

Assessment of Spatial Urban Dynamics in Enugu City Using GIS and Remote Sensing

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SUMMARY

In recent times, there is an increase in the rural-urban migration in Nigeria, this is made evident by the population surge in Enugu metropolis; this population growth has increased the rate of physical developments and renewals in the city. Spatial urban dynamics are the processes underpinning changes taking place in the spatial organization of large cities; this phenomenon as effects on the morphology, functional form and character of an urban environment over time. The aim of this research is to assess, model, study and predict the urban dynamics in Enugu metropolis. In this study, the urban dynamics of the case study city was spatially assessed and modeled using GIS and remote sensing techniques, the dynamics were assessed for 1995, 2000, 2005 and 2010 using LandSat Imageries (Enhanced Thematic Mapper plus (ETM+) and Thematic Mapper (TM)) the changes were presented spatially and graphically. A graphical projection was made in order to estimate/predict the extent of the dynamics by the year 2015. Geographic Information System was used to extract developmental spatial regions from the remotely sensed imageries. The results achieved include a spatial model depicting the dynamics in extent and volume within the metropolis for the respective years of study, a graphical illustration of the progression of dynamics and a simple graphical projection/prediction of the dynamics in year 2015. Discussions were made on causes and effects of the dynamics in our cities and how they may be contained and controlled sustainably.