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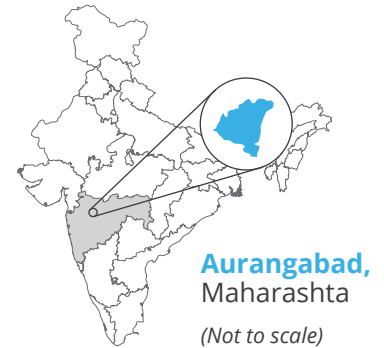
ECO RESTORATION OF KHAM RIVER: AURANGABAD

Project Highlights

- Multifold increase in the biodiversity of the regions along the riverfront
- Improvement in the aesthetic value of the river due to increased levels of green cover
- Disruption of the dumping of MSW in the river leading to decrease in the levels of air, water and soil pollution

Background

Historically Aurangabad city efficiently managed its water supply despite the low rainfall in the region due to the visionary water management practices instituted by its rulers. However, the unmanaged development of the city has taken toll on these traditional water management practices causing serious water crisis in current years. Kham River receives domestic and industrial wastewater from the city and adjoining industrial areas. The polluted water is being used for farming downstream of the city following which the river confluences with the Godavari River; impacting water quality of the Godavari River as well. The non-monsoon flow of Kham river is 40-50 MLD (dry weather) and the reported pollutant levels are well above the permissible limits.



Project Objectives

- I. To develop a plan for sustainable restoration of the Kham river
- II. To undertake the eco-restoration of the river in such a manner that it can be considered as the pride of the city

Key Stakeholders

Confederation of Indian Industry (CII); Aurangabad Cantonment Board (ACB) and Aurangabad Municipal Corporation (AMC); Green Water Revolution Pvt. Ltd.; Shrishti Eco Research Institute

Approach

The approach taken in eco-restoration of the river was mainly in-situ bioremediation. The design philosophy of the project was to keep it chemical free and maintain zero electricity consumption in the remediation methods.

Some of the solutions adopted were:

- Removal of all unwanted weeds, municipal solid waste like plastic, dead animals carcasses
- Installation of three metal screens with anti-corrosive paints
- Stream – training and bank stabilization along the selected stretch
- Installation of Green Bridges to degrade pollutants. Green Bridge is a horizontal filtration system comprising physical and biological filtration by providing space for growth of floating, submersed and benthic biota. These useful microorganisms form a self-sustaining ecosystem, starting from detritivores, thus improving the self-purification capacity of the stream naturally
- Plantation of species useful in reducing the pollution on both sides of the bank
- Benthic system development in the selected stretch

Achievements



Benefits

- Control of odor and improvement in the aesthetics of the riverfront
- Obstruction of the dumping of Municipal Solid Waste (MSW) in the river is and adoption of filtering of suspended solids and contaminants before discharging in the river
- Facilitation of natural aeration and bio-control of pollutants
- Multifold Increment in biodiversity
- Uninterrupted flow of river with meandering and bank stabilization
- Overall improvement in all the parameters such as DO etc. of the river, thus, enhancing the water quality of the river



(a) Before and (b) After Glimpse of the Kham river after the Restoration Activity

Success Factors

- Discussion with all the stakeholders, IMA and public participation
- Intensive mass awareness and involvement with municipal corporations and other local level government agencies

Limitations and Challenges

- Huge quantity of Municipal Solid Waste, medical waste of hospitals, food waste of hotels etc. was being dumped in the riverbed daily
- Designing the project to take care of the varying inflow was critical
- There were number of broken sewerage chambers discharging wastewater in the river
- Theft of material by localities

Future Prospects

The local authority is making provisions for operation and maintenance of such ecological restoration projects

Source: As received from WRI

For more Information

<https://timesofindia.indiatimes.com/city/aurangabad/Green-bridge-technology-to-give-fresh-lease-of-life-to-Kham/articleshow/50295234.cms>