

CASE STUDY

Kham River Restoration in Chhatrapati Sambhajnagar



Healthy City

Green City

Climate Issue: River Pollution in India

- The Kham River is a 65-kilometer river that runs seasonally through Chhatrapati Sambhajnagar (Aurangabad), India.
- For decades, industrial and domestic wastewater made the river toxic. Dumping from houses, hotels, and animal processing facilities severely worsened water quality.
- Riverside structures, such as mines and kilns, blocked the path of the river. This exacerbated flooding during the monsoon season, which pulled more trash into the river.
- This cycle of river pollution contaminated downstream sources used for drinking, fishing, and farming, with significant health impacts.

Political, Social, and Institutional Triggers

- The Kham River is a seasonal river that only flows during the monsoon season. This affected its perception by residents, who felt limited responsibility for its care.
- The absence of a comprehensive waste management system made dumping a convenient option.
- Loss of a cultural ethic or stewardship norms increased the prevalence of trash disposal in the river.
- By 2020, the complete loss of the river's ecological function, as well as its cultural and historical importance, prompted private and public entities to establish the Kham River Restoration Initiative for clean-up.
- They targeted a socio-ecological approach to restoration, which differs from how most seasonal rivers in India are managed: channelization. Channelization reduces waste concerns, but does not restore ecological function.

The Kham River Restoration Initiative has created a safer, cleaner river, benefitting 1.3 million residents.

The project represents a holistic approach that has recovered the river's ecological and cultural significance. It includes comprehensive waste management, deep ecological restoration, and a cultural awareness campaign.

The project has also developed a 5-kilometer EcoPark with community spaces and revitalized ecosystem services.

Including the Excluded

The Kham River Restoration Initiative recognized that resident involvement was critical for long-lasting change. Collecting community-centered data enabled leaders to shape the project for maximum public support and impact.

- Conducting a community survey of 700 residents helped identify 249 waste dumping points near the river. Today, 110 locations have been addressed through solutions such as sewage diversion, garbage traps, and pocket parks.
- Understanding the lack of alternatives to dumping has guided waste management reforms. The Unnati program has transformed the lives of informal waste pickers, who now receive training in optimizing waste management and are given safe, dignified places to work.
- The Initiative has organized over 200 events to welcome more than 100,000 residents into new riverside spaces. These events include clean-ups, nature walks, and concerts.
- Educating youth and citizens on the history of the Kham has restored its cultural significance, building a sense of community ownership and ensuring sustained change.

Enabling Factors

The Kham River Restoration Initiative represents a public-private partnership between Aurangabad's municipal government, the multinational Varroc Foundation, and women-led environmental consultancy EcoSattva.

- Initial efforts by the Varroc Foundation and EcoSattva demonstrated the scale of the Kham River's decline. This gained the government's attention, prompting the formation of a formal partnership in 2020.
- The government has united 13 departments, including agriculture and pollution control, under the Kham River Management Committee. This body reallocates funds and personnel from existing programs to drive restoration.
- Meanwhile, the Varroc Foundation also provides funding and EcoSattva offers technical expertise for clean-up.
- The cultural revival of the Kham ethic has led to widespread awareness about the importance of the Kham River as an urban resource, building pressure for the government to take action and maintain its commitments.

The Kham River Restoration Initiative was a 2023-2024 finalist for the WRI Ross Center Prize for Cities, a global award celebrating and spotlighting transformative urban change. Information was self-reported by finalists. Learn more at kham.ecosattva.in/, prizeforcities.org and wri.org/cities.

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Ongoing Barriers to Success

Funding gaps

- Although more than 110 garbage vulnerable points have been addressed, 139 remain unresolved. More money is necessary, especially for larger projects like sewage treatment and pocket parks.
- The initiative continues to face limited funds for accessing waste-trapping and processing equipment.
- Past projects have relied heavily on funding from the Varroc Foundation, which may be insufficient for growth.
- To sustain restoration efforts, Aurangabad's government is currently seeking additional funding from the state.

Cultural and behavioral norms

- The Kham River Restoration Initiative seeks to instill the importance of seasonal rivers through its ongoing education campaign. However, this new cultural ethic must overcome decades of disconnect with the river.
- Gender discrimination continues to affect the working dynamics of EcoSattva. Their consultants sometimes face disrespect from project stakeholders in early conversations.
- The Kham River Restoration Initiative spans multiple administrative regions and government jurisdictions. Questions over project responsibility challenge existing workflows, necessitating new partnership structures.

Sustaining & Scaling:

The socio-ecological approach of the project seeks to restore the Kham River and a cultural legacy. The project scope has been sustained and expanded by:

Gaining public buy-in

- Clarifying the importance of cleaning the river to a broad audience through a cultural awareness campaign.
- Creating quality community spaces, including new pocket parks along the river and the EcoPark's amphitheater.

Withstanding administrative turnover

- Securing commitments for future restoration efforts, with opportunities for eco-tourism and agroforestry.
- Developing a long-term Urban River Management Plan for all wetlands in Aurangabad.
- Uniting 13 government departments under the Kham River Management Committee to create institutional stickiness.

Scaling up, out, and across

- Using art and education to instill community ownership, establishing seasonal rivers as a critical natural heritage.
- Gradually expanding restoration efforts along the full length of the Kham River.
- Participating in the Indian River Cities Alliance for collaboration and capacity-building at the national scale.

IN A NUTSHELL

- In India, waste dumping and pollution prevented the Kham River from delivering essential ecosystem services.
- The Kham River Restoration Initiative has targeted both ecological and cultural revitalization. Community-driven clean-up efforts have created a safer waterfront, mitigated flood risks, and introduced high-quality public spaces.
- Comprehensive waste management has aided clean-up efforts and created inclusive jobs for residents.
- Ongoing community engagement has recovered a cultural ethic around the Kham River, ensuring long-term investment in and scaling of the project.

WHAT CAN YOUR CITY DO?

TARGET pollution prevention in addition to cleanup for long-term river ecosystem health.

SURVEY residents to understand where and why waste and pollution are entering local water bodies.

ENSURE that cleanup efforts prioritize equity and incorporate marginalized community members.

PRIORITIZE opportunities for community art, beautification, and greening efforts in riverbank redevelopment.

DEVELOP long-term strategies such as an Urban River Management Plan to withstand administrative turnover and ensure lasting change.

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