

REGENERATING THE MICRO-CLIMATE OF CHENNAI

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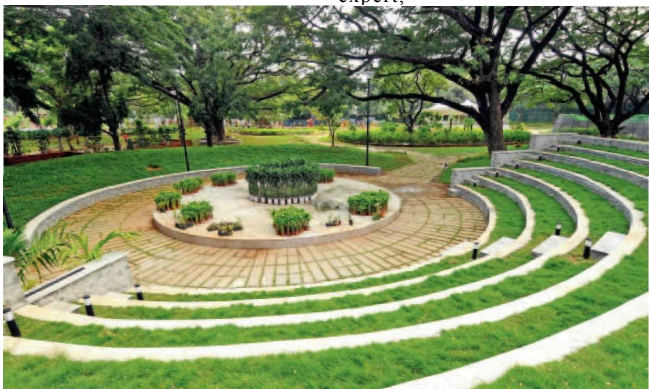
With a collaborative effort, and sustained initiatives, Indian cities could effectively address the impact of rising city temperatures, says DURGANAND BALSAVAR

The intense summer in Chennai calls for a range of projects to address the micro-climate of the city. Intervention in a city is often considered either audacious or impossible. However, there have been several initiatives in the past to improve the environment in the city. Nizhal, an NGO that strives to increase the tree cover in Chennai, protect and plant trees, has initiated projects, wherein citizens can volunteer to conserve the city's biodiversity (www.nizhaln.org). Chennai has one of the lowest tree covers among Indian cities. Increasing the tree cover by about twenty percent would reduce the incidence of urban heat islands as well as create more shaded areas, thereby bringing down the temperature. The Intergovernmental Panel on Climate Change has formulated a ratio of number of trees required in a city to

ensure a carbon balance of oxygen and Carbon dioxide.

Three kinds of green spaces exist in Chennai - individually owned properties, street lined trees and parks, and forest areas in the city like in deer park and Vandalur Zoo. Conserving existing trees and planting new ones, indigenous to the region, is imperative to contain the micro-climate of the city. Agricultural scientists at the M S Swaminathan Research Foundation suggest that more than tree-planting schemes perhaps, the process of nurturing trees to grow over a period of time is more essential, as otherwise in the absence of sustained care, over forty percent of the trees are prone to destruction.

Besides tree planting drives, recycling grey water from housing complexes can complement rainwater harvesting and sustain the greening process substantially. Dr Indukanth Ragade, a water management expert,



has established a simple process for this which is capable of saving as much as 50 to 60 % of the total water used and to make it fit for flushing and gardening. If allowed to percolate into the soil, it gets further polished and becomes fit for general use. The process, which is operating in several places in Chennai uses only soil, sunlight and water-loving plants, is practically self-sustaining and needs minimal maintenance. In his book "Self-Reliance in Water - A Practical Manual for Town and City Dwellers" he has given exhaustive

details for both rainwater harvesting and grey water recycling. (He can be contacted at isragade@yahoo.com)

Solar and wind energy is gradually gaining a wider acceptance. In the context of high land values, these sources of renewable energy are no more regarded as expensive initiatives. The Mahindra World City, New Chennai, in its endeavour to be self-reliant has installed solar panels and is experimenting on bio-fuels at its research centre. The Master Plan has also dedicated a substantial area for green belts as well as water recharge zones.

In the light of climate change initiatives and its adverse impact in urban areas, environmental organisations are studying the implications of building materials and the energy they consume during production, the waste they generate and the heating impact it creates in constructed structures. Climate responsive buildings, through their design, reduce the need for air-conditioners. The Golconda House designed by Raymond Antonin in Pondichery (1935) and traditional houses with their inner courtyards are a case in point, where buildings create their own micro-climate, with natural ventilation

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and light. With a collaborative effort, and sustained initiatives, Indian cities could effectively address the impact of rising city temperatures as well as energy conservation.

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