Part A: Employability Skills
Chapter-5: Green Skills-I

Session: Society and Environment

The Environment's Influence

- Environment affects our daily lives.
- Cities rely on natural resources (food, water, air, etc.).
- Human development affects environmental balance.

Relationship between Society and Environment

- Society and environment are interlinked.
- Environmental impact depends on human activities.
- Unsustainable actions like deforestation, overpopulation, mining, etc. disrupt this balance.

Ecosystem

- A system of living organisms interacting with non-living elements.
- Organisms depend on each other for food and energy.

Natural Resources

- Useful material/substance from nature to support life and development.
- Types:
  - **Biotic**: From living sources (e.g., forests, animals).
  - **Abiotic**: From non-living sources (e.g., water, minerals).

Types of Resources

Type	Description
Land Resources	Land used for food production, housing, infrastructure.
Forest Resources	Provides oxygen, timber, supports biodiversity.
Energy Resources	Fuels and power sources (solar, coal, wind).
Water Resources	Used for drinking, irrigation, and industry.
Food Resources	Nourishment from plants and animals.
Mineral Resources	Includes fossil fuels, metals, and stones.

Renewable Resources

- Can be regenerated naturally.
- Examples:
  - **Solar Energy**: Sunlight for power.
  - **Wind Energy**: Air movement for turbines.
  - **Biomass**: Organic material energy.
  - **Soil & Forests**: Natural support systems.

Non-renewable Resources

- Cannot regenerate quickly.
- Examples:
  - **Coal**
  - **Petroleum**
  - **LPG**
  - **Natural Gas**
  - **Nuclear Energy**
  - **Minerals** (iron, gold, etc.)

Inexhaustible Resources

- Always available: **Sunlight, wind, tidal energy**.

Exhaustible resources

natural resources that are limited in supply and can **run out over time** if not used wisely. They **cannot be replenished quickly** and take **millions of years** to form.

Factors Causing Imbalance

1) **Overexploitation**: Using natural resources too much or too fast, causing them to run out.
2) **Deforestation**: Cutting down trees in large numbers, which harms the environment.
3) **Mining:** Digging the earth to take out minerals and metals, often damaging nature.
4) **Pollution**: Making air, water, or land dirty and unsafe.
5) **Industrialisation**: Growth of factories and industries that can harm the environment.
6) **Climate Change:** Long-term change in weather patterns mainly caused by pollution.
7) **Natural Disasters:** Sudden natural events like floods, earthquakes, or storms that cause damage.

Types of Pollutants

Pollutant Type	Definition	Examples
Biodegradable	Breaks down naturally	Veg/fruit waste, kitchen waste
Non-biodegradable	Does not degrade easily	Plastic, pesticides, mercury

Other Pollution Factors:

- Vehicle emissions, chemical fertilisers, plastic, harmful gases (CFCs, etc.)

Types of Pollution

Type	What it is	Consequences	Causes	Prevention
Land Pollution	Harmful substances in soil	Diseases, reduced fertility	Waste, pesticides	Reduce waste, organic farming
Water Pollution	Contaminated water	Diseases, fish death	Industry, sewage	Proper waste treatment
Air Pollution	Harmful gases/particles	Respiratory issues, climate change	Factories, vehicles	Filters, less fossil fuel use

Climate Change

- Caused by excess greenhouse gases.
- Effects: Frequent floods, droughts, ice melting.

Natural Disasters

- Earthquakes, floods, landslides due to human activity.

Saving the Environment

Actions for Saving the Environment

Aspect	Avoid	Prefer
Energy Use	Leaving appliances on	Cycling, switching off
Water Pollution	Washing in rivers/lakes	Use recycled/cleaned water
Waste Mgmt	Using plastic bags	Segregating waste
Chemicals in Food	Harmful fertilisers	Organic fertilisers
Forest Plants	Overusing paper	Reusing paper, digital usage

Implementing the 5 R's for Effective Waste Management

The 5 R's:

- **Refuse** – Avoid non-recyclable products.
- **Reduce** – Minimise use of harmful materials.
- **Reuse** – Use items again.
- **Recycle** – Convert waste into usable material.
- **Repurpose** – Give new purpose to waste items.

Examples for Repurpose:
- Use waste paper as scrap.
- Convert cardboard boxes into storage.
- Mason jars as pen holders.
- Create an "Upcycle Station".

Session 2: Conserving Natural Resources

Importance of Conservation
- Ensures ecosystem balance and future well-being.
- Includes:
    - Reducing waste
    - Recycling
    - Using renewable energy
    - Protecting biodiversity
    - Combatting climate change

Natural Resource Conservation
Conservation is the **responsible management** of natural resources to prevent their depletion and degradation.

Soil Conservation – Methods
- **Adding Manure and Fertilisers**: Organic material to retain soil fertility.
- **Controlled Grazing**: Avoid overgrazing.
- **Reforestation**: Plant trees to stabilize and enrich soil.
- **Terracing**: Create steps to reduce water runoff.
- **Contour Ploughing**: Plough along slope contours.

Water Conservation – Methods
- **Vegetation in Catchment Areas**: Enhances infiltration.
- **Dams and Reservoirs**: Store water.
- **Sewage Treatment**: Prevents water pollution.
- **Efficient Water Use**: Low-flow devices, mindful consumption.
- **Rainwater Harvesting**: Captures rain for use.
- **Watershed Management**: Manages land/water sustainability.

