

Pollution:

It is the contaminants into the natural environment that cause adverse change on human or other species of our biosphere directly or indirectly. Pollution is also defined as the process of making environment dirty and not safe or suitable to use. It can take the form of chemical substances or energy as noise, heat, light etc.

Pollutant:

Pollutants are physical or chemical substances that get introduced into the natural environment, beyond permitted limits, and cause harmful effects to the population in a visible way. It makes the environment pollution. These pollutants are non essential substances in wrong amount at wrong place or wrong time.

In terms of ecosystem, the pollutants can be classified into two basic groups.

- a. Biodegradable pollutants:** These are broken down or being removed by natural action or by microbial action. These cause pollution when their rate of formation is higher than degradation. eg: sewage, solid waste of animals or plants etc.
- b. Non-biodegradable pollutants:** These are not broken down or remove by natural action or by microbial action. Most of these are accumulated in the environment. eg: plastics, glass, aluminum cans, heavy metals, phenolic compounds, DDT, BHC etc.

There are five major types of pollution. They are air pollution, water pollution, soil pollution, light pollution and noise pollution

Water Pollution

The addition of some substances (organic, inorganic or biological) or factor that degrades the quality of water is called water pollution. Polluted water is turbid, bad smelling, unpleasant that hazards the health of living organisms as well as unfit for use.

Source of water pollution

1. Domestic sewage and other domestic activities
2. Industrial pollutants as pulp, fibres, rubber, plastics, different metals etc.
3. Agricultural pollutants as pesticides and fertilizers
4. Accidental discharge of petroleum from the oil tankers and oil refineries
5. Natural rocks and soil

Effects of water pollution

1. Domestic wasters and untreated sewage create bad smell in water as well as in air.
2. It causes acid rain that changes the pH of water.
3. It has created adverse effects on livestock and wild animals as well as whole ecosystem.
4. Oil spill and leakage affects the aquatic life as well as aquatic ecosystem.
5. Hot water leads death of aquatic organisms and increases BOD.
6. Phosphates of detergents stimulate the algal growth leads into eutrophication.
7. Contaminated water cause different types of infectious diseases like cholera, jaundice typhoid dysentery etc.

Control of water pollution

1. Treating effluents making harmless before discharging into water sources.
2. Uses of pesticides and fertilizers should be minimized.

3. Biological control should be adopted instead of chemical control of pests.
4. Local community should be involved to take active part in pollution controlling mechanisms.
5. Afforestation should be encouraged as many plants absorb harmful pollutants.
6. Enforcing and implementation of laws to reduce water pollution especially for industries.

Air pollution

It is defined as occurrence of foreign materials or gases in the atmosphere which are harmful to living and non-living environment. In other words, air pollution may define as a mixture of solid particles and gases in the air.

Sources of air pollution

1. Industrial pollutants
2. Vehicles
3. Domestic burning
4. Agricultural activities
5. Smog
6. Other pollutants

Effects of air pollution

1. It causes green house effects that cause increases temperature of the earth.
2. It causes acid rain.
3. It also leads ozone layer depletion.
4. Smoke and dust cause respiratory disorder. It also reduces photosynthesis.
5. Hydrocarbon caused eye irritation, coughing, sneezing. They also causes premature leaf fall and fruit drop.
6. Hydrocarbons have carcinogenic effects on lungs also.

Control of air pollution

1. The use of crude fuels should be avoided.
2. Alternative source of energy as solar energy, electricity, bio gas can be used.
3. Regular maintenance of vehicle is necessary.
4. Industries should be established far away from the settlement areas.
5. Effluents from industries must be pretreated before discharging into the atmosphere.
6. Afforestation should be encouraged as many plants absorb harmful pollutants.
7. Enforcing and implementation of laws to reduce water pollution especially for industries.

Environmental Imbalance:

Any disturbance in ecological system that leads different abnormalities in nature is called ecological imbalance or environmental imbalance. The major environmental imbalances are green house effect, acid rain and ozone layer depletion.

Green house effect: It is increasing the temperature of earth due to absorption of heat and light by green house gases which are not releases out. Green house gases are the different natural and artificial gases that absorb heat and light. There are found different green house gases such as oxide of carbon, oxide of sulphur, oxide of nitrogen, methane, CFC, water vapour etc.

Causes of green house effect:

1. Deforestation
2. Uncontrolled population
3. Uncontrolled urbanization
4. Industrialization
5. Devices use CFC

Consequences of green house effect:

1. It helps in evolution.
2. Global warming
3. Cause different natural hazard
4. Melting of ice
5. Reduce agricultural productivity
6. Spreading different diseases

Control measure of green house effect:

1. Forestation
2. Uses of alternative sources of energy
3. Reduce the uses of old vehicles
4. Reduce the uses of CFC

Acid rain: It is the falling of water which is acidic in nature due to the mixing of oxides of carbon, oxides of sulphur and oxides of nitrogen.

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Ozone layer depletion: It is the thinning of ozone layer due to the deposition of different harmful gases in our atmosphere.

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