



Methodological Evaluation of Secondary Schools Systems in Tanzania: A Time-Series Forecasting Model for Yield Improvement Assessment

Makombo Masanja¹, Kamari Mwase²

¹ Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam

² Department of Advanced Studies, Ardhi University, Dar es Salaam

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Correspondence: mmasanja@outlook.com

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Author notes

Makombo Masanja is affiliated with Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam and focuses on Energy research in Africa.

Kamari Mwase is affiliated with Department of Advanced Studies, Ardhi University, Dar es Salaam and focuses on Energy research in Africa.

Abstract

The secondary education system in Tanzania is a critical component of its economy, with significant impacts on workforce development and economic growth. A mixed-method approach combining qualitative interviews and quantitative data analysis was employed. The study utilised a time-series forecasting model, specifically an ARIMA (AutoRegressive Integrated Moving Average) model with robust standard errors. The time-series forecasting model indicated a modest but stable growth trajectory for secondary school yields over the next five years, with projected increases of around 3% annually. This study provides insights into the current state of Tanzania's secondary schools systems and offers a robust methodological framework for future yield improvement assessments. Future research should focus on implementing targeted interventions to address identified challenges within the education system, such as increasing teacher training programmes and improving infrastructure in under-resourced areas. The empirical specification follows $Y = \beta_{0+\beta}^{-1} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African geography, qualitative research, time-series analysis, educational policy, yield assessment, secondary education, econometrics*

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