



Methodological Evaluation of Quasi-Experimental Designs in Smallholder Farm Systems in Uganda: A Systematic Literature Review inContext

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Abstract

Recent studies have highlighted the effectiveness of quasi-experimental designs in evaluating smallholder farm systems' impacts in Uganda. A comprehensive search strategy was employed across academic databases and grey literature, adhering to PRISMA guidelines. Studies published between and were included based on predefined eligibility criteria. The analysis revealed a significant variation in the methodological quality of quasi-experimental designs used for assessing adoption rates among smallholder farmers, with some studies employing multivariate regression models to account for potential confounding factors. While there is evidence supporting the use of quasi-experimental designs, the review highlights inconsistencies and gaps in methodology that impact the reliability of adoption rate measurements. Future research should prioritise methodological rigor by adopting standardised quasi-experimental designs with robust statistical models to enhance comparability and validity across studies. Quasi-Experimental Designs, Adoption Rates, Smallholder Farmers, Environmental Science, Uganda The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, smallholder, quasi-experimental, impact assessment, econometric, randomized, spatial analysis*

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