

A Geospatial Assessment of Abeokuta City Landscape, Nigeria from 1996 - 2016

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SUMMARY

Land and water will continue to witness conversion of use as a result of several human activities competing for scarce land because land cover is a crucial determinant of urban functions. This study investigated the landscape of Abeokuta city between 1996 and 2016 with special reference to water body, bare soil, vegetation and built-up areas. The specific objectives are (1) to categorize and measure the area extent (2) to examine the trend and (3) to determine the contributing factors and predict future changes in Abeokuta city landscape, Nigeria.

Multispectra images (1996, 2006 and 2016) at interval of 10 years were obtained from USGS. Land Change Modeler of Idrisi selva was use for the landscape analysis and predictions. ArcGIS software was used to enhance the transitional map productions. There was a progressive increase in built-up area extent throughout the study period. Between the year 1996 and 2006 period, urban areas grew by 12 sq km while the period between 2006 and 2016 witnessed an increase of 8 sq km. Vegetation experienced the highest decrease in land cover extent for the years between 1996 and 2006, decreasing at a rate of 2.4 sq km per year. The rate of lost in vegetative cover reduces significantly over the next 10 years by 4 sq km increase between 2006 to 2016. Water body reduced significantly from 1996 - 2016, suggesting that if the reduction continues unchecked, there will be shortage of water supply as already experienced in some part of the city. The planning authorities should therefore endeavor to engage surveyors and other geospatial professionals to carryout regular urban audit on landscape changes to be able to determine the direction of development in the light of the booming urban population.

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