

ABSTRACT

Data on night time light (NTL) acquired from satellites is often used as a proxy for urbanisation and economic activity. Precise geographic pictures of human settlements are provided by the Suomi-NPP satellite's VisibleInfrared ImagingRadiometer Suite (VIIRS). We used a linear regression model to analyse the differences in economic development amongst Maharashtra districts by combining VIIRS NTL data with estimates of the region's GDP and population. The population and GDP exhibit noteworthy positive connections with NTL radiances, as per our findings. When compared to statistical data, NTL-derived inequality coefficients offered greater in-depth insights into variances in regional growth. We discovered that regional inequalities, with more inequality in eastern Maharashtra, are more noticeable than city-level disparities. Because of its geographically explicit features, NTL data provides extensive information on inequality. Differences in literacy rates and educational attainment further highlight Maharashtra's regional inequality. The sophisticated educational infrastructure and greater rates of literacy seen in urban places like Mumbai and Pune are absent from rural communities like Beed and Hingoli. Healthcare is also not always readily available or of high quality. Urban areas have superior healthcare resources and results than rural and tribal communities, which struggle with issues such a lack of medical personnel, a lack of healthcare infrastructure, and consistently low health indices. Some of the steps made to alleviate provincial differences in Maharashtra include creating a more sophisticated structure, offering healthcare, and offering training in less developed areas. Boosting the productivity of horticulture and the rural economy can also help to lessen the differences in income between various areas. Maharashtra's urban districts prosper because of their greater infrastructure, thriving economy, and enhanced services; in contrast, remote and rural areas have less room for expansion. Although there has been a lot of growth in coastal and industrial corridor areas, inequality still exists. In less developed areas, government investments in infrastructure, healthcare, and education should take precedence over initiatives to improve agriculture and diversify rural economies. Better connection and mobility can facilitate the integration of rural and urban communities. Policymakers can guarantee widespread economic gains and encourage equitable growth throughout the state by fusing data on evening light with other socioeconomic variables. Resolving these disparities is necessary to achieve balanced growth. The nighttime light data reveals dramatic differences between highly developed cities like Mumbai, Pune, and Nagpur and less developed locations like Gadchiroli, Nandurbar, and Osmanabad.

Keywords: Nighttime light ,visible infrared imaging radiometer suite (VIIRS), Urbanization , Population, Agriculture.