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Status of Wetlands in Urbanising Tier II cities of Karnataka: Analysis using Spatio Temporal data

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Urbanisation is the irreversible and most dramatic transformation of land affecting ecology and natural resources. Urbanisation being a global and highly sensitive issue is in a rapid pace in developing countries such as India, especially down south where urban areas have experienced an humogonous growth potential with several supporting factors (eg: economic, climate, availability of natural resources etc.). Karnataka has been a prime destination which has attracted the sectorial developments at various parts of the state. These sectorial developments have led to an uncontrolled growth in past decade, which has to be visualised and monitored by the decision makers and city planners. In this context evolution of Multi -temporal remote sensing has gained importance in providing required data to analyse and visualise the changes to plan and effectively use the available resources for the effective city management. This communication uses satellite data sources in order to understand the urban growth pattern and its footprints temporally in eight growing tier II cities of Karnataka. A multi-scale analysis aims to identify spatiotemporal urban types, combining gradient and directional analysis along with landscape metrics to understand the absolute parameters for the growth and to quantitatively estimate the growth of these cities. The results paint a characteristic picture of spatial pattern, and thus illustrate spatial growth and future modeling opportunities of sustainable wetlands management with urban development in Karnataka. The outcomes of this communication would illustrate the growth pattern and quantified urban growth using spatial metrics considering the 1km gradient and zonal approach. The results indicate that these has been a haphazard development in increasing gradients from the city center leading to fragmented outgrowth and aggregated growth at the center of each city. This analysis would help urban planners to understand the growth and plan for sustainable cities.

Key words: Wetlands, Urbanisation, urban sprawl, Karnataka, Tier II cities, Landscape metrics

