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Environmental Impact Assessment of Anthropogenic Activities and Conceptual Restoration Strategy for Kham River in Aurangabad, India

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Abstract

In present study, the environmental impact assessment of the anthropogenic activities on the Kham River is carried out. 8Km stretch of the Kham River from downstream of Harsul Lake to the upstream of Chavani Bridge in the Aurangabad city has been selected as the study area for the assessment with regards to water quality, flooding risk, ecological and aesthetical aspects using Battelle environmental evaluation system. For the water quality monitoring eight sampling stations along the length of the river were selected and samples were taken in each season for laboratory analysis of Dissolved oxygen, Biochemical oxygen demand, pH, Total dissolved solids and total suspended solids. The results of the water quality analysis shows that the water quality in the upstream stretch of 3kms upto Himayat Baug is considerably good in comparison to the remaining 5kms stretch from Himayat Baug to Chavani Bridge. The cross sectional survey of the river basin is carried out to measure the extent of the enchorachment along the basin. The results of the cross sectional survey shows that the river basin has mean width of 36.16 meters. The ecological assessment was carried out along the vicinity of the river basin and the species of flora, birds and fishes were listed. The result of the ecological survey shows that the river has variety of species of flora and birds and fishes are found in the upstream reach of the river. The survey of recreational and historically important monuments along the basin was carried out and those places were listed for study of aesthetical aspects. The results of aesthetical survey shows that there are many places of that importance along the vicinity of the basin namely Harsul Lake, Himayat Baug, Bibi-ka-Maqbara, Panchakki, Makai Gate, Barapulla Gate, Mehmood Gate and Siddarth garden. The Battelle environmental evaluation system result shows a negative impact of –375 units and the conceptual strategies for the restoration of Kham River are also recommended.

Keywords:

Aesthetics; Ecology; Environmental Impact Assessment; Flooding; India; Kham River; Pollution; Urban River Restoration; Water Quality

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