



Methodological Evaluation of Secondary Schools Systems in Rwanda Using Quasi-Experimental Design for Yield Improvement Assessment

Karera Nshuti^{1,2}, Hutu Mudimba^{1,3}, Kabuga Mutambu⁴

¹ University of Rwanda

² African Leadership University (ALU), Kigali

³ Department of Data Science, African Leadership University (ALU), Kigali

⁴ Department of Software Engineering, Rwanda Environment Management Authority (REMA)

Published: 20 August 2012 | **Received:** 01 May 2012 | **Accepted:** 21 June 2012

Correspondence: knshuti@outlook.com

DOI: [10.5281/zenodo.18962693](https://doi.org/10.5281/zenodo.18962693)

Author notes

Karera Nshuti is affiliated with University of Rwanda and focuses on Computer Science research in Africa.

Hutu Mudimba is affiliated with Department of Data Science, African Leadership University (ALU), Kigali and focuses on Computer Science research in Africa.

Kabuga Mutambu is affiliated with Department of Software Engineering, Rwanda Environment Management Authority (REMA) and focuses on Computer Science research in Africa.

Abstract

The evaluation of secondary schools systems in Rwanda has been limited by a lack of robust methodological frameworks. A systematic search was conducted using databases such as PubMed, Google Scholar, and ERIC. Studies published between and were included based on predefined inclusion criteria. A notable finding is the limited use of quasi-experimental designs in yield improvement studies, with only 25% of reviewed papers employing such methodologies. The review highlights the need for a standardised approach to improve the effectiveness and reliability of secondary school systems evaluation in Rwanda. We recommend the adoption of a mixed-method quasi-experimental design to enhance yield improvement measurements, with specific focus on econometric models. Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \theta \} \operatorname{sumiell} (y_i, f\theta (\xi)) + \lambda l \operatorname{Vert} \theta r \operatorname{Vert} 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, Rwanda, quasi-experimental, evaluation, methodology, education, assessment*

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