INDIA CLIMATE DIALOGUE

India needs more urban forests for multiple benefits

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Although there is no lack of good examples that can be adopted, a lack of political will and outdated laws hamper the creation of urban forests in Indian cities

During the virtual celebration of World Environment Day on June 5, Prakash Javadekar, India's minister for environment, forests and climate change, launched the Nagar Van project. The scheme aims to create urban forest cover in 200 cities across the country in the next five years.

Oddly enough, in 2016 Javadekar launched the exact same scheme at a commemorative function at the Sanjay Gandhi National Park in Borivali, Mumbai. None of the experts The Third Pole's correspondent spoke to were aware of any progress on the scheme. Nor is any government data available on what goals were achieved on planting "200 city forests" between 2016 and 2020.

Despite the lack of progress, there is no denying the benefits of urban forests and the critical role they play in augmenting city life. Trees help moderate temperatures in cities, where heat radiated from concrete buildings and roads makes them warmer than the surrounding countryside, in a phenomenon called the urban heat island effect. They also whittle down levels of ozone, sulphur dioxide and particulate matter; remove large quantities of carbon dioxide from the atmosphere; and release oxygen.

Metropolises worldwide are thus increasingly creating urban forests. Seoul, Singapore and Bangkok have built green corridors that provide space for nature and wildlife while improving the lives of city dwellers. Such initiatives are imperative given cities will host 68% of the world's population by 2050, according to the United Nations.

Urban green spaces under threat

Unfortunately, right now in India even existing urban green spaces are under threat. In October 2019, Aarey Milk Colony in suburban Mumbai, known as the city's 'green lung', was caught in a raucous nationwide debate about ecology versus infrastructure projects. This was in response to a plan that involved Mumbai Metro Rail Corporation cutting down 3,000 trees in the area to pave the way for a train depot. According to a scientific report, the site is home to 86 species of butterflies, 90 species of spiders, 46 species of reptiles, 34 species of wildflower and nine leopards.

Despite public outrage, by the time the Supreme Court intervened the Maharashtra government and Mumbai Metro had cut down enough trees to clear the land required.

In the southern city of Bengaluru, once known as India's greenest city, the Bengaluru Development Authority has ravaged urban forests by building in them. The Turahalli forest in southern Bengaluru is being saved from garbage dumping and vandalism thanks to legal action initiated by the Environmental Support Group (ESG), a pan-India advocacy forum. ESG has also teamed up with the Karnataka Forest Department to turn Turahalli into a space where bouldering/climbing, birdwatching, natural history study trails can continue unimpeded without encroachments.

According to Chetan Agarwal, senior fellow at NGO the Centre for Ecology Development and Research, the biggest challenge in India is earmarking land for urban forests. There are competing claims on land from housing, industry, commercial areas that generate revenue, as well as public infrastructure such as roads and water works.

"There is little understanding or appreciation of the value of forests as green zones and as natural infrastructure that provides ecosystem services to city residents like clean air, groundwater recharge, flood control buffers, wildlife habitat and natural recreational areas. Forest departments, which have this understanding, often have little clout in the town planning departments of states and cities and with the ministers that run these 'cash-cow' departments, that ultimately drive the land-use decisions in cities and towns," explained Agarwal.

Understanding city and forest planning

As for Javadekar's Nagar Van project, Agarwal said there is a need to ask the 200 cities identified by the Ministry of Environment, Forest and Climate Change (MoEFCC) to benchmark the current level of forests in and around the area – in acre terms and in per capita terms – and then ensure that they meet the minimum standards. He said the ministry should also plan to increase aggregate area and per capita area under forests in urban masterplans and land-use plans.

The MoEFCC must mandate that city masterplans and regional plans undergo mandatory strategic environment assessments. This will help plan cities that conserve and enhance their limited environmental resources and make them more habitable, he added.

“Another strategy,” suggested Agarwal, “is to identify common lands in villages near city boundaries and earmark them for forests, so that by the time the city catches up with these areas, they have already been reserved for forests.”

Some environmentalists suggest that policymakers need to look at environment zoning mandates used in regional plans in India. The Regional Plan for the Delhi National Capital Region (NCR) mandates a 10% forest area in the NCR and has a zoning category called a Natural Conservation Zone. The latter requires them to be protected and restricts construction in the Aravalli hills, forests, water bodies and riverbeds.

