Water Quality Analysis of Tungabhadra River

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***Abstract*— Tunga and Bhadra River has been one of the maximum outstanding and important river of Karnataka. unluckily, certain stretches of River Tunga and bhadra are an awful lot polluted. numerous urban facilities are positioned on the banks of Tunga and bhadra River, draw fresh river water for severa sports. In nearly the whole wastewater generated with the aid of these centers is disposed off into the river. The goal of the monitoring studies undertaken for water body is to evaluate variation in water quality with time. four sampling stations were determined on along the river for sampling motive from April .Water samples we realized in phrases of physico-chemical water first-class parameters.**

Keywords— ***Tungabhadra, Catchment, water quality, portable water, hardness, turbidity, biological oxygen demand, acidity, alkalinity.***

I. INTRODUCTION

1.1 *General*

Water is one of the most essential precious natural resources required basically for the survival and fitness of living organisms. In India 80 % of the surface water is uncovered to pollutants. pollution taking area in floor water can also result in on enrichment of algal vitamins in water. surface water because of man′s improved activities. the release of domestic wastes solid waste, business waste.

In nature, water is the essential fluid from which all lifestyles starts. All living things need water to hold their existence too. In domesticity, it is very beneficial, such as for laundry and cleaning. In and water, textile and electroplating. except, the technology of electricity additionally requires water. It has many makes use of. however, it can be without difficulty polluted.Water pollution because of expanded industrialization and urbanization is considered to be the primary hassle that's confronted by means of the mankind in India.

River Tungabhadra is tributary of River Krishna that's second largest River in southern peninsular India. at some point of its go with the flow via Harihar Taluk in Karnataka, receives wastewater discharges from villages at the bank of River.

1.2 **. StudyArea**

- Name : Tungabhadra river
- Location: Harihara
- Taluk : Harihara
- District : Davangere
- State :Karnataka
- Length :293 km
- Area : 71,417 km^2
- Latitude :14^0 $0^1$30"N
- Longitude: 78^0 09^1 51"E
- MSL: 610m (2000ft)

OBJECTIVES

- Collection of water samples in different location as per IS standards.
- Characterization of Tungabhadra river water.
- To check the suitability of water for a domestic purpose.
- To check the suitability of water for Irrigation purpose.
- To suggest economical & reliable Treatment techniques based on results obtained.

II. MATERIALS AND METHODOLOGY

A. Materials

Material is a substance that constitutes an object. Substances can be a non-residing rely. Materials can be classified based totally on their bodily and chemical homes, on their geological beginning. Materials that we use to conduct the test at some stage in the test. Methodology is the have a look at of studies strategies, this is how we conduct the experiments with accurate methods to take of accurate end result

A. Monitoring stations

Station. S1

Station S1 is located near Harihar bridge, SH 76, Gandhi nagar, Harihar, Karnataka 577601.

Station. S2

Station S2 is located near Raghavendra swamy matha , near kodiyal, Harihar, Karnataka 577601.

Station. S3

Station S3 is located near Nadiharalalli, Harihar (tq) Karnataka

B. Data preparation

The data sets of 3 water quality which are monitored in the month of March 2nd week and april 2nd week. Data is obtained from the water quality monitoring works of tungabhadra river basin in Davanagere (dist) Karnataka.

Figure No : 1 Sampling bottles

III. METHODOLOGY

Table No: 1 Experiments conducted

Name of the experiment	Name of the equipment/method
Determination of PH	Digital PH meter
Determination of electrical conductivity.	Digital conductivity meter
Determination of acidity	Titrimetric method
Determination of chlorides.	Gravimetric method
Determination of alkalinity.	Titrimetric method
Determination of hardness	Titrimetric method
Determination of Dissolved oxygen	Iodometric method

Table No:2 Desirable limits as per I

Sl.No.	Characteristics	Desirable limits
1	pH	6.5-8.5
2	Conductivity	1400µs/cum
3	Acidity	6.5-8.5
4	Chloride,mg/l	250-1000mg/
5	Alkalinity	20-200mg/l
6	Totalhardness, mg/l	300mg/l
7	Tubidity	5NTU

Results

Table No:3 Results of 1st week

SL No	PARAMETER	S1	S2	S3
1	Temp °c	28	28.5	28.7
2	Conductivity µS/m	298	162	181
3	Turbidity NTU	4.1	3.2	4.4
4	pH	6.2	6	6.6
5	Total hardness	78.3	124.3	142.5
6	Tubidity	4.1	3.2	4.4

Table No:4 Results of 2nd week

SL No	PARAMETER	S1	S2	S3
1	Temp °c	29	28.3	28.6
2	Conductivity µS/m	149	170	240
3	Turbidity NTU	2.79	3.1	4.36
4	pH	6.7	7.3	6.5
5	Total hardness	78	86	95
6	Tubidity	2.79	3.1	4.36

IV. CONCLUSION

- Water sample from various station point have been collected and analysed for different parameters.
- The parameters considered are pH, Acidity, Alkalinity, Turbidity, Temperature, Totalhardness, Bod, Electrical conductivity.
- The water qualities in the collected samples are within the desirable limit.
- So the water from the Tungabhadra river is suitable for drinking and household.

V. FUTURE SCOPE:

The aim of those standards are to make sure that ingesting water might be safe inside the future, that there aren't any fitness dangers to the general public, to function a foundation for the design and planning of water deliver treatment, and to provide a benchmark for assessing lengthy-term traits inside the overall performance of the water deliver system.

The machine may be increased to display hydrologic, air pollution, business and agricultural manufacturing and so on. It has great application and extension value. work can be carried on to include controlling the deliver of water.

Bureau of Indian standards (BIS) appropriate restriction and Permissible restriction of the drinking water.

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