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Application of remote sensing and GIS in land use/land cover mapping and change detection in Shasha forest reserve, Nigeria

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Abstract. Mapping of LULC and change detection using remote sensing and GIS techniques is a cost effective method of obtaining a clear understanding of the land cover alteration processes due to land use change and their consequences. This research focused on assessing landscape transformation in Shasha Forest Reserve, over an 18 year period. LANDSAT Satellite imageries (of 30 m resolution) covering the area at two epochs were characterized into five classes (Water Body, Forest Reserve, Built up Area, Vegetation, and Farmland) and classification performs with maximum likelihood algorithm, which resulted in the classes of each land use.

The result of the comparison of the two classified images showed that vegetation (degraded forest) has increased by 30.96 %, farmland cover increased by 22.82 % and built up area by 3.09 %. Forest reserve however, has decreased significantly by 46.12 % during the period.

This research highlights the increasing rate of modification of forest ecosystem by anthropogebic activities and the need to apprehend the situation to ensure sustainable forest management.

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