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STUDY OF POLLUTION STATUS IN RIVER GANGA AT SARSAIYA GHAT IN DISTRICT KANPUR IN UTTAR PRADESH

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ABSTRACT

Water samples from river Ganga at Sarsaiya Ghat in Kanpur in Uttar Pradesh were collected and physico-chemical parameters were determined using standard analytical procedure in Jan. to Dec. 2013. pH (8.1-8.9),Chloride and phosphate contents of water samples were determined 14-17 mg/l and 0.08-0.12 ppm respectively, Total hardness 92.1-161.3 mg/l, fluoride level were also 6.0-6.3 mg/l, DO of samples were 6.1-6.9 mg/l, BOD were 4.0-7.5mg/l and COD were 25-39S mg/l. These results were said to their agreed with the limits set by World Health Organization (WHO) for drinking water.

Key Word: Physico-Chemical, WHO, Drinking Water.

I INTRODUCTION

Water the most essential requisites that nature has provided to sustain life on earth.About80% earth surface is covered by water. The deteriorate quality of water create various problems for mainkind. The growth in population, about 90% of which occur in urban areas, increases the demand for water for domestic and industrial uses. Water pollution from domestic and human waste is the main cause for human being water born disease. The industrial water pollution is due to inadequate measure adopted in the industry for the abatement of pollution. It is need of time to protect environment for present and future generations. The purpose of study in to prepare qualitative assessment of abiotic and biotic conditions prevailing in river Ganga.

II MATERIAL AND METHOD

The Kanpur on National Highway no.1 and 2 and falls on the Broad Guage NR Railway line between Delhi and Kolkata.

Water samples were collected in clean polythene bags and subjected to chemical analysis for measurement of different parameters such as temperature, pH, DO, BOD, COD, fluoride, chloride, phosphate, hardness and total dissolved by standard analytical method in Jan. to Dec. 2013.

III RESULT AND DISCUSSION

The values of different parameter with respect to sampling station are given in Table-1.The transparency values of sample were 20-52 cm. Maximum value is 52 in Feb.2013 while minimum value is 20 cm in Jun. 2013. The temperature of water were 16.4-36.1^{0}C. Maximum value is 36.1 in Jun.2013 and minimum value is 16.4 in

Jan.2013. The WHO (1992) did not recommend any definite temperature for drinking water. The pH value were 8.1-8.9, Maximum value of pH is 8.9 in Jan. and Dec.2013 while minimum is 8.1 in Apr. 2013.

Total dissolved were 135.0-139 mg/l which are under limits. The total hardness of water were 92.1-161.3 mg/l. The maxim um value is 161.3 in Jun.2013 while minimum value is 92.1 in Sept.2013. The level of hardness are below the levels (300 mg/l) as laid down by Indian standard and thus water is soft. Fluoride level were 6.0-6.3 mg/l,The maximum value is 6.3 mg/l in July 2013 while minimum value is 6.0 mg/l in May 2013 which are low.The chloride contents of water were 14-17 mg/l.The maximum value is 17 mg/l in Nov. and Dec.2013 while minimum value is 14 mg/l in May,June and July 2013 which is below the prescribed limit (250mg/l).The COD value of water were 25-39 mg/l. Maximum value of COD is 39 in Dec.2013 while minimum 25 mg/l in July 2013.

The DO value of water were 5.4-6.9 mg/l. Maximum value of DO is 6.9 in Jan. and Dec.2013 while minimum is 5.4 in May 2013 which are permissible limit. The BOD value of water were 4.0-7.5 mg/l. Maximum value of BOD is 7.5 in May 2013while minimum value is 4.0 mg/l in Jan, 2013.

TABLE-1.

Physico-chemical characteristics in river Ganga at Sarsaiya Ghat, Kanpur

Month	Temperature ^{0}C	Transperancy cm	pH	DO mg/l	BOD mg/l	COD mg/l	Chloride ppm	Phosphate mg/l	Total hardness mg/l	TDS mg/l	Fluoride mg/l
Jan.	16.4	50.5	8.9	6.9	4.0	30	15	0.09	108.4	135	6.0
Feb.	18.9	52.0	8.8	6.3	5.5	30	15	0.09	106.4	136	6.1
Mar.	23.6	38.5	8.6	6.1	6.5	31	16	0.09	140.2	136	6.0
Apr	31.4	37.0	8.1	6.2	6.0	30	15	010	149.4	135	6.1
May	35.5	29.0	8.4	5.4	7.5	26	14	0.11	159.4	136	6.2
Jun	36.1	20.0	8.3	5.8	7.0	25	14	0.12	161.3	137	6.2
Jul	28.1	24.0	8.8	6.1	5.0	25	14	0.10	94.2	139	6.3
Aug	23.6	20.5	8.7	6.5	5.0	26	15	0.08	93.1	139	6.2
Sept	24.5	24.0	8.5	6.6	5.5	31	16	0.11	92.1	138	6.1
Oct	18.7	28.0	8.9	6.4	4.5	31	16	0.10	101.4	136	6.1
Nov	18.4	35.5	8.8	6.7	4.5	30	17	0.10	98.5	136	6.2
Dec	18.3	48	8.9	6.9	4.5	39	17	0.11	99.5	137	6.1

IV CONCLUSION

It is need of time to protect environment for present and future generations. The purpose of study in to prepare qualitative assessment of abiotic and biotic conditions prevailing in river Ganga.

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