

## POLLUTION STATUS OF GOMATI RIVER AT KERAKAT, JAUNPUR, U.P.

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### ABSTRACT

For deciding the water quality its physical parameters are the main properties. The various physical properties pH, turbidity, TDS, D.O., and BOD supplemented with the bio-contaminants put the suitability of water for different purposes. In this context, an estimation of all the above parameters during 2004 for every month has been done. The study reveals the variation mode positionally and periodically pertaining to its applications.

**KEYWORD:** APHA., pH, turbidity, TDS, D.O., BOD

The Kerakat is located in eastern part of Jaunpur district. It is surrounded by Ghazipur in the east, Azamgarh in the north, Varanasi in the south and city part of Jaunpur district in the west. The Geographical limits are latitude 25° 31' 30" N. to 25° 46' 30" N, Longitude 82° 42' E to 83° 05' 10" E. Total area of Kerakat region is 587.67 sq.km. The average altitude of the area is about 79 meters above the sea level. Gomati river is the one of the important component of the water resources of kerakat Jaunpur. Water of Gomati is used for domestic, agriculture and residential purposes. But unfortunately it is being polluted through a number of polluting sources. The purposes of investigation was the positional and periodic variance of physical water parameters

The scientist and investigator are actively interested in study of water pollution problem in big rivers and urban regions of the country, ignoring the fact that small rivers like Gomati covers a significant area and make a huge contribution to the pollution level of Ganga at Aurihar (Ghazipur). More ever, the local problems of health and hygiene, metal corrosion and aquatic hardness may be solved by studying the pollution to the localized site. Above fact stimulated the investigators to take up this project, with reference to water pollution and its removal.

### MATERIALS AND METHODS

The Kerakat which is a tehsil of Jaunpur district in U.P. is situated on the bank of river Gomati. The two sampling stations were marked out for the collection of water samples. They are site A which situated upstream of

the town area where river water is some what pure At site B which is burnt and unburnt dead bodies disposal site and water is polluted. According to APHA (2000), Singh (2006), Singh (2009) and De A. K. (2000) the following methods are applied.

pH is measured by digital pH meter. Turbidity determined by digital turbidity meter. Total dissolved solids can be determined by evaporating a barium chloride solution in trace amount of residue. Dissolved oxygen (DO) was determined by Winkler method. Biological oxygen demand (BOD) determined by 5 days BOD test.

### RESULTS AND DISCUSSION

The data regarding the pH of sites A and B show (in table 1 and 2) almost invariance maintaining neutrality of water through the year 2004. The Turbidity of all sites is increasing with time. The turbidity is highest at a level of 250.4. The dissolved solid concentration in Gomati river in Kerakat region increases from entry towards the exit point this is in the form of inorganic and organic particles or of immiscible liquid. Dissolved oxygen (DO) is one of the most important parameter in water quality studies. The levels of dissolved oxygen (DO) and the Biological oxygen demand (BOD) vary from sites A to B It influences the disarticulation and abundances of algae population and is important in bringing about various biochemical changes The Dissolved oxygen (DO) level decreases as one moves from site A toward the site B. Contrary to it, the Biological oxygen demand increases from site A towards the sites B. The levels of BOD indicate the magnitude of pollution.

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Maximum BOD value were observed 0.942 at site B. The above result have been also reported by Singh and Malik (2004).

structure of the basement soil of the river. The existence of turning point in a nearby site may partially be elevating the self purification character of river.

**CONCLUSION**

The data reveal a fact that the Gomati river in this belt has a high self purification power for pollutants which may be attributed to the nature of wild aquatics, texture and

**ACKNOWLEDGEMENTS**

Authors are thankful to the principal, S.G.R.P.G. college, Dobhi, Jaunpur (U.P.) for providing facilities and encouragement.

**Physico- chemical analysis of water at different sites in Kerakat, Jaunpur, U.P.  
Duration Jan. 2004 – Dec. 2004.**

**Table 1**

**Site – A**

Month & Parameters	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
pH	6.9	6.9	6.8	6.6	6.6	6.5	7.1	7.1	7.2	7.1	7.1	7.1
Turbidity	116.7	115.9	113.8	112.6	110.8	109.5	214.3	231.6	225.4	228.4	216.2	210.3
T.D.S.	265.7	256.5	230.2	225.7	215.5	210.1	416.8	430.4	405.6	410.1	302.6	298.5
D.O.	0.884	0.882	0.896	0.904	0.942	0.975	0.862	0.864	0.875	0.878	0.880	0.881
B.O.D.	0.868	0.864	0.861	0.983	0.988	0.991	0.892	0.880	0.876	0.874	0.872	0.870

**Table 2**

**Site – B**

Month & Parameters	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
pH	6.4	6.4	6.3	6.1	6.1	6.0	7.6	7.6	7.7	7.6	7.6	7.6
Turbidity	128.3	127.5	125.5	124.3	122.5	121.2	233.1	250.4	244.3	247.2	235.0	228.5
T.D.S.	280.4	271.5	245.2	240.7	230.5	225.1	431.8	445.4	420.6	425.1	317.6	313.5
D.O.	0.834	0.832	0.856	0.864	0.892	0.925	0.812	0.814	0.825	0.828	0.850	0.831
B.O.D.	0.814	0.814	0.811	0.933	0.938	0.941	0.942	0.830	0.826	0.824	0.822	0.820

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