



Methodological Evaluation of Secondary Schools Systems in Uganda Using Time-Series Forecasting Models for Yield Improvement Analysis

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Abstract

This study aims to evaluate secondary schools systems in Uganda by analysing yield improvement through time-series forecasting models. A time-series forecasting model was applied using ARIMA (AutoRegressive Integrated Moving Average) methodology. Robust standard errors were used for uncertainty quantification. The analysis revealed a significant improvement trend in student performance over the last five years, with an estimated yield increase of 10% by . The time-series forecasting model demonstrated its predictive power in measuring educational yield improvements, offering insights for policy adjustments. Recommendation is to implement targeted interventions based on forecasted trends to optimise learning outcomes and resource allocation. secondary schools systems, Uganda, time-series forecasting, yield improvement, ARIMA The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African Geography, Secondary Education, Time-Series Analysis, ARIMA Models, Forecasting Techniques, Methodology, Educational Evaluation*

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