

Community Safeguarding of Urban Lakes through Local Institutions

School of Planning and architecture, New Delhi

#Communities4Lakes

Team Neerniti

- Ayush Basu Sengupta
Chinmayee Kalangutkar
Priyanshu Kundalia

Meet the team “Neerniti”



Ayush Basu Sengupta

1st year, M.Plan (Urban Planning)
School of Planning and Architecture, Delhi
Email: ayushbasusengupta@gmail.com



Chinmayee Kalangutkar

1st year, M.Plan (Urban Planning)
School of Planning and Architecture, Delhi
Email: chinmayeekall39@gmail.com



Priyanshu Kundalia

5th year, Integrated B.Plan–M.Plan
(Environmental Planning)
School of Planning and Architecture, Delhi
Email: kundaliapriyanshu@gmail.com



Jheel Rakshak

Shielding our Waters, Securing our lives one ripple at a time

Crisis in Urban lakes

How Urbanization Impacts Lakes-

- ❖ Lakes are being used as dumping sites for sewage and solid waste, causing severe pollution.
- ❖ Encroachment for real estate and infrastructure reduces lake area and damages ecosystems.
- ❖ Eutrophication (nutrient overload from sewage) leads to excessive weed growth and ecological imbalance.
- ❖ Illegal mining in lake beds and catchments damages water storage capacity.
- ❖ Unplanned tourism and cultural activities contribute to degradation and contamination.

Source: Kang, A. (2013). *Protection and management of urban lakes in India*. Centre for Science and Environment.

'61% Hyderabad's lakes have disappeared' : HYDRAA boss Ranganath sounds alarm

Many of the city's primary and secondary stormwater drains have disappeared

Bengaluru: Three years after revival, Shikaripalya Lake slips back into neglect

Spread over 18 acres 19 guntas near Electronics City, the lake has long suffered from encroachment, sewage discharge, and solid waste dumping.

Image Source: News Meter, 2025, '61% Hyderabad's lakes have disappeared' ; HYDRAA boss Ranganath sounds alarm; Deccan Herald, 2025, Citizens get dirty to reclaim stinking Halasuru Lake.

Current Lake Management

Current Practices-

- ❖ Lake management has shifted from community stewardship in the past to centralization at present, weakening local ownership.
- ❖ Multiple government agencies (e.g. ministries, urban bodies) are involved, but poor coordination limits effectiveness.
- ❖ The effectiveness of dedicated govt. bodies and NGOs is limited by fragmented responsibilities and resource constraints.
- ❖ Community participation is acknowledged as important by policy documents, but poorly implemented in practice.
- ❖ This lack weakens protection efforts and contributes to the failure of long-term restoration.

Source: Kang, A. (2013). *Protection and management of urban lakes in India*. Centre for Science and Environment.

Bengaluru

Saving Bengaluru's lakes: Why BBMP should institutionalise community participation

by Navya P K · July 30, 2025 · Environment

BBMP's recent stance towards citizen-led lake groups in general, and PNLIT in particular, does not augur well for the future of the city's threatened lakes.

Image Source: *Citizen Matters, July 2025, Saving Bengaluru's lakes: Why BBMP should institutionalise community participation.*