Energy Conservation – Techniques
- **Turn off Lights/Devices**: When not needed.
- **Use Energy-efficient Lighting**: LED/CFLs.
- **Maintain Clean Fixtures**: Improves efficiency.
- **Cooking Efficiency**: Covered pots, pressure cookers.
- **Reduce Appliance Use**: Especially air conditioners/heaters.
- **Minimise Power Use**: Fewer non-recyclable products.

Food Conservation – Strategies
- **Large-Scale Storage**: Refrigerated warehouses.

- **Preservation Methods**: Extends shelf life.
- **Cooking Smart**: Minimize fuel consumption.

Forest Conservation – Methods
- **Maintain Biodiversity**: Preserve species.
- **Protect Existing Forests**: Avoid deforestation.
- **Create New Forests**: Afforestation efforts.
- **Community Involvement**: Local participation in preservation.

Session 3: Sustainable Development and Green Economy

What is Sustainable Development?
Development meeting **present needs** without compromising the **future**.
Key Aspects:
- Efficient resource use.
- Conservation.
- Recycling.
- Greener infrastructure.
- Environment-friendly practices.

Importance of Sustainable Development
- Environmental damage grows with population and income.
- Promotes:
    - **Balanced growth**
    - **Efficient technology**
    - **Pollution reduction**
    - **Biodiversity conservation**

Sustainable Development Goals (SDGs)
- Launched by the **UN in 2015** – part of the 2030 Agenda.
- 17 Goals include:
    - No poverty
    - Quality education
    - Clean water
    - Climate action
    - Affordable energy
    - Industry innovation

These goals offer a roadmap for nations to ensure **sustainable and equitable growth**.

Green Growth
- Growth that is **socially inclusive and environmentally sustainable**.
- Promoted by India's Ministry of Environment and Climate Change.
- Focus:
    - Renewable energy
    - Eco-friendly policies
    - Green technology
    - Pollution control

Green Economy
- Development with **low environmental risks**.
- Encourages:
    - Renewable resources
    - Eco-friendly industries

- Green products and services

Opposes:

- Fossil fuels
- Environmental damage
- Non-recyclable products

Do You Know?

- The **UNEP (United Nations Environment Programme)** defines green economy as:
  "one which is low carbon, resource efficient and socially inclusive".

Green Consumer

- A person who avoids environmental degradation for comfort and chooses products that are:
  - Environmentally friendly
  - Minimally packaged
  - Produced without pollution

Importance of Green Economy

- Green Economy supports both:
  - **Self-growth** (individuals, organizations)
  - **Stakeholder collaboration** for sustainable development
- **Benefits** include:
  - Better health and human well-being
  - Resource sustainability
  - Protection of biodiversity
  - Reduction in pollution
  - Peaceful living and job creation

Components of a Green Economy

- **Renewable Energy:** Uses sources like wind, water, sun, earth, and biomass
- **Green Building:** Minimizes environmental impact via efficient use of resources
- **Well-managed (Sustainable) Transport:** Environmentally and economically efficient transport systems
- **Water Management:** Prevents water pollution and waste, promotes recycling
- **Waste Management :** 5Rs: Refuse, Reduce, Reuse, Recycle, Repurpose
- **Land Management:** Balanced land use for human and environmental needs

Skill Development for a Green Economy

- Requires:
  - Education
  - Training in sectors like agriculture, manufacturing, energy
- Encourages:
  - Eco-friendly jobs (e.g. solar panel installation, electric vehicles)
  - Creativity (e.g. graphic design) for green communication

Activity: Create a digital poster on green economy using images and internet articles.

Green Skills

- Necessary for:
  - Sustainable energy
  - Climate-resilient cities
  - Waste management
- Include:
  - **Energy conservation**
  - **Water/Waste management**
  - **Pollution reduction**

- **Low carbon infrastructure**
- **Natural resource management**

- **Green Skill Development Programme (GSDP)** by the Ministry of Environment aims to:
  - Equip youth with environmental protection training

Green Jobs : Green jobs promote sustainability across sectors like:

Table: Green Jobs by Sector

Sector	Areas/Field	Green Jobs
Agriculture	Organic farming, Water conservation	Water quality technicians, Irrigation engineers
	Rainwater harvesting	Solar panel technicians, Renewable energy engineers
Construction	Designing energy-efficient buildings	Green architects, Builders, Designers
	Retrofitting and resource-efficient housing	
Energy	Solar cell installation, Wind turbines	Solar cell techs, Wind engineers, Hydropower pros
Forestry	Reforestation, Conservation projects	Forest managers, Agroforestry experts

Green Projects in India

- **Digital Green**: Promotes digital tools in farming to improve productivity and income.
- **Swachh Cooperative**: Focuses on solid waste management and recycling.
- **Bio-toilet by Green Sanitation Foundation**: Promotes eco-friendly toilet systems.
- **Feeding India**: Tackles food waste and hunger through redistributing surplus food.
- **HelpUsGreen**: Recycles temple flower waste into eco-products like fertilizer and packaging.
- **Modern Chulha (by Society of Development and Environment Protection)**:
  - An energy-efficient stove reducing smoke and fuel use.
  - Improves health, creates jobs.
  - Used in Himachal Pradesh, introduced in 1995.