



# Methodological Validation of Regional Monitoring Networks for Risk Reduction in Nigerian Agricultural Systems: A Randomized Field Trial Framework

Methodological  
Validation of Regional  
Monitoring Networks

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## Abstract

The need for robust regional monitoring networks in Nigerian agricultural systems has been highlighted to enhance risk reduction strategies. A randomized field trial will be conducted across different regions in Nigeria to measure the impact of monitoring systems on risk reduction. Statistical analysis will include logistic regression models and confidence intervals to assess outcomes. This study provides valuable insights into the efficacy of regional monitoring networks for agricultural systems and offers robust methodological guidelines for future research. The findings should inform policy makers to prioritise investment in monitoring networks as a key strategy for enhancing agricultural resilience. The empirical specification follows  $Y = \beta_{0+\beta}^{-} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *African agroecology, GIS, randomized controlled trial, precision agriculture, spatial analysis, risk assessment, sustainable intensification*

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This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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