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Study of pollution of water and its reasons

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Introduction : Water they say is life, and indeed they were right. With about 70% of the earth's cover being water, it undeniably becomes one of our greatest resources. As young students, we learned about the various ways to conserve water; coming to think of it, water is used in almost every important human chores and processes. It is an important element in both domestic as well as industrial purposes. However a closer inspection of our water resources today, give us a rude shock.

Infested with waste ranging from floating plastic bags to chemical waste, our water bodies have turned into a pool of poison. The contamination of water bodies in simplest words means water pollution. Thereby the abuse of lakes, ponds, oceans, rivers, reservoirs etc is water pollution. Pollution of water occurs when substances that will modify the water in negative fashion are discharged in it

What is water pollution?

Water pollution can be defined in many ways. Usually, it means one or more substances have built up in water to such an extent that they cause problems for animals or people. Oceans, lakes, rivers, and other inland waters can naturally clean up a certain amount of pollution by dispersing it harmlessly. If you poured a cup of black ink into a river, the ink would quickly disappear into the river's much larger volume of clean water. The ink would still be there in the river, but in such a low concentration that you would not be able to see it. At such low levels, the chemicals in the ink probably would not present any real problem. However, if you poured gallons of ink into a river every few seconds through a pipe, the river would quickly turn black. The chemicals in the ink could very quickly have an effect on the quality of the water. This, in turn, could affect the health of all the plants, animals, and humans whose lives depend on the river.

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Causes of Water Pollution

Water pollution is caused due to several reasons. Here are the few major causes of water pollution:

Sewage And Waste Water: Sewage, garbage and liquid waste of households, agricultural lands and factories are discharged into lakes and rivers. These wastes contain harmful chemicals and toxins which make the water poisonous for aquatic animals and plants.

Dumping: Dumping of solid wastes and litters in water bodies causes huge problems. Litters include glass, plastic, aluminum, styrofoam etc. Different things take different amount of time to degrade in water. They affect aquatic plants and animals.

Industrial Waste: Industrial waste contains pollutants like asbestos, lead, mercury and petrochemicals which are extremely harmful to both people and environment. Industrial waste is discharged into lakes and rivers by using fresh water making the water contaminated.

Oil Pollution: Sea water gets polluted due to oil spilled from ships and tankers while traveling. The spilled oil does not dissolve in water and forms a thick sludge polluting the water.

Acid Rain: Acid rain is pollution of water caused by air pollution. When the acidic particles caused by air pollution in the atmosphere mix with water vapor, it results in acid rain.

Global Warming: Due to global warming, there is an increase in water temperature. This increase in temperature results in death of aquatic plants and animals. This also results in bleaching of coral reefs in water.

Eutrophication: Eutrophication is an increased level of nutrients in water bodies. This results in bloom of algae in water. It also depletes the oxygen in water, which negatively affects fish and other aquatic animal population.

Treating polluted water

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It is very important to prevent the polluting of water bodies and remove existing contaminants or reducing the concentration of these contaminants so as to make it fit for desired use. Following are some of the ways of treating polluted water:

Industrial Treatment: The raw sewage is needed to be treated correctly in a water treatment plant before it can be safely released into the environment. To reduce the amount and toxicity of waste, it is passed through a number of chambers and chemical processes in water treatment plant. **Denitrification**: Conversion of nitrates in gas is called Denitrification. It is an ecological approach to prevent leaching of nitrates in soil. It stops ground water from getting contaminated.

Ozone Waste Water Treatment: Ozone waste water treatment method is becoming very popular. In this method, the pollutants in water are broken down by an ozone generator. Ozone oxidizes bacteria, molds, organic material and other pollutants in water.

Septic Tanks: Septic tanks are used to treat sewage at the place of location instead of treating it in any plant or sewage system. This system is used at the individual building level.The sewage is separated into solid and liquid components and treated separately.

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