



TRAILBLAZING QUEST

ADVANCEMENT IN INTERDISCIPLINARY RESEARCH

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1. Application of Remote Sensing and GIS Techniques for Effective Urban Planning and Management in India

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Abstract:

Urbanisation is a measure of the shift from traditional rural economies to modern industrial ones. Urbanisation refers to the gradual increase in population density within urban areas. Currently, India is characterised by a relatively low level of urbanisation compared to other countries. Over the past five decades, the population of India has increased by two-and-a-half times, whereas urban India has experienced an almost five-fold growth. Consequently, the majority of urban settlements exhibit deficiencies in housing and water provision, encroachments on the outskirts of the city, insufficient sewage systems, traffic congestion, pollution, poverty, and social unrest, hence posing significant challenges to urban governance. India's urban and town planners are concerned about the rapid increase in urban population, as it poses challenges for efficient urban planning. In order to enhance municipal governance, the government of India has implemented a significant measure known as the Constitution (74th Amendment) Act (CAA), 1992. This initiative aims to enhance the performance capacity of municipalities and urban local bodies, enabling them to effectively fulfil their responsibilities in urban planning and development. Nevertheless, the majority of studies conducted to evaluate the performance of municipalities in India highlight several challenges they face. These include the lack of data availability, inadequate participation in decision-making despite the implementation of reservation policies, delays in the allocation of funds to municipalities despite the establishment of State Finance Commissions, and insufficient revenue generation from taxes and other sources despite the decentralisation of power. Hence, it is imperative to embrace advanced remote sensing technology, encompassing both aerial and satellite systems, to effortlessly gather abundant physical data swiftly and repeatedly. Coupled with GIS, this technology enables spatial analysis of the data, facilitating the generation of multiple options (modelling) and ultimately optimising the entire planning process. These information systems also give an analysis of spatial data in conjunction with



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