

Reclaiming degraded land key for urban revival

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Climate crisis and sustainability loom large in global debate and discussion, with the global south and north divided on the causation and correlation of the challenge. One major cause not discussed enough is land degradation. Land plays a key role in climate systems, but nearly 40% of the world's land is degraded.

Close to 30% of geographical land in India is degraded, with desertification increasing every year. Delhi has the third-highest level of desertification. Reclaiming land, therefore, is the most critical challenge for India as it works to meet its sustainable development goals (SDG) towards land degradation neutrality (LDN), which Prime Minister Narendra Modi has stressed upon.

The land erosion in Delhi can, for the most part, be attributed to the unmanaged drainage system of three basin regions, Najafgarh, Barapullah and the trans-Yamuna basin. Barapullah drain, once a natural stream fed by monsoon rain, is the Capital's largest drain and carries almost 80% of wastewater from the Barapullah basin region into the Yamuna, accounting for about 30% of the pollution in the river. Land along the drain is a marshland of sewage and wastewater, a breeding ground for disease and pestilence.

To be sure, the government has made efforts to reclaim this lost land. The central government's department of biotechnology initiated the Clean Barapullah project in 2017-18 to clean the drain water, and to reclaim and reforest the degraded and polluted marshland along the drain. The project started as an experiment to reclaim 750sqm of sewage-filled land by planting 2,281 plants and trees of 44 indigenous endemic species. The tiny forest flourished and the project was then expanded to reclaim an additional 2 acres.

Several truckloads of sewage and waste were removed using machinery and workers. The land, which was infested by non-native invasive tree species of *Prosopis juliflora* or vilayati kikar, was cleared. The clean-up exposed a big low-lying area along the Barapullah drain.

This recovered land was used to create a foundation for the forest. Selecting the right species was most crucial, keeping in mind that a riverine ecosystem was to be restored and revived. The reforestation project now has over 10,000 plants of at least 50 indigenous species.

The forest integrates stone sculptures, winding pathways, raw stone benches and a gazebo made with stone blocks and bamboo. Landscape architect Puloma David and her father, renowned stone sculptor Robin David, led the design and art aspects of the project.

Creating carbon sinks by reclaiming land using foresting techniques is an investment that will go further than normal plantation drives (with poor survival rates for the planted trees). The urban forest behind Sun Dial Park, Sarai Kale Khan, Delhi, was created after the visit of Dharmendra Pradhan, then petroleum minister, in August 2020, who said his ministry would support the creation of a carbon sink along the lines of the tiny forest. Indraprastha Gas Limited provided CSR funds and with the support of the central government's office of the principal scientific adviser and Anil Baijal, then lieutenant governor of Delhi, Maruvan Foundation and Afforestt successfully implemented this project.

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