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BIOLOGICAL WATER ASSESSMENT OF THE RIVER DAHA (NORTH BIHAR)

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ABSTRACT : The use of saprobic systems have long traditions in the water management in Europe. Within the context of water quality assessment, they are applied to indicate the effects of anthropogenic cause of organic impact leading to the increase in BOD.

Macro-invertebrate species exhibit a wide variation in response to pollutants and have been extensively monitored in rivers to evaluate the water quality and can complement physico-chemical surveys. Domestic and industrial effluents are discharged into the rivers from point and non-point sources which contain both organic and inorganic toxic components. Thus, by reviewing the saprobic score level, it can be adopted for reliable management purposes.

In the present study, it has been observed that the BOD of the river at sampling point (S_1) is 4.7 and at S_2 is 1.9 & S_3 2.38 mg/l. Considering BOD value as an index of pollution it could be concluded that S_2 is least polluted. It is interesting to find in the present study that at S_2, saprobic index is 5.13 and biodiversity index 0.59 in contrast to S_1 where saprobic index and diversity score is 4.8 and 0.85 respectively whereas at S_3 the saprobic index is 4.9 and diversity score is 0.73. Considering higher saprobic score as an index of better quality of water, it is concluded that even though the biological water quality at S_2 is characterized as "moderately polluted" but it is better than at S_1 and S_3.

Key Words : BOD, saprobic index, diversity score, macro-invertebrates.