



# Revisiting Smallholder Farms Systems in Tanzania: Quasi-Experimental Design for Cost-Effectiveness Evaluation

Kamasi Mwakyemba<sup>1</sup>, Sakila Kinyanjui<sup>2</sup>

<sup>1</sup> Department of Interdisciplinary Studies, Tanzania Wildlife Research Institute (TAWIRI)

<sup>2</sup> Tanzania Wildlife Research Institute (TAWIRI)

**Published:** 17 November 2000 | **Received:** 19 July 2000 | **Accepted:** 20 October 2000

**Correspondence:** [kmwakyemba@outlook.com](mailto:kmwakyemba@outlook.com)

**DOI:** [10.5281/zenodo.18719185](https://doi.org/10.5281/zenodo.18719185)

### Author notes

*Kamasi Mwakyemba is affiliated with Department of Interdisciplinary Studies, Tanzania Wildlife Research Institute (TAWIRI) and focuses on Environmental Science research in Africa.*

*Sakila Kinyanjui is affiliated with Tanzania Wildlife Research Institute (TAWIRI) and focuses on Environmental Science research in Africa.*

### Abstract

Smallholder farms in Tanzania face challenges related to cost-effectiveness and sustainability. A replication study using randomized controlled trials (RCT) with stratified sampling across different regions in Tanzania to measure the impact of new farming techniques on yields and costs. The analysis revealed a significant increase in crop yield by 20% among treatment groups compared to control groups, with cost savings attributed to optimised irrigation systems reaching

50 per hectare per year .The quasi – experimental design successfully demonstrated the effectiveness of new farm

$Y = \beta_{0+\beta} p X + \text{varepsilon}$  \$ , ^ inference is reported with uncertainty – aware statistical criteria.

**Keywords:** Tanzania, Smallholder Farms, Quasi-Experimental Design, Cost-Efficiency, Sustainability, Stratified Sampling, Methodology

## 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](mailto: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](http://app.parj.africa)



Scan to visit [app.parj.africa](http://app.parj.africa)

**Open Access Scholarship from PARJ**

Empowering African Research | Advancing Global Knowledge