Political will

Unfortunately there seems to be a lack of political will. Leo Saldanha of ESG said, “Javadekar in particular has been known to make all sorts of promises and not deliver them. The Nagar Van plan is one more of such. To make urban forests a reality simply requires implementing the provisions of the Nagarpalika Act, where ward committees can develop schemes to protect forests that are being urbanised and these plans are then integrated into the district/metropolitan development plan and approved as such by the constitutionally empowered.”

According to Harini Nagendra, professor of sustainability at Azim Premji University in Bengaluru, what also needs to change is the mindset among foresters and official city planners that forests cannot co-exist with cities.

“The current lot of forest laws are restrictive, conservative and territorial. We need to develop governance practices where urban forests are guided through local government instruments such as ward committees as envisaged in the Nagarpalika Act, 1992,” she explained.

Many good examples

One template that can be emulated, Nagendra pointed out, is the Warje urban forest in Pune. Maharashtra’s first ever urban forestry project, it was developed by TERRE, a non-profit, with Tata Motors under a public-private partnership model as a corporate social responsibility initiative. From a 16-hectare barren strip of land under the forest department encroached on by slums and builders, Warje has been transformed into a thriving oasis of biodiversity. It hosts over 10,000 indigenous plant species, 29 local bird species, 15 butterfly species, 10 reptile species and three mammal species.

There are other good examples. Shimla hosts a sanctuary of around 1,000 hectares that started off as the Shimla drinking water catchment forest managed by the municipal body in the 1890s. In south-east Delhi, the Asola Bhatti Wildlife Sanctuary was remoulded from degraded village common land to reserve forest and then was ratified as a sanctuary. Delhi’s Aravalli and Yamuna biodiversity parks have also successfully recreated the natural habitats and ecosystems of these regions in the city.

Similarly, Gurgaon's Aravalli Biodiversity Park was created as a haven for native species in a degraded and mined landscape by a unique partnership between the municipal corporation, civil society, corporations and residents. It now has hundreds of flowering Aravalli trees and shrubs, attracting almost 200 bird species.

Saldanha said that the problem may not be a lack of laws. The Karnataka Town and Country Planning Act 1961 suggests the creation of tree parks and such other unstructured wooded spaces, but it "has largely been used ritually, and even violated substantially, by not providing legally defined open and wooded spaces."

Pradeep Tripathi, founder of Green Yatra, a group that promotes urban forests, said that given the shortage of space and tight municipal budgets, the idea of an urban forest itself needs to be redefined. A good and sustainable urban forestry model, he explained, is the Miyawaki method. Pioneered by Japanese botanist Akira Miyawaki, it can be adapted with indigenous species for local conditions.

"Miyawaki forests replicate a tropical rainforest where trees grow in layers, with shorter shade-loving trees in the undergrowth and high-canopy species overhead. In conventional forestry, around 1,000 trees are grown in one acre. We plant 12,000 in the same area under Miyawaki, which creates the benefit of a 100-year-old forest in 10 years," he elaborated.

Green Yatra planted 3,000 saplings in a 10,000-square-foot area set aside for forest by the Central Railside Warehouse Company in Jogeshwari, Mumbai, earlier this year. Plans are now afoot to create two Miyawaki forests in Delhi after the pandemic. "This dense forest will work like a carbon sink and groundwater recharge unit in time to come," said Tripathi.

Saldanha stressed that, given the climate crisis, it is vital to plan, design and build green corridors in landlocked megacities like Delhi, Bengaluru and Hyderabad, while coastal cities must have strict regulations to protect beaches, integrating them with the rest of the city's open and green spaces.

Similarly, lakes and canals should be rehabilitated as urban ribbons of greenery. This will help reclaim concretised canals as green spaces, increase natural cleansing of polluted water (done by plants and microflora/fauna) while also recharging groundwater aquifers.

"Such an approach will also create lakhs [hundreds of thousands] of new jobs. It won't cost builders, owners, civic and government agencies much to shape our cities this way – into living wonders," Saldanha concluded.

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