

Aurangabad City Blue and Green Infrastructure Change Identification Analysis using GIS and RS

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Abstract: Blue-green infrastructure has been contemplated as sustainable and very long running solution for reducing the consequences of urbanization on the surrounding environment. This work focuses on adoption and implementation of blue green infrastructure for some wards of Aurangabad city of Maharashtra State. Aurangabad is the famous industrial and historical city situated in the central part of Maharashtra, falling in parts of Survey of India Toposheet No.47 M/7. The temperature variation is 43°C to 28°C in summer and winter 32°C to 5°C. The average annual rainfall is about 700 mm to 800 mm. Ground water plays a major role in irrigation as well as domestic uses. The study area included a total of 8 zones which includes 90 wards from various parts of Aurangabad city with an aerial extent of 14181.8 Ha, with the goal of determining existing status of various BGI, and provide sustainable Urban green and Blue spaces in Aurangabad urban area, a standard methodology is proposed to generate geomorphology map, drainage density map, ground water potential map, lineament density map, Water bodies (Blue green spaces) map, land use land cover map, slope map and location map has been created using Arc GIS 10.3. All the thematic maps were converted into grid (raster format), and groundwater potential zones are classified into five categories like very poor, poor, moderate, good, very good with prospective covering area of 5.29 Ha, 4726.32 Ha, 884.21 Ha, 8299.25 Ha, 274.74 Ha. The result of change detection shows that rapid urban growth has transformed most of the Blue and green spaces into residential and industrial area and found significant decrease of Blue and green spaces from year 2010 to 2020. There is significant decrease of agricultural area by 4.25%, water body area by 18.09%, and Built up area increased by 20.63% during last decade

Keywords: Blue Green Infrastructure, Ground water potential, Arc GIS 10.3, Remote sensing & GIS, Aurangabad Urban area, M.S, India

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