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Physico Chemical Analysis Of Drinking Water Of Pedavegi Mandal Westgodavari District, Andhrapradesh, India

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Abstract: Water not only essential for human existence and also play vital role in agriculture, industries, household, recreation etc. Water which is safe for human consumption is called potable water. Suitability of bore water for human consumption in some of the rural areas of Pedavegi mandal are analyzed by measuring various physico chemical parameters such as $P^{H,}$ turbidity, EC,TDS, TH, TA, chloride, fluoride, nitrite, sulphate, sodium, potassium, calcium ,magnesium ,iron, DO,BOD and COD .The results were compared by WHO [1] standards of water quality. The result reveals that all the water samples are suitable for drinking purpose.
Keywords: Bore well water, Physico chemical parameters, Water quality,

I. Introduction

Water is essential for the maintenance of life, without which life cannot flourish. It is well known that human survival depends upon use of uncontaminated and clean water for drinking and other purposes. People residing in this study area are forced to use bore water for their domestic and drinking consumption, The use of fertilizers and pesticides manure, lime ,septic tank, refuse damp etc are the main sources of bore water pollution [2] . The quality of the ground water is of great importance in determing the suitability for drinking, domestics and industrial purpose. The quality of the water varies from place to place, with the depth of the water table, from season to season and also the extent dissolution of dissolved solids present in it. [3,4] . Water must be tested with different physico – chemical parameters. Selection of parameters for testing of water is solely depends upon for what purpose we going to use that water and what extent we need its quality and purity. Hence an attempt was made to identify the potential areas for the sources of drinking water.

Study Area:-Present study deals with study of various physico chemical parameters of drinking water collected from bore wells located in the study area of pedavegi mandal , west Godavari district. The West Godavari district consists of 46 mandals, out of which 24 mandals are upland areas and 22 mandals are delta areas. One upland mandal ,pedavegi is selected for the analysis of various parameters of bore water samples seasonally . Pedavegi is located in between 17.18358 to 17.31718 North latitude and 81.25935 to 81.45478 East longitudes.

Figure 1-view of AP in india

Figure 2-view of districts in AP

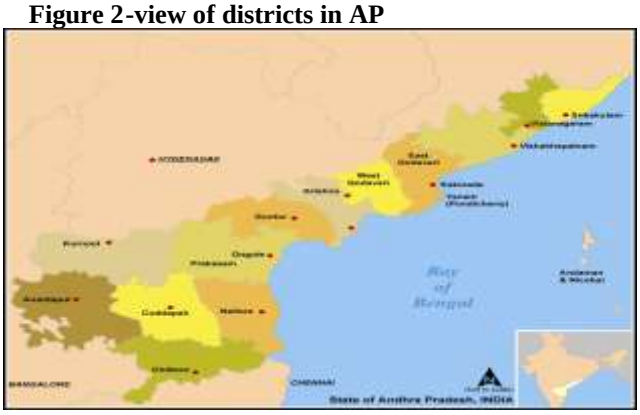

Figure 3-view of mandals in West Godavari District

Figure 4-view of pedavegi mandal

Sample Collection:- The water samples are collected from different bore wells located in Pedavegi mandal of west Godavari district. The collected water samples are labeled. The samples are collected in a clean polythene bottle as per standard procedures recommended in APHA (1991) [5]. Samples were brought to the laboratory for analysis of various physico chemical parameters.

Methodology:- It is very important and essential to analyze the water before using for drinking, domestic, agriculture and industrial use. To assess the quality, water must be analyzed for various physico-chemical parameters such as $P^{H,}$ turbidity, EC,TDS, TH, TA, chloride, fluoride, nitrite, sulphate, sodium, potassium, calcium ,magnesium ,iron, DO,BOD and COD .The results were compared by WHO standards for drinking water.

