



Study of Physio-Chemical Parameters of Water from Different Lakes in Amravati

KEYWORDS

Amravati District, Lake, Dam Water, Parameters

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ABSTRACT In Amravati district have some lakes and damp the most popular are Simbhora (Morshi) damp, Pohara Lake (Malkhed), Chatri Lake and Wadali Lake. Our aim is to check the water quality index (WQI) from above water resources whether the water is potable for drinking purpose or not. For this study we collect different water sample from Simbhora damp, Pohara Lake, Chatri Lake and Wadali Lake. In the present work some physical and chemicals parameter are determined experimentally. Record the permissible value and compared with standard permissible range. In the present study most of the parameters are observed within the prescribe limit of IS and WHO. At this preliminary study, it can be atleast seen clearly that all the lake and damp are good resource of water for drinking purpose.

INIRODUCTION

In Amravati district Maharashtra have some lakes and damp the most popular are Simbhora damp, Pohara Lake, Chatri Lake and Wadali Lake. Water is an important component of the environment, and it supports life on earth. Water plays an important role in photosynthesis and hence is important for crop (Sachidanandamurthy and Yajurvedi, 2006). Due to the discharge of sewage and industrial effluents into natural source of water, such as rivers, streams, and lakes, almost 70% of water in India has become polluted. The Government of India showed its commitment for conservation of our environment more than a decade ago by passing the water prevention and control of pollution law in 1947. The quality of ground water generally described by their physical, chemical and microbiological characteristics. Nevertheless, the number of such characteristic. It is necessary to fully specify the quality of the water is high enough. But we can find some correlation between these different parameters. The correlation between the physical and chemical parameters of industrial wastewater, as amended soils would be very advantageous because the chemical composition of an important deciding factor for the wastewater treatment process, the definition of several important parameters will be enough to give some idea about the overall quality of industrial waste water, because parameters and other functions can be explained and accounted for by using these conditions (Trivedi and Goel, 1984). Correlation and regression analysis of physico-chemical data sinks of various industries are important. When you are on the strength of the joint is important to determine the strength of the correlation between the two variables. This means extend predictability if one variable from the other (Chester and James, 1996). Pollution load contributed watercourses physical, chemical and biological in nature. Most industries in India were located in and around cities. Water is necessary to all forms of Life. The Earth's surface measures 50 billion hectares in area; 20% of the land area and the rest (80%) are covered with water. Nothing can survive on Earth without water. A person consumes an average of about 2 liters of water each day. More than 70% of the weight of the human body consists of water. Man contaminated much of this limited amount of water with sewage, industrial waste and a wide range of synthetic chemical addition. In the present study attempts were made to monitor physico-chemical water qualities for drinking purposes from the damp and lake in

Amravati district.

MATERIALS AND METHOD

Physical	Chemical
Temperature	Dissolved Oxygen
Colour	Biological oxygen Demand
Odour	Chemical Oxygen Demand
Turbidity	pH
Foam and froth	Chloride, Calcium, Magnesium, Hardness,
Conductivity	-
Solids	-

Collection of water sample

In the study area some physical and chemical parameter are determine experimentally shown in table No.1 Water resource chosen for this work are damp in Amravati district (Maharashtra).Water samples are collected from various part damp regions. The samples are collected with the help of beaker through filter paper on funnel and collected in bottles. At the time of collection temp should be measured. The water sample four is turbid and harmful that collected very carefully all the water sample are collected not directly with hand but the care should be taken as water collected with wearing handglove and with the help of beaker.

RESULTS AND DISCUSSION

The analytical result of samples collected from various area of Amravati district (Table 2) pH was observed in the range 7.5-8.1 which indicates that water is basic. Conductivity was found in the range of 0.5-1.2 Mhos which shows presence of inorganic acid, base and salt. From DO level it is found that water is favourable for aquatic life or not. The DO level recorded in the range of 0.780-0.785 mg/L.

Hardness was recorded in the range of 170-470 mg/L. Calcium was recorded in the range of 55.12-185.3 mg/L. BOD gives an indication of load of biodegradable organic material present in the water body. The BOD level was not found in the water samples. The COD is amount of oxygen required for oxidation of organic constituent with strong oxidizing agent. The COD was not found in the water samples. Wanjari et al (2013) were studied and analysed Physico-chemical Parameters of Jamtala Region water in Shendurjanaghat, District –Amravati, Maharashtra for the period of one year i.e. September 2011 to June 2012. Physical and Chemical Parameters Such as Water Temperature, Total Dissolved Solids, pH, Dissolved Oxygen, Free Carbon dioxide, and Total Hardness, Chlorides, Alkalinity, Phosphate and Nitrates. The results of this study indicate that the region is Non-polluted and can be used for Domestic, Irrigation and Pisciculture. It has been found that the water is best for drinking purpose in winter and summer seasons. Pund and Ganorkar (2013) indicates that the quality of underground water parameters like pH, chloride, total hardness and calcium lye within the maximum permissible limit prescribed by WHO and Indian standards specification for drinking water except magnesium which just cross the desirable boundary line. It has also been concluded that the water has no hazardous effect on human health. So on the basis of these, water was potable. Analysis of water quality for fishery and agriculture by monitoring parameters like pH, conductivity, TDS, BOD, Hardness of water. (Gaddamwar A.G., Rajput P.R 2012) The Malkhed lake water did not show any significant pollution except nitrates and BOD (Deshmukh 2014)

ochemical parameters of the water sample found in normal range and revealed that better quality of water. Quality of said resources under study is nearly normal for drinking purpose, but is recommended that water analysis should be carried out from time to time to check the pollutant contamination rate.

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Sr. No.	Parameters	Value Obtained Wadali Lake	Value Obtained Chatri Lake	Value Obtained Pohara Lake	Value Obtained Simbhora dam	Standard According to WHO
1	Temperature	38° C	39° C	39° C	38° C	Less than 40 ° C
2	pH	7.9	7.5	8.1	7.6	7.81
3	Free CO ₂	Absent	Absent	Absent	Absent	--
4	Dissolved Oxygen (DO)	0.780 mg/L	0.783 mg/L	0.782 mg/L	0.785 mg/L	Less than 5 mg/L
5	Biological oxygen demand (BOD)	--	--	--	--	--
6	Chemical oxygen demand (COD)	--	--	--	--	Less than 10 mg/L
7	Hardness	470 mg/L	350 mg/L	170 mg/L	280 mg/L	--
8	Calcium	185.3 mg/L	125 mg/L	55.12 mg/L	103 mg/L	75-200 mg/L
9	Magnesium	279 mg/L	192 mg/L	82 mg/L	153 mg/L	50-150 mg/L
10	Chloride	102.2 mg/L	87.6 mg/L	58.4 mg/L	58.4 mg/L	Less than 250 mg/L
11	Colour	Colourless	Colourless	Colourless	Colourless	Colourless
12	Odour	Odourless	Odourless	Odourless	Odourless	Odourless
13	Conductivity	0.5 Mhos	1.2 Mhos	0.6 Mhos	0.7 Mhos	--

CONCLUSION

The results of this study shows that the most of the physic-

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