ANALYSIS OF TECHNICAL EFFICIENCY OF IRRIGATED RICE PRODUCTION SYSTEM IN MYANMAR

Theingi Myint\(^a\), Thanda Kyi\(^b\)

Agriculture is a dominant sector of Myanmar economy
High yielding varieties and modern technologies were disseminated to farmers by the Myanmar Agriculture Service
The declining total factor productivity index & majority of rice farmers fail to fully exploit the potential of existing rice technology.

Objectives
To identify constraints faced by farmers & to estimate the frontier production functions of efficient technology of respective rice farmers.

Hypothesis: Technical efficiency for the different farm sizes are not significantly different

Samples: 144 irrigated rice farmers from central part of Myanmar

Methodology
Stochastic frontier production function: Relation between yield and inputs used (farm size, family labor, seed rate, urea, cost of hired labor and manure)

\[
\ln Y_i = \alpha + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \ldots + \beta_6 \ln X_6 + V_i - U_i
\]

Inefficiency model (inefficiency depends on age, education level and extension contact)

\[
\mu_i = \delta_0 + \delta_1 Z_1 + \delta_2 Z_2 + \delta_3 Z_3
\]

Results of the study

Irrigated water 24%
Limited investment 24%
Pest & disease 16%
High fertilizer price 12%
Labor scarcity 12%
HYV seed 7%
Weed 3%
FYM shortage 2%

Gap between highest and lowest yield

Distribution of Technical Efficiency for different farm size groups

Conclusion
The production of irrigated rice can be boosted by increased application of urea and utilization of family labor. In order to improve the technical efficiency of medium farmers, there is a need to raise the educational level. The government should also continue to increase the investment in infrastructure development.

a: Assistant Lecturer, b: Lecturer, Department of Agricultural Economics, Yezin Agricultural University, Myanmar

Contact Address: Theingi Myint, Project and Regional Planning, Justus- Liebig Universität Giessen, Senckenbergstr. 3, 35390 Giessen, Germany, e-mail: theingi.myint@agrar.uni-giessen.de