

Bangalore's lakes: What role do citizens play?

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- ❑ Citizen groups play a crucial role in acting as “watchdogs” of Bangalore’s lakes.
- ❑ They help coordinate between agencies and lead rejuvenation efforts.
- ❑ They foster community awareness on lakes.
- ❑ They help innovate new solutions.
- ❑ Citizen groups can be more effective through greater engagement, more inclusivity and improved monitoring and learning.

This article is the third in a multi-part series on lakes that aims to provide a comprehensive overview of lake-related problems in Bangalore and approaches to address them. This article describes the crucial role played by citizens in urban lake management.

CITIZEN GROUPS PLAY A CRUCIAL ROLE IN ACTING AS "WATCHDOGS" OF BANGALORE'S LAKES

ROLE #1

Citizens help coordinate between agencies and lead rejuvenation efforts



ROLE #2

Citizens foster community awareness on lakes



ROLE #3

Citizens help innovate new solutions



Credits: Aparna Nambiar



Citizen engagement with lakes [Photo credit: Annapurna Kamath, Jala Poshan]

Bangalore’s lakes suffer from different types of problems [1]. Some lakes are filled with sewage because wastewater flows through storm-water drains. Others remain dry due to diversion channels (bypass drains) and blocked storm-water drains. Some lakes overflow and cause flooding, because they are already filled with partially treated sewage and the bunds breach during heavy rains.

Paradoxically, Bangalore has one of the most engaged and wealthy citizen communities. Yet, despite the considerable investment of money and citizen engagement, problems persist. To understand why, we need to understand

how citizens engage, what constraints they face and what they can and cannot do.

Types of “citizen lake groups” and the role they play

Neighbourhood lake groups

Bangalore has over 80 active citizen lake groups. Most are formally registered trusts. Some are informal groups. They raise money through fundraising campaigns or from corporate CSR donations. Typically, these groups are neighbourhood groups that work on their local lake. The groups are motivated by the aesthetic and green space benefits associated with lakes and are by and large

comfortable in the role assigned to them by the government agencies.

Many citizen lake groups are formally entrusted with the day-to-day management of lakes which includes security, gardening and solid waste management. Once the lake is handed over to them, the groups have the opportunity to involve the surrounding community and foster community action around the lake. In most cases, the infrastructure, operations and maintenance expenses and salaries of the security guards continue to be paid by the custodial government agency.

Currently, some citizen groups have signed official MoUs (Memorandum of Understanding) with the state lake custodians and officially adopted the concerned lakes. Jakkur and Puttenahalli (South) have separate MoUs with the BBMP while Kaikondrahalli, Lower Ambalipura and Kasavanahalli have MoUs under the larger umbrella group called MAPSAS.

Citizen groups also engage with the government lake custodians during the allied works phase, such as decisions on the type of pathways, artificial ponds (*kalyanis*) for idol immersions, benches and pavilions for the community, children's play areas, and trees to be planted around the lakes. They may act directly by creating registered trusts or through NGOs.

City-wide NGOs or networks

There are city-wide lake networks such as Save Bangalore Lakes, the Federation of

Bengaluru Lakes (which is a network of some lake groups in Bangalore) and Friends of Lakes. Besides, NGOs like the Environment Support Group and Biome Environmental Trust focus on legal or policy action. These groups play a substantial role in lake rejuvenation by facilitating collective action in filing lawsuits, citizen consultations on laws and regulations and working directly with the government.

Citizen groups perform different roles both individually and collectively.

Role 1: Citizens groups help coordinate between agencies and lead rejuvenation efforts

Inter-agency coordination

A typical lake might involve 4-5 agencies including 1) Bangalore Water Supply and Sewerage Board (BWSSB) that manages sewers and sewage treatment plants (STPs); 2) Bruhat Bengaluru Mahanagara Palike (BBMP), the municipal corporation is the custodian of most lakes and manages storm water drains; 3) Karnataka State Pollution Control Board (KSPCB) that measures ambient water quality and enforces effluent discharge standards on STPs, including ones run by apartments and commercial complexes; 4) the state Fisheries Department that auctions fisheries contracts; and 5) the Karnataka Forest Department (KFD) that regulates the vegetation.

