

Rice Production Efficiency in Malaysia

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Abstract.

Climate change is posing a threat to the production levels of the Malaysia's staple food, rice, and this is expected to have an adverse impact on the nation's rice security. The present study attempts to investigate the impact of environmental factors such as soil type, land type, temperature and rainfall on the efficiency of rice production in Malaysia. The general form of the Cobb–Douglas stochastic production frontier function is used to estimate the production frontier 'with' and 'without' the environmental variables using primary data from the survey on farmers at rice bowl of Malaysia, Kedah and Perlis. The findings from the study indicate that average technical efficiency for the sample farmers is 62.9% which implies that on the average, the farmers are able to obtain 62.9% of potential output from a given mix of production inputs as well as environmental consideration. There is a scope for increasing rice production by 37.1%. Among environmental variables, high temperature is found as a factor that decreases the rice production. Meanwhile, technical inefficiency in rice production is contributed by less experience and young farmers, no training received, and less educated farmers. Introducing some interventions by government to provide training and information on how to manage the risk associated with different environmental condition to farmers in addition to the current policies undertaken is highly recommended.

Keywords: climate change, food production, food security, productivity, stochastic frontier