

Socio-economic and Agroecology Impacts on Production Efficiencies of Small Farms in the Disadvantaged Black Communities of the Semi-arid Regions of South Africa

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ABSTRACT Smallholder agriculture is not fulfilling its pivotal role of attaining food security in developing countries such as South Africa. In rural areas, smallholder farmers' efficiencies are hindered mostly by factors beyond their control. This paper presents a scenario simulation of small farms' production efficiencies in the disadvantaged Black communities of the Eastern Cape province, South Africa, in the three major agroecological zones. Stochastic frontier analysis was used to model the technical efficiency of the small farms under different production scenarios. The analysis revealed that smallholder farmers' output is worse off under declining soil fertility and climate variability conditions. Overall, small farms in the study areas were inefficient in their production with congested household sizes and not optimized household labor. The study recommends the use of more intensive land-augmenting inputs and in the long run, output can rely on improvements in technical efficiency.