

Unit V : Social Issues and Environmental Education

(Weightage : 12 marks)

Unit-V Social Issues and Environmental Education	5a. Elaborate article (48-A) and (51-A (g)) 5b. Enlist various acts on environment and its provisions. 5c. State the roles and responsibilities of CPCB. 5d. Define sustainable development, and EIA. 5e. Describe rain water harvesting and groundwater recharge. 5f. Differentiate between formal and non formal education.	5.1 Article (48-A) and (51-A (g)) of Indian Constitution regarding environment, Environmental protection and prevention acts, CPCB and MPCB norms and responsibilities, The role of NGOs. 5.2 Concept of sustainable development, EIA and environmental morality. 5.3 Management Measures - Rain Water harvesting, Ground water recharge, Green Belt Development, Use of Renewable energy, water shed management, interlinking of rivers. 5.4 Role of information technology in environment and human health.
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5.1.1 Environment and Constitution of India

To protect and improve the environment is a constitutional mandate. It is a commitment for a country wedded to the ideas of a welfare State. The Indian Constitution contains specific provisions for environment protection under the chapters of Directive Principles of State Policy and Fundamental Duties. The absence of a specific provision in the Constitution recognizing the fundamental right to clean and wholesome environment has been set off by judicial activism in the recent times.

The main attention in the education on environment is as below :

- i) Over-population and the ways to check its rapid growth.
- ii) Afforestation as a preventive to soil erosion and water pollution.
- iii) Methods to prevent air pollution, insisting on smokeless cooking.
- iv) Discipline in playing radio and television sets and a ban on use of loudspeaker.
- v) Elementary knowledge of the scientific and philosophical basis of man and the environment.
- vi) Rules regarding disposal of household waste.
- vii) General principles of sanitation.

Fundamental Duties



- 5a. Understanding Fundamental Duties of Citizens towards Environmental Protection

Fundamental Duties

Article 51-A (g) says that “It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures.” The Directive principles under the Indian constitution

Remember – We must be aware about our Fundamental duties equally as we are about our Fundamental Rights !

It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures.
- The Constitution of India Article 51-A(g)

State's Responsibility



- 5a. Understanding Fundamental Duties of Citizens towards Environmental Protection.

Article 48 A in The Constitution Of India.

Protection and improvement of environment and safeguarding of forests and wildlife.

The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.

Article 48A was added by the Constitution vide 42nd Amendment in 1976.

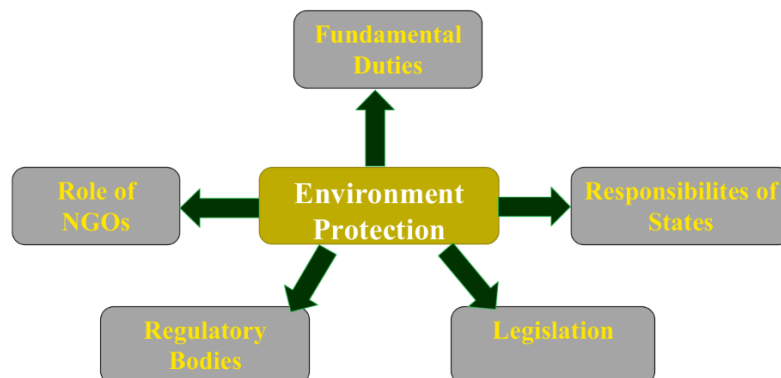
To enable effective steps being taken for the purpose by both Centre and State Governments, 'Wildlife' and 'forests' have now been placed in the **Concurrent** List of the Seventh Schedule.

Directive Principles
Of
State Policy



Constitutional Provisions on Environment:

- **Article 51A (g):**
 - Duty of every citizen to protect and improve the natural environment.
- **Article 48A:**
 - State responsibility to protect and improve the environment, safeguard forests and wildlife.



2. Environmental Protection and Prevention Acts:

- **Major Acts:**

- Biological Diversity Act, 2002
- Hazardous Wastes (Management and Handling) Rules, 2003
- National Green Tribunal Act, 2010
- Environment Protection Act, 1986 (Umbrella legislation).

