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Characterizing Lowland Rice-Based Farming Systems to Identify Intensification and Diversification Options in Central Highlands of Madagascar

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Abstract

Highlands of Madagascar are one of the major rice producing areas, which contributes around 20% of the national rice production. Apart from rice, the highlands are also suitable for dry season legumes and vegetables production. Despite the large potential to produce more rice and other crops, the reasons for the current low productivity of these lands are unknown. Therefore, it is important to understand the biophysical and socio-economic aspects of the current farming systems, and the interaction between rice production and farmers' other farm or off-farm activities, to be able to improve the overall land productivity.

This study aims at investigating the agronomic, economic and social context to be able to characterise rice-based farming systems to identify opportunities for intensification and diversification options for sustainable productivity. The resulting knowledge will be used to support farmers to improve their livelihood through better income from rice related and off-season activities, and climate-resilient rice-based farming systems.

A rapid survey was conducted at 218 representative farm households in 19 villages in the central highlands. The methodology described in Alvarez *et al.* (2014), a cross-sectional retrospective method (consisting of two questionnaires: a screening and a main questionnaire), has been used and multivariate analysis conducted to assess farm characteristics.

The results of (1) farmers characterisation, (2) activities that have had repercussions for their use of rice fields, and also the labour availability and inputs for proper management of the rice fields, (3) major constraints to grow rice and other crops and to maintain the productivity, and (4) the alternatives for dry season cropping to improve the overall land productivity will be presented.

Keywords: Diversification, rice, off-season