

Conceptualizing the Change Process in Sudano-Sahelian Landscapes: Land Use and Land Cover Dynamics in Forest Reserves and their Margins

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Abstract

Satellite images and aerial photography from 1950's until 2000 were employed to monitor land use and land cover trajectories in two different agro-ecological zones in Senegal. The land cover succession trends were investigated by means of visual cartographic interpretation as well as by use of land cover transition matrices. A significant increase in cultivated land inside protected forest reserves has been illustrated. The field encroachment was influenced by the structure of the physical landscape as well as a result of socio-economic root causes related to agricultural strategies and demographic factors, as predicted by generally accepted land use change theories. However, these forces were often spatially disjoined from the landscape which was impacted. Gallery forest was specifically under pressure. The landscape specific dynamics of change influenced the habitat structure in the protected forest reserve with subsequent landscape ecological implications. It has been proposed that individual human decisions largely shape the land use trajectories. They responded to changing national- to global-scale economic opportunities or policies, and were mediated by local scale institutional factors with large landscape ecological consequences.