

**INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN
MULTIDISCIPLINARY FIELD**

(ISSN: 2455-0620) (Scientific Journal Impact Factor: 6.719)
Monthly Peer-Reviewed, Refereed, Indexed Research Journal
Index Copernicus International - IC Value: 86.87

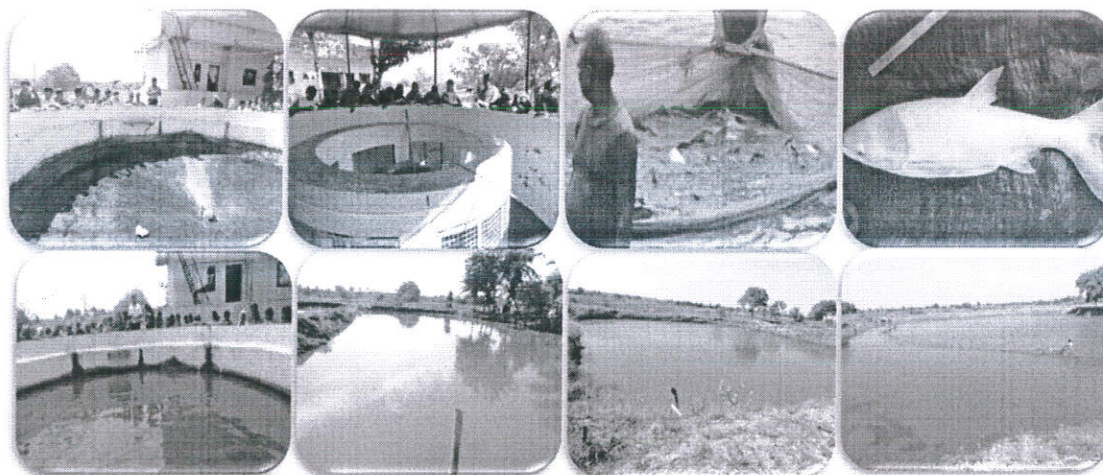
Special Issue of
**International Web Conference on Recent Advances
in Freshwater Aquaculture (RAFA-2021)**

Organized by
Department of Zoology M.S.P. Mandal's - Sunderrao Solanke
Mahavidyalaya, Majalgaon, Dist. Beed (M.S.) India

In Joint Collaboration with
Nepal Aquaculture Society, Kathmandu, Nepal (NEAQUAS)
Asian Biological Research Foundation (ABRF), Prayagraj, (U.P.), India
Glocal Environment & Social Association (GESA), New Delhi

21 - 22 January, 2021

Conference Special Issue



Conference Special Issue – 22

January - 2021

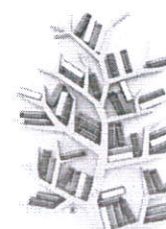


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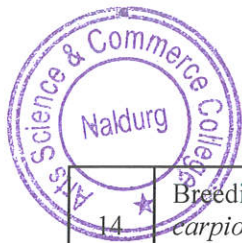
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Evaluation of Ground Water Quality of Naldurg, District Osmanabad (M. S.) India

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Abstract: The present communication deals with the study of Evaluation of ground water quality of Naldurg Dist-Osmanabad (M.S.) India. The was carried out during the year 2019 (Jan. to Dec.). for are valuation of ground water quality to analyze some physico-chemical parameters such as pH, Conductivity, Dissolved oxygen, Free CO₂, Total hardness, Total alkalinity, Chloride, Salinity and Total Dissolved Solids etc. All the values of samples found higher than the normal value.

Key Words: Ground water quality – Naldurg– Osmanabad.

Introduction:

Ground water is believed to be safe for human consumption therefore it is most preferred water but it is now proved that it is to be prove to pollution by many investigations to improper disposal of domestic and industrial waste water. Therefore, it is essential to study the quality of ground water. Many works such as Praharaj et al (2004), Tripathi (2003), Sambasiva Rao (1997) Mariappan et al (2000), Pulle et al (2005), Suryawanshi et al (2004), M.V. Lokhande (2010) have been carried out study on ground water quality.

Materials and Methods:

The water samples were collected from the ten sampling stations of Naldurg. The samples were collected in cleaned polythene bottles, then the pH was measured using standard pH meter. The conductivity was measured using standard conductivity meter. The further Physico-chemical analysis was carried out according to standard methods suggested by APHA (1905), Trivedy and Goel (1984).

Result and Discussion:

- 1) **pH:** - It was measuring the concentration of hydrogen ions in water. According ICMR (1975), the maximum permissible limit is 6.5 to 9.2. In the present study pH value. Varies from 7.0 to 8.5. The low pH does not cause any harmful effect. The pH values were within the drinking water standard.
- 2) **Conductivity** – It is an index to represent the total concentration of soluble salts. The normal acceptance range is of soluble salts. The normal acceptance range is of water upto 1000 mhos/cm W.H.O. (1994). The values of tested water found to be varied from 62.66 to 130.15 Um/cm. The value of tested water is under acceptable range.
- 3) **Dissolved Oxygen** – The values of tested water were found within 4.6 to 13.4 mg/lit. D.O. adds taste it is highly fluctuating one. The permissible standard of dissolved oxygen is above 5 mg/lit. D.O. was found above the permissible limit.
- 4) **Hardness:** - The highest desirable limit of total hardness is 300 mg/lit. (ICMR, 1975) It makes an adverse effect on health. Hardness of water samples varies from 120 to 300 mg/lit. The results of the present study shows all the samples were within the permissible range.
- 5) **Total Alkalinity:** - The phenolphthalein alkalinity is Zero, of the present samples but total alkalinity was found between 110 to 400 mg/lit. The ISI range of total alkalinity is between 50 to 200 mg/lit. The alkalinity is not harmful to human being.
- 6) **Chlorides:** - It varies from 70 to 410 mg/lit. of the present samples. According to ICMR (1975), the highest desirable limit of the chloride is 250 mg/lit. It gives salty taste at 250 to 500 mg/lit.
- 7) **Salinity:** - The salinity content of different water samples varies between 140 to 760 mg/lit. All values of salinity are found the above permissible limit of W.H.O. (1994).
- 8) **Total dissolved Solids:** - It varies from 180 to 1900 mg/lit. The ISI standard for dissolved solid up to 500 mg/lit. According to W.H.O. (1994). The maximum permissible limit is 1500 mg/lit. The TDS value of the sample water of the selected places is above permissible limit.

Table No. –I Evaluation of Ground Water Quality of Naldurg, District Osmanabad.

Sr. No.	Name of the sampling sites	pH	Conductivity	Dissolved Oxygen	Total Hardness	Total alkalinity	Chlorides	Salinity	T.D.S.
1.	Bus Stand	8.5	120	11.10	120	350	100	200	1900
2.	Akkalkot Road	8.4	130.15	12.10	300	350	150	140	1000
3.	Omerga Road	7.2	125	11.10	150	175	150	300	300
4.	National School	8.2	90	10.10	250	175	100	350	300
5.	ASC College	7.8	75	10.10	250	150	70	200	300
6.	D. Ed. College	8.4	62.66	6.7	150	110	410	600	750
7.	Main Road	8.3	70	4.6	120	350	350	500	1800
8.	Petrol Pump.	7.8	75	5.4	275	350	375	400	1800
9.	Indira Nagar	7.9	75	13.4	260	400	350	350	1750
10.	Venkatesh Nagar	7.0	70	13.4	260.0	120	150	760	180

Acknowledgement:

The Authors are thankful to the Principal, Arts, Science and Commerce College, Naldurg for providing necessary library and laboratory facilities.

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