Smallholder Rubber Agroforestry for Higher Productivity in Thailand

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Introduction

Thailand is the largest producer of natural rubber (NR) in the world with a production of about 3 million tons in 2006. Most (93%) of this comes from smallholder farmers. Rubber agroforestry is commonly practiced and involves mixing rubber with other food, fruit and timber crops. The practice increases farm household income and also in line with the current policy of promoting biodiversity in rubber plantations. The reported study was carried out to understand types and characteristics of Smallholding Rubber Agroforestry system (SRAS) in Thailand; to examine their economic performance; and to identify possible strategic development in future.

Thai Rubber Agroforestry System Model

There are two factors that influence production. The endogenous factors are biological and some physical components and the exogenous factors are some physical and socio-economic components. The framework also help understand what rubber farmers’ do and why.

Smallholder Rubber Agroforestry Systems

Food crop mixed system

The main food crops grown with rubber are pineapple, rice, maize and vegetables grown during the initial unproductive period of rubber, i.e. up to 3 years. The decision to intercrop depends on soil, topography, labour availability and market access.

Fruit trees mixed system

Fruit trees such as guava, durian, Salacca, Gnetum, mangosteen and Longkong are commercial crops.

Timber species mixed system

The main timber species preferred for mixing with rubber are Neem and Teak used normally for construction and furniture.

Profitability of SRAS

Among the food crops, the system of rubber with pineapple has the highest economic return but also requires more farm resources and input. Rubber-banana mixture is also very profitable. Rubber-chili combination is less efficient due to diseases and intensive management required. Among rubber-fruit combinations, rubber-Salacca showed the highest income but requires more farm input. Guava and Gnetum mixtures are also profitable due to low cost of production and management.

Sustainable profiting from SRAS through

✓ Availability of local capital (credit) and price insurance
✓ Training and technology for disease and pest control, management skills
✓ Improved transportation system
✓ Labor sharing system to decrease labor shortage problem
✓ Strengthened farmer institutions for price negotiation and decreasing cost of input.

Farmer opinion

Smallholder farmers practising mixed farming were generally satisfied with various input-output characteristics aspects. Many farmers were less satisfied with family income and their money saving.

SRAS development strategy for Southern Thailand

✓ Improvement in price and marketing of agroforestry products
✓ At farm level, appropriate technology for higher productivity, better farm efficiency and reduced risk
✓ At regional level, improved co-ordination between stakeholder agencies at regional level.