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Efficiency portrait of coconut plantations in the Northern region of Sri Lanka

S Jeevakumaran and K Umashankar*
Department of Agricultural Economics, Faculty of Agriculture, University of Jaffna, Jaffna

In Sri Lanka coconut production and the average productivity of the coconut plantation sector has remained stagnant in the past decade. The Northern Province of Sri Lanka which was one of the potential regions for growing coconut, was not an exception to this. Hence, this research has taken an effort to estimate the technical efficiency and to identify the important socio-economic determinants of coconut production in the Northern region of Sri Lanka. A structured questionnaire was designed and then pretested with selected respondents and having seen that it was applicable, was administered to the sample community. A total of 306 coconut growers were randomly selected from the database managed by the Northern Regional Coconut Cultivation Board. The data were analyzed within the frame work of stochastic frontier production function using FRONTIER 4.1c.The inefficiency model was estimated by one-step maximum likelihood method. Moreover, the translog and translog-inefficiency models were also estimated. The results revealed that the extent of land (1%), inorganic fertilizer (5%), organic fertilizer (1%) and family labour (5%) are found to be statistically significant and increased the coconut production by 0.556, 0.038, 0.057 and 0.152 percent respectively. Land fragmented or under-utilized cannot produce optimum returns. In order to obtain profitability, the land under cultivation should be of a minimum extent. Initially, the information with reference to improved management practices, availability of various incentives for example 'Kapruka' loan, the use of modern machinery and equipment and the application there of should be disseminated to the cultivators. The result of the inefficiency model suggests that grower's age (1%) and experience (5%) has exerted a negative and significant impact on the technical efficiency of coconut production. This indicates that the inefficiency increases with the age and experience of the coconut growers. Mean while the years of formal education of the coconut growers was found to be significant at 10% level and contributed positively to the efficiency. The mean technical efficiency of coconut production in the Northern region of Sri Lanka was estimated to be 66%. This indicates that the northern coconut cultivators still have room for vast improvement. In order to obtain higher technical efficiency and returns the inputs have to be used optimally.

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pkushankar@yahoo.com Tel: 071-8617987