



Methodological Assessment of Secondary School Systems in Nigeria: A Randomized Field Trial for Risk Reduction Evaluation

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Abstract

Secondary schools in Nigeria face significant challenges related to resource allocation and infrastructure development, particularly in rural areas where agricultural education is crucial for economic growth. A stratified random sampling method was employed to select schools from different regions with varying levels of resource availability. A logistic regression model was used to analyse the impact of intervention on student performance and school infrastructure development, accounting for potential confounders such as socioeconomic status and geographic location. The randomized field trial revealed a significant improvement in student academic outcomes (average increase of 20% in test scores) among schools that implemented risk reduction strategies compared to control groups. Additionally, there was a notable proportion (35%) decrease in the need for additional school infrastructure funding. This study provides evidence of the potential impact of targeted educational interventions on improving secondary school systems and reducing associated risks. School administrators should prioritise implementation of risk reduction strategies based on this research, alongside ongoing efforts to address resource scarcity. Policymakers are encouraged to allocate resources more effectively by focusing on schools identified as high-risk areas for intervention. The empirical specification follows $Y = \beta_{0+\beta}^{-} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African geography, randomized controlled trial, agricultural education, impact evaluation, qualitative assessment, quantitative methods, rural development*

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