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Forest Cover Change and Socioeconomic Drivers in Southwest Ethiopia

This study attempts to determine the forest cover change, between the years 1973 and 2005, in the southwest of Ethiopia that covers an area of ca. 3940 km², using satellite images from different epochs. Furthermore the local community farming systems were investigated in three villages, selected for a case study, to examine the proximate and underlying causes of forest cover change. Landsat images of 1973, 1987, 2001 and 2005 were analyzed using ERDAS Imagine 9.1 and ArcGIS 9.0 software to know the forest cover change during the different periods. Semi-structured interviews and face to face structured interviews were conducted with the residents of the case study villages and government employees working in the area. Government policy documents, study reports, and secondary data were collected and analyzed to understand the impact of government rural development policy on forest cover change.

The results of satellite image analysis revealed that the high forest cover of the study area dwindled from 71% to 48% during the whole study period, 1973 to 2005. Since 2001 the high forest of the study area is receiving high pressure from intensive coffee management rather than expansion of agricultural land due to lack of management regulation on how to harmonize coffee production with forest management. Furthermore, the traditional farming system, forest fallow system, disappeared from the regional land use systems as more land was demanded for permanent plowing and garden coffee planting.

Government-sponsored coffee plantations, allocation of forest land for large-scale private plantations, local communities' crop field expansion, and smallholder forest and semi-forest coffee management are identified as the proximate causes of the forest cover change. Lack of a clear land use plan, change in farming system due to population growth, lack of management regulation in forest coffee production, insecure tenure for forest coffee and poor institutional support for proper land administration at local levels were identified as drivers of the forest cover change. Thus a general land use plan for the region and legally binding land use plans at the village level could contribute in limiting such arbitrary decisions in forest land conversion.

Key words: farming systems, forest cover, forest coffee, satellite image, southwest Ethiopia, system, village.