



REVIEW OF RESEARCH

ISSN: 2249-894X

IMPACT FACTOR : 5.7631(UIF)

VOLUME - 15 | ISSUE - 2 | NOVEMBER - 2025



LIMNOLOGICAL STUDY OF TUGAON DAM, TQ. OMERGA DIST. OSMANABAD (M.S) INDIA

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ABSTRACT:

The present scientific analysis deals with the study of water Temp. pH, B.O.D. Turbidity, DO, CO, TDS, total hardnes. of Tugaon Dam, Tq.Omerga Dist. Osmanabad (M.S.) India. This Tugaon Dam (Benitura Dam) is an earthfill dam on local river near Omerga tahasil in Osmanabad district in the state of Maharashtra. The official name of this Dam is Benitura Dam. The work was carried out during the year 2020 (January to December). the results revealed that there was significant seasonal variation in same physical chemical parameter and most of the parameter where in the normal range and indicated better quality of dam water and result indicate that the dam is not polluted. This Dam mainly constructed for irrigation and Fishery purposes.



KEYWORDS: Water Temp. pH, B.O.D. Turbidity, DO, CO, TDS, total Hardnes. Tugaon Dam.

INTRODUCTION:

Water is life Day by Day pure water is basic need of life; pure water is a problem of wound it is polluted by various ways (Biological and Chemical). Total life of earth depends on water. The water is used by human beings for Domestic Industry and Agriculture purpose. Everything is originated in the water and everything is sustained by water.

Water pollution is the excess addition of harmful to the life. The Materials are harmful to the life Many workers proved that Due to water pollution, the quality of water is lost-water quality of drinking water varies from time to time and place to place due to interactions of local factors. Due to lack of knowledge about the water quality and their effects the inhabitants are prone to diseases and health problems.

The workers like Adebisi A.A. (1981), Khulbe (1993), Honkock (1973), Kudesi V.P. And Verma S.P. (1986), Mishra (1978), Patki (2002), Mitra A.K. (1982) worked on the water quality of various water resources.

There is no back record found about the water quality C.O.D. and B.O.D. of Makani Dam hence the present work was undertaken.

MATERIAL AND METHODS :

Material and Methods -: Monthly sample were collected from the Tugaon Dam for analysis in pre-cleaned 1 liter plastic bottle in morning hours and brought to the laboratories. every month during the period in in clean back 2 litres plastic cans and immediately transported to the laboratory for the estimation of various physico-chemical parameters like water temperature pH, centigrade, thermometer and where recorded at the time of sample collection using, portable kit water transparency was recorded at project. Sites with the help of disc. Turbidity, DO, TDS,BOD, total hardness, total alkalinity, where are recorded by using centigrade thermometer turbidity of water where is estimated in the laboratory by using standard methods as prescribed by Trivedy and goyal (1986), saksena (1990), APHA (1992),kodarkar(1998) and Gupta pk (2007).

Table 1.Limnological (Physico-Chemical) analysis of surface water of Tugaon dam at. Station A and B from January 2021 to December 2021.

Months	Station	Parameters										
		Air Temp. °C	Water Temp. °C	P H	Transparency	Turbidity	Dissolved Oxygen	Carbon Dioxide	BOD	Total Dissolved Solid	Total Alkalinity	Total Hardnes
Jan. 2020	A	22	23	7	64	229	7.26	5.1	7.6	202	75.7	152
	B	22.1	22	7	65	230	7.3	5.2	7.2	201	76.2	152
Feb. 2020	A	23	22	8	63	242	7.7	4.5	15	297	69	154
	B	25	24	7	64	242	7.7	4.6	14	296	69	153
Mar. 2020	A	29	29	8	65	246	7.9	4.8	25	299	59	156
	B	29	28	8	66	246	7.9	4.7	25	300	59.5	155
April. 2020	A	36	32	8	72	288	8	6	26	290	73	156
	B	36	32	8	71	288	8.2	6	26	281	73	157
May. 2021	A	37	34	8	81	258	7.8	6.2	29	291	66	159
	B	37	34	8	81	258	7.8	6.2	29	290	65	160
June. 2020	A	38	32	8	61	255	7.4	6.3	26	281	60	173
	B	38	32	8	61	255	7.4	6.3	25	281	64	173
July. 2020	A	26	26	7	62	258	8.2	5.5	27	271	44	174
	B	26	26	8	61	255	8.2	5.4	27	271	44	174
Aug. 2020	A	28	28	8	48	254	7.5	5.5	24	274	45	175
	B	26	26	8	61	255	8.2	5.4	27	275	44	174
Sep. 2020	A	28	27	8	32	248	7.1	5.7	13	281	48	131
	B	27	27	8	32	248	7.1	5.7	12	282	47	131
Oct. 2020	A	29	29	7	40	247	7	6.7	11	270	52	121
	B	29	29	7	80	247	7.1	6.6	12	271	52	121
Nov. 2020	A	25	23	7	52	242	7.2	6.5	10	238	57	115
	B	25	25	7	52	241	7.2	6.7	10	240	54	116
Dec. 2020	A	23	23	8	67	232	8.9	6.6	8.2	210	66.7	120
	B	23	23	8	67	231	8.8	6.7	8.2	210	67.6	120

RESULT AND DISCUSSION :

1. The atmosphere temperature was recorded between 21 degree Celsius to 38 degree celsius It was maximum in May month.
2. wild water temperature was recorded 22 degree Celsius to 34 degree Celsius the water temperature was maximum in May.
3. pH was slightly alkaline the value begin greater than 7 at both station. The factors like air temperature bring about change in the pH of water. most of biochemical and chemical reactions are influenced by the pH it is great practical importance. The reduced rate of photosynthesis activities reduces the assimilation of carbon dioxide and bicarbonates which is ultimately responsible for increase in pH the low oxygen values coincided with high temperature during the summer month.
4. The turbidity was recorded maximum 288 NTU in month of June where as maximum value was recorded 229 NTU in the month of January.
5. The dissolved oxygen was varied from 7.1 to 8.9 mg/lit. The DO was maximum 8.9 mg/lit. in the month of January where as maximum was recorded 7.1 mg/lit. In the month of May.
6. BOD has been used as major of the amount of organic material in an aquatic solution which support the growth of microorganism. Saxena and Shrivastava (2002) were observed in the high values from the sample exposed to many people water at near sewage dam Tamlurkar and Ambore (2006) we recorded value varied from 0.72 to 3.02 mg/lit.
7. The total dissolved solids ranged from 201 to 300 mg per litre. In the sampling station and maximum in the month of March and minimum in February.
8. Total alkalinity of the dam was varied from 44 to 76.2 mg/lit. And maximum in winter season and minimum in monsoon season
9. The total hardness was in the range from 115 to 176 mg per litre at Harsal Dam Warg (1998) minimum values was recorded during monsoon.

ACKNOWLEDGEMENT :

The Authors are thankful to the principal Dr. H. N. Rede, B.S.S. Arts Science & Commerce College, Makani Dist. Osmanabad for providing necessary library and laboratory facilities.

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