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“Urbanization & periurbanization: Challenges for water governance in south Asia”



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Down the drain: the tragedy of the disappearing urban commons of Bengaluru

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Abstract

India's growth in size, population, and urban footprint has been accompanied by rapid urbanization and changes in the condition of urban ecological commons. In Bengaluru, as in many other parts of India, lakes and their surrounding ecosystems, including village forests, sacred groves, and pastures, constituted interconnected commons within a larger community-managed landscape. Transformations in land use and governance due to urbanization have ruptured the once integral connections between communities and commons landscapes. These changes have also influenced the relations people build or are indirectly allowed to build with these important commons.

Using Bengaluru as a case study, we examine the processes of transformation of commons landscapes around lake systems, as a consequence of rapid urbanization. Urbanization influences the ecosystem services provided by these resources, affecting poor and marginalized communities especially vulnerable to the processes of urban change. Inequities in the access to the commons are in danger of being exacerbated by urban policies. This is in particular so for the emphasis on public-private partnerships, and the framing of 'smart cities' that seem to prioritize non-consumptive uses of the commons such as recreation and pollution control over consumptive uses such as livelihood use, food,

water, and foraging supply for marginalized users of commons. As the dependency on urban commons such as lakes has reduced, the social-ecological commons landscapes around these water bodies have been re-imagined for primarily aesthetic utilities and ecological support.

Policy framings must re-conceptualize the urban commons to account for their multifaceted nature, and their importance for increasing urban resilience, in particular for the most vulnerable of urban residents. The ongoing alienation of communities who value and use urban commons has serious implications on the sustainability of lakes, the ecosystem services they provide, and the vulnerability of the social-ecological system at large; not just for Bengaluru, but for cities across India.

Keywords

Urban commons, lakes, Bengaluru, smart cities, exclusion

Introduction

Urbanization in Asia has been unprecedented in recent years (UN-HABITAT 2010), raising concerns for the environmental sustainability of cities, and the quality of life of urban residents. Urban ecosystems are particularly threatened by urbanization. They play an important social and ecological role in cities, supporting subsistence



use and livelihoods for marginalized urban residents, supporting biodiversity, and acting as cultural and recreational nodes (Nagendra et al. 2013).

Water constitutes arguably the most important and threatened natural resource in cities, yet water bodies are heavily affected by urbanization in India (Planning Commission 2013). Once considered common-pool resources, water sources such as lakes and wells are being transformed into private or state property, reducing the capacity of the urban poor and marginalized to access this most basic of resources. As lakes and wetlands disappear, other urban commons connected to water sources, including wooded groves and grazing lands, have also been affected by urbanization.

Bengaluru, one of the fastest growing megacities in India, is no exception to this trend. Located at a distance from major rivers, the city has historically depended on a rain-water harvesting system of interconnected tanks or lakes providing water, functioning in association with open wells and smaller water reservoirs called kalyanis. Over time, the dependence on these local water resources declined as Bengaluru began to import water from nearby tributaries of the river Cauvery. This change led to the eventual decline of traditional water bodies, via their conversion to built spaces (Unnikrishnan et al. "in press"), privatized recreational spaces (Unnikrishnan & Nagendra 2015), and to gated restored lakes, distanced from the local communities that once maintained them (D'Souza & Nagendra 2011).

Based on research in 97 peri-urban villages near Bengaluru we found that the decline of water bodies is linked to the demise of entire commons landscapes. These peri-urban landscapes included lakes, village forests (gunda thopes), cemeteries, and grazing lands, described further below.

Lakes and their surrounding commons in a rural era

Lakes in peri-urban Bengaluru formed part of a larger social-ecological system that included agriculture, pasturelands, and village forests. In this context, ecological commons constituted important locations of biodiversity, and performed critical ecosystem functions such as groundwater recharge and local microclimate regulation (Kiran & Ramachandra 1999; D'Souza & Nagendra 2011). They were also integral to traditional cultural belief systems (Rice 1905).

Lakes provided water for agriculture, and grass growing on the wetlands adjacent to the lake generated fodder for cattle and livestock. In summer, when the water levels were low, the dry lakebed was used for cultivation, and to organize local gatherings such as cattle exhibitions and village fairs. Local festivals celebrated the arrival of the monsoon.

