



Mains Practice Question

Q. What are the main types and causes of soil erosion in India? How does it affect the environment and the economy of India? (150 words)

26 Jun, 2023 GS Paper 1 Geography

Approach

- Start your answer with a brief introduction of soil erosion.
- Write its types and explain how it affect environment and economy.
- Conclude accordingly.

Introduction:

Soil erosion is the removal and displacement of the top layer of soil by various natural or human-induced agents. It is a serious environmental problem that affects the quality and productivity of land resources. It has the following main types and causes in India:

Body:

Types of soil erosion:

- **Water erosion:**
 - It is caused by the action of water, such as rainfall, runoff, streams, rivers, etc.
 - It results in the formation of rills, gullies, ravines, etc.
 - It is the most widespread and severe type of soil erosion in India.
- **Wind erosion:**
 - It is caused by the action of wind, especially in arid and semi-arid regions.
 - It results in the formation of sand dunes, deflation hollows, etc.
 - It is more common in western and northwestern parts of India.
- **Glacier erosion:**
 - It is caused by the movement of glaciers, which scrape and pluck the underlying rocks and soil.
 - It results in the formation of U-shaped valleys, cirques, moraines, etc.
 - It is more common in the Himalayan region of India.
- **Coastal erosion:**
 - It is caused by the action of waves, tides, currents, etc. along the coastline.
 - It results in the formation of cliffs, caves, arches, stacks, etc.
 - It is more common in the eastern and western coasts of India.

Causes:

- **Natural causes:**
 - These include climatic factors (such as rainfall intensity and distribution, temperature, wind speed and direction, etc.),
 - topographic factors (such as slope, aspect, relief, drainage pattern, etc.),
 - geological factors (such as rock type, structure, texture, etc.),

- biological factors (such as vegetation cover, soil organisms, etc.).

- **Human-induced causes:**

- These include deforestation, overgrazing, overcultivation, improper irrigation, mining, quarrying, construction activities, urbanization, industrialization, etc.

Soil erosion affects the environment and the economy of India in the following ways:

- **Environmental effects:**

- Soil erosion reduces the fertility and water-holding capacity of soil. It leads to loss of organic matter and nutrients from soil.
- It causes siltation and pollution of water bodies. It increases the risk of floods and droughts.
- It affects the biodiversity and ecosystem services of soil.

- **Economic effects:**

- Soil erosion reduces the agricultural productivity and food security of India.
 - It increases the cost of soil conservation and reclamation.
- It affects the hydroelectric power generation and navigation potential of rivers.
- It damages the infrastructure and property along the coastlines.
- It reduces the income and livelihood opportunities of rural people.

Conclusion:

Thus, soil erosion is a major threat to the sustainable development of India. It requires proper prevention and mitigation measures to conserve and enhance the soil resources of India.

PDF Reference URL: <https://www.drishtiias.com/mains-practice-question/question-7904/pnt>

