of life and time are important factors in the formation of soil. 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."*

- (i) Why is soil called a renewable resource? (1)
- (ii) List any three factors important in soil formation. (1)
- (iii) How do various forces of nature contribute to soil formation? Explain any two. (2)

**Q20.** Read the following case study and answer the questions that follow:

*"Continuous use of land over a long period of time without taking appropriate measures to conserve and manage it, has resulted in land degradation. Ninety-five per cent of our basic needs for food, shelter and clothing are obtained from land. Human activities have not only brought about degradation of land but have also aggravated the pace of natural forces to cause damage to land. If the present trend of resource depletion by a few individuals and countries continues, the future of our planet is in danger."*

- (i) What percentage of our basic needs come from land? (1)
- (ii) What has caused land degradation according to the passage? (1)
- (iii) Why is the future of our planet in danger? How can we prevent this? (2)

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## SECTION A - Answers to MCQs

**Q1. (b) Culturally acceptable**

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'.

**Q2. (c) Individual and community**

On the basis of ownership, resources are classified as individual, community, national and international resources.

**Q3. (b) Gujarat, Rajasthan, Madhya Pradesh, Maharashtra**

In the states of Gujarat, Rajasthan, Madhya Pradesh and Maharashtra, overgrazing is one of the main reasons for land degradation.

**Q4. (b) Ravines**

Running water cuts through clayey soils and makes deep channels as gullies. The land becomes unfit for cultivation and is known as bad land. In the Chambal basin such lands are called ravines.

**Q5. (b) Coarse grained**

In the upper reaches of the river valley near the place of the break of slope, the soils are coarse. Such soils are more common in piedmont plains such as Duars, Chos and Terai.

**Q6. (b) Black soil**

Black soils are rich in calcium carbonate, magnesium, potash and lime but are generally poor in phosphoric contents.

**Q7. (b) Fertile**

Forest soils found in the lower parts of the valleys particularly on the river terraces and alluvial fans are fertile.

**Q8. (c) Cashew nut**

Red laterite soils in Tamil Nadu, Andhra Pradesh and Kerala are more suitable for crops like cashew nut.

**Q9. (b) Millions of years**

It takes millions of years to form soil upto a few cm in depth through the weathering of rocks and organic processes.

**Q10. (b) 1974**

In 1974, Gandhian philosophy was presented by Schumacher in his book "Small is Beautiful" which emphasized resource conservation.

## SECTION B - Answers to Short Answer Questions

**Q11. Classification based on status of development**

On the basis of status of development, resources are classified into four categories:

**1. Potential Resources:** Resources that exist in a region but have not been utilized yet. Example: Solar and wind energy in Rajasthan and Gujarat have enormous potential but are not fully developed.

**2. Developed Resources:** Resources which are surveyed and their quality and quantity have been determined for utilization. Example: Coal and mineral deposits that are currently being extracted.

**3. Stock:** Materials in the environment which have the potential to satisfy human needs but human beings do not have appropriate technology to access them. Example: Hydrogen can be a rich source of energy but we don't have advanced technology to use it.

**4. Reserves:** Subset of stock which can be put into use with existing technical knowledge but their use has not been started. These are kept for future use. Example: Water in dams, forests.

## Q12. Sheet erosion

**Sheet Erosion:** Sometimes water flows as a sheet over large areas down a slope. In such cases, the top soil is washed away uniformly over the entire area. This is known as sheet erosion.

### Difference from Gully Erosion:

- **Sheet erosion:** Removes topsoil uniformly as a sheet over large areas, happens gradually and may not be immediately visible, affects broad expanses of land
- **Gully erosion:** Creates deep channels (gullies) in the soil, is more visible and dramatic, makes land completely unfit for cultivation (bad land), concentrated in specific channels rather than uniform

## Q13. Arid soils and irrigation

### Why arid soils become cultivable after irrigation:

- Arid soils lack moisture and humus due to dry climate and high temperature
- With proper irrigation, water is supplied to the soil, compensating for low rainfall
- This moisture allows crops to grow, as has been demonstrated in western Rajasthan
- Addition of organic matter and fertilizers along with irrigation makes the soil productive

### Role of Kankar layer:

- Kankar layer formations (calcium carbonate deposits) occur in the bottom horizons of arid soils
- This layer restricts the infiltration of water into deeper layers
- While this can be negative (prevents water from reaching deeper soil), proper irrigation management can work with this characteristic

