

# Research Proposal

## **TITLE:**

Impact and Assessment of urbanization in Coimbatore city through GIS techniques.

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## **AREA OF INTEREST:**

Remote sensing and Geographic Information System (GIS)

## **OBJECTIVE OF THE PROPOSAL:**

The main of this proposal is to determine the urban growth and its impact in the Coimbatore city for past 30 years. In this research Land Use Land Cover map can be generated for 5 years interval period i.e., 1991, 1996, 2001, 2006, 2011, 2016 and 2021 respectively. The Objective of this project to carry out Change detection analysis through Landsat 5, Landsat 7, Landsat 8 and Sentinel 2B datas in GIS environment for better decision making. Spectral index namely Normalized Difference Built-up Index (NDBI) and Built-up Index have to be generated to determine the urban/built-up growth. Rapid population of that area is the most driving factor for urban growth. This data can be incorporated in ArcGIS platform to convert field data into spatial map based on census population. Therefore, hotspots will be created at high population density zone. Finally, urban growth and its impact can be determined.

## **BACKGROUND DESCRIPTION:**

In most countries urbanization is recognized as a crucial phenomenon of economic growth and social change as it offers increased opportunities for employment, specialization, production, goods and services. This has initiated a large number of people to migrate from rural to urban area. However, this growth also triggers numerous problems. If not managed properly, these may intimidate the sustainable development of cities in the long run (Dubovyk et al., 2011).

## **EXPECTED RESULTS:**

- Land Use Land Cover (LULC) map for various years 1991, 1996, 2001, 2006, 2011, 2016 and 2021 respectively to determine settlement area in the city.
- Generation of thematic map i.e., Normalized Difference Built-up Index (NDBI) map and Built-up Index (BUI) map to determine the Urban/Built-up growth.
- Change deduction analysis can be carried out to determine the impact based on urban growth for past 30 years.
- Spatial Map based of population data to determine the hotspot region in the Coimbatore city.

## **REFERENCES:**

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