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Physicochemical Water Analysis of Bindusara river in Beed District,(M.S)

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Abstract:

Bindusara river is passed through the Beed city. Bindusara Dam is few kilometer awaylocated near the Beed city. The dam water is used for the drinking water and irrigation facilities etc. and for various purposes in this region. Water has important role in living things like animals, plants and human being for their existence. Physicochemical analysis of water is done for the status of water pollution in the span of the 1st November 2019 to 10th December 2019 at BindusaraPali lake and river water. The present investigationis carried out with analyses of some physicochemical parameters of Bindusara Pali lake water and river water in the Beed city area. The physico-chemical parameters of water such as temperature, color, Taste, odor, P^H , BOD, COD, Total Hardness, TDS etc.

Keywords: Bindusara dam,Bindusara river, Physicochemical parameters,pH,COD etc.

Introduction:

Water play important role in human life. The WHO reports the approximately 35% of urbanand 65% of rural Indian were without access of safe drinking water. Water fulfills the requirement not only human beings but also animals, crop, and plants. Now about 910 million people around

the word live without improved drinking water. The world health organization estimated that 90% of diarrheal, choleral diseases are caused by unsafe water. Due to increase of population, urbanization, industrialization, agricultural activities and various human activities has increases the pollution of surface and ground water.[1,5]

Study area:

In the present investigation involves the analyses of water quality in terms of physicochemical parameters ofBindusaraPali dam water from Pali, and Bindusara river water entered in Beed city. District: Beed. The lake and river water is basically used for drinking, domestic and agriculture purpose.

Methodology:

Physicochemical analysis of water are done for status of water pollution in the span of 1st November 2019to 10th December 2019. Water sample from Bindusara dam/lake and Bindusara river water were collected in the morning hours between 9:30 to 10:30 am in plastic can. Estimation of various physicochemical parameters like water temperature was measured by using thermometer and $P^H$of water by digital P^Hmeter Systronic. While other parameters such as Total Dissolved Solid, Total hardness, COD, BOD were estimated in the laboratory by using standard methods, as prescribed APHA [4,6].

Observation Table: Cite-1: Physicochemical parameters in Bindusara Lake.

Sr.No.	Parameters	01/11/2019	10/11/2019	20/11/2019	30/11/2019	10/12/2019

01	Temperature ^{O}C	25	25	24	23	22
02	P^{H}	8.5	7.9	7.8	7.8	7.3
03	BOD	1.28	1.48	1.68	1.75	2.11
04	COD	16	15	13	12	17
05	TDS	215	235	244	254	256
06	Total hardness ppm	118	120	128	135	145

Observation Table: Cite 2: Variation in Physicochemical parameters in Bindusara River

Sr.No.	Parameters	01/11/2019	10/11/2019	20/11/2019	30/11/2019	10/12/2019
01	Temperature ^{O}C	25	24	23	22	22
02	P^{H}	8.4	8.3	8.2	7.8	7.3
03	BOD	1.32	1.54	1.70	1.98	2.41
04	COD	16	15	13	12	17
05	TDS	213	238	264	268	276
06	Total hardness	120	132	138	145	154

	ppm					

Result and Discussion:

In the present study, the temperature of water sample range from 22**^{O}c to** 25 ^{O}c. Water temperatures plays key role which influence the chemical, biochemical and biological characteristics of water body. The total dissolved solid is in range of 214mg/l to 256 mg/l from cite one and from cite two in range of 213mg/l to 276 mg/l in given time period, it shows high due to rainfall. The **P^{H}** is a term used to indicate the alkalinity or acidity of a substance as ranked on side from 1.0 to 14.0. In the present investigation **P^{H}** varies from 7.3 to 8.5 which arein desirable limits. The hardness of water is due to the presence of Calcium and Magnesium salts of carbonates, chlorides and sulphates. Total hardness was determined by titrating against EDTA. The total hardness actual present is more than desirable limits.

Conclusion:-

The present results of water analysisin the cite-1 and cite-2 shows that, the water have greater total dissolved solid, more the total hardness as compared to quality control of water prescribed by Indian standard and WHO. In result of **P^{H}** measured of water is slightly alkaline and below the desirable limits. The potability of water should be increased by filtration and aeration.

References:-

[1] Trivedy R.K. and Goel P. K. (1986) Chemical and Biological methods for water pollution studies, Environmental publication, Karad, Maharashtra.

[2] Pandeewari N. and Kalarasu S. International Journal of current research 4(07) (July2012) pp143-145.

[3] APHA, 1989, Standard methods for examination of water waste water 17th Ed. American publication health association, Washinton D.C. USA 1430pp.

[4] Mitra A. K. Chemical characteristics stations of river Godavari, Krishna and Tugbhdra India; J. of environmental health, 1982,24(2), 165-169.

[5] NeejaKatra, Rajeshkumar, J.of Chemical pharma Research,. 2012,4(02), 1827 to 1832pp.

[6] Kodarkar M.S., methodology for water analysis, physicochemical, Biological and microbiological Indian association of aquatic biology, Hydrabad, 1992,pub-2,50pp.

[7]J.C.Lamb(1985) Water Quality and its control. John Wiley and Sons, New York.

[8] Kiran G. Choudhari-Pelagia Research Library, 2014,5(5);119-123

[9]Jadhav R.L.et.al Reseach Journey,International Multidisiplinary E-Journal,Issue 168(A) ISSN-2348-7143,March-2019