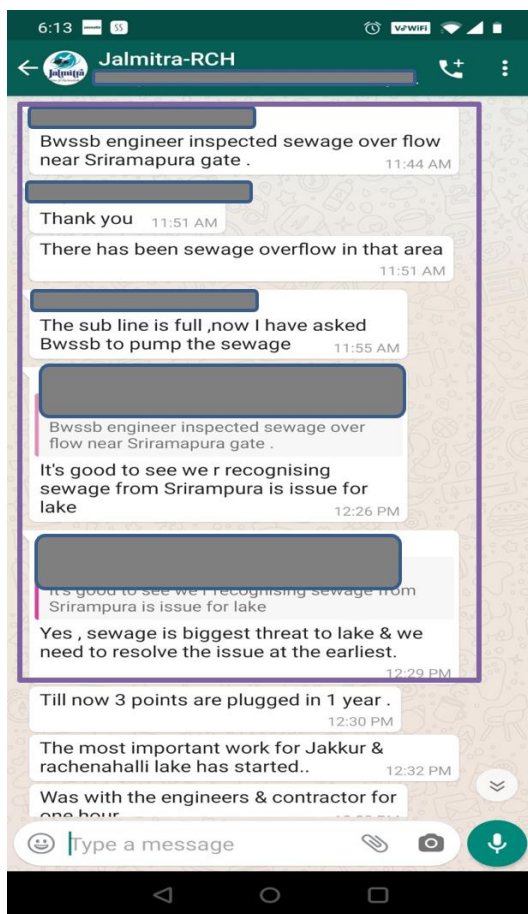
Additionally, over the last 8 years, control of lake rejuvenation and clearances for civil works have shifted several times across the Lake Development Authority,

the Karnataka Lake Conservation and Development Authority, and the Karnataka Tank Conservation and Development Authority.

The agencies rarely coordinate with each other on the execution of civil works and lack common goals for lakes.

Therefore, the lake-level citizen groups fill the inter-agency coordination void.

This entails carrying information or notifications from one agency to another or convening calls/meetings with officials from different agencies to clarify and settle discrepancies.



An example of how lake groups use Whatsapp to coordinate between themselves and across agencies.

One such example is the issue of fishermen being evicted from lakes. BBMP was not in favour of them (and some citizens objected to the smell and sale of fish as commercial activities are banned). Meanwhile, the Fisheries Department and other residents viewed it as a subsistence livelihood activity that should be permitted, arguing that the fishermen help keep the lake clean of water hyacinth and act as watchdogs reporting sewage leaks. While the issue remains unsettled at the policy level, individual lake groups have different working compromises.

Although the lake groups play an important role in coordination, this is often ad hoc, and the insights gained and suggestions proposed are rarely synthesised for improved collective learning and action.

Lobbying with government

Lake groups also play an active role in lobbying with the agencies to change rules.

One pioneering example is the lake rejuvenation effort by the Puttenahalli Neighbourhood Lake Improvement Trust (PNLIT) to permit a neighbourhood apartment STP to release their surplus treated water into the shrinking Puttenahalli lake in South Bangalore [2]. Although there was considerable opposition from KSPCB on who would be liable if the STP failed and who would monitor the water quality, the lake group has worked with the BBMP and the KSPCB in creating a new model for lake management.

Participating in litigation

Citizen groups participate in public interest litigation suits as well as petitions to the National Green Tribunal.

They have been particularly effective in tackling encroachment, challenging commercial and housing projects, which are in breach of environmental norms and violation of buffer zone regulations, and commercialisation/privatisation of lakes.

Role 2: Citizen groups foster community awareness on lakes

Community building activities

One of the most visible and prominent roles of the lake-level groups is community building. Although the extent and variety of events vary from lake to lake; trash clean-up drives, tree planting, birdwatching, photography and art competitions, community gardens, biodiversity walks, yoga and music are common examples.



Biodiversity walk at Jakkur lake (2019)
[Photo Credit: Shashank Palur]

Another activity that has become a part of the Bengaluru lake scene is the annual lake festival or “kere habba”. These events typically feature panel discussions, music,

and even stalls selling innovative products such as made out of invasive weeds from the lake by local women’s groups.

Idol immersion

Citizen groups have been effective in managing solid waste and preventing idol immersion during festivals directly into lakes.

In many communities around the city, the lake groups reach out to neighbourhoods before the “Gowri Ganesha” festival and create awareness on how plaster of Paris idols reduce recharge in lakes, and why the paints on idols are toxic for aquatic species. They conduct workshops encouraging families to make their own clay Ganesha idols.

Some groups set up a schedule for volunteers to ensure that the idols are immersed only in the specially designed ritual ponds “kalyanis” and all organic waste is segregated and composted.



