

# **Technical Efficiency of Brinjal Farmers in Sri Lanka: Translog Production Frontier Approach**

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## **Abstract**

This study estimates the technical efficiency and it identifies the determinants of brinjal farmers in Vavuniya district, Sri Lanka. The multi-stage sampling method was employed with cross sectional data in selection of 50 brinjal farmers from five villages during the year of 2017/2018. The Translog Production Frontier Model was used to analyse the data. Results revealed that the variance parameter is statistically significant; implying that variation in brinjal output is due to the inefficiency effects rather than random variability. The results of the analysis also revealed that the mean technical efficiency of brinjal was 79.98 %, ranging from 35.54% to 99.86% implies that brinjal producers can reduce current level of input application by 20% given existing technology at the farm level. The estimated Translog Frontier Model shows that costs of labour, capital, and raw materials are the significant determinants of brinjal production in the study area. All possible interactions between the inputs have significantly affected on yield of brinjal and it has been observed the negative and positive signs, reflecting that there is substitution and complementary effects exist among the pair of inputs. Results of Translog function together with the parameters for technical inefficiency effects show that education, extension services and ownership of land found to be significantly affected the technical efficiency of brinjal cultivation in Vavuniya district in Sri Lanka. Findings of the study recommended that emphasis should be given for less efficient farmers to improve the efficiency by adopting the new practices and effective extension services which help them to operate at the frontier in future.

**Keywords:** Brinjal farmers, Technical efficiency, Translog production frontier model