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"Development on the margin"

When Eco-agriculture Loses its 'eco' - Determinants of Conversion of Shade Coffee among Smallholders

Aske Skovmand Bosselmann

University of Copenhagen, Forest & Landscape, Denmark

Abstract

As the global agricultural estate expands at the expense of forested areas the ability of agricultural landscapes to provide environmental services increases in importance. Understanding the determinants of land use change is necessary in order to manage trees and forested areas in agricultural landscapes that are essential for the provision of many environmental services. Shade coffee production, an widespread agroforestry practice among smallholders in the developing world, is an important source of trees in agricultural landscapes. This study assesses the loss of shade coffee from 2000 to 2009 in a Costa Rican biological corridor, an example of an ecoagriculture landscape, and investigates the household level determinants of land use change. In order to determine the effect of farm and household characteristics on future land use change, an ordered probit model is applied to household and land use data for the years 2000 and 2009, collected in 2009 among 217 former and present coffee farmers. Additional 224 telephone interviews supplement the data on changes in the coffee area. The results show a reduction in the coffee area from 903 ha to 461 ha during the study period, and an estimated loss of 40,000 shade trees from the 441 participating households. Family labour, use of shade tree products, farm gate coffee prices, and age of household head significantly reduce the probability of converting the coffee farm, while number of family members engaged in other agriculture and non-farm work increase the probability. Supported by qualitative information from key informant and farmer interviews, the results point towards a process of deagrarianisation, where labour intensive farming is reduced in favour of other land uses and non-farm activities. Households with stronger ties to coffee farming are found to be less influenced by this process. The national programme for payments for environmental services has yet to reach coffee farmers in the biological corridor. Meanwhile, the ongoing land use change may have serious implications on the habitat connectivity as well as on other environmental services. Joint efforts of local researchers, NGOs and GOs to promote a new payment scheme directed at coffee agroforests may counter this development.

Keywords: Costa Rica, ecoagriculture, land use change, Probit model, shade coffee

Contact Address: Aske Skovmand Bosselmann, University of Copenhagen, Forest & Landscape, Rolighedsvej 23, 1958 Frederiksberg C, Denmark, e-mail: askeboss@life.ku.dk