

Infrastructural Development Using Remote Sensing and GIS (Yenagoa as a Case Study)

Kurotiminipre APPAH, Nigeria

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SUMMARY

Information on landuse/landcover in the form of maps and statistical data is very vital for spatial planning, management and utilization of land. In this study, Remote Sensing and Geographic Information System (GIS) were used in order to study Infrastructural development and Land use / Land cover changes. Infrastructural development and their Land use/ Land cover changes influences many natural phenomena and ecological processes, including runoff, soil erosion, sedimentation and soil conditions. The Urban areas are changing due to various human activities, natural conditions and development activities. According to the user requirements, updating of landuse mapping is required in various sections such as vegetation, infrastructures, natural and man-made feature. The aim of this study is to detect land use changes between 1988 to 2008 using satellite images of Land Sat 7 ETM+ 1988, 2002 and 2008. The objectives of the study is to see the Land use / Land cover changes and infrastructural development changes in Yenagoa metropolis, identifying Land use hotspots of land cover using multi temporal satellite data and also studying relationship between human pressure on Land use / Land cover and its impacts in the vital Urban habitats. By using three epoch (1988, 2002 and 2008) satellite imageries with the support of Geographic Information System (GIS) and Remote Sensing, spatial pattern of land use change of Yenagoa in 20 years is interpreted and extracted, and elucidated the human driving forces for the changes of cultivated land. Results showed that in the period 1988 to 2008, the main trends of Yenagoa and Land use change were transformed from grassland, woodland, and unused land to cultivated and settled land.