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“Development on the margin”

## Remote Sensing and GIS for Assessing Land Use Land Cover Change: A Case Study of Jos and Environs, Plateau State Nigeria

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### Abstract

Given current population trends and projections in Nigeria, it is anticipated that substantial intensification of agricultural cropland is certain within the next decades. In the absence of adoption of improved technologies poor rural populations in this region will continue to degrade and mine the natural resources to ensure their livelihood. With pressure of increasing population, however, more agricultural land is needed and urban areas will expand. As a result, forest areas have already declined at an alarming rate. In response to this, there has been increasing research and development for sustainable forest management. This study has been conducted to assess the loss of forests (natural vegetation) and the alteration of land use cover in Jos and its environs using satellite based data sources between 1986 and 2007. The results of the analysis showed a tremendous decrease in natural vegetation from 33.59 % in 1986 to 27.09 % in 2002 and 9.70 % in 2007 which is attributed to population upsurge, climate change and poverty. The results of the study also reveal an increase in built up areas from 9.16 % in 1986 to 20.29 % in 2002 and 36.81 % in 2007 and also an increase in cultivated areas from 22.77 % in 1986 to 40.01 % in 2002 and a slight increase to 41.75 % in 2007. The study suggests that extents and intensities of land cover change in Jos is as a result of chronic hunger and a high level of poverty, which is accelerating the uncontrolled increase in population growth combined with negative impact on the vegetation cover. The study confirms the need for timely and reliable information based on the integration of remotely sensed data for management decisions and national policies aiming at preventive and remedial vegetation conservation and protection in Jos, plateau State Nigeria.

**Keywords:** Jos, land use land cover, Nigeria, remote sensing