

ANALYSIS OF LAND USE/COVER TRENDS IN KIRIMA SUB/COUNTY KANUNGU DISTRICT

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ABSTRACT N.96

Like other countries in the Sub-Saharan Africa, Uganda is not an exception to the effects of land use/cover changes on the environment. This study aimed at analyzing land use/cover trends in Kirima Sub/County-Kanungu District. Specifically the study intended to; establish the main drivers of land use/cover change and determine their magnitude and trend for the last 35 years. In establishing the main drivers of land use/cover change the study utilized household questionnaires and a focus group discussion guide. A total of 65 respondents included in the study were randomly selected from the local council members list for questionnaire administration while 12 participants were included in the focus group discussions from eight randomly sampled villages in the sub-county. The data was analyzed using a Logistic Regression in SPSS Windows (10.0). A series of satellite imagery (1975, 1987 and 1999) were utilized to determine the magnitude of land use/cover change using unsupervised classification in Integrated Land and Water Information Systems (ILWIS 3.3) Academic software. Findings indicate that household size and the weak environmental laws were the main drivers of land use/cover changes. Other drivers included; type of crops grown, extension agents' visits, and customary land tenure, all were statistically significant predictors of land use/cover change ($P < 0.05$). The magnitude of small scale farming (non-uniform) largely increased by 5% from 1975 to 1999 while areas covered by Tropical high forest relatively decreased by 16% between 1975 and 1987 but slightly increased by 1% in 1999. The areas covered by wetlands comparatively increased by 4% from 1975 to 1987 and by 1999 they slightly decreased by 3% while the woodland areas also moderately decreased by 3% from 1975 to 1987 and to some extent increased by 2% in 1999 in Kirima sub-county. The time series regressions showed that small scale (non-uniform) farming (0.829) and Tropical High Forest (0.697) had relatively strong regression strength and good fit compared to wetlands (0.053) and woodlands (0.049) with very weak regression strength and a weak fit. This study has shown that it is possible to use GIS and Remote Sensing to quantify change patterns at micro scale to provide territorially differentiated statistics.

Key words: *Land use/cover change, Small Scale Farm lands, GIS and Remote Sensing*

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