



# Methodological Evaluation of Secondary School Systems Adoption Rates in Uganda Using Difference-in-Differences Analysis

Sserunkuma Okello<sup>1</sup>, Tumwebaze Byaruhanga<sup>2</sup>, Musoke Kizza<sup>3,4</sup>, Kawuki Nabirye<sup>3,5</sup>

<sup>1</sup> Department of Soil Science, Makerere University Business School (MUBS)

<sup>2</sup> Department of Animal Science, Makerere University, Kampala

<sup>3</sup> Uganda National Council for Science and Technology (UNCST)

<sup>4</sup> Department of Crop Sciences, Busitema University

<sup>5</sup> Makerere University, Kampala

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**Correspondence:** [sokello@gmail.com](mailto:sokello@gmail.com)

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## Author notes

*Sserunkuma Okello is affiliated with Department of Soil Science, Makerere University Business School (MUBS) and focuses on Agriculture research in Africa.*

*Tumwebaze Byaruhanga is affiliated with Department of Animal Science, Makerere University, Kampala and focuses on Agriculture research in Africa.*

*Musoke Kizza is affiliated with Uganda National Council for Science and Technology (UNCST) and focuses on Agriculture research in Africa.*

*Kawuki Nabirye is affiliated with Makerere University, Kampala and focuses on Agriculture research in Africa.*

## Abstract

Agricultural secondary schools in Uganda have been introduced to enhance agricultural education and training, aiming to improve productivity and livelihoods among rural communities. A DiD analysis was employed to assess how agricultural secondary school systems were adopted in Uganda between two time periods: pre-intervention and post-intervention. The study utilised data from 100 randomly selected schools, focusing on indicators like enrollment rates, infrastructure improvements, and programme implementation fidelity. The findings revealed a statistically significant adoption rate increase of 25% in the post-intervention period compared to the pre-intervention baseline ( $p < 0.001$ ). External development programmes played a crucial role in accelerating school system adoptions, with schools receiving these programmes showing an average 30% higher adoption rate. Future interventions should prioritise targeted support and resources for secondary agricultural schools to ensure equitable access and effective implementation of educational systems. The empirical specification follows  $Y = \beta_{0+\beta} \vec{p} X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *Sub-Saharan, agricultural education, adoption rates, difference-in-differences, econometrics, intervention analysis, rural development*

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