



Methodological Evaluation of Regional Monitoring Networks Systems in Tanzania: Quasi-Experimental Design for Measuring System Reliability

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Abstract

This study examines regional monitoring networks in Tanzania to evaluate their reliability. A mixed-method approach combining quantitative and qualitative data was employed. Quasi-experimental methods were used for the analysis. In one region, there was an observed improvement in crop yield monitoring accuracy by 15% compared to previous years. The quasi-experimental design proved effective in assessing system reliability of regional monitoring networks. Further research should explore scalability and sustainability of the monitored systems across different regions. The empirical specification follows $Y = \beta_{0+\beta}^{-1} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African geography, monitoring networks, quasi-experimental design, evaluation methods, agricultural systems, spatial analysis, data quality assessment*

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