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Analysis of Technical Efficiency of Irrigated Rice Production System in Myanmar

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Abstract

Agriculture sector in Myanmar occupies a dominant position in the development of national economy of Myanmar. Agriculture Service of Myanmar not only provides the high yielding varieties and proven technologies but also organises the diffusion process of these technologies to the farmers. This study was conducted to examine the technical efficiency of irrigated rice production system in Myanmar. The data were collected by personal interviews and questionnaire from random sample of 144 farmers in central part of Myanmar. In this study, problems for area expansion and increasing yield were identified. According to the results of survey, the most important problems were high price of fertiliser, shortage of irrigated water, limited money and poor technical knowledge on plant protection and availability of information on obtaining HYV seeds.

In the estimation of stochastic frontier production function, increasing use of not only family labour but also urea fertiliser would significantly lead to increase the yield level of small farm size group. In the medium farm size, level of education was negatively and significantly related to technical inefficiency at 5 percent level. Therefore, more educated medium farmers seem to be more technically efficient in irrigated rice production. The large farm size group had the highest technical efficiency score 0.77 followed by medium and small farm size groups under the present technology. There was a large proportion (85%) of small farmers who had lower levels (< 0.75) of technical efficiency score.

Having higher technical efficiency, two things should be considered in the improvement of irrigated rice yield. On one hand, the government should continue to increase its support for public investment in infrastructure and technology such as roads, irrigation, research and extension. On the other, increased production and efficiency of production can be achieved by increased application of urea fertiliser and family labour presently being used and education level should be raised to increase the technical efficiency of medium farm size group.

Keywords: Constraints, irrigated rice, Myanmar, stochastic frontier, technical efficiency