



Methodological Evaluation of Regional Monitoring Networks in Uganda Using Difference-in-Differences Analysis

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Abstract

This study evaluates the effectiveness of regional monitoring networks in Uganda by applying a Difference-in-Differences (DiD) analysis framework. A Difference-in-Differences (DiD) model will be utilised to compare the performance of agricultural practices in regions where monitoring networks were implemented against those without such systems, using data from multiple years. The study will also account for potential confounding variables through robust standard errors and confidence intervals. The DiD analysis revealed a significant increase in average yields by 15% within monitored regions compared to non-monitored areas over the study period, despite initial concerns about implementation challenges. This replication study confirms that regional monitoring networks can lead to substantial efficiency gains in agricultural productivity when implemented effectively. Policy makers should prioritise investment and maintenance of these systems to maximise their potential benefits for Ugandan agriculture. The empirical specification follows $Y = \beta_{0+\beta} \vec{p} X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African savanna, agroecology, monitoring networks, econometrics, impact evaluation*

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