Need for Proposed Solution

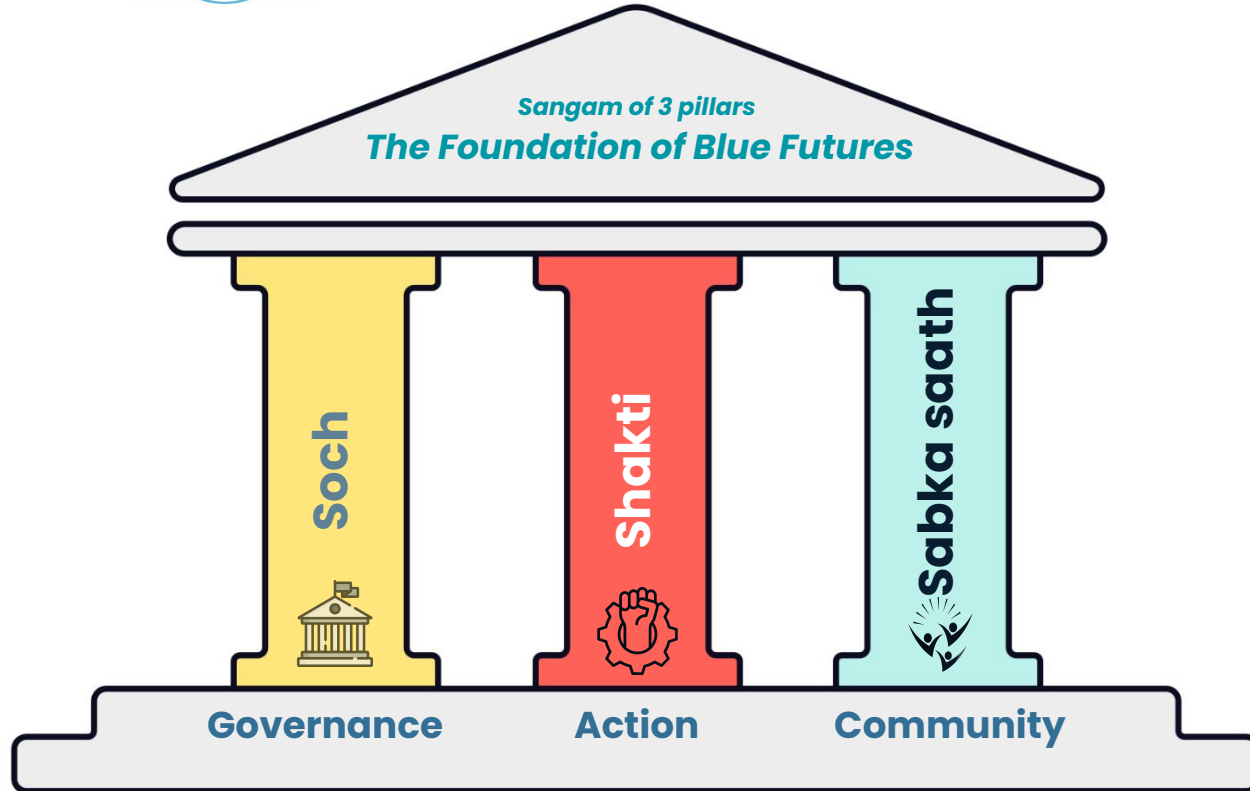
- ❖ Urban lakes are facing multiple pressures including sewage inflows, solid waste dumping, and unregulated human activities, leading to rapid ecological degradation.
- ❖ Even after restoration projects, lakes often relapse due to recurring pollution sources, weak monitoring, and lack of regular maintenance.
- ❖ Research finds that sustainable lake management requires communities to be actively involved in governance, monitoring, and compliance.
- ❖ Therefore, there is a need for an integrated model that combines institutional support with sustained community action and cultural engagement.
- ❖ This need forms the basis for the proposed **Jheel Rakshak** framework built on Governance, Action, and Community pillars.

Source: Earth5R. (n.d.). *Community lake restoration framework*. Earth5R. <https://earth5r.org/community-lake-restoration-framework/>;
Carvalho, L., Jamwal, P., Lele, S., & Dobel, A. (2021). *Urban lake restoration*. In *Emerging science for sustainable water resource management* (pp. 68–75). UK Centre for Ecology & Hydrology.



Jheel Rakshak

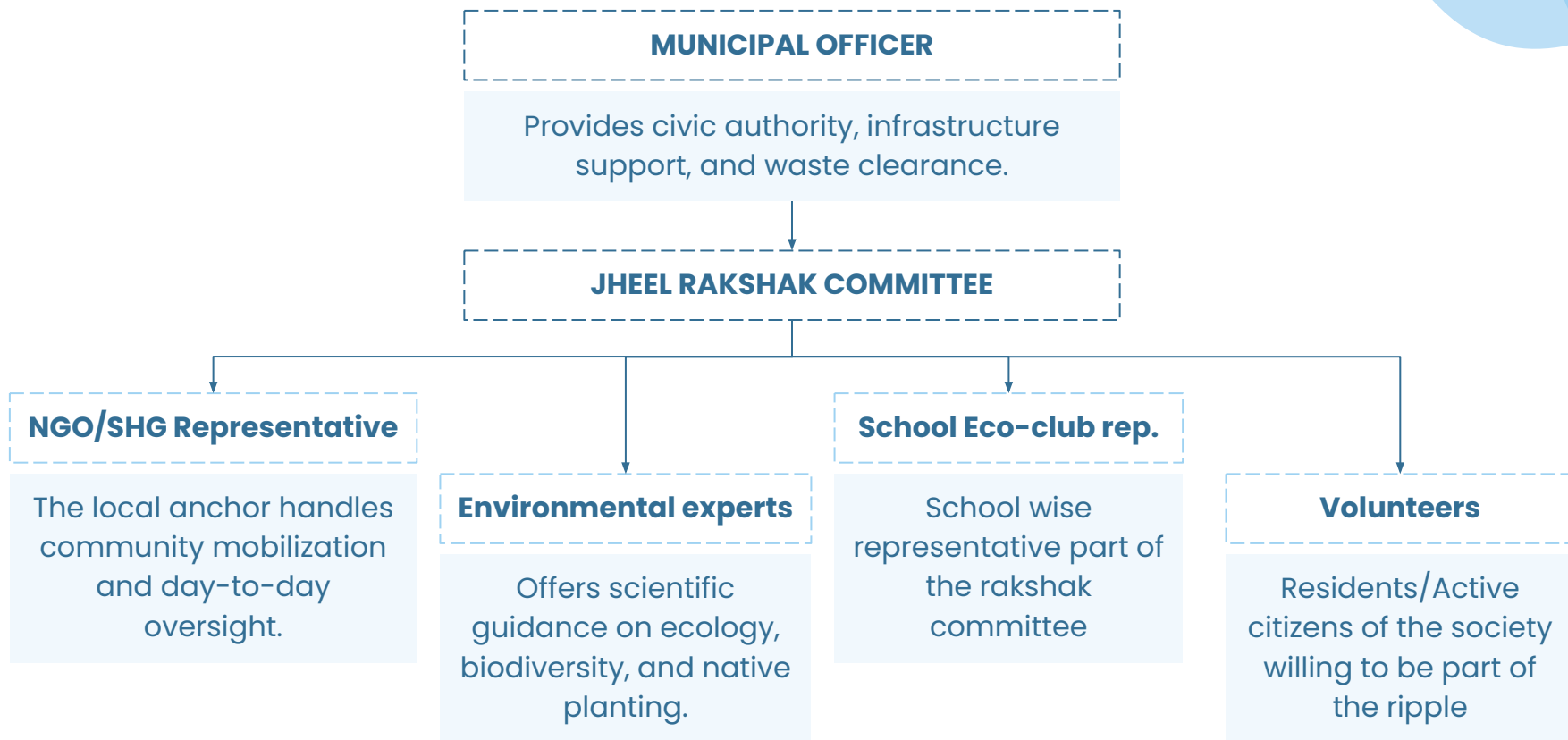
Shielding our Waters, Securing our lives one ripple at a time





