

Technical efficiency and production risk of rice farms under Anchor Borrowers programme in Kebbi State, Nigeria

ABSTRACT

This study estimates technical efficiency and production risk of rice farms under Anchor Borrowers Programme (ABP) in Kebbi State, Nigeria. The study employed Stochastic Frontier Production (SFA) with flexible risk specifications to a sample of 231 rice producers surveyed in 2016 production season. The findings shows that seed, fertilizer, agrochemicals and labour inputs influenced rice output positively. The production technology characterizing rice farms in the study area exhibit increasing returns to scale. Fertilizer and agrochemicals are estimated to decrease variance of the value of output while seed and labour are estimated to increase the variance of the value of output. This implies that a risk-averse farmer will use more of fertilizer and agrochemicals and less of seed and labour than a risk neutral farmer. The mean technical efficiency estimates was 85.3 percent. Several characteristics of the farmers such as education, farming experience, extension contact, land cultivation technique and planting technique significantly decrease technical inefficiency of the farmers. The study concludes that, on the average 14.7 percent of potential output is lost due to technical inefficiency and production risk in inputs and recommends the use of best farm practice to produce rice efficiently. Policy option should also consider the incorporation of production risk in technical efficiency analysis if the inputs are non-neutral in risk.

Keyword : Technical efficiency; Production risk; Anchor Borrowers Programme, SFA.