- **Specific Rules:**

- Biomedical Waste (Management and Handling) Rules, 1998
- Recycled Plastics Manufacture and Usage Rules, 1999
- Batteries (Management and Handling) Rules, 2001
- Construction and Demolition Waste Management Rules, 2016

3. Role of CPCB: Central Pollution Control Board (CPCB):

- Apex organization under the Ministry of Environment, Forest, and Climate Change (MoEFCC).
- The Maharashtra Pollution Control Board (established 7 September 1970) is celebrating its golden jubilee this year.

- Responsibilities:

- Coordinate with State Pollution Control Boards (SPCBs).
- Monitor and enforce pollution standards.
- Conduct environmental research and assessments.
- Advise on water and air pollution issues.

- **Role of MPCB (Maharashtra):** Maharashtra Pollution Control Board (MPCB):

- Key functions:

- Prevention and control of pollution in Maharashtra.
- Inspecting and reviewing treatment plants (ETPs/STPs).
- Promoting eco-friendly practices and waste reuse.
- Raising public awareness and addressing complaints.

4. Role of NGOs in Environmental Protection:

- Activities:

- Awareness campaigns.
- Stakeholder participation in discussions.

- Rural appraisals and monitoring environmental quality.
 - Advocacy for human rights to a clean environment.
 - Assisting in project execution for environmental protection.
- Prominent NGOs in India:
 - Centre for Environmental Education (CEE)
 - Centre for Science and Environment (CSE)
 - Kalpavriksh, WWF, Narmada Bachao Andolan

5.2



Sustainable Development



- Sustainability could be defined as an ability or capacity of something to be maintained or to sustain itself.
- It's about consuming just what we need to live now, while leaving enough for people in the future to meet their social, economic and environment needs.

What is Sustainable Development?

Generate Resources
without affecting
Environment.

Economic
development that is
conducted without
depletion of natural
resources for Future
Generations.

Maintain Balance
between
Human need
and Environment.

1. Sustainable Development

- Meeting current needs without compromising future generations.
- Balances **environment**, **economy**, and **society**.

2. Environmental Impact Assessment (EIA)

- A tool to predict environmental effects of proposed projects.
- Helps identify the best economic and environmental outcomes.

Sustainable Development

Definition

- Consuming resources wisely for present and future needs.
- Focus on:
 - **Social Inclusion** (People)
 - **Environmental Protection** (Planet)
 - **Economic Growth** (Profit)

Key Aspects

1. Environmental

- Efficient resource use (e.g., minerals, forests, biodiversity).
- Pollution control (air, water, noise).
- Waste management.

2. Economic

- Job growth and economic development.
- Cost savings and profit increase.

3. Social

- Improving living standards and education.

- Gender equality and equal opportunities.

Environmental Impact Assessment (EIA)

Definition

- Predicts how a project will affect the environment.
- Compares alternatives to find the best balance of economic and environmental factors.

Role in Sustainable Development

- Ensures development aligns with sustainability goals.
- Prevents harm through precautionary measures.

Summary

- Sustainable development ensures balance between needs and resources.
- EIA acts as a decision-making tool for sustainable practices.
- Focus on reducing pollution and protecting the environment.