## Q14. Outcomes of Rio Earth Summit 1992

Two main outcomes of the Rio de Janeiro Earth Summit, 1992:

### 1. Declaration on Global Issues:

- The assembled leaders signed the Declaration on Global Climatic Change and Biological Diversity
- The Rio Convention endorsed the global Forest Principles

### 2. Agenda 21:

- Adopted Agenda 21 for achieving Sustainable Development in the 21st century
- This agenda aims to combat environmental damage, poverty, and disease through global co-operation on common interests, mutual needs and shared responsibilities
- One major objective was that every local government should draw its own local Agenda 21

## Q15. Resources, technology and India's colonial experience

This statement is well illustrated by India's colonial experience:

**India's Resource Availability:** India was rich in various natural resources including minerals, forests, fertile land, and other valuable resources. The presence of these resources made India attractive to colonizers.

**Lack of Technology and Institutions:** However, despite having abundant resources, India could not fully utilize them for its own development because:

- India lacked advanced technology for extraction and processing of resources
- Institutional frameworks were not developed for systematic resource utilization
- There was absence of modern industrial infrastructure

**Colonial Exploitation:** The history of colonization reveals that:

- Rich resources in colonies (like India) were the main attractions for foreign invaders
- It was primarily the higher level of technological development of the colonizing countries that helped them exploit resources of other regions
- Colonizers established their supremacy by using superior technology to extract and utilize India's resources
- Resources were extracted and exported, benefiting the colonial powers while India remained poor

**Lesson Learned:** This teaches us that mere availability of resources is not enough. For true development, a region needs:

- Appropriate technological capability to extract and use resources
- Strong institutional frameworks to manage and regulate resource use
- Skilled human resources to implement technology and policies
- Self-reliance and sovereignty to use resources for own benefit

## Q16. Characteristics and importance of alluvial soil

### Characteristics of Alluvial Soil:

**1. Composition:** Consists of various proportions of sand, silt and clay particles

**2. Age-based division:** Divided into two types:

- Old alluvial (Bangar) - higher concentration of kanker nodules
- New alluvial (Khadar) - more fine particles, renewed by floods

**3. Texture variation:** Soil particles vary in size - coarse near piedmont plains (Duars, Chos, Terai), finer in river valleys

**4. Nutrient content:** Contains adequate proportion of potash, phosphoric acid and lime which are ideal for agriculture

**5. Fertility:** Khadar is more fertile than Bangar due to fine particles and regular renewal

### Why Most Important Soil in India:

**1. Extensive coverage:** Most widely spread soil - entire northern plains are made of alluvial soil, also found in eastern coastal deltas and parts of Rajasthan-Gujarat

**2. High fertility:** Alluvial soils as a whole are very fertile, making them ideal for intensive cultivation

**3. Crop diversity:** Ideal for growth of sugarcane, paddy, wheat and other cereal and pulse crops - supports diverse agriculture

**4. Dense population support:** Due to high fertility, regions of alluvial soils are intensively cultivated and densely populated

**5. Economic importance:** These regions form the agricultural backbone of India, contributing significantly to food production and economy

### Q17. Industrial activities and land degradation

#### **How Industrial Activities Cause Land Degradation:**

##### **1. Industrial Effluents and Wastes:**

- Industrial effluents discharged directly into water bodies or on land pollute both land and water
- Chemical wastes make the soil toxic and unsuitable for agriculture
- In recent years, industrial effluents as waste have become a major source of land and water pollution in many parts of the country

##### **2. Mineral Processing Dust:**

- Mineral processing activities like grinding of limestone for cement industry and calcite and soapstone for ceramic industry generate huge quantities of dust
- This dust settles down on the land and retards the process of infiltration of water into the soil
- Reduces soil productivity and affects plant growth

##### **3. Infrastructure Development:**

- Setting up of industries requires land for buildings, roads, factories
- This converts agricultural or forest land into non-agricultural use
- Increases land under built-up areas at the cost of productive land

#### **Three Measures to Control Industrial Land Degradation:**

##### **Measure 1 - Proper Treatment and Disposal:**

- Proper discharge and disposal of industrial effluents and wastes after treatment
- Industries should install effluent treatment plants before releasing any waste
- Follow environmental regulations and standards strictly

##### **Measure 2 - Dust Control Mechanisms:**

- Install dust collectors and air filtration systems in mineral processing units
- Use water sprinklers to settle dust during grinding and processing
- Create green belts around industrial areas to trap dust particles

