TECHNICAL EFFICIENCY OF PADDY FARMING AND ITS DETERMINANTS IN SRI LANKA: TRANSLOG PRODUCTION FRONTIER MODEL

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ABSTRACT

The study aims to estimate the technical efficiency of paddy farming and identify the factors which determine the efficiency scores of paddy production in Mullaitivu district of Sri Lanka. The empirical analysis was based on the data collected from 120 paddy farmers selected randomly from five villages in Mullaitivu district during the year of 2018/2019. The collected data was analysed using Translog production frontier model and the results of variance parameter is statistically significant implying that variation in paddy output is due to the inefficiency effects rather than random variability. The findings indicated that the mean technical efficiency of paddy farmers in the district was nearly 84% implies that farmers still have the room to improve their efficiency by 16% with the given inputs and technology. The estimated Translog frontier model showed that labour, capital, land seeds, fertilizer and pesticides have significantly influencing the paddy production in the study area. Further, all possible interactions between the inputs have statistically significant impact on paddy yield with negative and positive signs reflect that there is substitution and complementary effects exist among the pair of inputs in the model. Results of technical inefficient effects indicated that, efficiency of paddy farming mostly influenced by age, experience, extension, household size, education, land ownership and availability of credit in the study area. The study concludes that, emphasis should be given for less efficient farmers to improve the efficiency by adopting the new management practices which help them to operate at the frontier in future.

Keywords: Inefficiency effects, Paddy farming, Technical efficiency, Translog production frontier model