

STUDY ON IMPACTS AND FARMERS' PERCEPTIONS OF ORGANIC RICE FARMING AND EXPORT POLICY IN SOUTHERN CAMBODIA

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(南カンボジアにおける有機稲作及び輸出政策の効果・農家認識に関する研究)
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Thesis Summary

Being one of the most important sectors, agriculture has been prioritized for development by the Royal Government of Cambodia. With this regard, the government and many NGOs have launched many measures to address many challenges in rice sector; however, some of these measures were not sufficiently effective. Hence, the Cambodian government and related NGOs have introduced serial farming practices and strategies, notably organic rice farming introduced in 2003 and a new value chain approach of rice policy named “the Promotion of Paddy Rice Production and Export of Milled Rice” introduced in 2010. However, many farmers’ are still facing many difficulties in their rice production suggesting uncertainty around whether or not the introduction of new technologies and strategies could help small-scale farmers who have limited access and knowledge. Hence, this study has two main objectives 1) to assess the impacts of organic rice farming on farmers’ production performances, and 2) to determine farmers’ perceptions of organic rice farming, rice export policy and production issues/needs.

This study employed two data sets that were done through face-to-face interviews using structured questionnaires in 2013 and 2017 located in southern Cambodia. For the first data set, information regarding to organic rice farming, we purposively selected three targeted organic cooperatives located in Tram Kak District, Takeo Province; Chum Kiri district, Kampot Province; and Chhuk district, Kampot province. Then, we randomly selected organic farmers from each cooperative, and conventional farmers from the study areas. In total, 221 responses were used for analysis, of which 84 were responses of organic farmers and 137 were those of conventional farmers. For the second data set, information regarding to farmers’ perceptions of government’s rice export policy and farmers’ production issues/needs, we selected two target districts named Tramkak and Chumkiri district, located in the provinces of Takeo and Kampot respectively. In total, 301 out of 320 farmers were used for analysis. We employed some econometrics models to achieve accurate estimation of our results on impact evaluation of organic rice farming, farmers’ adoption decision of organic rice farming, determinants of farmers’ production performances, farmers’ opinions of organic rice farming, farmers’ perceptions of government’s rice export policy, and rice farmers production issues/needs.

The results strongly suggest that organic rice farming could produce higher productivity, income and efficiency for both organic and conventional farmers. Main factors that influence farmers’ decision of adopting organic farming include age, education, selling, other farming activities, more numbers of cows, and own tractor. The results of the stochastic production frontier indicate that farmers could not manage their rice farming effectively in larger field which labor and chemical fertilizer are the main production cost. With enough labor and machinery, farmers could produce higher productivity, but having machinery would result in less rice income generation or less efficient. Higher educated, having off farm job, and rich farmers would obtain lower performances in rice production, since rice farming is not their main occupation. Results indicate that commercialization, and mix-farming system could generate more income and efficiency for

both organic and inorganic farmers.

We found that most farmers are only aware that producing organic rice would provide higher prices and better health or environment, they miss the other benefits it brings, including soil improvement and cost reduction. However, being organic farmer is more likely to recognize most of the opportunities (other than market opportunities). Farmers perceive that market fluctuation, lack of labor, and lack of organic fertilizer are the main challenges for them to conduct organic farming.

Results of farmers' awareness of government's rice export policy show that 52 percent of sample farmers are aware of the policy, which media and officers are the main sources of their information. Higher education and more training obtain are positively associated with the awareness of policy. Farmers believe that the introduction of rice export policy resulted in better rice price and market, but not rice yield. Results of impacts of the policy's measures indicate that the government have succeeded in encouragement of agricultural investment, development infrastructure (road and electricity), and creation of farmers groups; however, they have failed to reduce production cost, secure market stability, well function supportive institutions, as well as build the irrigation system which is the immediate need of farmers. Increasing rice traders/millers, better access to credit, forming cooperative, better access to inputs/tools and better road condition are found to be crucial tool to increase rice productivities, price and market opportunity.

Water and flood/drought were the highest concern of farmers followed by the marketing problem and climate change. The results for the demanded solutions indicated that water was the highest demand of farmers followed by credit. Farmers' concerns and demands for solutions are heterogeneous in terms of their characteristics and perceptions. Better farmers are more likely to demand for better quality, infrastructure and long-term solutions, while poorer farmers prefer immediate or short-term solutions.

From above results, we can highlight some new findings of our research as follow: 1). Organic rice farming provides positive impacts to farmers including better yield, income and efficiency to farmers, particularly smallholding farmers; 2). Better characteristics farmers tend to adopt new farming quickly, but they are less likely to get higher profit efficiency which labor and chemical fertilizer are the main sources of the production cost. With enough labor, commercial purpose, and mixed farming system, both organic and conventional farmers would obtain better income; 3). Farmers are not well informed about related information in rice farming which result in less aware of recent technologies and policies. Training, education, and media are the main tools for farmers to be more accessible to related information; 4). Both organic rice farming and rice export policy have responded correctly to many issues and needs of farmers such as better credit condition, reduction of production cost and market consolation. However, these two approaches are not sufficiently effective to deal with market fluctuation and the occurrence of flood/drought.

Based on the results, farmers should be encouraged to grow either market demand variety or organic rice, together with mixed farming systems, which is more sustainable to increase their profit efficiency. All related institutions should introduce effective techniques that help farmers to manage their production in larger scale and allocate their input cost more efficiently by encouraging farmers to further apply organic fertilizer, raise more livestock and engage with other cropping systems. All related information should be disseminated to farmers to get important knowledge about recent issues and information by providing frequent training and broadcasting in media. Providing more training, better credit condition, solving labor problem, forming cooperative, encouraging agricultural investments would be helpful for farmers to obtain better yield, price and market opportunity. Lastly, expanding irrigation system should be the priority policy since many farmers in the country are facing water problems.