CHANGE DETECTION IN LAND USE AND LAND COVER USING REMOTE SENSING AND GIS

(A case study of Eastern Mau Forest)

BY

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ABSTRACT

Over the last decades, the forests of the Mau Forest Complex (MFC) have been heavily impacted by official forest excisions, as well as by illegal, irregular and unplanned settlements. Eastern Mau Forest reserve is one of the most affected forest blocks. Eastern Mau complex and the whole of the Mau ecosystem is a critical catchment area, the degradation is majorly attributed to growing population looking for arable land to sustain their lives. MFC is key to major conservation areas, people's livelihood and major micro-climate regulator in the Rift Valley region and in the country at large.

This project examines the use of Remote Sensing in mapping land use land cover in East Mau Complex between 1995 to 2015 so as to detect the changes that have taken place in land use land cover between these periods in relation to change in areas. This was achieved through use of Landsat images (TM, ETM and MSS) of the years in focus which were obtained. Remote sensing based applications was also used to analyse and derive information from the imagery collected.

The results of the work show areas where land use land cover transfers are most prevalent, land use land cover changes and the quantification of various land use classes between 1995 and 2016.Suggestions were made at the end of the work on ways to use the information as contained therein optimally. This study will help to increase forest cover, to protect critical catchment areas, to rationalize land use in excised forest areas, to realign gazette forest boundaries and to reduce forest fragmentation**,** work out strategies to limit impacts of population growth on Mau complex ecosystem and approaches to be undertaken on its conservation.