

## Spatio-Temporal Analysis of Land Use Change and Green Cover Index

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**Abstract :** Cities are complex and dynamic systems that constitute a significant challenge to urban planning. The increasing size of the built-up area owing to growing population pressure and economic growth have lead to massive Landuse/Landcover change resulted in the loss of natural habitat and thus reducing the green covers in urban areas. Urban environmental quality is influenced by several aspects, including its geographical configuration, the scale, and nature of human activities occurring and environmental impacts generated. Cities have transformed into complex and dynamic systems that constitute a significant challenge to urban planning. Cities and their sustainability are often discussed together as the cities stand confronted with numerous environmental concerns as the world becoming increasingly urbanized, and the cities are situated in the mesh of global networks in multiple senses. A rapid transformed urban setting plays a crucial role to change the green area of natural habitats. To examine the pattern of urban growth and to measure the Landuse/Landcover change in Gurgoan in Haryana, India through the integration of Geospatial technique is attempted in the research paper. Satellite images are used to measure the spatiotemporal changes that have occurred in the land use and land cover resulting into a new cityscape. It has been observed from the analysis that drastically evident changes in land use has occurred with the massive rise in built up areas and the decrease in green cover and therefore causing the sustainability of the city an important area of concern. The massive increase in built-up area has influenced the localised temperatures and heat concentration. To enhance the decision-making process in urban planning, a detailed and real world depiction of these urban spaces is the need of the hour. Monitoring indicators of key processes in land use and economic development are essential for evaluating policy measures.

**Keywords :** cityscape, geospatial techniques, green cover index, urban environmental quality, urban planning

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