

Urban commons in a globalizing city

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HUMANITY is said to now live in the Anthropocene,¹ an epoch with a heavily pervasive human footprint. Landscapes are continuously transforming and processes of urbanization drive a large part of this transformation.² In fast growing countries such as India, the influence of urbanization is highly visible, particularly with respect to the distribution of urban centres that often grow by engulfing rural spaces into themselves. One such example is the rapidly globalizing south Indian city of Bengaluru, the country's second largest city in terms of area and third largest by population.³

Historically an agrarian landscape, Bengaluru has transformed drastically in the intervening years, being variously called a 'garden city' and India's 'Silicon Valley'. Most of the city's growth has been uncharted, unplanned, and with very minimal attention paid to urban nature and the ecosystem services it provides. At the same time, the city has expanded rapidly by engulfing peri-urban areas surrounding it – areas that even today retain agrarian lifestyles, heavily dependent upon urban ecosystem services.⁴ However, unplanned urbanization leading to the acquiring, conversion, encroachment and pollution of many of these urban commons have transformed landscapes, drastically impacting the ecosystem services that may be derived from them.

In this context, this paper tries to understand the current scenario of urban dependence on ecosystem services derived from lake based commons, and link this to the scenarios of the past to understand the trajectories and processes that have shaped the change we observe today.

The landscapes in and around the present day boundaries of the city of Bengaluru have been occupied as far back as 6000 years ago as is evidenced by the presence of tools, implements and fossils dating back to that era.⁵ Over time, this city with its naturally undulating terrain has seen the rise and fall of many dynasties including the Gangas, Cholas, Hoysalas and the Vijayanagaras.⁶ It was a strategic location in the Deccan and this importance is revealed through the many inscriptions that detail the battles fought for the control of this landscape. The foundations of the city were laid in 1536 AD by Kempe Gowda, a vassal of the Vijayanagara dynasty.⁷

This long history of occupation and mostly agrarian settlement is highly unusual for a semi-arid city such as Bengaluru that lies within the rain shadow of the Deccan hills, and which is distant from major rivers.⁸ Early residents and rulers overcame this shortcoming by making use of the natural topographic gradient of the city to create a system of networked tanks or lakes, used for rainwater harvesting.⁹

In addition to these water bodies were other specialized land uses – village groves (*gundathopes*), cemeteries, ponds (*kuntes*), temple tanks (*kalyanis*), open wells, grazing lands (*gomalas*), and others. Together with the lakes, these structures were managed as common pool resources,¹⁰ and were integral to sustaining the lifestyles of the agrarian communities who depended on them.¹¹ Village groves (*gundathopes*) acted as shelter for livestock owners, as well as wandering nomadic communities. Grazing lands or *gomala* acted as community pasture lands particularly to inhabitants of the surrounding villages, while temple tanks (*kalyanis*), open wells, and ponds (*kuntes*) served as secondary water sources used for a variety of domestic and occupational needs of the community. Communities were entirely responsible for the maintenance and upkeep of these structures and the undertaking of such activities was considered to provide spiritual merit.¹² Specific community roles were in place regarding the use of these commons, as well as their maintenance and upkeep.¹³ Communities had a sense of connect with these urban commons as is evidenced by the continued presence of worship and bonding associated with these structures.

‘This lake belongs just to the villages of Dasarahalli and Rachenalli. We are the custodians of this lake. The boundaries of this lake touch each of our villages and therefore villagers in both villages are our own. This lake nurtures us.’

Community elder, Rachenahalli lake

Our research has delved into the changing role of the urban commons within the city. We draw on multiple sources of information ranging from recorded and remembered (oral) histories, historical maps, and other secondary sources of information to construct a picture of change in the landscape, and in access and availability of ecosystem related benefits from the commons. Our research has shown that beginning roughly from the start of the long-term colonial occupation of the city (from the early 19th century), the distribution of these urban commons has seen a steady decline. For instance, the number of open wells which stood at 1499 in the city and cantonment in 1885, reduced to 500 in 1935, 150 in 1973, and 49 in 2014.¹⁴ Several lakes, including Dharmambudhi and Sampangi lakes, were converted into public utilities such as bus terminals and sports stadiums during this period.¹⁵ Similar changes were observed in other urban commons including grazing lands and village groves.¹⁶

