# Water Pollution a Threat to the Living World

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The history of human civilization reveals that life processes and water are synonymous i.e., life is impossible without water.

Several cities and civilizations have disappeared due to water shortages originating from climatic changes.Examples are Harappa & Mahenzodaro civilization.

Millions of people all over the world, particularly in the developing countries are losing their lives every year from water -borne diseases.

Hydrosphere i.e. earth's water supply is divided into three parts. These are 97% is in the ocean, which is unfit for human consumption and other uses because of its high salt content; 2% is locked in the polar ice caps and 1% is available as fresh water in rivers, lakes, streams, reservoirs and ground water which is suitable for human consumption.

Fresh water, suitable for human consumption are of two types, i) surface water and ii) ground water. Surface water contains a lot of organic matter, mineral nutrients, algae and bacteria populations.

` Ground water contains dissolved minerals from the soil layers through which it passes. In the process of seepage through the ground, the water gets depleted of most of the micro-organism originally present in the surface water. Though the salt content may be high, it is generally superior as a domestic water source.

The mass balance of annual rainfall shows that about 70% is lost by direct evaporation and transpiration by plants, while the remaining 30% goes into the stream flow.

The approximate break up of this stream flow, as consumed by man, is 8% for irrigation, 2% for domestic use, 8% for industries and 12% for electrical utilities (power plants).

*Plastics and other water pollutants make the water flow very impossible.*

The surface water resources continue to be contaminated with run off water from agricultural fields, containing pesticides fertilizers, soil particles, waste chemicals from industries and sewage from cities and rural areas. In order to reuse, water must be purified.

POLLUTANTS

The large number of water pollutants may be broadly classified under the following categories:-

1. Organic pollutants.
2. Inorganic pollutants.
3. Sediments
4. Radioactive materials.
5. Thermal pollutants.

***ORGANIC POLLUTNANTS***

This group includes oxygen demanding wastes, disease causing agents, plants nutrients, sewage, synthetic organic compounds and oil.

Dissolved oxygen (DO) is an essential requirement of aquatic life, i.e. plant and animal population in any water body. The optimum D.O. in natural water is 4-6 ppm. Decrease in this DO valve is an index of pollution mainly due to