

Forces Engendering Land Use Dynamics in Abeokuta Metropolis, Southwestern Nigeria: The GIS Perspective

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Key words: Land management; Remote sensing; Areal extent; Abeokuta metropolis; dynamism; future pattern; GIS perspective.

SUMMARY

The study analyzed land use patterns between 1960 and 2005 and looked at the factors that influenced land use change in the study area. In order to predict the future pattern of land use and land cover change in the Abeokuta metropolis for a healthy and sustainable environment, it also identified the hot regions of land use and land cover change. The maps of land use and land cover for Abeokuta, Nigeria were created using aerial photographs from 1960 and a collection of satellite data from 1975 to 2005. Ground control points were established with the aid of GPS, and the images' geometry was adjusted to conform to the coordinate systems found in the current world. The land use pattern and change detection were calculated using linear regression and the data was processed using ILWIS 3.6 software. Results showed that settlement land use increased from 3% in 1972 to 16% in 1984, and then by a factor of ten to 27% in 2005. Farmland declined from 19% in 1972 to 15% in 1984 to 8% in 2005. The predictive model reveals that while non-wooded areas, farmlands, forested wetlands, and light forests decreased, settlement, bare ground, shrubs, and water bodies increased by 60.30%, 57.68%, 53.79%, and 8.03%, respectively. The study concluded that there was instability among the many land use classes that had been established, but settlements were by far the most dynamic.

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