Pillar 1: Jheel Rakshak Sangam

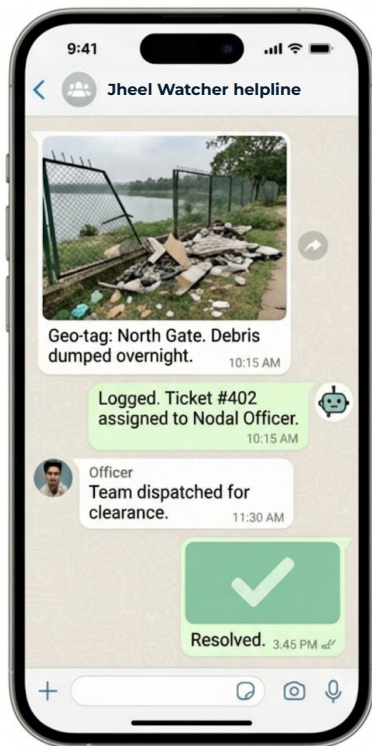
Flowing Together, Governance by the Community





Jheel Watchers

Watch. Snap. Protect.



*AI Generated

CAPTURE

Citizens or committee members send geotagged photos of violations/action places (e.g., debris/waste dumping, broken fences, etc.)

↓
LOG

The system logs the issue and alerts the Rakshak Sangam who then assign the rakshak for resolution.

↓
ESCALATE

A strict Service Level Agreement (SLA) timeline is set (for eg. 12 hours). If unresolved, the issue automatically escalates to higher municipal officer.

↓
RECEIVE REWARD

The Jheel watcher receives ripple credits one the issue is resolved who is awarded appreciation in the quarterly meeting



Pillar 2 : Action

Turning vision to waves of change and water will speak

VOLUNTEER LED CLEAN-UP:



Instead of one off cleanup events, organise regular, quarterly, structured “Shramdaan” events



Led by Committee, encouraging locals to volunteer by incentivising through recognition.

COMMITTEE MEETINGS:



Regular, quarterly meetings in which members can plan upcoming interventions such as clean-up drives, outreach programmes and assess existing situation and issues.

Visible Cleanliness discourages people from new littering as per the “broken window” theory in psychology





Circular economy model

Turning waste to waves of wealth

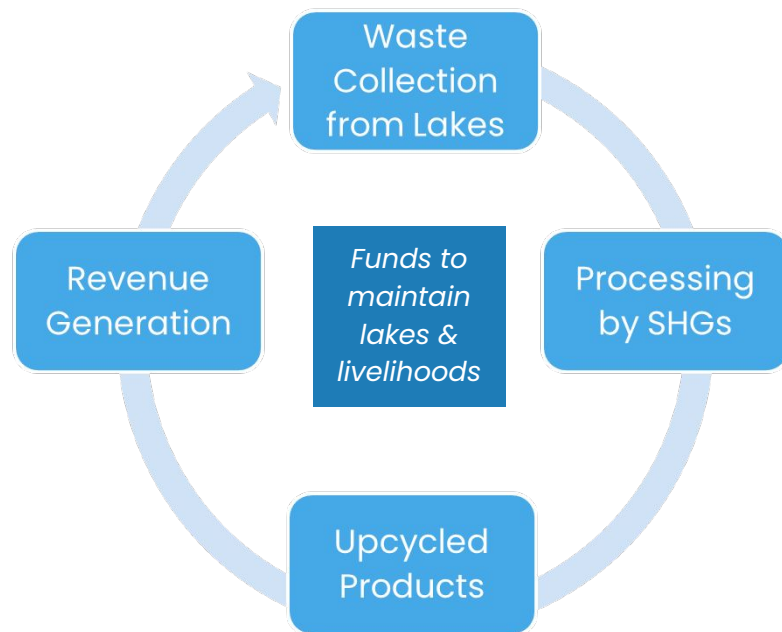
Turning the waste collected from the lake into community wealth to finance the efforts

