



## 2. Human Impact and Resource Management

### BVES-151: Environmental Studies

#### Unit 1: Fundamentals of Environmental Science and Ecology

##### Topic: Human Impact and Resource Management

### □ What is Human Impact on the Environment?

**Human impact** refers to the ways human activities influence the natural environment—often leading to environmental degradation.

Common examples include:

- **Pollution** (air, water, soil)
- **Deforestation**
- **Climate Change**
- **Resource depletion** (water, minerals, fuels)
- **Loss of biodiversity**

### □ Major Areas of Human Impact

Here are the key ways humans affect the environment:

#### 1. Pollution

Pollution is introducing harmful substances into the environment.

- **Air Pollution:** Due to vehicles, factories causing respiratory illnesses and climate change.
- **Water Pollution:** Caused by chemicals, waste, plastics affecting aquatic life and human health.
- **Soil Pollution:** Use of pesticides, industrial waste contaminating crops and groundwater.

#### 2. Deforestation

Removal of forests for agriculture, urbanization, and logging leads to:

- Loss of habitats and biodiversity.
- Reduced oxygen production.
- Increased carbon dioxide levels (climate change).

#### 3. Climate Change and Global Warming

Human activities (like fossil fuel burning) produce greenhouse gases, trapping heat in the atmosphere and leading to:

- Rising global temperatures.
- Extreme weather events.
- Melting glaciers and rising sea levels.

#### 4. Resource Depletion

Using resources faster than nature replenishes them leads to shortages of:



- Fresh water
- Minerals and fuels
- Fertile soil

## 5. Loss of Biodiversity

Human activities disrupt ecosystems, reducing species variety and weakening nature's balance and resilience.

## □ What is Resource Management?

**Resource management** involves using Earth's resources (water, soil, minerals, forests) in ways that maintain their availability for future generations. It's about balancing resource use and environmental protection.

## □ Types of Resources

Type	Examples	Characteristics
<b>Renewable</b>	Sunlight, wind, water, forests	Naturally replenish, if sustainably used
<b>Non-renewable</b>	Coal, petroleum, minerals	Limited availability, cannot regenerate quickly

## □ Key Principles of Resource Management

Resource management aims at **sustainability**—meeting our needs without harming future generations.

### 1. Conservation

- Reducing waste and using resources wisely.
- Example: Turning off lights, conserving water.

### 2. Sustainable Use

- Using resources at a rate that allows replenishment.
- Example: Sustainable forestry, fishing quotas.

### 3. Recycling & Reuse

- Reducing waste by recycling paper, plastics, metals, etc.
- Reusing products like bags, bottles, containers.

### 4. Renewable Energy

- Choosing solar, wind, hydro power over fossil fuels.

### 5. Education and Awareness

- Informing communities about sustainable practices.

## □ Resource Management Techniques



Technique	Description
<b>Water Harvesting</b>	Storing rainwater to reduce water shortages
<b>Crop Rotation</b>	Changing crops yearly to maintain soil fertility
<b>Afforestation</b>	Planting trees to restore ecosystems
<b>Waste Management</b>	Properly collecting, recycling, and disposing of waste
<b>Eco-friendly Technology</b>	Solar power, electric vehicles, sustainable buildings

## □ Simple Actions You Can Take

- Turn off taps and lights when not in use.
- Use reusable bags and bottles.
- Reduce, reuse, and recycle.
- Support local eco-friendly businesses.

## □ Quick Self-Check Questions

1. What is meant by human impact on the environment?
2. Give two examples each of renewable and non-renewable resources.
3. Why is resource management important?
4. Name three ways you can help manage resources sustainably.

## □ Summary

- Humans significantly impact Earth through activities like pollution, deforestation, and resource depletion.
- Effective resource management ensures sustainable use and conservation for future generations.
- Individual actions contribute significantly towards sustainability and environmental protection.