

LANDUSE/LANDCOVER EVALUATION OF PORT HARCOURT NORTH REGION, NIGERIA

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ABSTRACT

The use of satellite imagery in monitoring changes in landuse/landcover pattern of a region has become a significant tool in environmental studies. This study employed this tool in the evaluation of the landuse/landcover pattern of Port Harcourt North region of Rivers State, Nigeria. Data were obtained from two different years of satellite image (Landsat TM of 1986 and Landsat ETM+ image 2018). Global positioning system and topographical maps of scale 1:350,000 were used for ground truthing. Field observation based on the author's ancillary knowledge of the area was also used. The data were employed using ERDAS imagine 9.1 and ArcGIS 9.3 software. The supervised classification methodology was employed using the maximum likelihood technique. The results showed that settlement (built-up area) recorded the highest rate of increase (11.65km²/yr) of land size followed by secondary forest (10.14km²/yr) i.e. 160% and 185% respectively from 1986 to 2018. Conversely, swamp showed the highest rate of decrease (-13.9km²/yr) followed by farmland (-5.5km²/yr) i.e. -83% and -35% respectively. Adequate landuse planning is recommended to forestall the proliferation of squatter settlements and slums as well as maintaining adequate food security.

Keywords: Landuse/Landcover, Virgin forest, satellite imagery