



Methodological Evaluation of Smallholder Farm Systems in Nigeria: Randomized Field Trial for Clinical Outcomes Assessment

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Abstract

The agricultural sector in Nigeria plays a crucial role in its economy, yet there is limited systematic evaluation of smallholder farm systems. A randomized controlled trial (RCT) was employed in conjunction with econometric analysis to measure the impact of various interventions on yield, productivity, and income. The RCT revealed that fertilizer subsidies increased crop yields by an average of 15% among participating smallholder farms. This study provides robust evidence for the efficacy of targeted agricultural support programmes in improving farm performance. Policy makers should consider implementing and scaling up similar interventions to enhance food security and economic stability in Nigeria's rural areas. The empirical specification follows $Y = \beta_{0+\beta}^{-1} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: African, randomized, trial, evaluation, methodology, smallholder, agroecology

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