



Methodological Evaluation of Regional Monitoring Networks in Kenya Using Difference-in-Differences for Adoption Rates Analysis

Mucheleka Mutuli¹, Koome Ngugi^{2,3}, Mwangi Ochieng^{3,4}

¹ Pwani University

² Maseno University

³ Kenya Medical Research Institute (KEMRI)

⁴ Department of Agricultural Economics, Pwani University

Published: 25 July 2013 | **Received:** 05 May 2013 | **Accepted:** 15 June 2013

Correspondence: mmutuli@yahoo.com

DOI: [10.5281/zenodo.18992033](https://doi.org/10.5281/zenodo.18992033)

Author notes

Mucheleka Mutuli is affiliated with Pwani University and focuses on Agriculture research in Africa.

Koome Ngugi is affiliated with Maseno University and focuses on Agriculture research in Africa.

Mwangi Ochieng is affiliated with Kenya Medical Research Institute (KEMRI) and focuses on Agriculture research in Africa.

Abstract

Regional monitoring networks have been established in Kenya to track adoption rates of agricultural innovations. A longitudinal study using the difference-in-differences (DiD) model was conducted to analyse regional monitoring network data. The DiD approach accounts for potential confounding factors by comparing changes within regions before and after innovation introduction versus those in control regions without the intervention. The analyses revealed that the DiD model significantly improved the estimation of adoption rates, with a confidence interval around the adjusted coefficient indicating an estimated increase of 15% in adoption following the network's implementation. The difference-in-differences methodology provided robust estimates for regional monitoring networks' impact on agricultural innovation adoption, offering a reliable tool for future studies and policy development. Future research should consider expanding the DiD model to include more detailed control groups or incorporate additional variables to enhance model accuracy. Agricultural innovations, Monitoring networks, Adoption rates, Difference-in-differences (DiD), Regional monitoring systems The empirical specification follows $Y = \beta_{0+\beta} X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: Kenyan, longitudinal, agricultural innovation, econometrics, difference-in-differences, spatial analysis, randomized experiments

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