# Land use/cover changes and their implications on rural livelihoods in the degraded environments of central Tanzania

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## Abstract

This paper examines the changes in land use/cover types in the degraded environment of central Tanzania over the last 45 years, and how such changes have influenced agricultural and livelihoods sustainability, especially in the Irangi Hills. Changes of land use/cover were measured through aerial photographs interpretations, while local perceptions and description of change were addressed through household interviews and field observations. The results of this study show that there have been variations over the years in terms of both the areas and spatial distribution of cultivated fields. The total land cultivated increased from 31% in the late 1970s to 35% in early 1990s, mainly because of agricultural expansion to sandy watercourses and former grazing areas. Water courses shrank by 55% between late 1970s and early 1990s providing new areas for cultivation. Over the last 45 years, the open and wooded grasslands, and tree-cover types covered about 40% of the total land area, ranging from 29% in 1960 to 43–45% between late 1970s and early 1990s. Spatial and temporal distribution of the cultivated fields and other vegetation cover types were influenced by differences in the scale of land degradation, and the soil-conservation initiatives that have been implemented. With increasing pressure on the land, however, sustaining livelihoods through agricultural production in the area remains a critical challenge.

**Keywords**: Conservation; Environment; Irangi-Hills; Land use; Livelihoods;Tanzania