



## Variation in Physico-chemical quality parameters of Manjara Dam Water Dist Beed (M S) India

Sayyed Hussain<sup>a</sup>, Vinod Mane<sup>b</sup>, Takale Surendra<sup>a</sup>, Mazahar Farooqui<sup>c</sup>

<sup>a</sup>Sir Sayyed College, Aurangabad (MS) India

<sup>b</sup>Mahatma Gandhi Mahavidyalaya Ahmedpur, Dist Latur

<sup>c</sup>Post graduate and research centre, Maulana Azad College, Aurangabad

\*Corresponding author: [drhussainsyid@yahoo.com](mailto:drhussainsyid@yahoo.com)

### ABSTRACT

The Manjara Dam constructed across river Manjara in Beed district of Maharashtra. The physico-chemical parameters were investigated for one year. The study reveals that the Manjara Dam water is useful for daily usage of peoples but needs some primary treatment before used as drinking water.

**Keywords:** Manjara dam, Quality parameters, Variation, Physico-chemical properties.

### 1. INTRODUCTION

Water is one of the most important compounds that profoundly influence life. It is widely believed that life itself originated in some quiet corner of the primordial oceans in the remote part [1].

Very few workers like Chavan et al. [2] studies on water quality of Manjara dam, hence the work is undertaken to investigate the physico-chemical characteristics of water to known whether the water is potable or not. Manjara Dam has its special importance because from this dam, water is supplied to several areas of Beed district and especially to Latur district which is a district place.

### 2. MATERIAL AND METHODS

The water samples were collected monthly during the investigating period Between "Aug-2009 to July-2010" and analyzed the physico-chemical parameters such as pH, ele. Cond., TDS, DO, Turbidity, sulfates, Chlorides,  $Ca^{+2}$ ,  $Mg^{+2}$ , Total Hardness in laboratory using the methods as prescribed in APHA (1998), and NEERI (2007) [3, 4].

### 3. RESULTS AND DISCUSSION

The results of water quality assessment in terms physico-chemical parameters are summarized in the Table No. 1

In the present investigation, pH noted was in range of 7.8-8.72. It was found highest in the month of Feb. - 10 and lowest in the month of June. Similar trend was noted by Ingole et al.

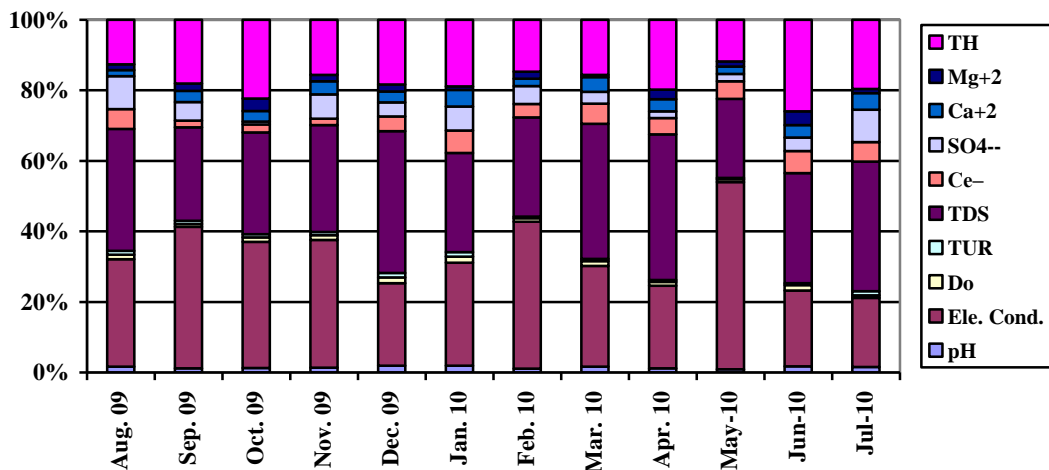
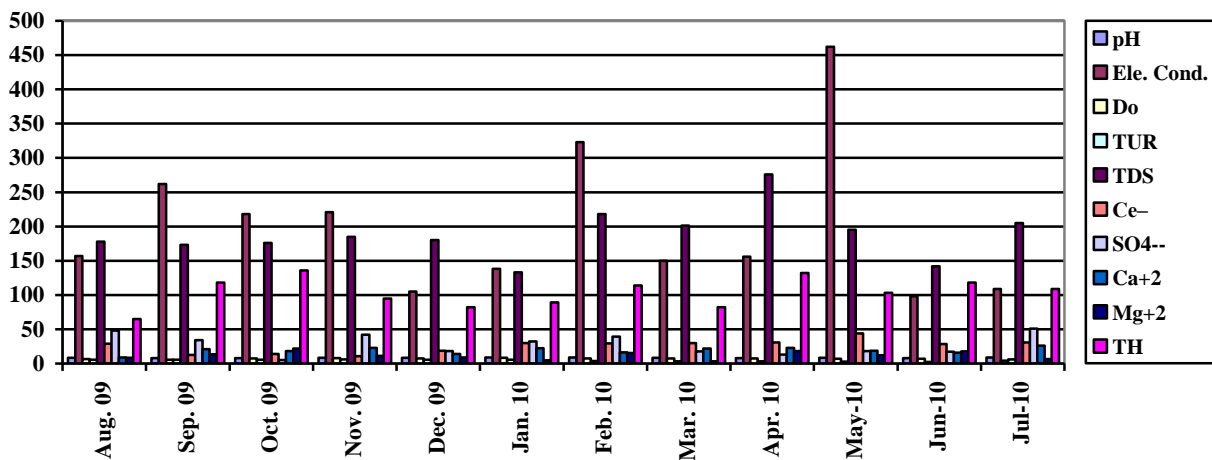
[5] in Majalgon dam water. High electrical conductivity is due to presence of electrolyses. In Manjara dam water it observes that the electrical conductivity ranges from 98 to 461  $\mu$  mhos/cm. Dissolved oxygen is one of the important parameter in amination of water. Dissolved oxygen might be fluctuating due to the alternation in water [6]. In the present study we found a range of 4.2 to 83 mg/L of DO. S. Rajlaxmi and G. Krishnamoorty [7] reported the range of 0.9 to 11.8 mg/L in mangroves of pandechery. Suspension of particles in water interpreting with passage of light is called turbidity [8]. Here we noted a range of 3.1-6.3 NTU turbidity. It was found maximum in the month of July. Fotedar and Fotedar [9] have also reported 5.9-8.2 NTU turbidity in Neeru river dam water in Jammu and Kashmir.