Our archival research finds that the deterioration in urban lake commons began with the initiation of centralized piped water supply drawn from ever distant sources around the year 1893.¹⁷ Lakes began to be seen as secondary sources of water, and neglected or polluted with sewage being let into them. Lands below the lakes were often inhabited by poorer sections of the society creating unsanitary conditions near the water bodies. This necessitated the draining of lakes such as the Miller’s tank series, on grounds of sanitation and health related concerns. In other parts of the city, lakes were converted through a gradual process of elite reconceptualization of the utility of the water body. A case in point is that of the Sampangi lake,¹⁸ where conflicts arose about the prioritization of livelihood uses such as agriculture over

urban upper and middle class pursuits of aesthetic and recreational values. This led to bureaucratic reimagining of the resource as a space for morning walks, a scenic landscape for bungalows, a polo ground, and a carnival ground, eventually transforming into its present day form of a sports stadium, reflective of notions of aesthetic and recreational utility that held sway in the colonial past of the city.

Such changes also resulted in the displacement of entire communities from the landscape – communities that had strong livelihood and cultural ties to the commons. Traditional institutions responsible for the maintenance and upkeep of lakes too saw a decay beginning around this period in time. Lakes were managed by the state, with centralized decision making of a technical nature. Communities gradually became alienated from water bodies, with a weakening of the link to livelihoods derived from these commons, and the decay of cultural traditions associated with lake protection and worship.

How do urban lake commons particularly provide benefits to urban populations, especially to the urban poor who often live around them? In this context, we undertook field based studies around twenty lakes of the city, which ranged in size and in exposure to urbanization. In field interviews, local residents state that by about 1985, many lakes had become highly polluted with sewage and agricultural run-off. Connectivity between lakes was lost due to encroachments and building over of the channels that connected various lakes. This ensured that the water, which was once associated with motion and flow, became stagnant and polluted. Uses of lakes that were dependent upon this seasonality too halted. Rapid urbanization that took place around most lakes within the urban and peri-urban landscapes of the city further reduced agricultural dependency upon lakes. The polluted status of lakes, especially from about 2000 to mid-2014 has discouraged fishing. Lakes no longer meet the drinking water needs of communities dependent upon them, except in some cases (such as in Kalkere lake) where pastoralists and their cattle still consume the heavily polluted water. Domestic uses such as bathing and washing vessels too ceased around most of these lakes. Pastoralism, brick making and commercial laundering of clothes, however, constitute traditional livelihood activities that persist even today, possibly because of the availability of the resource to meet these requirements.

'Earlier, the lake was our own. Now it belongs to the governments. We are not important any more. We are not allowed to graze cattle or cut grass. They have fenced it so we cannot go there. Why should we go where we are not wanted? Why should we even care about it?'

Former agriculturist, Agara lake

Village commons such as sacred groves (*gundathopes*) around the lakes too were converted into built up structures, further reducing user diversity around these water bodies. Around the early 2000s, certain lakes within the study area underwent differing processes of enclosure such as leasing out for maintenance (Kelaginakere), creation of public parks with paid entry (Madivala lake) and Public Private Partnerships (Hebbal and Agara lakes).

Another way in which ecosystems have been enclosed is after state initiated rejuvenation (such as in Yelahanka lake) where restrictions in timing of entry, patrolling by home guards, and active discouragement of traditional activities were reported and observed. Along with these restrictions, the ‘development’ of the enclosed lakes proceeded, with an emphasis on promoting the aesthetic and recreational value of the water body.

These dominant perceptions inherently distanced traditional uses such as brick making and pastoralism, which were seen to be against the ethic of ‘development’. Local residents of villages around these lakes narrated a strong disconnect from the water body, with formerly integral cultural practices including forms of worship¹⁹ being discontinued. Many interviewees expressed a hesitation to go near rejuvenated lakes, while expressing a feeling of being powerless to effect any change.

‘We do not wish to go near the lake as it is now fenced and we and our cattle are kept away. It is the government’s lake now, not ours. Earlier, we had the power to change our lake, keep it clean, graze our cattle, and see that its channels are free and flowing. Now the government makes those decisions for us... we are kept out, our cattle are unwanted. They just want to let well dressed people inside the lake. According to them, we make our own lakes dirty.’

