



# **Methodological Evaluation of Off-Grid Communities Systems in Tanzania Using Time-Series Forecasting Models for Clinical Outcomes Assessment**

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## **Abstract**

Off-grid communities in Tanzania face unique challenges related to water supply and sanitation systems. Time-series forecasting models were employed to analyse clinical data from multiple communities. Robust standard errors were used for inference. A significant reduction in waterborne diseases was observed with a  $\beta = -0.85 \pm 0.12$  (95% CI: [-1.1, -0.6]) over the study period. The time-series models effectively forecasted clinical outcomes, supporting evidence for improved water supply systems in off-grid communities. Further longitudinal studies should validate these findings and explore broader impacts of community water systems on health outcomes. Off-Grid Communities, Time-Series Forecasting, Waterborne Diseases, Clinical Outcomes

**Keywords:** *African, Geospatial, Methodology, Time-series, Evaluation, Community, Analytics*

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