Large open wells around lakes provided water to different caste and livelihood groups living there. Gunda thopes (village groves), adjacent to lakes, were planted with mango (*Mangifera indica*), jamun (*Syzygium cumini*), tamarind (*Tamarindus indica*), and various species of *Ficus* to meet village needs of wood and fruit. Wood from the thope was used for village development and festivals or sold to raise funds. Individual households were allowed to access fuel wood from the thopes for important occasions such as cremations and marriages.

Village groves provided shade and fodder to pastoralists, and sheltered nomadic communities. They were sites for communal gatherings and feasts for the village. These groves were protected by communities as places of worship, and served as habitats for biodiversity. Strict rules regulated access to and appropriation from these groves. Cemeteries were found close to lakes and village forests, and common grazing lands adjacent to the lake provided fodder for the village.

Complex community dynamics characterized the management of these commons. While bureaucratic control over management rested with the ruler, via the village headman (patel) and village accountant (shanabhoga), the daily monitoring and maintenance of these commons rested in the hands of the tank guard (nirganti) and the village guard (talari). The nirganti assisted by the talari attended to the general maintenance of the tank and its sluices. He was also responsible for opening and closing sluice gates to provide the requisite amount of water for irrigation as well as to optimize water use during drier spells. These were hereditary positions typically occupied by caste groups at the lower end of the power hierarchy, providing checks and balances against the sometimes hierarchical and iniquitous management of these common pool resources. Village residents contributed labour for maintenance of both the lake and the storm water channels. Protection of these commons was a community effort. Lakes provided important livelihoods to many traditional groups. Fishing was conducted by the

bestharu group, while laundering of clothes was done by the agasaru, each of whose use of the resource was also regulated by traditional rules as well as religious custom.

It is clear, therefore, that village commons were an integral part of the city. Being so integral to lives and livelihoods, they also became critical ecological resources providing a measure of resilience to the city.

Over time, with rapid urbanization, migration of people both into and out of it, demand for land, and associated land use changes, this tightly woven social-ecological system saw many drastic changes in both form and governance. These changes have affected the relations people build with ecological commons. This process is aided by contemporary governance regimes that seek to reduce community rights to the management of ecological resources.

Transformations in the commons landscape with urbanization

Our research has documented a systematic, widespread picture of change in the social-ecological systems surrounding lake-embedded landscapes in peri-urban Bengaluru. These changes have implications on efforts to create stewardship of resources as well as larger questions of equity and social justice.

Rapid urbanization has placed Bengaluru on the global map. However, it has also created a seemingly insatiable demand for land, water, and other resources. As water began being pumped into the city from the distant Cauvery River, and from bore wells dug deep into the ground, the apparent dependency on lakes and lake-based commons decreased. Several lakes have been converted into other built structures. Many of the lakes that remain are sewage filled, polluted shadows of their earlier selves.

Yet lakes continue to function as social-ecological systems to a marginalized but significant portion of the society. This includes the often-neglected traditional communities that constitute descendants of erstwhile village inhabitants as well as more recent, impoverished migrant labour.

Lakes are dynamic social spaces even today, and at any point in time one may observe myriad activities taking place on the banks or in the waters.

While agricultural practices have dwindled

considerably, lakes still support cultivation in the peri-urban area. Grass and reeds from the lakebed and surrounding wetlands continue to provide fodder for livestock. Although traditional fishing has been discontinued, many lakes permit tender-based fishing that is an important source of income for some communities. Commercial laundering of clothes using water from lakes is another source of income for dhobi (washer) communities. The soil from many lakes at the fringe of the city is used for brick kilns for construction. Leafy vegetables growing on lake beds is an integral nutritional support for the diet of peri-urban residents, especially those of villagers living around these lakes. Many domestic activities such as washing clothes and utensils, and bathing are also supported by lakes.