Livestock owner, Kogilu lake

This trend of distancing long-term village residents from their lakes has continued into the present day. However, while leasing out of lakes and Public Private Partnerships²⁰ have discontinued mostly due to civic society protests and PILs, newer forms of enclosure continue to prevent traditional users from accessing benefits from these water bodies. Due to high pollution in many lakes (such as those at Rampura, Bellandur, and Varthur lakes for example), only provisioning services that make use of the lake banks and shallow water – pastoralism and the collection of fodder grass – are currently practised.

Over the last decade, there has been much discussion in the media of the deterioration of lakes within Bengaluru. Legal action has also been taken to clear lakes of unauthorized construction around water bodies. Keeping with this larger climate of attention to water bodies, the city has seen the rise of a number of lake protection groups comprising of middle to upper middle class urban residents living around lakes. In collaboration with the city government, a number of restored lakes have been earmarked for rejuvenation and subsequent maintenance by these groups. These include the Kogilu lake, Sawlkere, Rachenahalli lake, and the Jakkur lake, some of which have been landscaped to include parks and jogging tracks, while being fenced and patrolled by guards. In many lakes, restrictions on access are now imposed, with most timings of access between 5 am and 9 am in the morning, and between 4 pm and 7 pm in the evening, to encourage access for exercise and recreation. In several lakes, traditional occupations such as commercial laundering and grazing cattle are prohibited within the fenced perimeter. However, our interviews indicate that arrangements have been made to allow entry for fodder collection. This has created

implications for gendered relations with the water body. While grazing cattle has traditionally been a masculine domain, the cutting of fodder from lakes has been associated with women. This means that additional stress is placed upon women who not only have to contend with domestic chores but also have to provide fodder for their livestock.

These restrictions have further reduced the diversity of provisioning and cultural ecosystem services derived from lakes, while at the same time catering to the dominant ethic of enhancing recreational and aesthetic utility of the resource.

Our research has shown that while the diversity of ecosystem services obtained from lakes has reduced owing primarily to changed ecological conditions and forms of ecosystem enclosure, lakes, and other urban commons continue to be integral to supporting lives and livelihoods of people dependent upon them. They provide many important provisioning and cultural ecosystem services to communities living around and dependent on them.

Vegetables, fruits, herbs, fish, fuelwood, water and fodder provided by urban commons are important for both subsistence and livelihood appropriation by groups living around them. Livestock owners make use of water from lakes for washing and watering their animals. At the same time, vegetation growing along the lake's banks and on the water surface are used as fodder. Wetlands surrounding lakes support cultivation of ragi (*Eleusine coracana*), various types of fodder grass, and paddy. In situations of drought and scarce resources, and when water levels in the Agara lake are low, women recall collecting Onagane soppu (*Alternanthera sessilis*), a local green. This was used both to supplement local diets as well as income through selling them. Fishing, once a traditional activity of the Bestharu community, is today tender based. It provides an important source of income to those dependent upon this resource. Water from the lake is integral in supporting the livelihoods of the *dhobhi* (washerfolk) community. In addition, mud and water from the lakes is used to manufacture bricks, another important livelihood based activity dependent on the urban commons.

Lakes and village groves also form an important resource for many of the city's poorer migrants who set up temporary hutments near them. While lakes provide water for domestic activity, the vegetation on the banks of the lake, as well as the village forests, provide an important source of dried twigs used as fuelwood by these communities. Local children enjoy fruits from the village forests, while the grove itself functions as a temporary shelter for visiting nomadic communities.²¹

Many non-material benefits too are provided by urban commons. They provide a connection with nature through various aesthetic and recreational benefits. Walking, jogging, fishing, exercise are common activities to be observed around these spaces. However, aesthetics and recreation are not the only benefits provided by urban commons. They contribute to a sense of belonging to communities because of the many religious and cultural relationships that residents have forged over time

and even generations, with the resource. For instance, every lake has a temple and a deity associated with it, most commonly a manifestation of Shakti,²² to whom prayers are offered seeking protection from diseases or blessings such as prosperity, and an abundant supply of water. Ritual offerings to ancestors are commonly seen in many of the lakes along with the immersion of idols following religious festivals. Different occupational groups like pastoralists, fishermen, farmers and washermen also have their own spiritual relationship with lakes, linked to their livelihood needs. These are marked by specific ceremonies performed by each group for the preservation of their livelihoods.²³

