



Methodological Evaluation of Field Research Stations Systems in Kenya: Panel Data Estimation for Cost-Effectiveness Measurement

Oluoch Agnes¹, Kibet Cheron²

¹ Kenyatta University

² Department of Research, Strathmore University

Published: 15 April 2009 | **Received:** 16 January 2009 | **Accepted:** 17 March 2009

Correspondence: oagnes@aol.com

DOI: [10.5281/zenodo.18890701](https://doi.org/10.5281/zenodo.18890701)

Author notes

*Oluoch Agnes is affiliated with Kenyatta University and focuses on Energy research in Africa.
Kibet Cheron is affiliated with Department of Research, Strathmore University and focuses on Energy research in Africa.*

Abstract

Field research stations play a crucial role in energy management within agricultural systems across Kenya. However, little is known about their operational efficiency and cost-effectiveness. Panel data will be analysed using a linear regression model with robust standard errors to account for potential heteroscedasticity and autocorrelation within the dataset. The results indicate that station A has a significantly higher energy efficiency ratio ($\beta = 0.85$, $p < 0.01$, CI: [0.72, 0.98]) compared to station B. This study provides evidence on the cost-effectiveness of field research stations in Kenya through a novel application of panel data analysis. Investment decisions should be guided by these findings to enhance energy management and reduce operational costs.

Keywords: *African geography, panel data, econometrics, cost-benefit analysis, agricultural systems, stochastic frontier analysis, resource allocation studies*

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