

Chapter – 18

Pollution of Air and Water

Pollution: An undesirable change in the physical, chemical or biological characteristics of air, water and land that may be harmful to human life and other animals, living conditions, industrial processes and cultural assets.

Pollutants: The agents that pollute our environment are called pollutants. Pollutants are the substances which contaminate air, water and land. For eg. smoke ,dust,fog and gases like sulphur dioxide and nitrogen dioxide.

Air pollution is the contamination of air by impurities which may have a harmful impact on the living organisms and the non-living components.

Sources of Air Pollution:

Natural Sources: Smoke and dust arising from forest fires or volcanic eruptions. Methane gas arising from decaying organic matter.

Man-made Sources: Exhaust gases from factories, power plants and automobiles.

Carbon monoxide, nitrogen oxides, carbon dioxide, methane and sulphur dioxide are the major pollutants of air.

Smog is a mix in the air of smoke and chemicals with fog. The chemical components of smog can include ozone, sulphur dioxide, nitrogen dioxide and carbon monoxide. Smog can trigger breathing difficulties like asthma and coughing.

Steps to prevent air pollution:

- Use of fuels like CNG and unleaded petrol in automobiles.
- Switching to alternative fuels, like solar energy, hydropower and wind energy.
- Planting trees.
- Travelling to school on a bicycle or on public transport or car pooling.
- Avoiding the burning of leaves, trash and vegetable matter.

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- Restricting cigarette smoking.

Increasing levels of greenhouse gases like CO₂, CFC (Chlorofluorocarbon) are leading to **global warming**. Excessive use of CFCs damages ozone layer which protects the earth from harmful UV rays emitted by the sun.

Greenhouse Effect and Global Warming:

The sun's rays warm the earth's surface. A part of the radiation that falls on the earth is absorbed by it and a part is reflected back into space. A part of the reflected radiation is trapped by the atmosphere due to presence of gases like water vapor, carbon dioxide, methane, nitrous oxide etc known as greenhouse gases. This is known as greenhouse effect.

The trapped radiations further warm the earth and have adverse effects such as melting of glaciers and increasing sea levels. This phenomenon is known as global warming.

Water pollution is the contamination of water by objectionable and harmful substances such as sewage, toxic chemicals, silt, etc.

Sewage, agricultural chemicals and industrial waste are some of the major contaminants of water.

Water which is purified and fit for drinking is known as **potable water**.

Water is a precious natural resource. We must learn to conserve it.