**Do differences in technical efficiency explain the adoption of Quality Protein Maize in Oyo State, Nigeria?**

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**Abstract**

This study determined the technical efficiency (TE) of production of QPM and the effect on the adoption of QPM in Oyo State, Nigeria. Quality Protein Maize (QPM) is an improved maize variety developed to reduce protein deficiency problems. A total of 100 maize farmers were employed through a two-stage sampling procedure. Stochastic frontier approach using maximum likelihood estimation (MLE) was used to analyze the TE in the production of QPM, while probit regression was used to determine the effect of TE and other socioeconomic characteristics of the respondents on the adoption of QPM. The results revealed a mean TE of 0.89 and 0.78 for adopters and non-adopters of QPM respectively. This implied that adopters of QPM are more technically efficient than the non-adopters. Output from QPM could respectively be increased by 11 percent and 22 percent by the adopters and non-adopters using the available technology. Quantity of seed planted and fertilizer directly and significantly affected the TE of QPM while gross margin of maize farmers and income from other sources (at P<0.05), level of education and farm size (P<0.01) have significant and negative effects on technical inefficiency, that age (P<0.05) of the farmer has direct effect on technical inefficiency. In conclusion, TE was found to be a significant (P<0.1) factor that drives maize farmers to adopt QPM among other factors such as level of output, information availability of QPM, early maturity assessment of the variety in the study area. Therefore, farmers will adopt QPM technology if they are technically efficient in production using the variety.

**Keywords:** Resource-use efficiency, Stochastic Frontier Analysis, Adoption, Tobit Analysis.