

Impacts of Agricultural Cooperatives on Farmers' Revenues and Farm Households' Food Security in Cambodia: A Case Study of Tram Kak District, Takeo Province

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Title : Impacts of Agricultural Cooperatives on Farmers' Revenues and Farm Households' Food Security in Cambodia: A Case Study of Tram Kak District, Takeo Province
(カンボジアにおける農民の収入と農民世帯の食料確保に与える農協の影響 : タケオ州トラム・カック郡を事例として)

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Thesis Summary

Agriculture is considered as the most important sector in Cambodia, and nearly 80% of the population live in rural areas in 2015. Due to the importance of this sector, the Ministry of Agriculture, Forestry and Fisheries (MAFF) has started promoting agricultural cooperatives for the purposes of increasing agricultural production, diversifying agricultural production, creating income-generating activities and expanding markets for agricultural products. This is to ease the development of agriculture sector, to collectively link with private sectors, to gain technology and credit, to stabilize food supply to local and international markets, and especially to improve rural socio-economic conditions. Agricultural cooperatives have been promoted since 2003 in Cambodia; however, very limited studies have been done regarding the impacts of those agricultural cooperatives on farmers' welfare. I previously conducted a study on members' perception of success in agricultural cooperatives in Cambodia, and I found out that members perceived revenue related indicators (e.g. dividend from agricultural cooperatives, ease of selling agricultural products and access to marketing information) and food security related indicators (e.g. technical improvement in poultry, cow, and pig raisings and access to paddy for consumption when in need) as among the most important ones of success in their agricultural cooperatives. This study attempts to find out if agricultural cooperatives really have actual positive effects on farmers' revenue and food security. The objectives of this study are to identify the factors influencing farmers' decision on membership in agricultural cooperatives and to evaluate the impacts of those cooperatives on farmers' revenues and farm households' food security.

Firstly, factors influencing farmers' decision on membership in agricultural cooperatives were identified using probit model. The results indicated that farmers who sold their paddy and had contacted extension workers were more likely to become the members of agricultural cooperatives. In contrast, farmers who had higher off-farm income and male-headed-household farmers were less likely to join the cooperatives.

Secondly, propensity score matching technique was employed to evaluate the impacts of agricultural cooperatives on farmers' revenues. The results of propensity score matching illustrated that there were no significant differences in paddy revenue because the cooperatives failed to provide better prices comparing to other traders. However, those agricultural cooperatives had positive effects on livestock revenue and total farm revenue because they provided training on livestock operation and encourage members to raise more livestock. Members could obtain livestock and total farm revenues at US\$219 and US\$403, respectively significantly higher than non-members.

Thirdly, a study on impacts of agricultural cooperatives on farm households' food security was

conducted using household dietary diversity score and instrumental variables technique. The results showed that members in agricultural cooperatives had higher food security score because agricultural cooperatives provided agricultural trainings, so that the members could consume the agricultural products they produced as food and sell them for revenue. Also, members could use credit service of agricultural cooperatives to purchase food, and they could use rice bank service as food or sell paddy they borrowed to purchase food. Moreover, livestock operation positively influenced the food security score.

According to the results summarized above, some recommendations could be drawn to improve farmers' revenue and food security. The government should promote more extension service, so the benefits of agricultural cooperatives could be disseminated to farmers more widely. The cooperatives should strengthen and expand paddy markets to get better prices for their members. Additionally, the capital of the cooperatives should be increased to sustain their management system and to enable them to compete with other traders. Relevant institutions should provide capacity-building training or study tours to management committees, and management committees should be regularly monitored and advised by technical officers from the government or NGOs. Furthermore, farmers who want to raise livestock should be encouraged to join the agricultural cooperatives to increase their revenue and improve their food security.

Keywords: agricultural cooperatives, farmers' revenues, propensity score matching, food security, instrumental variable, Cambodia