PRINT: ISSN 0971-8923 ONLINE: ISSN 2456-6756
JOURNAL OF SOCIAL SCIENCES
Interdisciplinary Reflection of Contemporary Society

J Soc Sci, 59(1-3): 1-16 (2019)
PRINT: ISSN 0971-8923 ONLINE: ISSN 2456-6756
DOI: 10.31901/24566756.2019/59.1-3.2241

Analysis of Production Efficiency, Productivity Variances and Resource Allocation among Small-holder Soybean Producers Farmers: Evidence from Benishangul-Gumuz Region, Western Ethiopia

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KEYWORDS Productivity. Soybean. Stochastic production frontier. Technical. Allocative and Economic Efficiency

ABSTRACT This study aimed at estimating the technical, allocative, and economic efficiencies among smallholder soybean producers and identifying factors affecting production efficiency of the crop. The study used cross-sectional data collected from a sample of 266 soybean producer farmers. Multi-stage random sampling technique was employed to select sample respondents. Descriptive statistics were used to analyze socioeconomic characteristics while the Stochastic Frontier Production Function was used, in order to estimate the level of technical, allocative and economic efficiencies among small-holder farmers. The results revealed that the mean technical efficiency of soybean producer farmers was 72.81 percent while the average efficiency of allocative and economic were 55.13 percent and 40.08 percent, respectively. On the sources of inefficiency, the study found that educational level, farming experience, distance to cooperative and input center significantly reduce the technical inefficiencies among soybean farmers, whereas distance to main road, access to credit, frequency of extension contacts, farming experience and ownerships to tropical livestock unit decreases allocative inefficiency of soybean among producers. On the other hand, educational level, frequency of extension contact, experience in farming, distance to cooperative and input center significantly reduce economic inefficiencies among soybean producer farmers in study area. The result emphasized the need for building rural infrastructure, adult education and training of farmers in FTC and demonstrate new technologies, need support of credit services and increasing frequency of extension and improvements in livestock in the study area.