In the present investigation concentration of chloride ions is observed in range from 8.57 to 13.82 mg/L sulfate ions usually occurs in natural water. We found 13 to 56 mg/L of sulfate concentration in Manjara Dam water. A.L. Pawar [10] had reported 22 mg/L of sulphate in lonar lake water in Maharashtra.

Magnesium also occurs in all kinds of natural water with calcium [6]. Here in the present observation, it is found that the concentration of magnesium is slightly lower than that of calcium. 3.48 to 22.12 mg/L of magnesium where as 8.7 to 26.3 mg/L of calcium is noted in the present study. Menakshi Khajuria and SPS Dutta [11] found a range between 2.33 to 15.72 in Jammu and Kashmir. Though the hardness of water is not the indicator of water pollution but indicates the quality of water. In the present study Total hardness observed in range from 65 to 136 mg/L. S.S. Patil [12] reported a range of 96 to 377 mg/L in Salim ali lake water at Aurangabad.

Month	pH	Ele. Cond.	DO	TUR	TDS	Cl <sup>-</sup>	SO <sub>4</sub> <sup>-2</sup>	Ca <sup>+2</sup>	Mg <sup>+2</sup>	TH
Aug. 09	8.2	157	6.7	5.8	178	28.92	48	8.76	8.5	65
Sep. 09	7.95	262	5.4	5.7	173	12.72	34	21	13.5	118
Oct. 09	8.03	218	7.6	5.8	176	13.82	56	18	22.12	136
Nov. 09	8.22	221	8.1	6	185	10.82	42	23	11.16	95
Dec. 09	8.34	105	7.5	5.5	180	18.57	18	14	8.92	82
Jan. 10	8.19	138	8.2	5.3	133	29.85	32	22.4	4.82	89
Feb. 10	8.72	323	7.3	3.9	218	29.61	39	16.3	15.48	114
Mar. 10	8.45	150	7.3	3.5	201	29.68	17.7	21.8	3.48	82
Apr. 10	8.12	156	7.7	3.1	276	30.76	13	23.1	18.19	132
May 10	8.19	462	7.1	2.8	195	43.82	18	18.5	12.16	103
June 10	7.8	98	6.9	2.4	142	28.57	17.5	16.1	17.84	118
July 10	8.7	109	4.2	6.3	205	30.89	51	26.3	6.67	109

All parameters are in mg/L except pH, Turbidity in NTU, Ele.cond. in  $\mu$  mhos/cm.



#### 4. CONCLUSION

The data recorded from the present study reveals that the water of Manjara dam is not so polluted. But simple primary treatment is necessary because the values of parameters are very close to the desirable limits specified by WHO and ISI.

Hence it has been concluded that before supplying the water as drinking water to urban population, it must be treated or purified.

**5. REFERENCES**

1. Bankar AB, Poojitha K, Thirumala S, Manjappa S, Puttaiah ET. *J Aqua Biol*, 2010; **25(2)**:70-74.
2. Chavan RJ, Mohekar AD, Savant RJ, Tat MB. *India J Poll Res*, 2005; **24(3)**: 705-708.
3. Apha. Standard methods or examination of water and waste water treatment 20<sup>th</sup> Edn., N.W. Washington D.C., 1998.
4. Neeri. Guidance Manual for Drinking water Quality Monitoring and assessment (first Ed.) Pub. By: National Environmental, Engineering Research Institute, Nagpur, 2007.
5. Ingole SB, Pawale RG, Wavde PN. *J Aqua Biol*, 2009; **24(1)**: 71-76.
6. Maithi SK. Handbook of Methods in Environmental Studies Vol.1: Water and Waste Water Analysis ABD publishers Jaipur, Rajsthan. 2001.
7. Rajalakshmi S, Krishnamoorthy. *India J Aqua Biol*, 2007; **22(2)**: 77-79.
8. Kodarkar MS. Methodology for water analysis IAAB pub. No. 2, 3<sup>rd</sup> Edn. Hyderabad. 2006.
9. Fotedar Amita, Fotedar BK. *J Aqua Biol*, 2009; **24(1)**: 61-70.
10. Pauer A L. *J Chem Pharm Res*, 2010; **2(4)**:225-231.
11. Meenakshi Khajuria, Dutta SPS. *J Aqua Biol*, 2010; **25(2)**: 62-69.
12. Patil SS, Auti RG, Mokashe SS. Conservation and Management or Slim Ali Lake, Aurangabad. The 12<sup>th</sup> world lake conference, 2008; 1614-1622.