$P^{H:-}$ P^{H} of the water samples are measured by Eutech – 2700 P^{H} meter**.**

Turbidity:- Turbidity of the water samples are measured by Nephaloturbiditymeter.- Systronics -132.

Electrical conductivity (E.C):- Electrical conductivities of the water samples are measured by Systronics -304 E C meter.

Total dissolved solids (TDS):- Total dissolved solids are measured by Evoparation methods - Gravimetrically.

Total hardness, Calcium, Magnesium (TH, Ca, Mg):- Total hardness, Calcium, Magnesium are measured Complex metrically 6,7 by EDTA titration method.

Total Alkalinity (TA):- Total alkalinity of the water samples are measured volumetrically by Titration with standard acid solution.

Sodium and Potassium: - Sodium and Potassium of the water samples are measured by Flame photometer.-127.

Dissolved Oxygen (D.O), Biological Oxygen demand (B.O.D).

Dissolved Oxygen (D.O), Biological oxygen demand (B.O.D) of the water samples are measured by some standard methods.

Flourides, Chlorides, Sulphates.:- Flourides, Chlorides, Sulphates of water samples are measured by ion selectivity meter- Eutech 2700.

Table 1. Specifications for drinking water

S.No	Parameter	W H O Standards
1	$P^{H:}$	6.5 to8.5
2	Total Dissolved solids(T.D.S).	500 mg/L to 2000 mg/L
3	Total Alkalinity(T.A)	200 mg/L to 600 mg/L
4	Total hardness(T.H)	200 mg/L to 600 mg/L
5	Calcium (Ca)	75 mg/L to 150 mg/L
6	Magnisium (Mg)	35 mg/L to 70 mg/L
7	Sulphates	200 mg/L to 400 mg/L
8	Chlorides	250 mg/L to 1000 mg/L
9	Flourides	1.0 mg/L to 1.5 mg/L
10	Sodium	Up to200 mg/L
11	Potassium	Up to 12 mg/L
12	Dissolved Oxygen (D.O)	4 mg/l to 6 mg/L
13	Biological oxygen Demand (B.O.D)	6 mg/L to 10 mg/L

Table 2.1Pedavegi Mandal -- Rainy season

S. no	Sample No	pH	E. C	TDS	Turbidity	Alkalinity	Hardness	Sodium	Potassium	Calcium	Magnesium	Iron	Chloride	Fluoride	Nitrite	Sulphate	Phosphate	DO	COD	BOD
01	8:1:1S	7.52	2700	1728	000	578	250	140	7.1	12.02	53.59	0	523	0.862	0	101.5	0	4.0	8.0	1.2
02	8:2:1S	7.94	1100	704	000	390	310	75	4.8	26.05	59.68	0	480	0.601	0	54.5	0	4.4	17.6	2.8
03	8:3:1S	7.54	1600	1024	000	366	265	66	5.5	46.09	36.54	0	396	0.591	0	32.5	0	4.0	8.0	2.0
04	8:4:1S	7.52	1400	896	002	436	260	61	2.6	38.07	40.19	0	221	0.788	0	41.5	0	4.0	9.6	2.4
05	8:4:2S	7.58	1300	832	000	366	160	75	2.3	44.08	12.18	0	109	0.593	0	50.6	0	4.4	17.6	2.4
06	8:5:1S	7.90	1000	640	001	354	220	85	3.2	22.04	40.19	0	85.7	1.16	0	38.2	0	4.0	224	2.4
07	8:6:1S	7.71	1200	768	000	440	320	143	5.6	26.05	62.18	0	274	0.871	0	50.3	0	3.2	32	1.6
08	8:7:1S	7.43	2300	1472	000	520	225	102	8.8	46.09	26.79	0	594	0.778	0	74.1	0	3.6	25.6	1.6
09	8:8:1S	7.88	1400	896	000	384	180	55	11.5	34.06	23.14	0	256	0.616	0	66.5	0	3.6	36.8	1.6
10	8:9:1S	7.52	1000	640	000	370	300	67	3.1	24.04	3.65	0	219	1.19	0	37.7	0	4.8	32	2.8
11	8:9:2S	7.86	1400	896	000	364	195	63	4.7	30.06	29.23	0	139	1.21	0	56.5	0	4.8	36.8	1.6
12	8:10:1S	7.75	1000	640	001	284	250	28	11.4	40.08	36.54	0	109	0.352	0	33.0	0	4.0	11.2	2.4
13	8:11:1S	7.41	1100	704	000	422	230	47	1.6	38.07	32.88	0	126	0.860	0	25.3	0	4.0	17.6	2.0
14	8:12:1S	7.58	1100	704	001	360	155	51	1.3	36.07	15.83	0	99.3	0.532	0	47.9	0	4.8	20.8	2.4
15	8:13:1S	8.03	8000	512	000	214	100	20	4.5	38.07	1.21	0	31.7	0.218	0	16.9	0	4.4	4.8	1.2
16	8:14:1S	7.75	500	320	001	368	160	71	0.9	30.06	20.70	0	45.3	0.402	0	8.4	0	4.4	20.8	1.2
17	8:15:1S	7.70	8000	512	000	400	290	18	14.1	20.04	3.65	0	133	0.700	0	18.2	0	4.4	14.4	2.8
18	8:16:1S	7.54	6000	384	000	420	205	64	2.2	24.04	7.30	0	133	0.486	0	34.5	0	4.4	16	2.0
19	8:17:1S	7.47	1100	704	001	324	180	74	4.	36.07	21.92	0	115	0.652	0	29.8	0	4.0	22.4	2.8

