



ADAPTIVE LAND USE, AN APPROACH TO CONSERVE BIODIVERSITY, CASE OF NASHIK

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ABSTRACT

Urbanization, has posed a threat to biodiversity. The livability and sustainability of a city is to a notable extent contingent upon the survival of urban nature (Lo, Jim, 2012). Nashik, is a rapidly developing tier II city. A water supply canal of 26 kms, running through the city became redundant after implementation of piped water supply scheme in 1984. A proposal of converting this space into open public facility for physical fitness was executed for a stretch of 1.5 kms along with tree plantation. Three stretches became significant green pockets over a period of 20 years in an urban setting and hence extremely successful as public outdoor spaces. The research is done to map and analyze the three pockets in which plantation of trees has developed in the past 20 years. Mapping is done w.r.t number of trees, the indigenous and non-indigenous species in these stretches. Diversity within the trees in these three stretches and comparative percentage of indigenous versus non-indigenous trees is analyzed. A comparative analysis indicates variation in the diversity which gives the clues for the conclusions and the proposal to be developed.

The research endorses adaptive reuse of land to increase tree cover in an urban setting, as an innovative application for developing and conserving biodiversity in an urban setting. In reference to the current pandemic situation and based on the findings of the study, it is proposed to develop the remaining stretches of this land as urban green area, with appropriate proposals for tree plantation for biodiversity conservation.

Keywords : Adaptive Land use, Trees, Biodiversity conservation, Indigenous

1. Introduction

In India, percentage of million plus cities w.r.t total urban population of the country has increased drastically from 6% in 1901 to 19% in 1951 and further to 33% in 1991 (Maiti, Agrawal, Hum, 2005). Increase in population has adversely affected the green cover in urban India. The challenge of making the cities “sustainable” is especially relevant for a highly populated and rapidly growing economy, such as India's, which is undergoing rapid urbanization.

Sustainable development calls for a convergence of economic development, social equity and environmental protection (Drexhage and Murphy, 2013). One aspect in environmental protection is the conservation of biodiversity in the urban areas. These urban plant communities provide

the resource base and the above- and below-ground habitat structure for the remaining biological community (Faeth, Bang, Saari, 2011).

The objective of the research is to reinforce the adaptive reuse of derelict canal space for developing and maintaining biodiversity within the Nashik city by analysing trees as one vegetation type and to propose guidelines for the development of vegetation in the entire length of canal.

2. Literature review

According to Aabshar U. K. Imam, Uttam Kumar Banerjee government bodies in urban India have focussed more on preservation of existing greenery than on afforestation in urban areas. Keeping with the national forest policy, it is discussed, trees should be planted and maintained along railway lines, canals and streams. They also

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