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THE USE OF REMOTE SENSING TO STUDY LANDCOVER CHANGE IN YELWA-HEIPANG AREA OF PLATEAU STATE, NORTH CENTRAL, NIGERIA.

Abstract

This study is a research programme carried out to detect the change in landuse/landcover of Yelwa-Heipang area of Plateau State, North Central Nigeria. It lies within the South-Eastern part of the Jos-Plateau. It is about 40km South of Jos city. It is located between latitude 9°35'16.65"N, longitude 8°52'29.91"E and Latitude 9°38'38.92"N, longitude 8°57'03.87"E (Naraguta topomap, sheet 168S.E). Two sets of Landsat images of 1975, 1986 and NigeriaSat-1 image of 2007 were subjected to various image processing techniques and a supervised classification was carried out on the various images using ILWIS (Integrated land and water information system) software. The classification scheme used are bare-surface, built-up, farmland and vegetation. A follow up field work was carried out to confirm the results of the classification. The results were subjected to various statistical analyses and it shows natural vegetated area coverage increased from 5.80sqkm in 1975 to 18.47sqkm in 1986 and later reduced to 16.85sqkm in 2007. Non-vegetated area which comprised built-up area, farmlands and bare surface, decreased from 42.2sqkm in 1975 to 33.82sqkm in 1986, then to 35.86sqkm in 2007. The rate of change of natural vegetation between 1975 and 1986 was 1.152sqkm per annum, while that of 1986 and 2007 was 0.108sqkm per annum. Loss of naturally vegetated area in Yelwa-Heipang Barkin-Ladi is mainly as a result of urban growth and expansion, farming and gully erosion. Another important issue in the study area is the problem of soil erosion. In the past mining activity had led to accelerated gully erosion which has stripped substantial areas of lands of their vegetations. This has led to the formation of bare surface. Land cover of the study area during the period between 1975 and 2007 changed from a forested area to other land uses as a result of increase in population, demand for land for agricultural purposes and increase in the demand for firewood.