

Impact of Urban Runoff Water and Human Activities on Water Quality of Tapi River at Bhusawal Region

R.B. Dhake and *S.T. Ingle

P.G. Deptt. of Chemistry, D.D.N. Bhole College, Bhusawal, Dist-Jalgaon (M.S.)

**School of Environmental Science and Earth Sciences, N.M.U., Jalgaon*

The Tapi river water quality was investigated for two consecutive years (June 2006 to June 2008) at three sampling stations near Bhusawal city. The sources of wastewater to the river are identified and two major sources were monitored to know the urban runoff and its effect on water quality of Tapi river. Seasonal variations in the physico-chemical parameters were observed at selected locations of Tapi river. These variations were attributed to urban runoff water and human activities in the Tapi river water. The pH shows alkaline nature of river water, the DO level was found to be unsafe for fish and other aquatic organisms at station C. The conductivity, Total alkalinity, Total hardness, chlorides, BOD, COD, Na and Nitrate levels were found to be higher during the summer season, suggesting that runoff water contributed to their levels in the Tapi river water. It was also observed that the levels of TSS, K and MPN were higher than those from upstream station. The potential risk associated with the generally low DO levels and the high nutrients have been highlighted in the study. Significant correlation between the Physicochemical characteristics of the sources and the river water quality was observed during the study period.

Key Words: Water Quality, Urban Runoff, Physico-chemical characteristics, River system