



ANALYSIS OF TECHNICAL EFFICIENCY OF IRRIGATED RICE PRODUCTION SYSTEM IN MYANMAR

Theingi Myint^a, Thanda Ky^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

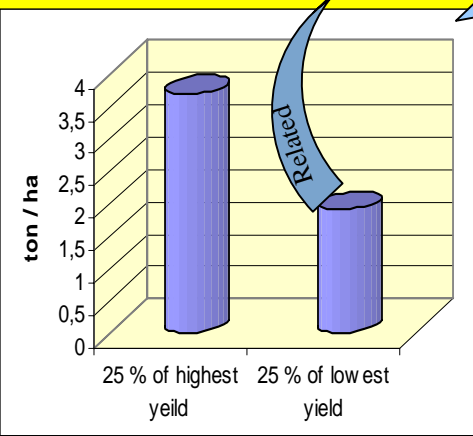
◆ **Methodology**
Stochastic frontier production function: Relation between yield and inputs used (farm size, family labor, seed rate, urea, cost of hired labor and manure)

$$\ln Y_i = \alpha + \beta_1 \ln X_{i1} + \beta_2 \ln X_{i2} + \beta_3 \ln X_{i3} + \dots + \beta_6 \ln X_{i6} + V_i - U_i$$

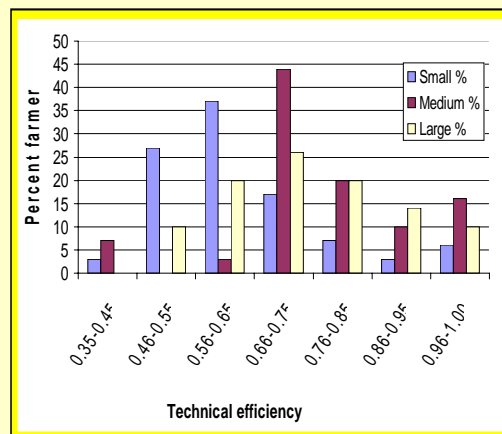
Inefficiency model (inefficiency depends on age, education level and extension contact)

$$U_i = \delta_0 + \delta_1 Z_{i1} + \delta_2 Z_{i2} + \delta_3 Z_{i3}$$

◆ 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@agr.uni-giessen.de