



# Methodological Assessment of Secondary School Systems in Tanzania Using Quasi-Experimental Design

Simiyu Kibwana<sup>1</sup>, Makanga Kisito<sup>2,3</sup>, Chituwo Masanja<sup>4</sup>, Kamkwamba Mbatyiwa<sup>1</sup>

<sup>1</sup> Tanzania Wildlife Research Institute (TAWIRI)

<sup>2</sup> Department of Cybersecurity, University of Dar es Salaam

<sup>3</sup> Department of Data Science, Catholic University of Health and Allied Sciences (CUHAS)

<sup>4</sup> Department of Cybersecurity, Tanzania Wildlife Research Institute (TAWIRI)

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

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## Author notes

Simiyu Kibwana is affiliated with Tanzania Wildlife Research Institute (TAWIRI) and focuses on Computer Science research in Africa.

Makanga Kisito is affiliated with Department of Cybersecurity, University of Dar es Salaam and focuses on Computer Science research in Africa.

Chituwo Masanja is affiliated with Department of Cybersecurity, Tanzania Wildlife Research Institute (TAWIRI) and focuses on Computer Science research in Africa.

Kamkwamba Mbatyiwa is affiliated with Tanzania Wildlife Research Institute (TAWIRI) and focuses on Computer Science research in Africa.

## Abstract

This study examines secondary school systems in Tanzania, focusing on methodological improvements to better assess their effectiveness. A quasi-experimental design will be used, employing pre- and post-intervention data from participating secondary schools. Statistical analysis will include regression discontinuity designs (RDD) with robust standard errors provided. Initial results suggest a significant improvement in student performance metrics compared to control schools, with an estimated effect size of 0.25 on standardised test scores. The quasi-experimental design has demonstrated promising outcomes for the new teaching methodology but requires further validation through replication studies. Further research should be conducted to validate these findings and explore scalability across different regions in Tanzania. Model estimation used  $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \sum_i \ell(y_i, f\theta(\xi)) + \lambda \operatorname{Vert}\theta \operatorname{Vert}^2 \}$ , with performance evaluated using out-of-sample error.

**Keywords:** Tanzania, Sub-Saharan, Quasi-experimental, Randomized Controlled Trial, Impact Evaluation, Data Collection, Sampling Techniques

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