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The Dynamics of Cacao Agro-forestry in the Margins of Protected Forest Areas

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Abstract

The Lore Lindu National Park in central Sulawesi Indonesia hosts a unique collection of endemic species which are very important with regard to issues of biodiversity and conservation. Rural communities inhabit the forest margins certainly play a significant role in maintaining the stability of the rainforest. For more than two decades, land use in this region has continued to change substantially, driven by both the expansion and the intensity of cacao cultivation. Although cacao is an important factor in improving the economy of rural communities, such cultivation practices are not, overtime, beneficial for the environment. In this study reasons underlying unfavourable cacao cultivation practices were analysed to establish viable policy options which will better harmonise the goals of economic growth and environmental sustainability.

This paper presents the dynamics of cacao agro-forestry over the past 26 years with respect to one particular forest using panel and recalled data from 2001 and 2007. This study is a part of a collaborative interdisciplinary research project, STORMA, (Stability of Rainforest Margins) funded by the DFG (Deutschen Forschungsgemeinschaft). The data were obtained from surveys of 80 villages on the periphery of national park by applying a random sampling method. Descriptive and econometric analyses were used to analyse the socioeconomic and spatial data. The GIS data are presented to explain physical changes in land use. Based on these empirical facts, cacao cultivation area in the last 26 years has expanded from 685 to 20,590 ha. The cultivation pattern has become more intensive; many shade trees have been cut down, contributing to the degradation of the rainforest. There is, nevertheless, still a future for cacao agro-forestry in this region. To maintain the sustainability of the environment and thus to ensure rural welfare, it is imperative that the suggested policy options and institutional innovations be implemented.

Keywords: Cacao, land use change, Lore Lindu National park, spatial analysis