Lakes are and have been produced spaces – produced with the intention of supporting agrarian landscapes. Yet, today, the very people who helped shape this landscape have reported a strong disconnect from the resource. In other words, they have become alienated from their resource base. This alienation of communities is an ongoing process that is influenced by the degree of urbanization around lakes across the city. Long-term resident communities around the lakes attribute this phenomenon first to changing lake ecologies, and more recently to various manifestations of ecosystem enclosures. At the same time communities living around lakes have reported a sense of powerlessness (the perceived inability to effect change), while at the same time feeling isolated (the feeling of being cut-off both from using the resource as well as the community structures that have evolved around it).²⁴

Greater research on the urban commons is needed to provide inputs towards understanding how social relations and dependence on the urban commons has changed as a function of changing ecosystem quality and governance mechanisms. Our research lends voice to perceptions of change as experienced by the subaltern, while being useful in identifying actors vulnerable to exclusion. It demonstrates that the politically pervasive notions of aesthetics and recreational utility have operated upon and continue to do so in shaping the landscape of the present day. It emphasizes the importance of understanding historical dependencies on urban commons as well as trajectories of development followed by them over time in order to capture the range and diversity of ecosystem services they provide.

The alienation of communities from a resource base has grave implications for the notion of community stewardship of resources. Traditionally, while the state undertakes restoration and rejuvenation of urban commons such as lakes, the onus of maintaining these rejuvenated commons rests deeply on community stewardship.²⁵ Community stewardship of social-ecological systems is also an important factor that enhances the resilience of the system to changes.

However, as this paper shows, the notion of community is a deeply heterogeneous one, with imbalances in power among the various stakeholders. Consequently, the ‘community’ which is responsible for the stewardship of the resource is not representative of the diversity of

its dependents, and only represents those stakeholders who identify with dominant perceptions of the utility of the resource. This creates a situation wherein the resource begins to be identified only by the perceptions of those community members involved in its management. This identification with a certain worldview around a resource is reflected through exclusionary managerial regimes such as ecosystem enclosures. At the same time, it alienates stakeholders who have different relations with the resource (in this case, utilitarian as against recreation and aesthetics).

The question that is therefore clearly posed by this narrative is ‘who are urban commons meant for?’ It is clear that excluding and alienating certain actors from the resource base can have serious implications on the effectiveness of community stewardship of that resource, and therefore on the larger issue of social-ecological system resilience. It is also necessary to identify actors vulnerable to exclusion in order to construct inclusive policies governing the use and management of urban commons.²⁶

Footnotes:

1. F. Biermann, K. Abbott, S. Andreson, K. Bäckstrand, S. Bernstein, M.M. Betsill, H. Bulkeley, B. Cashore, J. Clapp, C. Folke, J. Gupta, P.M. Haas, A. Jordan, N. Kanie, A. Kluvánková-Oravská, L. Lebel, D. Liverman, J. Meadowcroft, R.B. Mitchell, P. Newell, S. Oberthur, L. Olsson, P. Pattberg, R. Sánchez-Rodríguez, H. Schroeder, A. Underdal, C.S. Vieira, C. Vogel, O.R. Young, A. Brock and R. Zondervan, ‘Navigating the Anthropocene: Improving Earth System Governance’, *Science* 335, 2012, pp. 1306-1307.
2. N.B.Grimm, S.H. Faeth, N.E. Golubiewski, C.L. Redman, J. Wu, X. Bai and J.M. Briggs, ‘Global Change and the Ecology of Cities’, *Science* 319, 2008, pp. 756-760.
3. H.S. Sudhira, T.V. Ramachandra and M.V.B. Subrahmanya, ‘Bangalore’, *Cities* 24(5), 2007, pp. 379-390.
4. H. Nagendra, H. Unnikrishnan and S. Sen, ‘Villages in the City: Spatial and Temporal Heterogeneity in Rurality and Urbanity in Bangalore, India’, *Land* 3, 2014, pp. 1-18.
5. T.V. Annaswamy, *Bengaluru to Bangalore: Urban History of Bangalore from the Pre-historic Period to the End of the 18th Century*. Vengadam Press, Bangalore, 2003.
6. B.N. Sundara Rao, *Bengalurinaltihaasa* (in Kannada). Ankita Pustaka, Bangalore, 1985.
7. H. Nagendra, *Nature in the City: Bengaluru in the Past, Present, and Future*. Oxford University Press, New Delhi, 2016.
8. H.S. Sudhira, T.V. Ramachandra and M.V.B. Subrahmanya, ‘Bangalore’, *Cities* 24(5), pp. 379-390.
9. G.S. Dikshit, G.R. Kuppaswamy and S.K. Mohan, *Tank Irrigation in Karnataka*. Gandhi Sahitya Sangha, Bangalore, 1993.
10. Common pool resources are a group of goods which are characterized by joint use, and where the withdrawing of benefits by one user, reduces the total pool available to others. They have been traditionally managed by communities with specific rules and regulations in place governing their access and use. See E. Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press, 1990.
11. S. Mundoli, B. Manjunath and H. Nagendra, ‘Effects of Urbanization on the Use of Lakes as Commons in the Peri-urban Interface of Bengaluru, India’, *International Journal of Urban Sustainable Development* 7(1), 2015, pp. 89-108.

