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“Bridging the gap between increasing knowledge and decreasing resources”

Rubber Intercropping Adoption of Smallholders in Xishuangbanna, China

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Abstract

Driven by the relative high profits of rubber farming, smallholders in Xishuangbanna have experienced widespread and dramatic land use changes mainly through the conversion of the traditional crops e.g. maize, rice and rainforest areas to rubber plantations in past 30 years. The adoption of rubber cultivation has not only resulted in profound changes in the landscape but also triggered higher climatic and economic risks. Since the period before rubber can be harvested is around seven years, intercropping can be an effective strategy to generate additional income and contribute to household food security. Intercropping can also contribute to more efficient use of resources like labour, land and other natural resources. In addition, compared to monoculture, intercropping farming in mountain area normally has positive effects for soil conservation and agro-biodiversity.

In this study we examine the use of rubber intercropping by rubber farmers in Xishuangbanna. We develop an intercropping adoption model and assess the determinants of rubber smallholders' land management system. These include socio-economic factors as well as location and natural resources factors. The analysis is based on a cross section data set of 612 rubber farmers from 42 villages in Xishuangbanna prefecture. The study allows identifying the preferences of smallholders for land use management and rubber intercropping. Such information can help extension workers and local policy makers to design strategies for improving rubber farmer' income and food security and promote sustainable rural development in Xishuangbanna. The findings of this study have also implications for other rubber producing area in South East Asia.

Keywords: China, intercropping, rubber, Xishuangbanna