

PREFACE

Due to the continuous and never-ending growth and expansion of urban towns and cities, most regions have fallen prey to the withdrawal of greenery. Hence, all urban planners are looking for ways to include green cities into their plans. As a result of continual urban growth and industrial development, the quality of life in most urban cities has deteriorated, and the green areas have been lost, resulting in low air quality index, floods, landslides, etc. In some areas, such as Delhi, Vijayawada, and Visakhapatnam, the situation may be even worse. Furthermore, development and the subsequent conversion of pervious grounds to impermeable land aggravates the situation. The larger municipal cooperation of Hyderabad has also been writhing from the effects of urbanization in recent months.

Therefore, mitigation and control of urbanization's repercussions can be successful if barren lands in the cities are converted to green lands, and by making sure that any future urban changes are identified. Finding acceptable locations for conversion and urban changes is therefore critical for the effectiveness of urban transformations, in terms of planning suitable sites in a specific area.

Therefore, with the help of GIS tools and techniques, this aims to build a comprehensive change in the last 20 years (2000 – 2020), as well as urban forecast for the years 2030 and 2050 with a suitable green space map in Hyderabad. Supervised Classification has been performed for the years, 2000, 2010, and 2020, along with the help of USGS, which provided IDRISI with 30m spatial resolution DEM data. After the change maps had been created, they were imported into ArcGIS pro for additional processing such as total area computation and map preparation. To forecast the suitability of green land in Hyderabad, distance from urban, distance to water bodies, barren, vegetation, building density, had been taken into consideration, using the AHP (Analytical Hierarchy Process) Model. The creation of a map of appropriateness for transforming barren land to greenery urban forecasting was done for the years of 2030 and 2050.

Using the AHP model, different data layers were given weights based on how much they contribute to the incidence of suitable land. The outcome demonstrates that highly suitable green areas and suitable barren land can both be transformed to green land. In the heart of the city, there is no desolate ground. The best locations for converting to green land are found on the periphery.