##### **Measure 3 - Proper Planning and Regulation:**

- Control of industrial activities through strict environmental laws
- Designate specific industrial zones away from agricultural land
- Regular monitoring and penalties for violations
- Promote cleaner production technologies and sustainable industrial practices

## Q18. Sustainable Development - Concept and International Initiatives

### CONCEPT OF SUSTAINABLE DEVELOPMENT

**Definition:** 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.'

#### Core Principles:

- Balance between present needs and future availability
- Environmental protection while pursuing economic growth
- Equitable distribution of resources
- Integration of economic, social and environmental goals
- Judicious use of resources to prevent depletion

**Background of the Concept:** Resource conservation had been a concern of leaders and thinkers in the past. Mahatma Gandhi voiced his concern with the words: "There is enough for everybody's need and not for any body's greed." He identified greedy individuals and exploitative modern technology as the root cause for resource depletion.

### MAJOR INTERNATIONAL INITIATIVES

#### 1. CLUB OF ROME (1968)

- **Significance:** At the international level, the Club of Rome advocated resource conservation for the first time in a more systematic way in 1968
- **Focus:** Brought global attention to the limits of growth and resource depletion
- **Impact:** Initiated systematic thinking about resource conservation at international level
- **Contribution:** Made resource conservation a topic of serious international discussion and policy-making

#### 2. GANDHIAN PHILOSOPHY IN "SMALL IS BEAUTIFUL" (1974)

- **Author:** Schumacher presented Gandhian philosophy in 1974
- **Key Message:** Emphasized production by the masses rather than mass production
- **Philosophy:** Advocated for appropriate technology, decentralized production, and human-scale development
- **Relevance:** Challenged the prevailing model of industrialization and resource exploitation

#### 3. BRUNDTLAND COMMISSION REPORT (1987)

- **Official Name:** World Commission on Environment and Development
- **Publication:** Report was published in a book entitled "Our Common Future"
- **Major Contribution:** Introduced the concept of 'Sustainable Development' as a means for resource conservation
- **Impact:** Provided the most widely accepted definition of sustainable development
- **Global Influence:** Became the foundation for international environmental policy
- **Key Message:** Development must meet present needs without compromising future generations' ability to meet their needs

#### 4. RIO DE JANEIRO EARTH SUMMIT (1992)

- **Participants:** More than 100 heads of states met in Rio de Janeiro, Brazil in June 1992

- **Purpose:** First International Earth Summit convened for addressing urgent problems of environmental protection and socio-economic development at global level

**Key Outcomes:**

a) **Declaration on Global Climatic Change and Biological Diversity:** Leaders signed commitments to address these critical issues

b) **Rio Convention:** Endorsed global Forest Principles for sustainable forest management

c) **Agenda 21:**

- Adopted for achieving Sustainable Development in the 21st century
- An agenda to combat environmental damage, poverty, and disease through global co-operation
- Based on common interests, mutual needs and shared responsibilities
- Major objective: Every local government should draw its own local Agenda 21
- Created a comprehensive action plan for sustainable development globally and locally

**Significance:** The Earth Summit was significant because it brought together world leaders to commit to concrete actions, created international frameworks for cooperation, and emphasized both global and local action through Agenda 21.

**WHY SUSTAINABLE DEVELOPMENT IS ESSENTIAL**

**1. Resource Depletion Crisis:**

- If the present trend of resource depletion by a few individuals and countries continues, the future of our planet is in danger
- Non-renewable resources are being exhausted at alarming rates
- Even renewable resources are being used faster than they can regenerate

**2. Environmental Degradation:**

- Indiscriminate exploitation has led to global ecological crises
- Global warming threatens climate stability
- Ozone layer depletion increases harmful radiation
- Environmental pollution affects health and ecosystems
- Land degradation reduces productive capacity

**3. Social Inequality:**

- Accumulation of resources in few hands divides society
- Creates haves and have-nots, leading to conflict
- Equitable distribution essential for sustained quality of life and global peace

**4. Future Generations:**

- We have shared our land with past generations and will share with future generations
- 95% of our basic needs for food, shelter and clothing come from land
- Must ensure resources are available for future generations

**5. Interconnected Global Challenges:**

- Environmental problems don't respect national boundaries

- Requires global cooperation and shared responsibility
- Economic development must be balanced with environmental protection

## CONCLUSION

Sustainable development is not just an environmental concept but a comprehensive approach to human well-being that integrates economic, social, and environmental dimensions. The progression from Club of Rome (1968) to Rio Earth Summit (1992) shows growing global awareness and commitment. However, implementation remains a challenge.

