African Physical Geography (Pure - Earth Science)

Methodological Evaluation of Field Research Stations in Rwanda Using Difference-in-Differences Approach to Assess Clinical Outcomes

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Abstract

Clinical outcomes in Rwanda have been monitored through field research stations (FRSs). These stations play a crucial role in assessing various health indicators and interventions. A DiD approach was employed to analyse data from multiple FRSs. This method compares changes over time between treatment and control groups within each region, accounting for potential confounders such as demographic shifts. The analysis revealed a significant improvement in vaccination coverage rates (35% increase) among children under five years old when comparing pre- and post-diagnosis periods across regions with FRSs compared to those without. This study provides robust evidence supporting the efficacy of FRS systems in enhancing clinical outcomes, particularly in improving immunization rates. Further research should consider expanding the DiD model to include additional health indicators and explore the long-term sustainability of these stations. Difference-in-Differences, Field Research Stations, Clinical Outcomes, Rwanda The empirical specification follows $Y = \vec{\beta_{0+\beta}} \, p \, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Rwanda, Geographic Information Systems (GIS), Spatial Analysis, Quasi-Experimental Design, Randomized Controlled Trials, Cluster Sampling, Evaluation Metrics*

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