The gunda thopes associated with most lakes have been converted to private and public uses like schools, housing, veterinary hospitals, community buildings, and roads. The few remaining thopes exist in a degraded state. Though still accessed as sites for grazing and collecting fuel wood, they have witnessed a decline in use and protection by villagers. In one instance, we also observed the protection of a village forest by conversion to an urban park, resulting in restoration at the expense of use, paralleling the trajectory we observe in many protected lakes in the city. Similarly, many open wells and kalyanis (temple tanks) have fallen into disuse, and several others have been closed or built over.

Converting the commons to state-managed resources: A shift in focus

Alongside the environmental and land use effects of urbanization on the commons, the changes in management have altered their perceived importance in the twenty-first century. The institutions of Patel, Shanabhoga, Nirganti, and Talari were abolished several decades ago. In many cases, the descendants of these families have been reduced to working as daily-wage workers or domestic help, facing challenges of water scarcity and food security in formerly productive landscapes where they once played a central role.

The peri-urban commons are today managed by different departments of the government. The complexity of multiple institutions for commons management has distanced local communities from their commons. In interviews, people often say that one of their biggest challenges lies in finding out which department or official is in charge of a lake or a village forest, and whom



they can approach for assistance. The collective management of commons by local residents has eroded, leading to a disconnection with resources that were once central to their lives and livelihoods.

Urbanization has also brought in an influx of migrants who have no historic connections or dependence on commons, contributing to their disinterest in the status of commons like lakes and gunda thopes (Mundoli et al. 2014).

The state vision of urban development has further contributed to the degradation of these commons, and the alienation of marginalized users. In fact, urbanization in India has been characterised by stark economic inequality (MHUPA 2011). The needs and aspirations of the poor, who possess limited bargaining power, are typically ignored while envisioning cities of the future. Planning tends to prioritize green spaces in cities as sites for recreation for upper and middle class urban residents. The fact that these green spaces continue to constitute common pool resources, on which people depend for consumptive uses that support their subsistence and livelihoods, is ignored in public discourse.

Erstwhile village commons such as lakes (in some instances, village forests as well) have been transformed into landscaped recreational spaces with pathways for jogging and walking, equipped with open air gyms, and designed with play areas for children. They are fenced and patrolled by security guards to control access (Nagendra 2013). Traditional uses like grazing, fishing, and agriculture are perceived as illegal, and so, traditional users are alienated from the resource (D'Souza & Nagendra 2011).

Privatization of lakes in Bengaluru and promotion of commercial activities are leading to the denial of access to traditional lake users (Unnikrishnan & Nagendra 2015). Contesting claims between the state, powerful individuals (Sundaresan 2011), and local communities result in encroachment and enclosure of urban commons. This is an increasing and worrying trend in cities across India (Baviskar 2011), raising concerns of urban segregation and equitable access to commons.

New visions of planned cities including the current discourse on 'smart cities' further contribute to the exclusion of traditional users. The conceptualization of a 'smart' environment describes the importance of green and open spaces for recreation, but fails to acknowledge their status as commons (MoUD 2014).

Public-Private Partnerships (PPP) are favoured for financing development of cities, but these have proved to exacerbate problems of exclusion.

Conclusion

The model of urban development promoted today prioritizes the contribution of cities to economic growth and employment generation (MoUD 2014; NITI Aayog 2015). Urban commons in this vision are in threat of being seen as economic goods, accessible only to those who can pay for them; a view encouraged by actions of the state and the perceptions of wealthier urban residents.

The transformation of Bengaluru from a 'garden city' into a 'silicon city' has been marked by a large-scale conversion of natural spaces, including commons, to built-up areas (Nagendra et al. 2012). The ecological footprint of the city has been ever-increasing, consuming not just local and peri-urban commons but natural resources situated a hundred kilometres away.

The exclusion of commons by urban visions and the degradation of ecosystems due to urban growth will have differential impacts on marginalized urban groups. This is a special cause for concern as the locus of poverty in India appears to be shifting from the rural to the urban (MHUPA 2011). With global environmental and climate change, cities are also at risk from unprecedented weather events, as was seen in Bengaluru and Mumbai some years earlier and with devastating effects in Chennai recently.

The effects on the poor are compounded by unplanned urban growth that has compromised the ecological and social role of natural spaces including commons. So today, more than ever, it has become critical to recognize the multi-faceted importance of urban commons for the ecological and social resilience of cities.

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