



Methodological Evaluation of Regional Monitoring Networks in Rwanda Using Difference-in-Differences for Yield Improvement Measurement

Nkwishimana Mukashe¹

¹ Department of Interdisciplinary Studies, Rwanda Environment Management Authority (REMA)

Published: 02 May 2001 | **Received:** 25 December 2000 | **Accepted:** 12 April 2001

Correspondence: nmukashe@hotmail.com

DOI: [10.5281/zenodo.18728657](https://doi.org/10.5281/zenodo.18728657)

Author notes

Nkwishimana Mukashe is affiliated with Department of Interdisciplinary Studies, Rwanda Environment Management Authority (REMA) and focuses on Environmental Science research in Africa.

Abstract

This study addresses a current research gap in Environmental Science concerning Methodological evaluation of regional monitoring networks systems in Rwanda: difference-in-differences model for measuring yield improvement in Rwanda. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A structured analytical approach was used, integrating formal modelling with domain evidence. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Methodological evaluation of regional monitoring networks systems in Rwanda: difference-in-differences model for measuring yield improvement, Rwanda, Africa, Environmental Science, working paper This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. The empirical specification follows $Y = \beta_{0+\beta}^{\vec{}} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: Rwanda, GIS, econometrics, panel data, spatial analysis, stochastic frontier, yield gap

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