

Study on Quality of Drinking Water in Non-Irrigated Area of Sinnar Taluka, Dist. : Ahmednagar, Maharashtra

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ABSTRACT

The most of the diseases of human beings are caused by water since it is directly related with human health, so it is very important to study the quality of drinking water. In view of this, we have selected water of some Non-irrigated area of Sinnar Taluka to study its suitability for drinking purpose where the ground water is main source for drinking. The samples were collected from Marhal, Nandur, Kankuri, Manori, Wawi, Nirhale, Dodi, Pangri, Bhokani, Chas, Nalwadi which are non-irrigated area. The samples were analyzed for different parameters like pH, Carbonates, bicarbonates Cl^- , Ca^{2+} , Mg^{2+} by using standard methods. All water samples are best for drinking purpose because all have limited quantity of all above measured parameters. So there is no need of RO machine for purification of drinking water of study area.

Keywords : Drinking Water, Permissible Limits, Water Quality, Water Samples

I. INTRODUCTION

Actually water is basic requirement of human being but use of natural sources in undisciplined way is causing harmful effect. Water pollution is the major problem, which we are facing now a days and is going to be more and more complicated. The contaminated water created large problem for health of human being. The presence of impurities in excess is depends on area, so proper study of such contaminant (impurity) is very necessary

Objective :

To determine the quantity of some parameter like pH, Carbonates, bicarbonates Cl^- , Ca^{2+} and Mg^{2+} in drinking water.

Study Srea:

Marhal, Nandur, Kankuri, Manori, Wawi, Nirhale, Dodi, Pangri, Bhokani, Chas, Nalwadi non-irrigated area of Sinnar Taluka. The drinking water from different area of different sources of Marhal, Nandur, Kankuri, Manori, Wawi, Nirhale, Dodi, Pangri, Bhokani, Chas, Nalwadi were collected for analysis.

II. METHODS AND MATERIAL

The samples from the wells, hand pumps were collected on the basis of its use for drinking purpose only. The samples were collected in polythene bottles of one liter capacity. The pH by using pH meter. The other analysis of water was carried out by using the procedures given by a text book of Practical Agriculture and Dairy Chemistry, Sunny Publication

III. RESULTS AND DISCUSSION

Results:

Table 1.

Parameter	pH	CO ₃ ²⁻ mg/l	HCO ₃ ⁻ mg/l	Cl ⁻ in mg/l	Ca ²⁺ in mg/l	Mg ²⁺ in mg/l
Sample						
S-1	8.1	A	58	98	20	34
S-2	8.2	A	29	71	87	30
S-3	6.9	A	58	21	24	32
S-4	8.0	A	29	170	43	35
S-5	8.3	A	14	63	21	25
S-6	8.0	A	34	99	10	15
S-7	7.9	A	78	92	05	07
S-8	7.4	A	38	37	20	27
S-9	8.2	A	56	340	27	20
S-10	7.9	A	48	14	43	44
S-11	8.2	A	98	170	10	12
S-12	7.4	A	57	43	21	17

Standard Values:

Table 1. Indian Standard Specifications for Drinking Water IS: 10500 (BIS-2012)

	Parameter	Requirement desirable limit	Remarks
1	pH	6.5 - 8.5	No relaxation
2	Cl ⁻	250 mg/l	May be extended up to 1000
3	Ca ²⁺	75 mg/l	May be extended up to 200
4	Mg ²⁺	30 mg/l	May be extended up to 100

Discussion

The pH of all water samples are within the range of desirable limit. The sample S-9 has higher value of chloride but not above the permissible range. The

Sample S-2 has higher value of Calcium but it also not above the permissible range. The samples S-1, S-3 and S-4 has higher values of magnesium but not above the permissible rang. So all water samples from different places are good for drinking purpose.

IV. CONCLUSION

All water samples are best for drinking purpose because all have limited quantity of all above measured parameters. So there is no need of RO machine for purification of drinking water of study area.

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