

## Urban Sprawl: A Case Study of Suryapet Town in Nalgonda District of Telangana State, a Geoinformatic Approach

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**Abstract :** Urban sprawl is the uncontrolled and uncoordinated outgrowth of towns and cities. The process of urban sprawl can be described by change in pattern over time, like proportional increase in built-up surface to population leading to rapid urban spatial expansion. Significant economic and livelihood opportunities in the urban areas results in lack of basic amenities due to the unplanned growth. The patterns, processes, dynamic causes and consequences of sprawl can be explored and designed with the help of spatial planning support system. In India context the urban area is defined as the population more than 5000, density more than 400 persons per sq. km and 75% of the population is involved in non-agricultural occupations. India's urban population is increasing at the rate of 2.35% pa. The class I town's population of India according to 2011 census is 18.8% that accounts for 60.4% of total urban population. Similarly in erstwhile Andhra Pradesh it is 22.9% which accounts for 68.8% of total urban population. Suryapet town has historical recognition as 'Gate Way of Telangana' in the Indian State of Andhra Pradesh. The Municipality was constituted in 1952 as Grade-III, later upgraded into Grade-II in 1984 and to Grade-I in 1998. The area is 35 Sq.kms. Three major tanks located in three different directions and Musi River is flowing from a distance of 8 kms. The average ground water table is about 50m below ground. It is a fast growing town with a population of 1, 06,805 and 25,448 households. Density is 3051pp sq km, It is a Class I city as per population census. It secured the ISO 14001-2004 certificate for establishing and maintaining an environment-friendly system for solid waste disposal. It is the first municipality in the country to receive such a certificate. It won HUDCO award under environment management, award of appreciation and cash from Ministry of Housing and Poverty Elimination from Government of India and undivided Andhra Pradesh under UN Human Settlement Programme, Greentech Excellence award, Supreme Courts appreciation for solid waste management. Foreign delegates from different countries and also from various other states of India visited Suryapet municipality for study tour and training programs as part of their official visit. Suryapet is located at 17°5' North Latitude and 79°37' East Longitude. The average elevation is 266m, annual mean temperature is 36°C and average rainfall is 821.0 mm. The people of this town are engaged in Commercial and agriculture activities hence the town has become a centre for marketing and stocking agricultural produce. It is also educational centre in this region. The present paper on urban sprawl is a theoretical framework to analyze the interaction of planning and governance on the extent of outgrowth and level of services. The GIS techniques, SOI Toposheet, satellite imageries and image analysis techniques are extensively used to explore the sprawl and measure the urban land-use. This paper concludes outlining the challenges in addressing urban sprawl while ensuring adequate level of services that planning and governance have to ensure towards achieving sustainable urbanization.

**Keywords :** remote sensing, GIS, urban sprawl, urbanization

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