20	8:18:1S	7.71	1000	640	000	412	135	20	7	34.06	12.18	0	44.4	1.25	0	49.6	0	4.8	3.2	2.8
21	8:19:1D	7.82	1000	640	000	220	195	28	6.5	32.06	28.01	0	104	0.465	0	35.4	0	4.0	0	2.0
22	8:20:1D	7.29	700	448	000	246	115	04	4.3	52.10	3.65	0	38.3	0.288	0	46.1	0	4.4	0	2.0
23	8:20:2D	7.66	1100	704	000	204	240	95	2	36.07	36.54	0	42.3	0.338	0	21.6	0	4.8	4.8	2.4
24	8:21:1S	7.24	1500	960	000	280	335	190	6.2	40.08	57.24	0	280	0.421	0	63.0	0	2.0	24	2.4
25	8:22:1S	7.61	2700	1728	000	446	230	184	14.8	20.04	43.84	0	640	0.756	0	82.0	0	2.0	0	2.4
26	8:23:1S	6.24	2900	1856	000	230	205	145	8.32	62.08	24.36	0	756	0.643	0	88.4	0	2.0	0	24
27	8:24	7.	15	96	000	216	265	184	10.2	40.08	40.19	0	325	1.36	0	65.0	0	2.	0	1.6
	:1S	00	00	0														8		
28	8:25:1S	7.77	2000	1280	001	552	310	151	6.9	10.02	69.42	0	628	1.13	0	102.0	0	2.0	6.8	2.4

Table 2.2Pedavegi Mandal ----- Winter Season

S.no	**Sample No**	**pH**	**E.C**	**TDS**	**Turbidity**	**Alkalinity**	**Hardness**	**Sodium**	**Potassium**	**Calcium**	**Magnesium**	**Iron**	**Chloride**	**Fluoride**	**Nitrite**	**Sulphate**	**Phosphate**	**DO**	**COD**	**BOD**
01	8:1:1S	8.48	1300	910	0	390	235	76	14.2	72.14	13.29	00	255	0.428	000	71	000	5.6	24	1.2
02	8:2:1S	8.40	1700	1320	0	456	345	140	2.0	56.16	22.08	0	407	0.476	000	84	000	4.6	27.2	2.8
03	8:3:1S	8.15	1600	1240	0	320	170	79	11	33.19	22.12	0	437	0.605	000	38	000	4.4	44.8	2.2
04	8:4:1S	8.28	1000	890	0	456	425	66	5.8	96.12	26.08	0	202	1.26	000	40	000	4.4	48	2.6
05	8:4:2S	7.89	1200	850	0	280	235	56	4.2	74.12	11.12	0	160	0.589	000	42	000	4.4	12.8	2.6
06	8:5:1S	8.02	900	690	0	256	220	48	4.8	40.05	62.15	0	92.5	1.25	000	54	000	4.0	16	2.4

