REVIEW ON STUDIES OF RIVER WATER QUALITY

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Abstract- The Bhima River is a main river in South India. It flows southeast for 861 kilometers (535 mi) through Maharashtra, Karnataka, and Telangana states, before inflowing the Krishna River. Along the river stretch there are about 7000 industries comprise Large, middling and little scale units according to CPCB. Most of the industry are located in the Maharashtra Industrial enlargement Corporation (MIDC). The river is 70% polluted by industries pollution and 30% by domestic wastewater. The following decision article presents the termination of the work approved out by the researchers in the past on the various River water. A lot of physico-chemical parameter have been planned in the past by the researchers for a range of river like Ganga, Yamuna, Krishna etc. but there are very a small number of studies was conducted on Bhima river. This review study focus on an assortment of literatures that have been conceded out on river water quality monitoring as well as model. This review attempt to underline the main attainment in the area and outline the compensation of river water monitoring and modeling using diverse technique and software.
Keywords : Bhima River, industrial and domestic pollution, physico-chemical parameters, river water monitoring and modeling.

Introduction:

Fast augment in individual inhabitants has resulted in the conversion of the likely surroundings. The massive amounts of wastes generate in cities are willing into surface waters of streams and rivers. Thus water in rivers carry large amounts of organic and inorganic material making the water not proper for direct use. In the river, oxygen level reduce and biochemical oxygen demand (BOD) increase due to disposal of untreated wastewater. If dissolved oxygen level falls below critical level, then biological organisms may either die or migrate to regions with insufficient oxygen. The river water quality monitoring provides empirical evidence to support decision making on physical condition and environment issue. This review article is all ears on present the works done by the researchers in the past in this area. This would help in ahead the understanding of what is going on and what river water is going through. This knowledge is important because until and unless we know what the exact situation is, we cannot take the appropriate preventive measures.

Previous Works:

S.Shrestha et al., (2006) has worked on estimation of surface water quality using multivariate statistical technique, this paper reveled that evaluation of temporal/spatial water quality of Fuji River (Japan). In this study the time taken by author was 8 years. In this study 12 parameter at 13 different station points were taken by author and variation in water quality was checked for monthly as well as seasonal variation considering various parameters like pH, Conductivity, Dissolved Oxygen, Biological oxygen demand, Chemical oxygen demand, Total suspended solid, Total coli forms, Nitrate nitrogen, Ammonical nitrogen, Inorganic dissolved phosphorus, Temperature , Discharge.

Su- Young Park et al., (2006) studied the water quality monitoring network in a river system using genetic algorithm. In This study an integrated technique which uses a genetic algorithm (GA) and Geographical information system (GIS) for the design effective water quality monitoring network in large river system was used by the author. Total 110 stations were show considered in this study. The river water monitoring network have been operated for Nakdong River in Korea .the main objective of the study was to check the long or short term variation in water quality and to estimate pollution load from each water shed unit..

Deepiksha Sharma et al., (2011) has worked on water quality modeling for Yamuna River, India by using QUAL 2Kw software. This paper gives information of pollution of Yamuna River and work done by the author to decrease the pollution of Yamuna River by using the monitoring data and mathematical modeling. The sensivity and uncertainly analysis was done using QUAL 2Kw software made model. The study was carried out from 1999 to 2009. From the study it was observed that QUAL 2Kw simulates up to 15 water quality constituent in system. From the result it was found that DO is the main parameter for determine the river pollution because as the DO value is decreased the river water get polluted.

Bhoir Saurabh et al., (2013) conducted study on water quality modeling of Godavari River, India the study shows that Godavari River is polluted by the domestic as well as industrial waste. To control the pollution decision making tools that is the modeling of river water quality by the software QUAL 2E was used in this study. Initially 25km stretch was selected to monitor the river water quality by

using parameter like DO, BOD, COD, TSS, Phosphate and pH. The Grab sampling method was adopted to collect the sample. In the present study monthly and seasonal variation in water quality was observed and after monitoring, modeling was done by using QUAL 2E software by considering DO as a main parameter.

Wagh and Kamat, (2014) assessed wastewater characteristics and its pollution for the stretch of Krishna River from Sangli to Haripur during September 2008 to April 2009. Samples were analyzed for pH, temperature, DO, BOD, COD and chlorides. Pollution level was below permissible standards during monsoon season due to dilution of wastewater. BOD and chloride values in summer were found to be higher than monsoon and winter season. DO was depleted in post monsoon period due to insufficient dilution (min 4.5 mg/l). DO was found as low as 1.9

Gupta et al., (2014) assessed pollution load due to various drains entering the River Mandakini near Chitrakoot (M.P.) in India. Five nalas were selected to analyse physico-chemical parameters and identification of pollutant load. pH, turbidity, TDS, TSS, TS, DO, BOD and COD of samples were analysed and compared with CPCB standards. It was observed that the values of BOD (41-68 mg/l) and turbidity (31-48 NTU) were beyond their permissible standards. The average pollution load was found in the range 0.73 to 161.21 kg BOD/day during March - May, 2011. Average pollution loads of all drains in 3 months period recorded was 199.21 kg BOD/day. It was concluded that river stretch was severely polluted near Roorki city. Therefore, it was suggested that small drains should not be allowed to mix in the river and should be diverted to sewage treatment plant for treatment.

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