

Title: **Plants Diversity and Utility in a Small Plantation of Rubber-Based Polyculture System and Farmer Self-Reliance**

Field: Biology and Biodiversity

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Abstract

The rubber-based intercropping system has been mainly subjected to be a number of study by several researchers about its advantages on rubber farmers, who have been facing the decrease of rubber price. Yet, it still needs more information to support the idea. Hence, the study of Plant Diversity and Utility in a Small Plantation of Rubber-Based Intercropping System and Farmer Self-Reliance was conducted to investigate plants used and found in a sample plantation of a rubber-based intercropping system in the community of Baan Tung-Ngai, Ko-Hong sub district, Hat-Yai district, Songkla province, which belongs to Mr. Arthorn Suksawangpol, and to simply evaluate the farmer's self-reliance by comparing 2 aspects; 1) the farmer's income and 2) list of expenditures of the sample area of rubber-based intercropping plantation with a monoculture plantation owned by Ms. Pranee Kaewchana, and using secondary data provided by concerned government agencies. The study investigated plant diversity and uses found in the rubber-based plantation from 2 sample areas during November 2017 to January 2018. The result indicated that 47 species in 46 genera, 32 families of Magnoliophytes and 1 Gnetophytes are used in the community. There are 18 species grown by human-grown and the 30 species naturally grown. Plants in Aracaceae was the family with the highest number of species used (4 species). The usage of plants were categorized into 3 categories, food (24 species), medicinal plants (11 species), and construction (26 species). Many plants could be used for more than one categories and there were 4 species being used for every category. The result also found that the farmer's self-reliance of the intercropping plantation was more self-reliant than rubber monoculture plantation, according to the rubber-based intercropping farmer's income that was 52,000 baht per year per rai being greater than the income from the monoculture plantation that was 12,500 baht. Also, lists of expenditures, which was found that the monoculture plantation had more costs in the attendance such as weeding and using chemical fertilizers. On the other hand, the sample area did not have to pay for it.

Keywords: Plant Diversity, Small Plantation, Rubber-Based Intercropping System, Farmer Self-Reliance