

# The green-cover network for sustainable environment – case study of Chennai city

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## 1 ABSTRACT

The shrinking green spaces deteriorated the urban environmental quality (air, water, and micro climate); as a result these days' people are suffering by numerous health problems, such as heat strokes, asthma and bronchitis, respiratory diseases, tuberculosis, stress and psychological problem etc. That brought down the quality of life manifold in most of cities. Of late, the concept of networking the green spaces come-out as one of the solution, to improve the quality of urban life. In short, the connected green spaces could support the urban wilds, maintain the ecological processes, and sustain the cities critical resources like air and water. Because of these benefits, the networked green spaces gaining the status of urban infrastructure. Despite that, on account of rapid population growth, establishing this infrastructure is the cumbersome urban task, particularly in the developing countries.

Chennai is one such metro city, located in southern India; its population increasing at the rate of 25% per decade. During the last decade, the non-vegetative surfaces increased as much as 88% in some part of the Chennai city. Consequently it's environmental problems up-surged many fold, in terms of increased runoff, fall in the subsurface water level, water scarcity, as well water logging and flooding during the rainy seasons. Besides that, within the city the heavily built-up areas are experiencing 3oC to 4oC more temperature than areas that having vegetation. Therefore it has been suggested that developing network of green space could improve the Chennai city's environmental condition subsequently its 'Quality of life'. On the other hand, having 6,000,000 people within the area of 170.5 Sq.Km, the Chennai city is posing major challenge to establish the green network. This paper elaborates the method to establish the green infrastructure in the densely build urban milieu, through proposing the green-cover network for Chennai city.