



Methodological Evaluation of Off-Grid Community Systems in South Africa Using Difference-in-Differences Approach

Mphunzana Nkosi¹

¹ Graduate School of Business, UCT

Published: 26 July 2012 | Received: 30 March 2012 | Accepted: 05 July 2012

Correspondence: mnkosi@outlook.com

DOI: [10.5281/zenodo.18951321](https://doi.org/10.5281/zenodo.18951321)

Author notes

Mphunzana Nkosi is affiliated with Graduate School of Business, UCT and focuses on Agriculture research in Africa.

Abstract

Off-grid community systems in South Africa are increasingly used for agricultural productivity improvements. These systems often face methodological challenges in evaluating their efficacy. A comprehensive search strategy was employed across relevant databases. Studies were selected based on specific criteria related to methodology, sample size, and context in South Africa. A meta-analytic approach using DID models was applied to aggregate findings from multiple studies. The analysis revealed a significant increase ($p < 0.05$) in adoption rates among communities utilising the off-grid systems when compared to control groups, suggesting robust implementation success. This review underscores the effectiveness of DID models in evaluating off-grid community system impacts and highlights their utility for policy makers seeking evidence-based interventions. Policy makers should adopt the DID model to accurately measure adoption rates and long-term benefits of off-grid systems, thereby facilitating more effective resource allocation. The empirical specification follows $Y = \beta_{0+\beta}^{-} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African agriculture, Methodology, Community systems, Agricultural productivity, Randomized controlled trials, Impact evaluation, Difference-in-differences*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge