Physiochemical Analysis of Pushakaram Water from Krishna River

D Sravani[1], K. Mrudula Devi [2]

[1]*Assistant Professor of Chemistry, Aditya College of Engineering and Technology, Surampalem, Kakinada, India*

[2]*Assistant Professor of Chemistry Aditya College of Pharmacy, India*

Abstract: **Krishna river is holy river known from the ancient times. Pushakaram or kumbamela is festival celebrated for every 12 years. for each river. a holy dip in the river is believed to clear sins and cure skin diseases. due to huge crowd dip in the river the water is more prone to pollution. Knowing its importance of pushakarm, the guntupalli ghat is selected for study.**

The present study to analyse the certain parameters collected Krishna water in pushakar and values are compared with WHO, BIS and EPA STANDARD VALUES. there are many parameters are studied in order to determine the quality of the water such as PH ,TURBIDITY , transparency, TOTAL HARDNESS OF WATER,TOTAL DISSOLVED SOLIDS ,CONDUCTIVITY and IRON percentage in the results as the day goes on the turbidity and TDS and hardness of water is increasing. every parameter is a significant for relating with increased river water pollution during the period of pushkar, the measure to be taken is increasing the water levels and checking the water quality, removing water hardness and killing the disease causing germs by establishing a water treatment plant and creating public awareness and regarding maintaining the quality of water in pushakar times.

Key words**: Krishna pushakar water, parameters, pollution, measures**

I. INTRODUCTION

The Krishna river is the 4th biggest river in terms of water inflow and river basis in area in India after the Ganga, Godavari Brahmaputra, the Krishna river in westen ghats near mahabalishwara at an elevation of about 1300 kilometers along. The river is also called as krishnaveni it is major sours of irrigation for Maharashtra Karnataka, telagana, an average annual, surface water potential of 78.1 Km has been assessed in this basin. Out of this, 58 Kms is utilizable water cultivable area in the basin is about 203,000kms which is 10.4% of the total cultivable area of the counter as water availability in the Krishna river was becoming inadequate to meet the water demand.

II. HISTORY OF PUSHAKARAM

Krishna pushakaram is a festival of river Krishna which normally oceans once in every 12 years and is celebrated with much glory. The pushakaram is Observed for a period of 12days from the time of enter of Jupiter into Virgo (kany rasi). The celebration 12th August 2016 and ended on 23 August 2016. During this time there is massive holy dip in the river by millions of people which increases of water pollution. These activities are responsible for deterioration of water quality which affects physical and chemical parameters of the water and aquatic ecosystem. It is important to monitor water quality of rivers to evaluate their state of pollution.

III. STUDY AREA

Krishna River it is the place where the Krishna puskaram are organized it is the place millions of people take holy deep in the river. It is the river is divided into different ghats. For the convenience of people in this one of the ghat is guntupalli were the sample water collected for 12 days in the morning time and some of the physical and chemical parameters were determined the measurement of PH, TDS, TOTAL HARDNESS ELECTRICAL CONDUCTIVITY, TURBIDITY, TEMPERATURE, DO, BOD, AND PERCENTAGE OF IRON IS DETERMIND BY SOPHISCATED INSTRUMENTS.