12. B.L. Rice, *Epigraphia Carnatica* (Volume IX): *Inscriptions in the Bangalore District*. Mysore Government Central Press, Bangalore, 1905.

13. G.S. Dikshit, G.R. Kuppaswamy and S.K. Mohan, op. cit., fn. 9; Specific roles such as the *neerganti* (village waterman), and the *Patel* (village headman) were designated to community members and whose roles revolved around the maintenance and upkeep of the resource. For instance, the neerganti was responsible for the release of sluice gates thereby ensuring adequate water for irrigation. The Patel acted as a overseer for all operations regarding the lake, gave directives for its maintenance and ensured that the directions are carried out diligently.

14. H. Nagendra, *Nature in the City*, op cit., fn. 7, pp. 170-174.

15. H.S. Sudhira, T.V. Ramachandra and M.V.B. Subrahmanya, 'Bangalore', op. cit., fn. 8, pp. 379-390.

16. H. Unnikrishnan, S. Mundoli, B. Manjunatha and H. Nagendra, 'Down the Drain: Tragedy of the Disappearing Urban Commons of Bengaluru', *South Asian Water Studies* 5(3), 2016, pp. 7-11.

17. H. Unnikrishnan, B. Manjunatha and H. Nagendra, 'Contested Urban Commons: Mapping the Transition of a Lake to a Sports Stadium in Bangalore', *International Journal of the Commons* 10(1), 2016, pp. 265-293; H. Nagendra, *Nature in the City*, op., cit., 2016, pp. 170-174.

18. H. Unnikrishnan, B. Manjunatha and H. Nagendra, 'Contested Urban Commons', op. cit., 2016, pp. 265-293.

19. One example of such worship is the practice of *Gange Pooje*. After a day of festivities and offerings made to the deity of the lake, numerous lit oil lamps made of powdered rice were set afloat on the water body accompanied with a ritualistic sacrifice of a goat or hens. This was an annual affair, and versions of this may be found in and around some lakes in peri-urban Bengaluru.

20. H. Unnikrishnan and H. Nagendra, 'Privatizing the Commons: Impact on Ecosystem Services in Bangalore's Lakes', *Urban Ecosystems* 18, 2015, pp. 613-632.

21. S. Mundoli, B. Manjunath and H. Nagendra, op. cit., fn 11, pp. 89-108.

22. Shakti – a feminine spirit believed to be a protector from disease, misfortune, and ravages of nature. Around the lakes of Bengaluru, she is most commonly represented as a manifestation of one or all of seven sisters (known as Akkammanavaru, Akkandiru and Saptha Maathrikeyaru), worshipped together with their brother and protector, the God Muneeshwara. Representations of one or all of these deities are worshipped around every lake in the city as the lake deities.

23. Different occupational groups have different spiritual relations associated with the lake. For instance, we have learned through our interviews that the dhobhis or washer-folk perform a yearly dedication to a specific deity, Uppudyaavaru, invoking his protection both for the clothes entrusted to them as well as for their children who are often left unattended on the banks of the lake. Similarly, fishermen refuse to take their footwear into the coracle used for fishing as being symbolic of their respect for the water body that nurtures their livelihoods. Pastoralists and agriculturists too worship the seven sisters, but with different rituals characteristic to their specific occupational group.

24. V. Narain and S. Vij, 'Where Have All the Commons Gone?' *Geoforum* 68, 2016, pp. 21-24.

25. H. Unnikrishnan and H. Nagendra, 2015, op. cit., fn. 20.

26. T. De Moor, 'What do we have in Common? A Comparative Framework for Old and New Literature on the Commons', *IRISH* 57, 2012, pp. 269-290.

