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Innovation The Research Concept

Physico–Chemical Character in Fresh Water Body: A Sarvey of Guda Dam

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Abstract

Water Quality is fundamental for good river health. Water quality sustains ecological processer that supports native fish population, vegetation, wetlands bird life. Water quality is commonly defined by its physical, chemical, biological and aesthetic characterstic. Water quality in a Dam influences the way in which communities use the water for activities such as drinking, swimming or irrigation water quality is managed and assessed in terms of indicators for levels of bacteria and physical and chemical change in water quality. In this study water sample collected from different time period in Guda Dam. Guda Dam was made in 1958 on maj-chambal rivers. The hight of Dam is 25 meter and lenth of Dam is 2760 meter.

Keywords: Guda Dam, Fresh Water, Coliform.

Introduction

Water is essential for the survival of any form of life. Today water resources have been the most exploited natural system since man stode the earth. Pollution of water bodies is increasing tremendously due to rapid population growth, industrial proliferations, urbanization, increasing living standards and wide spheres of human activities. Ground water, rivers, seas, lake, ponds, streams are founding it more and more difficult to escape from pollution. In India the rivers receive heavy flux of sewage, industrial effluents, domestic and agricultural waster which consists of substances varying from simple nutrient to highly toxic hazardous chemicals. The water pollution is obvious to all such as bad taste of drinking water, offensive odours decrease in number of fish in fresh water. The factors disturb the normal uses of water for public water supply, aquatic organisms and wild life, agriculture and industry.

Polluted water is a major cause of human diseas and death. According to the World Health Organization (WHO) as many as 4 million children die every year as a result of diarrhea caused by water borne infections.The bacteria most commonly found in polluted water are coliforms excreted by humans, surface runoff and many other pollution contributes significantly to high level of pathogens in surface water bodies. Use of polluted water for irrigation as a result most common diseases associated with contaminated irrigation waters are cholera, typhoid, ascariasis, amobiasis, giardiasis and enteroinvasive E. Coli. Crops that are most implicated with spread of these dieases are ground crops that are eaten raw such as cabbage, lettuce, strawberries etc.

Aim of the Study

Water is mostly used for industrial and municipal purposes. The right quality and quantity of water for these purposes it is very important to monitor water supply throughoutly taking all the aspects into consideration. The various factors which are to be considered for the supply of water for any purpose are the quantity of the water available and influence of industrial wastes. Sewage etc. on the quality of water. It is also important that the analysis of wastes taking into consideration its chemical. Physical, microscopical and bacteriological characteristics.

Present study is involved analysis of physic-chemical data from Guda Dam from selected point in order to assess suitability of drinking and irrigation water.These problems are particularly acute in developing countries where poor water management systems are exacerbating the problems. It was purposed that the waste originated from domestic and industrial activities should be treated before discharging them to the water bodies and amount of fertilizer and pesticides used in agriculture should be under strict control throughout the basin in older to protect the water quality and prevent pollution of the water resources.

Experiment

The quality test survey of Guda Dam water was conducted in the post monsoon season. The water sample was collected from morning hours for which air tight water bottles used. Water sample for testing coliform bacteria should be collected in a special type of bottle. The sample bottle contains a white powdery substance, which is a de-chlorinating agent, to keep the bacteria alive. The calcium and Magnesium hardness were determined by the EDTA titration.

Physico–Chemical Parameters of the Jait Sagar Lake

1.	pH	7
2.	Turbidity	6 mg/l.
3.	Total Alkalinity (as ca co_3)	160 mg/l.
4.	Total Hardness (as ca co_3)	120 mg/l.
5.	Calcium Hardness (as ca co_3)	70 mg/l.
6.	Magnesium hardness (mg//.)	50 mg/l.
7.	Chloride	60 mg/l.
8.	Nitrate	8 mg/l.
9.	Fluoride	1.35 mg/l.
10.	Total dissolved solid	200 mg/l.
11	Coiliform organism (MPN)	2400

Result and Discussion

In current study, to determine the suitability of water for any purpose. It is clear from the analysis that the Dam water of the study area are natural in nature with 7 pH. Fluoride level was found in 1.35 mg/l that is lower than the maximum range 1.5 mg/l. Contents of calcium hardness were observed in range 70 mg/l and magnesium hardness values were estimated in 50 mg/l. The value of chloride was found in sample was 60 mg/l and law value of Nitrate concentration were found in water sample. Concentration of total solid were obtained in 200 mg/l and the total hardness of water was 120 mg/l. Water with TDS less than 300 mg/l is desirable for dyeing of cloths and the manufacture of plastics, pulp paper etc. In Guda Dam we found coliform bacteria in a large value. Bacterial pollution in water is caused by the excretory products of man, animals and birds. The main pollutants belong to coliform, group and certain subgroup, facial streptococci and miscellaneous organisms. Bacterial contamination does not change the appearance, smell or taste of water. Testing by a laboratory is the only way to know if water contains coliform bacteria.

Water containing any total coliform or E. Coli should not be used for drinking or food preparation unless boil it for a minimum of five minutes. This also includes water used for making infant formula, ice or coffee, brushing teath, and washing fruits and vegetables eaten raw. However, boiling for killing bacteria in water with problematic levels of other chemical contaminants may increase their concentration. Beause coliform bacteria usually perrist in water longer then most disease causing organisms, the absence of coliform bacteria indicates a general microbiological safety of the water supply.

Conclusion

Clean water is essential for healthy environment to support life system on this planet. The rivers, the life line of our culture and economy are dying because of severe pollution. This water pollution abatement and resource management are interlinked concepts which are at the top of our national agenda. In Guda Dam fluoride value was 1.34. At drinking water concentration between 0.9-1.2 mg/l fluoride may give rise to mild dental fluorosis. The problems associated with the excess fluoride in drinkingwater highly endomec and widespread in countries like India. The result indicated that TDS, fluoride and coliform bacteria value were obtained higher. These parameter have high value, which may be due to discharge of sewage wast and low rainfall.

In view of the above it has been observed that the samples of all the sites are slightly polluted and not suitable for direct consumption for drinking.

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