

DESIGNING ECOLOGICALLY SMART, JUST CITIES

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First, the value (monetary and non-monetary) that we place on maintaining ecosystem structure and function in cities determine how urban land-use change balances priorities of built vs. "green" infrastructure. While urban planners and decision-makers often prioritize economic valuations, urban residents – especially in the global South - often value aspects such as shade, stress relief, and intrinsic sacred value which cannot be easily quantified in monetary terms.

Second, variations in socio-economic backgrounds can also profoundly influence the values attached to urban ecosystems. Overall, we find many users in Indian cities who continue to forage for daily needs such as medicinal plants for maintaining health. However, provisioning uses as foraging and fishing are increasingly being banned as illegal in public parks and lakes. Recreational and regulatory ecosystem services

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are however considered critical and more likely to be built into city plans.

Third, collective action and community use of urban ecosystems can provide powerful antidotes to the loss of community and sense of place often associated with urbanization. For instance, restored lakes in Bangalore act as nodes of community activity that initiate biodiversity-friendly activities such as solid waste management and organic gardening and disseminate values of urban nature protection. Yet commons are often ignored in cities, where the locus of urban ecosystem governance tends to shift to the private (such as home gardens or allotment gardens) or the public (with city municipalities owning publicly accessible ecosystems such as wooded streets, lakes, and parks), excluding commons uses such as foraging.

This leads to two main recommendations for planning

- First, although ecosystem services provide a helpful framework, the dis-privileging of commons use of provisioning services impacts the city's poorest and most marginalized, including practitioners of nature-based livelihoods (such as cattle grazers and fishers) and

migrant workers (who lack access to fuelwood and medicines).

- Second, such disprivileging takes place because of non-democratic decision-making that reinforces existing hierarchies and inequities, converting thriving urban commons to private and public resources. Urban commons offer a powerful way to integrate migrants from other regions into communities of practice through forms of social-ecological activity as simple as shared gardening. Building social-ecological learning and memory can significantly help make cities more welcoming, biodiverse, and liveable. Urban commons require explicit recognition and protection in the urban planning process, especially in cities of the global South.

In conclusion, the large-scale urbanization we are witnessing in the global South represents a significant challenge for the planet. To turn the challenge into an opportunity, we need multi-level stewardship of urban ecosystems that integrates communities at the core and maintains provisioning ecosystem services as central. Only then can equity issues be sufficiently addressed alongside ecology and biodiversity, creating *ecologically smart*, just cities.

Quote as: Nagendra, H. Designing Ecologically Smart, Just Cities. P. 251. In: Mejia, M. A., Amaya-Espinel, J. D. (eds.), *BiodiverCities by 2030: Transforming Cities with Biodiversity*. Bogotá. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. 2022. 288 pages.