Lake water quality testing using low-cost testing kits (2018) [Photo Credit: ATREE]

Citizen science efforts

Several lake groups have active collaborations with scientific institutions in the city. Activities may include testing

water quality through low-cost testing kits and conducting tree, butterfly, bird or amphibian censuses.

Role 3: Citizens help innovate new solutions

A major challenge that many citizen groups have had to face, is the occasional backflow of sewage into lakes that spurs harmful algal blooms and release of noxious odours. Dead zones (i.e. areas of low dissolved oxygen) which cause fish kills are another frequent occurrence.

The absence of quick-fix solutions for this has resulted in a lot of experimentation by citizen groups as well as corporates (using CSR spending) through challenges and hackathons.

Constructed wetlands are the most common approach to remove excess nutrients. Water treated in a sewage treatment plant passes through a constructed wetland colonised by algae and native aquatic plant species like *Daphnia* and *Rotifera*. These plants help to remove fine particulate matter and the algae remove nutrients, taking up carbon, nitrogen, phosphorus and even heavy metals [3].

Floating islands have been implemented at some lakes including Hebbagodi Lake, Puttenahalli Lake, and Madiwala Lake.

When lakes are already nutrient-filled, the only solution is to find means of removing the nutrients through bio-remediation.

Water hyacinth and water moss have taken over many water bodies. While they are effective at removing nutrients, they

are also hard to contain. Measures to remove the hyacinth through chemical treatments or manually have proven ineffective and expensive. Some lake groups have been working on economic utilization of the aquatic weeds for baskets, ropes, paper etc. by underprivileged women [4].

Some lake groups have experimented with Bokashi balls and an effective microorganisms solution as a bioremediation technique in lakes that receive raw sewage [5].

While a lot of these solutions have been tried, the jury is still out concerning their effectiveness.

What is missing is a “learning by doing” approach, where lake groups systematically monitor lake health and report on their effectiveness.

Researchers need to monitor lake health before and after, and document case studies to assess the credibility of the technology before they can be scaled.



Floating island being installed at Kaikondrahalli lake (2017) [Photo Credit: Biome]

Where citizen groups have struggled?

Limited impact on lake health

The biggest critique of citizen groups is that they not been able to improve lake health; most of the efforts are on aesthetic improvements to the lakes.

Municipal agencies view the role of citizen lake groups as being limited to their involvement in soft decisions. Municipal agencies, therefore, do not solicit citizen input (or even keep citizens informed) on crucial “hard” engineering decisions or formal processes of lake rejuvenation. Citizen groups either have to work outside the formal process by exerting pressure on agencies informally, pursuing legal action or work within the narrow space the agencies leave for them.

Inclusion

Another weakness is that citizen groups struggle with being inclusive. There is generally a bias in who is invited to participate. Often, the proceedings are in English and the discourse is dominated by wealthy, educated migrants into the city, whose concerns tend to centre around aesthetics, property values and recreation. The older, traditional village communities around lakes, that became integrated into the city as it grew, often feel dispossessed. Poorer, more recent migrants, who may depend on the lake for washing and bathing are not included.

Furthermore, although citizen groups may have MoUs with BBMP and wield significant decision-making power, they

do not have any formal constitutional validity. The 74th Constitutional Amendment Act recognizes Municipal Ward Committees, which have an elected representative. And while some lake groups like Jala Poshan have made genuine attempts to reach out to a variety of stakeholders, many do not engage with the recently created Ward Committees or the neighbourhood Resident Welfare Associations. As a result, many decisions taken do not reflect the views of even the local population, but even less of the poorer sections who may depend on lakes for subsistence.



Discussion around the betterment of community spaces at Kaikondrahalli lake (2017)
[Photo Credit: Biome]

How can citizens be more effective?

Bangalore’s citizen lake groups have made remarkable contributions. However, there are still some areas for improvement.

First, the lake groups still act largely independently and could do much better at collective action in engaging with agencies to improve the infrastructure in the city as a whole working on a common plan to manage sewage, sewage treatment plants, constructed wetlands, solid waste and storm water drains.

Second, the lake groups need to better document the results of various innovations so that others can learn from their successes and failures, instead of reinventing the wheel. Lakes must be treated as “living labs”, with interventions embedded in a framework of systematic monitoring.

Third, lake groups need to be more inclusive and engage with Ward Committees and participate in local decision-making. This will help improve lake management as well as ensure political backing for any schemes proposed.

Acknowledgements

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Suggested Readings

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