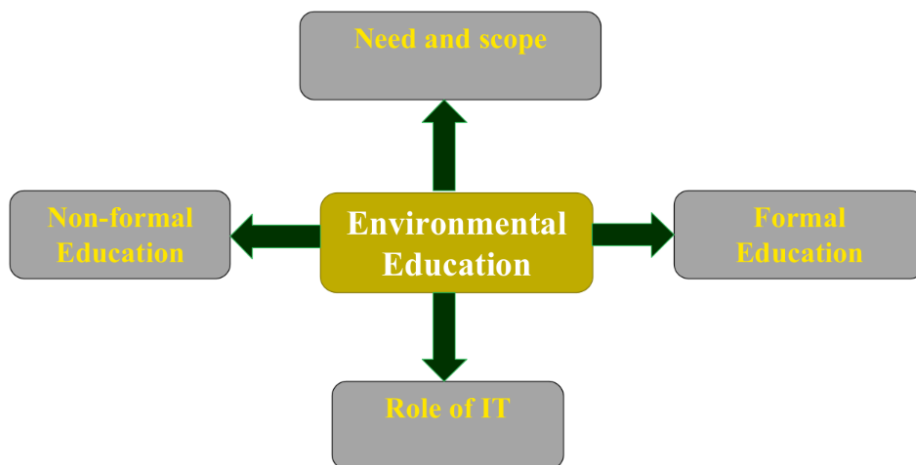
Role of EIA in Sustainable Development

EIA process can be viewed as an Endeavour to answer a basic question: whether the identified impact will be positive, negative or uncertain?

Prevention is Better Than Cure

When an activity raises threats of harm to human health or the environment, pre-cautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.





Environment Education

Objectives of Environment Education

- ▶ To improve the quality of environment
- ▶ To create awareness among the people on environmental problems and conservation
- ▶ To create an atmosphere so that people participate in decision-making and develop the capabilities to evaluate the developmental programmes



1. Environmental Education

- Awareness about environmental problems and conservation.
- Encourages public participation in environmental protection.

2. Types of Environmental Education

- **Formal Education:** School, college, and university-based structured learning.
- **Non-Formal Education:** Community-based activities and awareness programs.

3. Role of IT in Environment and Health

- Information Technology for environmental monitoring and public awareness.
- IT in health for pandemic management and research.

Environmental Education

Objectives

- Improve environmental quality.
- Create awareness about environmental issues.
- Encourage participation in decision-making.
- Build skills to address environmental challenges.

Types

1. Formal Education

- Structured curriculum taught in schools, colleges, and universities.
- Involves textbooks, field activities, and eco-development camps.
- Includes interdisciplinary approaches.

2. Non-Formal Education

- Focuses on practical, experience-based learning.
 - Activities include nature camps, seminars, exhibitions, and street plays.
 - Targets all age groups for community involvement in development.
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Role of IT in Environment and Health

Environment

- **GIS (Geographical Information Systems):**
 - Mapping land use and tracking environmental changes.
- **Online Monitoring Systems:**
 - Real-time air and water pollution data linked to government servers.
- **Public Awareness:**
 - Access to environmental information via the internet.

Health

- **Data Analysis Tools:**
 - Used for epidemiological studies, tracking diseases, and infection rates.
- **Artificial Intelligence:**
 - Predicts disease spread and helps in pandemic management.
- **Applications:**
 - Example: *Aarogya Setu* app in India during COVID-19.

Summary

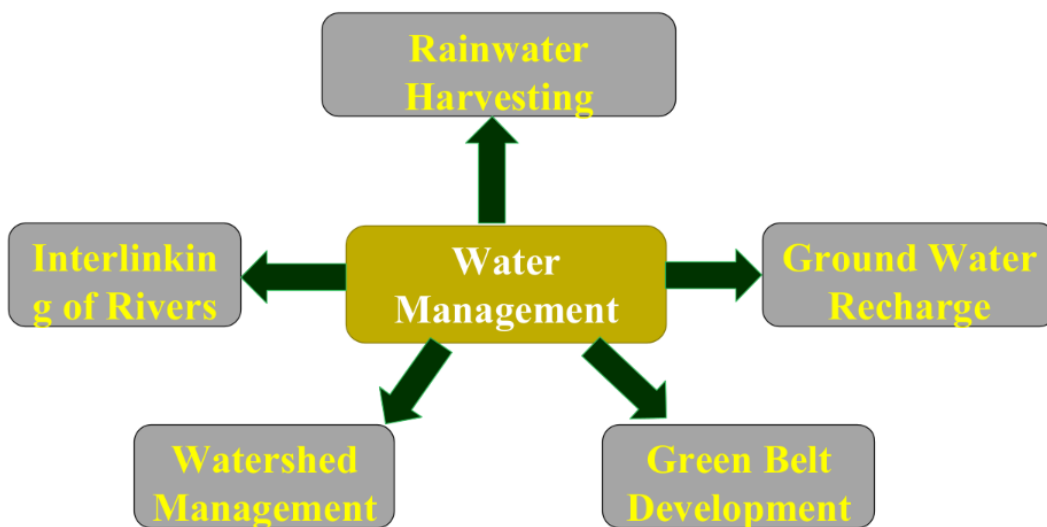
- Environmental education is essential for sustainable growth and protection.
- IT plays a critical role in monitoring, managing, and spreading awareness about environmental and health issues.

