

IDENTIFICATION OF URBAN EXPANSION PATTERN IN MATALE MUNICIPL COUNCIL USING GIS AND REMOTE SENSING DATA

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Abstract - Urbanization is implies the different factors in the society. Quality of urban is somewhat different among the developed and developing countries but urbanization is common title to the any county in the world with the development. This can measure using different methods and different aspects. In that spatial and temporal changes can be detected using GIS and remote sensing technology. Study area is Matale division of the Matale district and special attention given to the Matale municipal Council (MC). Main objective of this study is to identify the Spatio-temporal urban expansion of Matale MC using multispectral band images within past 25 years. Landsat 5 TM and Landsat LC9 satellite images were downloaded from USGS web site. Normalized Different Building Index (NDBI) classification method selected to detect that changes. NIR and SWIR bands used to analyze it. According to this method three main categories are selected, Vegetation, Non-urban and Urban area. Generally NDBI image classification range expand from -1 to +1. In this analysis 1996 range was from 0.14 to -0.6, 2009 -0.053 to -0.45 and 2022 0.27 to -0.44. Result define the gradual urbanization process with the time passed. Natural reasons was affected to creation of urbanization pattern, as a result town is expanded along the road and small market places are developed in to small towns. This growing pattern is similar to the central place theory.

Keywords: Urbanization; GIS and Remote Sensing; Land Use; NDBI; Matale Town