

4. Water Pollution its Sources and Preventive Measures : A Review



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Abstract

Our Environment is surrounded with water, air, animals, trees and etc around us. India is rich in water resources, being endowed with an association of rivers and blessed with snow cover in the Himalayan range that can meet a variety of water requirements of the country.

Water is life for all but this water is polluting day by day in severe condition. So it can be said that our life (water) is not safe now. We are in the threat today. Industrialization and urbanisation and the growing population are increasing day by day in today's scenario. The aim of this paper is to demonstrate the relation between water and the environment, to define the sources of water pollution, and to identify the correct solutions for this problem.

Introduction

Water pollution means a contamination of water leading to the alteration of physical, chemical or biological properties of water rendering such water harmful or injurious to public health and defines water pollution as the presence of too much of undesirable foreign substances in water from external environment adversely influencing the quality of water making it unfit for drinking, bathing, washing, irrigation, fisheries, etc. The drinking water standards of the U.S. Public Health Service states that pollution, as used in these standards means the presence of any foreign substance (organic, inorganic, radiological, or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness of water. The quality of water is described by its physical, chemical and microbiological characteristics. These characteristics are many and interlinked. Groundwater quality comprises the physical, chemical, and biological qualities of ground water. Temperature, turbidity, color, taste, and odor make up the list of physical water quality parameters. Since most ground water is colorless, odorless, and without specific taste, we are typically most concerned with its chemical and biological qualities. Although spring water or groundwater products are often sold as "pure," their water quality is different from that of pure water. Water quality plays a vital role in all aspects of living

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continuously increasing. Some of which are processing problems. For example synthetic detergents, now complex compounds such as cleaners and water based paints also find their way into it. Sewerage garbage and organic material dumped into the water bodies kill aquatic lives because of the reduction in oxygen concentration.

2. Uncontrollable Source

All urban wastes that reach the stream other than through organized sewage system and treatment works are uncontrollable sources. This constitutes a great contribution of water pollution. The uncontrollable source is usually intermittent, associated with the occurrence of rainfall.

Industrial Source

Today industry contributes more water pollution than do household users. The major industrial pollutants are the chemicals, metals, paper and food industries etc. Wastes from industries such as pulp mills, leather work, tanneries, sugar mills, oil refineries, jute mills, coal washeries, petroleum and chemical fertilizer plants are mostly complex organic compounds. These are emptied directly into natural water bodies. The effluents from industries are resistant to breakdown. They result in disastrous consequences upon the existing eco-systems. Rapid industrial development has indeed been responsible for the numerical decline of macrophytes, which constitute an important constituent of aquatic eco-system. Chemically polluted water either damages the growth of crops or changes the aquatic vegetation due to artificial nutrients and is totally unfit for live-stock to drink. Cyanides, acids, alkalis and other industrial wastes affects the inhabitants of river upto several kilometers downstream.

Table 1: Toxic Chemical Production in India (During 1960 to 1987)

Industries	Pollutants Released (Thousand tones)			
	1960	1970	1980	1980-87
Pesticides	1.46	3.00	40.68	56.20
Dyes & Pigments	1.15	13.55	30.85	
Organic Chemicals	580	17100	24100	42,500
Petrochemicals				
Fertilizers	153	1059	3005	7000
Steel (Ingots)	1500	3400	8000	9000
Non-ferrous metals	8.5	34.6	82.9	123.4
Caustic soda	101	304	457	764

Source: C.O.I. Publication, India, 1988-89.

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water is another threat to cities where nuclear power plants are located. Some other miscellaneous sources of water pollution are construction activities, mines dumps and landfills.

Water Control of Pollution Act

The water (prevention and control of pollution) Act was enacted in 1974 to provide for the prevention and control of Water pollution, and for the maintaining or restoring of Wholesomeness of water in the country. The act was amended in 1988. In India CPCB (central pollution control board) play an important role for prevention of water and control of pollution).

Pollution by Plastic Waste

Modern pollution caused by plastic and polythene now a day, the main reason for water pollution is plastic waste, which is dined by us. Around all cities, plastic waste is ruling. The waste was put into the plastic bags and thrown away the central pollution control board was surveying around five big cities of India, about plastic waste. According to the production of plastic which does water pollution, the No.1 city is Chennai and No.2 is Kolkata. After that Mumbai, Bangalore and Delhi comes respectively. After the worship of god, the waste was put in the plastic bag and thrown away. So, the water pollution occurs to see that, we have to stay nearby the rivers like Ganga, Yamuna polluted by plastic waste.

Steps to prevent water pollution

i) Use of chemicals should be less to clean your home ii) Dispose of waste should be done properly iii) Don't flush medication iv) Don't flush trash v) Conserve as much water as possible vi) Avoid using plastic vii) Recycling and Reuse of water viii) Don't use pesticides and herbicides ix) Remove concrete surfaces and replace them with ground cover x) Prevent soil erosion from occurring xi) Clean up waterways xii) Inspects your septic system every 3-5 years xiii) Don't wash paint brushes in the sink xiv) Get involved at school and work xv) Swachh Bharat Abhiyan should be made a success. xvi) Speak up about water issues that affect your community xvii) Finally Enforcing Laws to prevent water pollution

Conclusion

We can conclude that due to various sources of water pollution, water quality is deteriorating day by day and there is need for the proper treatment of water and to reduce water pollution. The effect of water pollution may appear immediately after exposure or may be after sometime after repetitive exposure to water contaminated with lower amount of pollutants. We should strictly obey all the laws concerning water pollution. Industries should take care that the water should not be polluted. Common public should be aware about the effect of water

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pollution on human health: a Review .Aisha Perveen¹ and Sayeda Shifa Zaidi²