5.3

- ▶ **What is Rainwater Harvesting? What are its benefits?**
- ▶ **Groundwater recharging and various ways of doing it**
- ▶ **Greenbelt development and its important in environment Protection**
- ▶ **Watershed Management and its applications for water conservation**
- ▶ **Interlinking of rivers in India and its role in disaster management and economic development**



Learning Objectives



Water Conservation Topics

1. Rainwater Harvesting

- **What:** Collecting rainwater for direct use or groundwater recharge.
- **Why:** To conserve rainwater, reduce dependence on other sources.
- **How:**

- Capture rain where it falls (rooftops, local catchments).
- Prevent pollution in collection areas.
- **Traditional Methods:** Temple tanks, ponds.
- **Modern Methods:** Rooftop collection, absorption pits/wells.

2. Groundwater Recharge

- **Natural:** Rainwater enters soil naturally.
- **Artificial Methods:**
 - Spreading (surface water spreading).
 - Injection (direct into aquifers).
 - Induced recharge (from streams).
 - Urban techniques: Pits, trenches, and rooftop harvesting.

3. Greenbelt Development

- **Purpose:** Preserve open spaces, reduce urban sprawl, protect land.
- **Benefits:**
 - **Air Pollution Control:** Trees absorb pollutants and release oxygen.
 - **Noise Reduction:** Acts as a barrier, reducing sound intensity.
 - **Soil Erosion Prevention:** Stabilizes soil.
 - **Water Conservation:** Retains runoff water.
- **Implementation Guidelines:**
 - No conversion of forest/agricultural land.
 - Treated wastewater should irrigate greenbelts.
 - Maintain 1 km greenbelt between industries.

4. Watershed Management

- **Definition:** Managing soil and water in a region to prevent floods and improve agriculture.
- **Objectives:**
 - Soil conservation.
 - Water harvesting.
 - Crop and land use management.

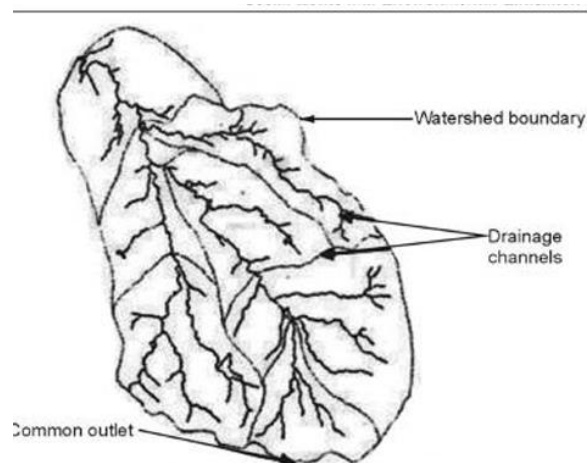


Fig. 5.3.2 Diagram of a watershed

- **Outcomes:**
 - Higher agricultural productivity.
 - Employment generation.
 - Improved ecology and flood control.

5. Interlinking of Rivers

- **Need:** Equitable water distribution between flood-prone and drought-affected regions.
- **Project Details:**
 - **Himalayan Component:** Links rivers in North India.
 - **Peninsular Component:** Links rivers in South India.
- **Pros:**
 - Flood and drought control.
 - Drinking water supply.
 - Hydropower (34,000 MW potential).
 - Improved irrigation and transport.
- **Cons:**
 - Ecological disturbance.
 - High costs.
 - Risk of pollution spread.
 - Possible legal and state disputes.

This summary retains the essence of the detailed points in the presentation while making it easier to understand.