CHAPTER 9

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

- **Environment** refers to all the surroundings and their effects which have an impact on human lives. It is the sum total of the surroundings and resources that affect our existence and quality of life. It includes all the biotic and abiotic factors.

- **Biotic** factors include all the **living creatures** such as, plants, animals, forests, etc.

- **Abiotic** factors include **non living creatures** such as, air, water, land, sun, etc.

- **Dynamic Functions of Environment**
  - **Offers production resources** such as, minerals, water, soil, etc.
  - **Sustains life** by providing vital ingredients such as sun, soil, water and air that are necessary for the survival of life.
  - **Assimilates wastes**
  - **Enhances quality of life** by providing scenic beauty that everybody admires and that **adds to the quality of human life**.

- **Carrying capacity of environment** refers to the situation
  - when the exploitation of resources < the regeneration of resources and
  - when the generation of wastes < the absorption capacity of the environment

- The two basic problems related to environment are **pollution** and **excessive exploitation (degradation) of natural resources**.

- The excessive exploitation of natural resources to achieve higher rate of growth is referred to **overuse of resources.**

- A situation of diversion of resources to the wrong use is called **misuse (or misallocation) of resources.**

- **Environment crises occur** when the carrying capacity of the environment is challenged through excessive exploitation and through excessive generation of wastes.

- **Renewable resources** are those resources that cannot get exhausted on use and can be replenished easily. For example, solar energy, water, wind, etc.

- **Non-renewable resources** are those resources that are likely to be exhausted or depleted on excessive use. These are not easily regenerated. For example, petroleum, coal, iron–ore, etc.

- **Global warming** refers to a situation of rising global temperatures due to environmental pollution and deforestation. It is caused by the emission of the Green House Gases that particularly include carbon dioxide.

- The radiations that penetrate to the earth's surface due to the depletion of the ozone layer are termed as **ultraviolet radiations**.

- CPCB (**Central Pollution Control Board)** was set up in 1974, aimed at spreading awareness among the people regarding the extent of possible dangers of environmental pollution.

- The **gradual but consistent loss** of fertility of land is termed as **degradation of land**.

- The removal of the upper layer of soil that is caused either by the strong winds or floods is termed as **soil erosion**.

- **Causes of Environmental Degradation**
  - **Growing population** lead to exhaustion of the vital resources *via* intensive and extensive extraction of both renewable and non-renewable resources.
  - **Abject poverty** forces people to cut trees (deforestation) and rear cattle (overgrazing) to earn their livelihood. That leads to degradation of environment.
  - **Widespread urbanisation** and preference towards nuclear family system is leading to large scale deforestation.
  - **Rapid industrialisation** causes deforestation and depletes the natural resources.

- **Steps to Save Environment**
  - Creating social and general awareness
  - Controlling population and levying taxes on industries polluting environment.
  - Enforcement of Environment Conservation Act
  - Opening up of new sanctuaries, wildlife and national parks to conserve ecological balance.
  - Launching Afforestation Campaign and need of more movement such as, *Chipko* Movement.
  - Recycling wastes
  - Controlling population
  - Use of input efficient technology

- **Sustainable development** is the process of economic development that aims at meeting the needs of the present generation without compromising with the needs of the future generations. It maximises the welfare of both present and future generations.

- The concept of sustainable development is aligned with the view of the Brundtland Commission. This commission highlighted the need for handing over the earth (in good condition) to the future generation in such a manner that it does not affect the productive capacity of the future generation.

- **Features of Sustainable Development**
  - Efficient and judicious use of the natural resources.
  - Controlling pollution levels.
  - Sustained rise in the real per capita income and economic welfare, i.e. growth with equity.
  - Achieving high economic growth rate without compromising with the needs of the future generations. In other words, it implies that in a blind rage of achieving high economic growth rates for the present generation, the productive capacity of the future generations should not be impaired.

❖ **Strategies for Sustainable Development**

- Use of environment supportive fuel that are cleaner and smokeless such as, CNG, etc.
- Use of renewable resources that are non-exhaustible and pollution free.
- Promotion of use of *gobar gas* and solar energy in the rural areas.
- Encouragement and incentives to organic farming.
- Limited use of chemical fertilisers, pesticides, etc.
- **Recycling wastes** by accumulating and classifying the wastes into biodegradable and non-biodegradable wastes.
- **Strategic and judicious** use of renewable resources.
- **Employing input efficient technology leading to increased productivity and** continuous efforts should be made for **regular technological innovations and appreciation *via* R & D**