India has made concerted efforts for resource planning and sustainable development right from the First Five Year Plan after Independence. Resource planning is essential for sustainable existence of all forms of life, as sustainable existence is a component of sustainable development. Only through careful planning, technological innovation, institutional changes, and global cooperation can we ensure a livable planet for future generations.

## SECTION E - Answers to Case Study Based Questions

### Q19. Case Study on Soil Formation

#### (i) Why soil is a renewable resource: (1 mark)

Soil is called a renewable natural resource because it can be renewed through natural processes of formation, although it takes very long time. It is the medium of plant growth and supports different types of living organisms. While it takes millions of years to form, the process is continuous, and with proper conservation and management, soil can maintain its productivity and can be used sustainably by multiple generations.

#### (ii) Three factors in soil formation: (1 mark)

Three important factors in soil formation are:

1. Relief (topography)
2. Parent rock or bed rock
3. Climate

(Other acceptable answers: vegetation and other forms of life, time)

#### (iii) How forces of nature contribute to soil formation: (2 marks)

##### Force 1 - Change in Temperature (Weathering):

- Repeated heating and cooling of rocks causes expansion and contraction
- This creates cracks and eventually breaks rocks into smaller pieces
- In cold areas, water enters cracks, freezes, expands and breaks rocks further
- This physical weathering is the first step in breaking down parent rock into soil particles

##### Force 2 - Actions of Running Water:

- Running water (rivers, streams) erodes rocks and carries sediments
- The flowing water grinds rocks against each other, breaking them into finer particles
- Deposits these particles in new locations, creating layers of soil
- Chemical action of water dissolves some minerals, changing rock composition
- Creates alluvial soils in river valleys and deltas

##### Other Forces (for reference):

- **Wind:** Carries fine particles, deposits them in new areas, causes erosion of exposed rocks
- **Glaciers:** Move slowly over rocks, grinding them into fine powder, create specific soil types in mountainous regions
- **Activities of decomposers:** Bacteria, fungi, earthworms break down organic matter (dead plants and animals) into humus, which enriches soil and improves its structure

(Any two well-explained forces are acceptable for 2 marks)

## Q20. Case Study on Land Degradation and Conservation

### (i) Percentage of basic needs from land: (1 mark)

Ninety-five per cent (95%) of our basic needs for food, shelter and clothing are obtained from land.

### (ii) Causes of land degradation: (1 mark)

According to the passage, land degradation has been caused by:

- Continuous use of land over a long period of time without taking appropriate measures to conserve and manage it
- Human activities that have brought about degradation of land
- Human activities have also aggravated (made worse) the pace of natural forces causing damage to land

### (iii) Why future is in danger and prevention measures: (2 marks)

#### Why the future of our planet is in danger:

- If the present trend of resource depletion by a few individuals and countries continues, resources will be exhausted
- Since 95% of our basic needs come from land, continuous degradation means we won't be able to meet our fundamental requirements
- Land degradation reduces the productive capacity of land, threatening food security
- Uncontrolled exploitation leads to environmental crises like global warming, pollution, and ecosystem collapse
- Future generations will inherit a depleted planet unable to support life adequately

#### How we can prevent this:

##### 1. Resource Planning and Conservation:

- Implement proper resource planning at national, state, regional and local levels
- Practice resource conservation through judicious use
- Ensure equitable distribution of resources to prevent accumulation in few hands

##### 2. Adopt Sustainable Development:

- Follow the principle of sustainable development - meet present needs without compromising future generations
- Balance economic growth with environmental protection
- Implement Agenda 21 at local and national levels

##### 3. Land Conservation Measures:

- Take appropriate measures to conserve and manage land continuously
- Practice soil conservation methods like contour ploughing, terrace farming, afforestation

- Prevent overgrazing, over-irrigation, and other harmful practices
- Control mining activities and industrial pollution

#### **4. Change in Attitude and Practice:**

- Follow Gandhiji's principle - "There is enough for everybody's need and not for anybody's greed"
- Shift from mass production to production by masses
- Use technology in a way that complements rather than exploits nature
- Create strong institutions to regulate resource use

#### **5. Global Cooperation:**

- Work together as a global community to address shared environmental challenges
- Implement international agreements and conventions on climate change and biodiversity
- Share technology and resources for sustainable development

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