



TECHNICAL EFFICIENCY OF SHRIMP FARMS IN THAILAND UNDER GOOD AGRICULTURAL PRACTICE SYSTEM

Wirat Krasachat

Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang,

Bangkok 10520, Thailand, Email: kkwirat@kmitl.ac.th

INTRODUCTION

Thailand is the world's major shrimp exporters. In 2008, Thailand's exports of shrimp totaled 335,372 tones, worth US\$ 2.36 billion (Thai Frozen Foods Association 2009). In addition, Thailand has been one of the world's largest producers of farm-raised shrimp in recent years (Josupeit 2004). Therefore, the sustainability of the shrimp industry is extremely important to the country. The main purpose of this study is to measure and investigate factors affecting technical inefficiency of shrimp farms in Thailand under Good Agricultural Practice System.

METHODOLOGY AND DATA

In the first stage, the data envelopment analysis (DEA) approach and farm-level cross-sectional survey data of Pacific white shrimp farms in the Eastern Region in Thailand are used to estimate overall technical, pure technical and scale efficiency scores. In the second stage, a Tobit regression (Long 1997) is estimated and examined the effect of farm-specific socio-economic and management factors on farm efficiency. Through this, the likelihood of changes in inefficiency scores is explained by the above factors.

EMPIRICAL RESULTS

The empirical results indicate that there are significant possibilities to increase efficiency levels in Thai shrimp farms. The producers who have higher education achieved higher levels of overall technical, pure technical and scale efficiencies and a larger farm is likely to be technically more efficient compared to a smaller one. In addition, the producers who experienced tiger prawn production are likely to achieve higher levels of overall technical and scale efficiencies while there is confirmation that the producers who received farm management training achieved higher levels of scale efficiencies.

CONCLUSIONS AND POLICY IMPLICATIONS

The results indicate advantages in higher education, farm experience and farm training received by the producers and larger farms in Thai shrimp production. Therefore, the development policies of the above areas should be used to increase the technical efficiencies of these inefficient farms in Thailand.



REFERENCES

- Josupeit, H. 2004. An Overview on the World Shrimp Market. A paper presented to the World shrimp Markets 2004, October 26-27, Madrid, Spain.
 - Long, J.S., 1997. Regression Models for Categorical and Limited Dependent Variables. SAGE Publications, London.
 - Thai Frozen Foods Association. 2009. Export/Import Stats. Available in the website: <http://www.thai-frozen.or.th/fandf.asp?sel-month=12&sel-year=2008> (October 2009)
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