

Assessment of Farmers' Food Insecurity and Coping Strategies in Rubber Farming, Oudomxay Province, Lao PDR

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Abstract

Traditional upland agricultural practices and shifting cultivation play an important role in food security and social welfare for many households in Northern of Lao PDR. These days, land use system has been changing from shifting cultivation to mono cropping as rubber plantation, which has been booming and expanding into many agricultural areas.

The policy of rubber plantation is challenging the matter of food security, recovering of shifting cultivation, and reducing poverty in Northern of Lao PDR. Agricultural land for food crop production such as upland rice and paddy rice field have also decreased over time, and affected food security for many households. The aims of this study were to: 1) Assesses the impact of cropping system changes on food insecurity; 2) Compare livelihood assets and food insecurity among different household types; and 3) Identify the future coping strategies for food security.

The research methodology of this study employed the participatory rural approach (PRA) method to investigate and assess the impacts on household livelihood to food security in rubber plantation at household level. Firstly, the PRA was employed to develop the focus group discussion (FGD), to identify the location of farm, the key indicators of food insecurity, and the number of farmers for three farm types: (A) Upland rice farm with other crops (UR); (B) Upland rice with rubber plantation (URRP); and (C) Rubber plantation (RP). Subsequently, a purposeful or criterion-based sampling method was used for selected the sampling size in each farm types. Sixty (60) households were selected for in-depth interview in each farm type with the total 180 households.

The results of this study found that lands declined on upland rice, paddy rice field, maize, job's tear, wild vegetables and raise livestock. Results found that agricultural land declined over 65% of the total land use in Namor and Xay district. Land use were found to be 35% RP areas, 30% URF, and 32% for maize and job's tear. Whereas, the potential of food crop production has been declined due to introducing of the RP.

The household livelihood assets determined the potential of farmers to solve the periods of food shortage. From this study, it was found that the three (3) farm types slightly differ in terms of five (5) livelihood capital, such as human capital, natural capital, financial capital, physical capital and social capital. Upland rice with other crops farming type (UR) had household expenditures on foods 11.50 *100,000Kip less than upland rice with rubber plantation farming type (URRP) 12.48*100,000Kip, and rubber plantation farming type (RP)

33.94*100,000Kip. From these outcomes of household livelihood assets such as rice production, livestock, home-garden vegetable, maize and job's tear were their potentials to cope with risk of future food insecurity.

The food security has been facing problems as shown in proportion of food sharing: 1) Rice production found in UR 58.4% and URRP 41.6%; 2) Vegetables were grown URF 69.2% and URRP 30.8%; 3) Non-timber forest products (NTFPs) were shared roughly above 30% in each farm types; 4) Livestock was raised in two (2) farm types (UR 88.4% and URRP 11.6%). RP gathered food only from NTFPs. Household livelihood assets were regarding into five livelihood capital such as human capital, natural capital, financial capital, physical capital and social capital which had slightly different between three farm types.

Thus, the upland rice farming with subsistence agriculture farming has greatly applied coping strategies, such as multiple alternatively to produce other crops, which provided good sources of income to purchase food for their household consumption needs. In addition, the land management had important to support for food availability and food access in the region. Therefore, loss of food crop production areas, declining of biodiversity, and risk of rice production could affect food security of agricultural households in this province.