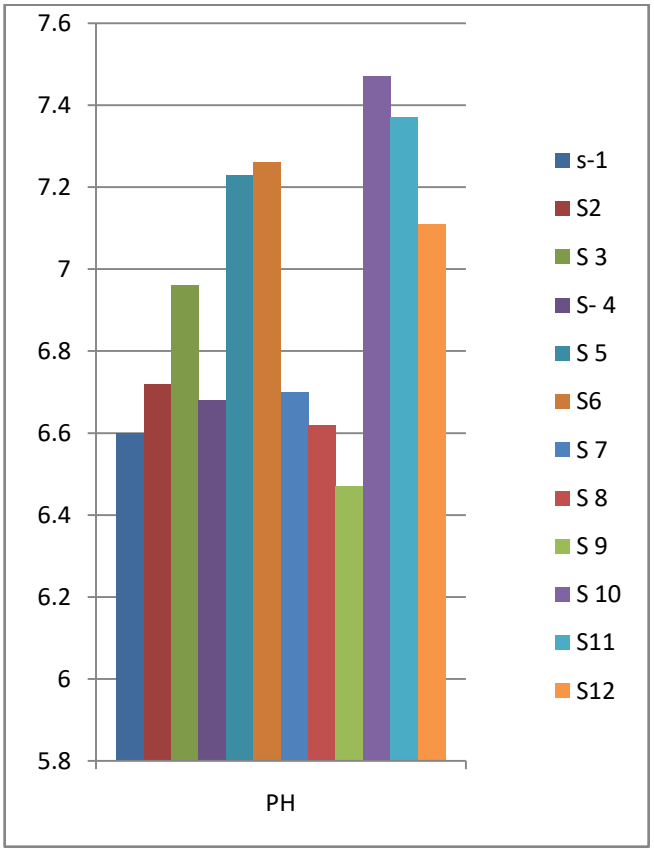
IV. MATERIALS AND METHODS

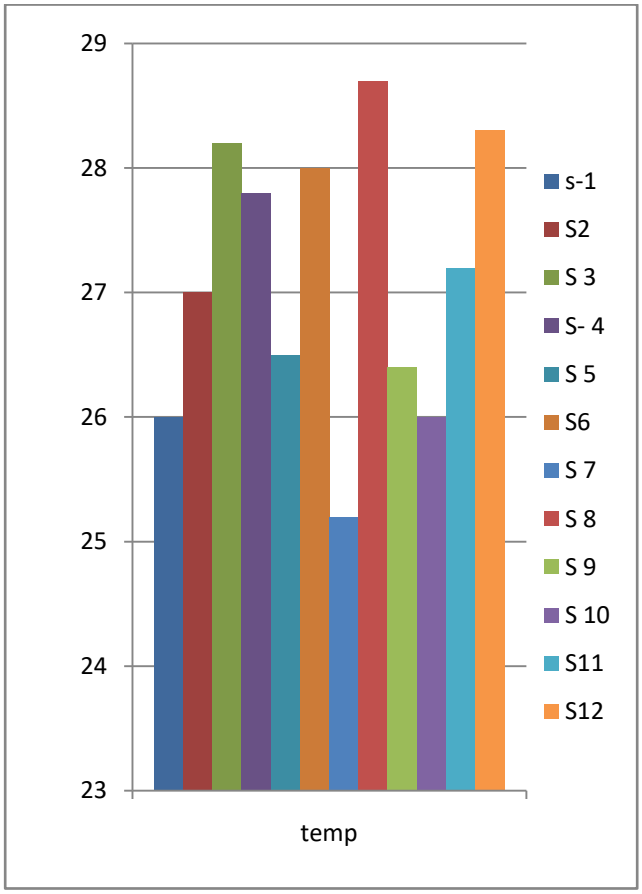
The water samples are collected by following of standard sample collection protocol and guidelines given in Indian Standards methods IS: 3025 part-1 and American Public Health Association (APHA) 22nd edition. Special precautions were taken during the sampling of metals. Before collecting the samples, the sample containers are soaked overnight in 2% nitric acid and washed with double distilled water and dried in clean metal free area. At each sampling location, water samples were collected in two pre-cleaned containers for duplicate measurement. The bottles were rinsed three times with the ground water sample of the particular location and collected the final sample to avoid the contamination and 0.5 ml of Supra pure grade nitric acid is added to acidify the samples and also to prevent the loss of metals. All the collected pilgrim water samples are preserved at 4oC by using thermo-coal box with ice packs. The details of sampling locations have been summarized in **Table -1.**

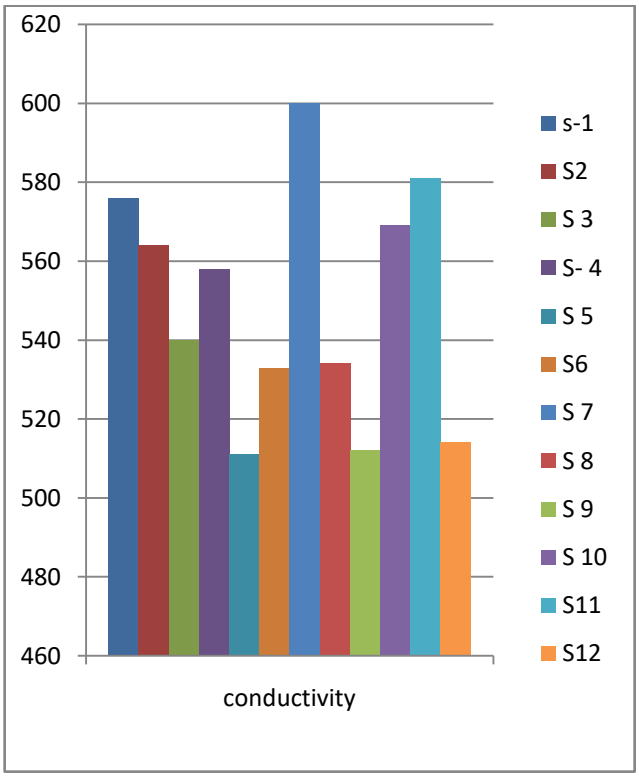
The belows sample are analysed with a help of PH with a PH meter, conductivity with a digital conductivity meter, turbitity with a turbitimeter ,Hardness with a titrimetry and iron is determined with help of uv spectrophotometer.

PARAMETER	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	wholimits
PH	6.6	6.72	6.96	6.68	7.23	7.26	6.70	6.62	6.47	7.47	7.37	7.11	7.0-8.5
TEMP	26	27	28.2	27.8	26.5	28	25.2	28.7	26.4	26	27.2	28.3	-
CONDUCTIVITY Ms)	576	564	540	558	511	533	600	534	512	569	581	514	500
TDS (ppm)	256	252	282	248	231	249	279	232	252	271	334	241	150-200
TURBITIDTY (NTU)	1.5	1.57	4.49	2.49	6.63	1.00	1.01	3.55	10.55	4.07	1.60	0.70	1 units
TOTAL HARDNESS ppm)	160.2	156.1	208.2	145	197.7	166.5	135.3	135.3	145.7	166.5	157.9	176.9	200ppm
Fe2+ (ppm)	0.02	0.01	0.07	0.02	0.08	0.03	0.05	0.06	0.09	0.04	0.02	0.14	0.300mg/l

The graphs for the following parameter which compared with other samples are given below






620
600
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540
520
500
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s-1
S2
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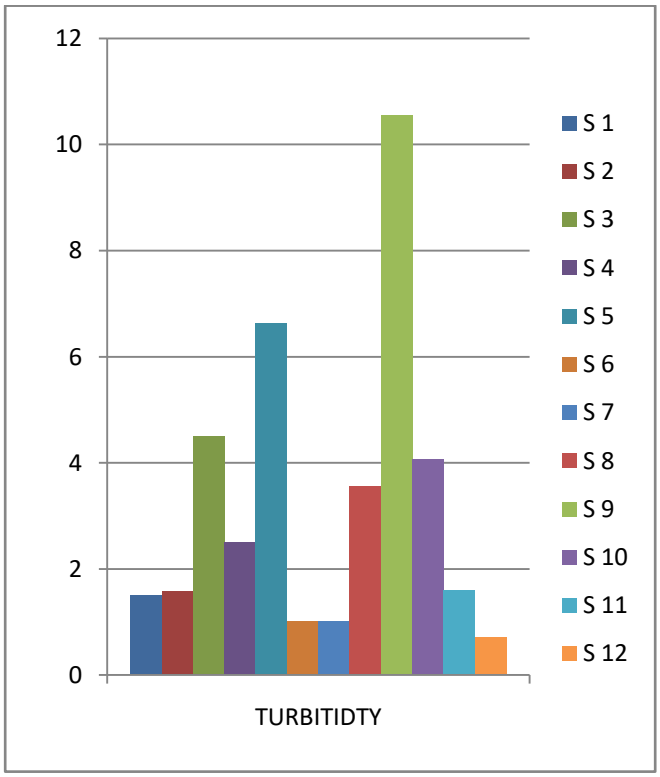
S- 4
S 5
S6
S 7
S 8
S 9
S 10
S11
S12
conductivity


