



STUDY OF PHYSICOCHEMICAL PARAMETERS OF GODAVARI RIVER- BRAMHAGIRI NASHIK MAHARASHTRA

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ABSTRACT:

This study was carried out to investigate the physicochemical parameters of Godavari River. During this study Godavari was divided in 3 sampling stations. The parameters such as colour, odour, temperature, turbidity, pH, Total hardness, Sulphate (SO₄), total dissolved solids (TDS), dissolved oxygen (O₂), Phosphate (PO₄) were examined for all sampling stations. During present study it was observed that there is variation in physical and chemical parameters of water in sampling stations of water which was adversely affected the quality of water and thus aquatic ecosystem there

INTRODUCTION:

Water is the most important thing for all living beings. Most of our demand for water is fulfilled by rainwater, which gets deposited in surface and ground water resources. Natural water bodies get affected due to increase in industrialization, urbanization and due to increase in the human activities near the water bodies. Because of the pollution the physical and chemical parameters are also affected. The physicochemical parameters help in the identification of sources of pollution. Heavy pollution is seen in the rivers which flow through cities, industrial areas, power plants etc.

MATERIAL AND METHOD:

The water sample from Godavari river were collected from three different stations in a plastic bottle regularly after 20 days for three months. The water samples were immediately brought in to laboratory for the estimation of various Physico-chemical parameters like water temperature and pH were recorded at the time of sample collection by using Thermometer and pH paper. Other parameters like Color, Odor, Turbidity, Total Hardness, Sulphate Content,

DO, TDS, Phosphate content were estimated in the laboratory by using standard protocol.

STUDY AREA:

The area under investigation was Godavari river. It starts from Brahmagiri mountain, Trimbakeshwar Nashik. It starts in the western state of Maharashtra and flows through the southern state of Andhra Pradesh before reaching the Bay of Bengal. It forms one of the largest river basins in India with a length of 1,465 kms.

RESULTS AND DISCUSSION:

Climate: The area under the project is in wet and dry zone. Summers, which last from March to mid-June, are hot, with maximum temperatures reaching 36 °C, but are extremely dry. They are followed by the monsoon season, which continues till early October. Temperatures rise slightly in October, but this is followed by the cool season from November to February. The cool season sees warm temperatures of around 28 °C during the day, but cool nights, with lows averaging 13 °C, and extremely dry air.

Color: Samples collected from study site is respectively colorless. In these sample, some of algae are observed by necked eye but when the color of sample is compared with the white tile no color is seen.

Temperature: The temperature 19°C was recorded at study site. Water temperature plays an important factor which influences the chemical, bio-chemical characteristics of water body.

Odor: The sample collected from study site was odorless because no waste was found in water sample.

Turbidity: The turbidity of water is 12 NTU. Some suspended particles were seen in the water sample due to some human activity.

pH: pH was neutral. The factors like air temperature bring about changes the pH of water. The normal pH values observed suggests that carbon dioxide, carbonate-bicarbonate equilibrium is maintained.

Total Hardness: The value of hardness was 100 mg/l. The water sample is moderately hard and can be used for drinking purpose.

Sulphate content: The value of sulphate was 30 mg/l. The low value of sulphate is due to absence of the pollutants

Total dissolved solids: The Total dissolved solids were 24 mg/l. some amount of organic matter, inorganic salts are present in sample.

Dissolved oxygen: The value of DO is 1.45 mg/l. The low value of DO was observed due to less sunlight, it does not accelerate the photosynthesis by phytoplankton, utilizing CO₂ is less and it giving oxygen.

Phosphate content: The value of phosphate was 0.350 mg/l. The low value of phosphate

content are mainly due to stagnant surface water, agriculture water, could have also contributed to the decrease of phosphate content.

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SR. NO.	PARAMETERS	STUDY SITE
	Physical	
1.	Colour	colourless
2.	Odour	odourless
3.	Temperature °C	19°C
4.	Turbidity NTU	12
5.	pH	7
	Chemical	
6.	Total Hardness	100
7.	Sulphate content	30
8.	TDS	24
9.	Dissolved oxygen	1.45
10.	Phosphate content	0.450