INTEGRATION OF SHGs:

- Train Self Help Groups to process specific waste such as plastic waste or water hyacinths collected after the lake cleanup
- This waste can be upcycled into raw material for textiles, mats, compost or even art installations!



Can potentially create a micro economy and solve the problem of volunteer burnout by providing a permanent incentive to protect the lake.





Pillar 3: Cultural Engagement

Many Hands, One Heart, One Lake at a time

The goal is to transform lakes from being a forgotten part of the city to vibrant common spaces or the community and by the community

JHEEL UTSAV:

- An annual community festival to celebrate the lake with local music, food, dances & boat rides.
- The Jheel watchers can be honoured at this event.
- It can also generate revenue by setting up stalls of the products made by the SHGs as well as making art installations from waste.
- Heritage walks showcasing the flora and fauna of the lakes, the history of the lake and how community efforts have transformed the lake.



Loktak Day celebrated in Manipur to celebrate Loktak Lake with activities like the 'Loktak Run', tree plantations, traditional boat races (Hiyang Tanaba), and cultural performances.



Outreach to Schools

Small Hands, Big Ripples.

Children are the most effective agents to bring a change at household level.

ECO CLUBS AT SCHOOL:

- Partner with schools in the neighbourhood to form eco clubs at the school level.
- Sensitising the younger generation and making them aware of the importance of the lake ecosystems can be a powerful way to bring change at a bigger scale.
- The club can organise regular nature walks and other such activities to engage the kids. These activities will not only aware children about lakes but will also establish inter school ties of friendship.
- A school eco club representative overall and each school to also have a representative who presents a report of the activities undertaken by the school at the quarterly meeting of the Jheel Rakshak.
- School with most points can be honoured at the Jheel Utsav.



Citizen science can be brought in by encouraging the students to undertake bird counts or other such parameters and maintain a database for the lake



Feasibility of Scaling

Scaled by People, Powered by Purpose.

INTEGRATION OF SELF HELP GROUPS:

- India already has over 90 lakh self help groups spread all over the country under the Deendayal Antyodaya Yojana National Rural Livelihoods Mission (DAY-NRLM) and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) schemes¹.
- These networks need to be leveraged for scaling this idea in the case study area.

CAPITAL EXPENDITURE:

- Our proposal is not very infrastructure heavy and tries utilising already available standard tools such as Whatsapp wherever possible

STANDARDISATION:

- Standard guidelines for the formation of the Jheel Rakshak Committee can be developed so that the model can be replicated anywhere throughout the country.

Source: pib.gov.in, Ministry of Rural Development, 11 FEB 2025, Self-Help Groups

Jheel Rakshak

Shielding our Waters, Securing our lives one ripple at a time



Workability in field conditions

Field-First, Future-Focused.

LOW ENTRY BARRIERS:

- Making people download a separate app usually prevents the general masses from getting involved.
- Using a platform such as Whatsapp however increases the accessibility across diverse socioeconomic groups.
- Increasing accessibility increases the sense of ownership and fosters a sense of community among everyone involved.

CHECKS AND BALANCES:

- The committee has multiple stakeholders which ensures that no single stakeholder such as a municipal officer can ignore issues and not group of citizens which wants to make change is left without official backing.
- Regular meetings ensure that the progress is regularly monitored and lake cleanups do not become one off showcase events.

Jheel Rakshak

Shielding our Waters, Securing our lives one ripple at a time



The way forward..

- The current degraded conditions of our lakes are a clear indication of the fact that the existing top-down approaches in maintaining lakes aren't sufficient anymore.
- We should stop treating lakes as just some physical infrastructure that is meant to be fenced off and should instead treat them as an essential part of the ecological and cultural story of a city.
- Our proposal is an attempt to institutionalise the committee and thus bridge the gap between institutions with power such as municipalities and the general citizens who are willing to bring a change, be it through the mode of SHGs, NGOs or just as volunteers!

When the community becomes the custodian of lakes, conservation becomes self sustaining!



Thank You