07	8:6:1S	8.52	900	690	0	264	220	85	11.2	70.14	10.96	0	298	1.11	000	84	000	4.4	24	1.8
08	8:7:1S	8.38	1800	1340	0	566	290	48	3.2	82.16	20.20	0	658	1.06	000	40	000	3.8	27.2	1.6
09	8:8:1S	8.44	1200	850	0	432	230	45	6.4	74.14	10.96	0	400	0.722	000	26	000	3.6	16	1.8
10	8:9:1S	8.28	1400	1090	0	538	360	45	2.4	40.05	62.12	0	270	1.99	000	56	000	3.6	41.6	2.8
11	8:9:2S	8.50	700	590	0	410	245	36	8.9	58.13	21.26	0	103	1.77	000	2	000	5.0	22.4	2.0
12	8:10:1S	8.16	800	710	0	300	230	45	4.9	58.16	11.12	0	171	0.562	000	40	000	4.8	24	2.2
13	8:11	8.	80	72	0	340	280	32	12.2	62.18	22.12	0	149	1.29	000	34	000	4.	17.	2.0
14	8:12:1S	8.03	800	770	0	382	305	32	16.4	56.12	11.18	0	159	0.915	000	29	000	4.2	24	2.4
15	8:13:1S	8.03	900	760	0	290	255	83	7.5	59.26	21.26	0	183	0.458	000	30	000	4.4	20.8	2.4
16	8:14:1S	8.26	500	350	0	188	125	91	9.8	23.06	10.96	0	45.3	0.626	000	38	000	4.6	24	2.2
17	8:15:1S	8.42	800	670	0	414	205	24	4.4	45.06	11.26	0	72.5	1.05	000	6	000	4.4	30.4	2.0
18	8:16:1S	8.52	800	690	0	398	195	43	10.1	33.12	12.08	0	130	0.679	000	18	000	4.2	14.4	2.4
19	8:17:1S	8.41	800	720	0	318	210	28	10.6	46.12	20.20	0	218	0.760	000	34	000	4.6	27.8	2.0
20	8:18:1S	8.45	900	780	0	378	230	13	11.2	34.62	24.16	0	151	0.695	000	46	000	4.2	22.4	2.0
21	8:19:1D	8.39	600	470	0	258	180	86	8.6	24.06	22.06	0	69.7	1.09	000	22	000	4.2	12.8	2.2
22	8:20:1D	7.94	800	680	0	242	245	180	9.8	46.08	26.08	0	142	1.97	000	10	000	4.2	0	2.2
23	8:20:2D	8.16	600	450	0	110	170	99	6.4	22.18	16.08	0	102	0.904	000	24	000	4.0	0	2.2

24	8:21:1S	8.70	2500	1760	0	706	300	163	11.6	64.12	34.10	0	897	0.915	000	76	000	4.4	24	2.4
25	8:22:1S	8.50	2500	1730	0	540	325	186	10.4	78.15	31.66	0	838	0.897	000	102	000	4.4	27.2	2.6
26	8:23:1S	8.06	2500	1760	0	486	375	146	11.3	96.26	12.63	0	934	0.706	000	94	000	5.6	27.2	2.8
27	8:24	8.	14	10	0	484	300	133	9.6	48.09	43.89	0	303	1.80	000	46	000	5.	28.	2.6
	:1S	60	00	00														6	8	
28	8:25:1S	8.68	2500	1770	0	712	365	200	8.6	60.12	52.37	0	688	1.01	000	110	000	2.4	28.8	1.2
29	8:26:1S	8.49	1700	1320	0	372	325	196	8.3	56.11	45.06	0	558	0.401	000	114	000	3.6	33.6	1.8

Table 2.3 Pedavegi Mandal Summer season

S.no	**Sample No**	**pH**	**E.C**	**TDS**	**Turbidity**	**Alkalinity**	**Hardness**	**Sodium**	**Potassium**	**Calcium**	**Magnesium**	**Iron**	**Chloride**	**Fluoride**	**Nitrite**	**Sulphate**	**Phosphate**	**DO**	**COD**	**BOD**
01	8:1:1S	7.62	1600	1024	0	326	250	114	10.3	56.92	14.68	0	372	0.421	0	72	0.060	4.0	0	2.4
02	8:2:1S	7.69	2000	1280	0	378	260	132	13.4	62.18	22.08	0	418	0.399	0	85	0.068	4.8	0	3.2
03	8:3:1S	7.43	1800	1185	0	266	250	103	8.0	46.09	22.12	0	453	0.486	0	38	0.060	4.4	0	2.0
04	8:4:1S	7.73	1300	832	0	320	225	82	3.0	39.67	11.12	0	373	0.970	0	41	0.077	4.0	3.2	2.0
05	8:4:2S	7.89	1000	640	0	280	240	68	4.0	60.12	9.62	0	96	1.05	0	46	0.01	4.4	0	2.0

06	8:5:1S	7.63	1400	896	0	266	250	77	2.9	48.06	1.218	0	549	0.876	0.011	83	0.100	4.0	8	2.0
07	8:6:1S	7.77	900	576	0	308	165	75	4.9	52.19	1.612	0	492	1.00	0	40	0.082	4.8	1.6	2.4
08	8:7:1S	7.45	1200	768	0	250	195	84	4.6	60.12	12.19	0	530	0.873	0	27	0.105	4.4	0	2.4
09	8:8:1S	7.70	1400	896	0	320	230	114	4.0	58.16	11.12	0	512	0.806	0	56	0.073	4.0	0	2.0
10	8:9:1S	7.97	1300	832	0	282	160	54	2.8	40.08	10.12	0	452	1.92	0	2	0.055	4.0	0	1.6
11	8:9:2S	7.79	1500	960	0	480	305	92	4.6	56.12	11.18	0	510	2.06	0	41	0.086	4.8	0	2.4
12	8:10:1S	7.95	1000	640	0	220	210	92	14.5	60.18	9.62	0	185	0.484	0	35	0.064	4.0	1.6	2.0
13	8:11	7.	13	83	0	300	250	61	2.4	58.13	21.26	0	146	1.00	0	29	0.105	4.	0	2.4
	:1S	48	00	2														8		
14	8:12:1S	7.57	1100	704	1	290	215	64	1.2	28.12	26.16	0	160	0.806	0	45	0.091	4.0	0	2.0
15	8:13:1S	7.62	1100	704	0	222	200	94	12.8	58.12	22.15	0	201	0.361	0	38	0.064	4.0	0	2.0
16	8:14:1S	7.95	700	448	0	204	175	54	0.6	60.18	13.18	0	54.5	0.486	0.018	6	0.043	4.0	0	2.0
17	8:15:1S	7.83	1000	640	1	330	175	95	14	59.16	12.12	0	80.5	0.924	0.023	18	0.077	3.8	0	2.4
18	8:16:1S	7.91	1000	640	1	448	190	94	2.5	42.18	13.16	0	103	0.609	0.029	34	0.055	3.2	0	1.6
19	8:17:1S	7.67	1100	704	1	380	150	96	7.1	46.19	12.12	0	220	0.920	0	46	0.035	4.0	0	2.0
20	8:18:1S	7.63	1200	768	0	210	240	94	11.6	32.16	10.15	0	176	1.65	0	22	0.067	4.8	0	2.4

21	8:19:1D	8.07	700	448	0	252	200	45	3.3	24.16	12.98	0	89.6	1.25	0	10	0.037	4.8	0	2.4
22	8:20:1D	7.68	1000	640	0	196	160	64	4.9	34.12	6.98	0	74.6	0.394	0	24	0.037	4.8	0	2.4
23	8:20:2D	7.87	700	448	0	312	200	45	2.5	34.68	5.12	0	43.4	0.455	0	76	0.045	4.4	0	2.0
24	8:21:1S	7.76	2700	17288	1	436	310	145	9.0	30.12	10.18	0	646	0.511	0	102	0.063	4.0	0	2.0
25	8:22:1S	7.70	2700	17288	1	512	365	160	12.4	46.18	11.12	0	690	0.966	0	94	0.056	4.8	0	2.4
26	8:23:1S	7.39	2600	16644	1	252	165	136	10.4	52.16	10.12	0	658	0.876	0	46	0.056	4.0	1.6	2.0
27	8:24:1S	7.90	1500	9600	1	460	310	112	10.2	60.12	12.02	0	322	1.15	0	52	0.01	4.0	0	2.0
28	8:25:1S	7.78	3300	21120	1	560	390	152	7.2	41.52	10.12	0	825	1.05	0	110	0.095	3.6	6.4	1.6
29	8:26:1S	7.75	2100	13440	1	352	215	122	4.1	40.08	21.18	0	560	0.555	0	114	0.059	4.0	20.8	2.0

II. Results And Discussion

The physicochemical parameters of various water samples analyzed were presented in Table -2 and the results are compared with standard limits prescribed by WHO.

P^H

P^H of the water samples analyzed for the present study was within WHO limits and all of them are slightly alkaline in nature**.** Water which has $P^{H\ Value}$ of more than 9 or less than 4.5 becomes unsuitable for Use of drinking [8]**.** Most of the samples analyzed for P^H are within the limits of WHO standards. Few samples show slightly higher the range due to presence of the dissolved solids.

Electrical conductivity (E.C)

Electrical conductivity is a measure of water capacity to convey electrical current. It signifies the amount of total dissolved solids 9, 10. All the samples (1-29) are within the range in three seasons except sample no 26(2900) in rainy season and sample no 28 in summer season(3300), Which shows slightly higher the range due to presence of increasing the ions .

Total dissolved solids (T D S).

TDS is an important parameter which imparts a particular taste to water and reduce its potability. The permissible range of TDS for drinking water is 500 mg/L. All the samples (1-29) are within the range in three seasons except sample no 28 in summer season(2112).This shows slightly higher the range due to increasing the dissolved solids .High concentration ground water are generally not harmful to the human being but high concentrations of these may affect persons who are suffering from kidney and heart diseases [11].

Total Alkalinity (T.A)

The value of alkalinity in water provides an idea of natural salts present in water. The standard desirable limit of alkalinity for potable water is 120 mg / L. The maximum permissible limit is 600 mg/L**.** Higher alkalinity gives unpleasant taste to water. All the samples (1-29) are within the range in three seasons; except the sample no 24 & 28 having the value is 706 & 712 is due to presence of carbonates and hydroxides. Alkalinity in itself is not harmful to human being, but water samples with less than 100 mg/L are desirable for domestic use[12].

Total Hardness (T H)

Hardness is a property of water, which does not produce foam or leather freely when treated with soap solution. It is mainly due to the presence of calcium or Magnesium salts or both. Total hardness of the water samples are varied from 200 to 600. Hardness of all the water samples analyzed is within the limits of WHO standards. Excess hardness in the water leads to heart dieses and kidney stone formation [13].

Calcium (Ca) and Magnesium (Mg):

The main source of calcium in ground water is leaching of rocks. It plays an important role in the formation of bones. Excess of calcium than the permeable limits causes gastrointestinal diseases and stone formation [14]. In ground water, generally Magnesium content will be less than Calcium content. More than the permeable range of Magnesium leads to unpleasant taste to water. Calcium and Magnesium concentrations analyzed for all drinking water samples are within the limits of WHO standards (Ca 75 mg/L and for Mg 50 mg / L). All the samples (1-29) are within the range in three seasons.

Dissolved Oxygen (D.O) and Biological Oxygen demand (B.O.D)

D.O is essential for aquatic life. A low D.O (Less than 2 mg/L) would indicate poor water quality and this would cause sustainability of aquatic life is difficult. B.O.D is a measure of organic material contamination in water. It indicates the amount of oxygen required for oxidation organic impurities as well as some inorganic materials like Sulphites etc. All the samples (1-29) analyzed for D.O and B.O.D are within the permissible range in all the three seasons

Fluoride

The main source of fluoride in water is, leaching of fluoride containing minerals in to the ground water as the rain water percolates through the earth. Excess of intake of fluoride through drinking water causes dental fluorosis, mild skeletal fluorosis[15]. In the present analysis Fluoride concentration was found to be varied from 1.218 to 2.06. For few samples the values are more than the permeable limits of WHO standards (1.0 to 1.5 mg/L). Soil – water – rock inters actions play an important role in this regard.

Sodium and Potassium

All natural waters contain some sodium. Sodium concentrations above 200 mg/L may alter the taste of water. High levels of sodium in drinking-water are associated with increased blood pressure. According to WHO standards, concentration of sodium in drinking water is 200 mg/1. All the samples of water analyzed for drinking are within the permissible limits of WHO limits.

Potassium is an essential element for human nutrition. According to WHO standards the permissible limit of potassium is 12 mg/1. Most of the water samples analyze d for drinking are within the permissible limits. Very Few samples show slight excess of WHO limit. Concentrations of potassium normally found in drinking-water are generally low and slight excess does not pose any health problems.

Chlorides

Chlorides are usually present in water. Presence of chlorides in water above the permissible limit is an indicator of pollution. High concentrations of chlorides have no adverse effects to human being, but it gives laxative effect. [16]. The permissible limits of chlorides for drinking water is 500 mg/L. The present study indicates that the concentration of chlorides in all the samples is within the permissible limits.

Sulphate

Sulphate is found in small quantities in ground water. Sulphate may come into bore water by industrial or anthrapogenic additions in form of fertilizers. All the samples analyzed for sulphate concentration are within the permissible limits of WHO standards. High concentrations of Sulphate cause Laxative effect to he children in hot weather climates [17].

Nitrate

Groundwater contains nitrate due to leaching of nitrate with the percolating water. Groundwater can also be contaminated by sewage and other wastes rich in nitrates. The tolerance range for nitrate is 20 mg/L to 45 mg/L. Higher levels of nitrate in the drinking water source may be due to the excess usage of fertilizers and pesticides by the people residing in this area. The nitrate content in the study area varied in the range 0.041 mg/L to 0.75 mg/L and found within the prescribed limit. Excessive concentrations of Nitrates in drinking water causes Methemoglobinaemia [18].

Conclusion

In the present study**,** bore water samples are collected from twenty eight different villages of Pedavegi mandal. The water samples are analyzed for various physic chemical parameters like P^H,TH , TDS ,Alkalinity , EC , calcium, Magnesium, sodium ,potassium , Chlorides, Nitrades, Sulphates ,DO and BOD. The results are compared with WHO standards for drinking purpose. The result reveals that all the sources of bore water in the study area are Suitable for drinking purpose, yet it needs few treatments to minimize some contaminations especially total hardness and fluoride which are reported to be higher than WHO standards.

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