12
10
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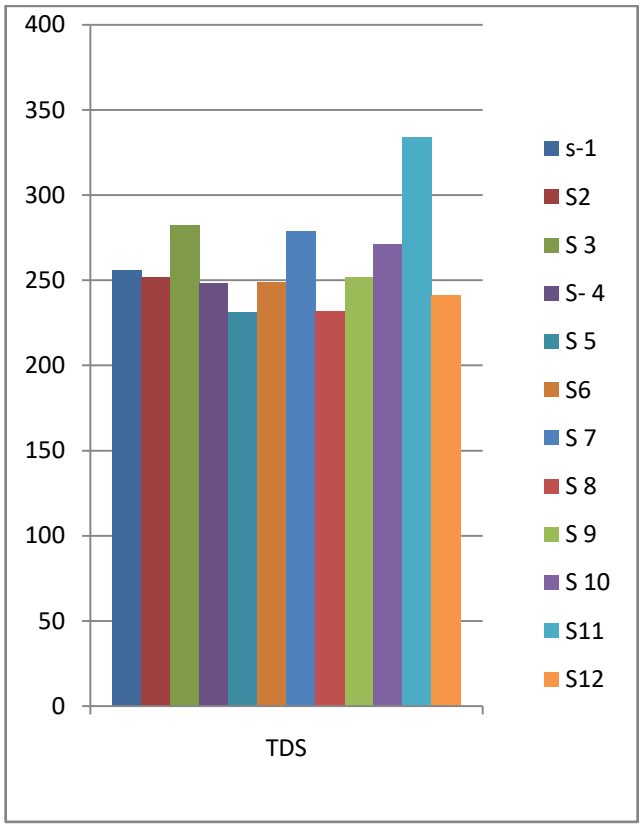
S 12
TURBITIDTY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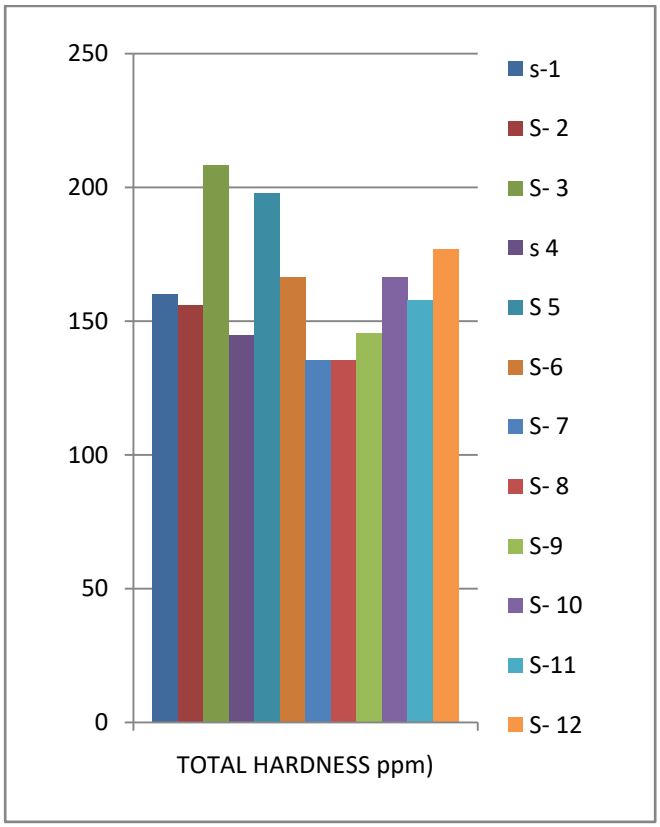
TDS


250
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S- 2
S- 3
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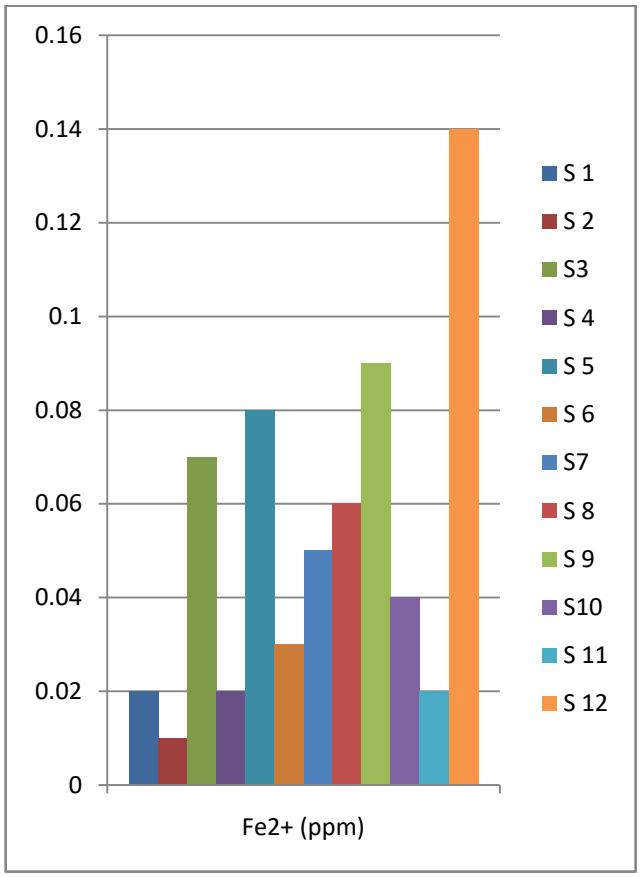
S 5
S-6
S- 7
S- 8
S-9
S- 10
S-11
S- 12
TOTAL HARDNESS ppm)



V. RESULT AND DISSCUSSION

From above data we say that the water during pushakaram, water is having more hardness and total dissolved salts ,PH and Conductivity, microorganisms are more in that areas. The sample in last day of pushakaram are more polluted containing all the parameter higher.River is the only source for drinking water and currently river water is scarity is more and contamination of river water if becomes unfit for drinking and hazard diseases.

VI. CONCLUSION

River water is important source for drinking water. Due to industralisation and urbanization ,ritual activites making the rivers more polluted.we need take necessary steps to purify the river water.otherwise water is not available for coming generation.the govt should take necessary measures specially during pushakaram to clean the river water**.**

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