

ABSTRACT

One of the potential areas for corn production in Grobogan Regency is Geyer Subdistrict; however, its productivity level remains low compared to other subdistricts. This low productivity is suspected to be caused by the inefficient utilization of production factors and social factors that contribute to technical inefficiency among farmers. The objective of this study is to analyze the factors that influence corn production and measure the level of technical efficiency.

The study utilized primary data obtained through interviews conducted with corn farmers in the villages of Geyer Subdistrict. The Stochastic Frontier Cobb Douglas production function was employed to assess the level of technical efficiency, while Ordinary Least Square (OLS) and Maximum Likelihood Estimation (MLE) were used to estimate and analyze the production and social factors that affect technical inefficiency.

The findings of the study indicated that the significant variables in the model were land area, seed, fertilizer, and labor, all of which had a positive impact on corn production. However, the pesticide variable did not show a significant influence. Moreover, the study revealed that farmers in Geyer Subdistrict have not achieved sufficient technical efficiency, with an average technical efficiency level of 43.3 percent. The significant negative social factor contributing to inefficiency was the lack of agricultural extension services, while experience had a positive and significant effect. However, age and education variables did not demonstrate a significant impact in this study.

Keywords: technical efficiency, corn farming, Stochastic Frontier production function, technical inefficiency.