

Q) Write a note on water pollution and how can we minimize it?

Introduction.

Earth is blessed with the blessing of water that all living organisms use for their survival. On planet earth 97% of water is saline (ice water also included in this percentage) and only 3% water is fresh water. However, the activities brought by mankind is polluting the water causing harm to living organisms.

Water pollution.

Any change or modification in the physical, chemical and biological properties of water that cause harm to living organisms is called "water pollution". These modifications are usually brought by human activities.

Water pollutants and their impacts.

There are different types of water pollutants that can cause harm to living organisms. Amongst them the most important and the harmful ones are discussed here.

i) Organics.

Organic compounds that are discharged from industries and domestic sewage contaminate the water by depleting oxygen levels of oxygen from the water, hence, suffocating aquatic life.

ii) Pathogens and microbials.

Pathogens and microbials are also produced by the domestic sewage and it is also a byproduct

of animal and cattle faeces. It also can be contaminated water then cause health concerns to humans such as diarrhoeal disease, infections to intestine, intestinal parasites and childhood mortality.

iii) Nutrients.

Nutrients are the by-product of human activities in industries, urban areas and agricultural lands. The increased nutrients levels in the water stimulates the growth of algae by ~~decom~~ reducing oxygen levels of the water and causing harm to aquatic life.

iv) Acid, Alkaline and other inorganic compounds.

Activities brought by humans in mining areas, electric power generation and other industrial areas give rise to different types of inorganic compounds that in return contaminate the water by acidifying it. The ~~are~~ this water is harmful for aquatic life.

v) Heavy metals.

Different types of heavy metals such as zinc, cadmium, lead etc. are produced from mining activities and industrial activities causing harm to aquatic life. ~~or~~ of the fishes will drink water with heavy metals in it, the metal will accumulate in ~~fishes~~ fish's tissues.

vi) Toxic organic compounds.

Farmers, gardeners, automobiles and industrialists ~~some~~ use toxic organic compounds for their benefits but these organic compounds when discharge in water cause serious harm to a living organisms. ~~the~~ toxic organic ~~compounds~~ the water containing these toxic organic compounds will

Cause serious health concerns to humans as it impacts reproductive failure and serious poisoning and immune suppression as well.

viii) Thermal.

The discharge from end of pipe while fragmenting of fragmentation of rivers by dams and reservoirs showing water and allowing it to warm produces thermal. It also changes the oxygen levels of ~~water~~ oxygen in the water ~~by~~ and causing suffocation to aquatic life.

Standards of water Quality.

Standards of drinking water quality was set up by Geneva in 1993. However, no country is bind to follow it. Pakistan completed its standards of drinking water quality in 2008. which are related more closely to WHO's standards. For instance, the pH of water must be between 6.5-8.5, no objection to taste and odour. etc.

ways to measure water quality.

Several ways can be used to measure the quality of water such as the levels of oxygen by dissolved oxygen, pH amount of nutrients, bacteria and turbidity etc.

Minimizing water pollution.

Several measurements can be taken to protect aquatic life and human life from contaminated water and their impacts.

i) Eco-friendly source of energies.

Industrialists, Agriculturers, & can minimize the harmful discharge by using eco-friendly energy resources such as wind energy, solar energy, etc. These energy resources are eco-friendly and produce less harm. if discharge in the atmosphere.

ii) Proper disposal of Harmful by-products.

If industrialists, agriculturers and others who are using organic and inorganic substances dispose off the harmful chemicals by properly managing it before reaching it to oceans and lakes, the water pollution can be minimized.

iii) Eco-friendly chemicals.

If the harmful chemicals will be reduced with eco-friendly chemicals it will help minimize water pollution in two ways. First, it will not add harmful chemicals to the water and will not damage the oxygen levels. Second, even if the chemical will be released in water the damage will be lower comparatively to that of harmful chemicals.

iv) Toxic fumes generated by industries must be managed properly.

Industries by ~~providing~~ following measures of proper filtration, and cleaning process can reduce the mixing of toxic chemicals into the water hence, reducing water pollution.

v) Produce Eco-friendly Goods .

~~Industries~~ last but not the least, industries must ~~lastly~~ focus on producing eco-friendly products rather than harmful eco-unfriendly products. As, the eco-friendly products can be re-used and recycled by causing less harm to aquatic and human life by ~~protecting~~ ^{reducing} the contamination of water.

Conclusion.

Water is a blessing and ~~an~~ essential ~~for~~ for living organisms. Various industrials, agricultural and domestic activities are contributing into water pollution. However, by taking careful, proper, and informed decisions and changings we can reduce this pollution and can protect aquatic and human lives.