



# Methodological Rigour and Diagnostic Reliability in Tanzania's Regional Agricultural Health Monitoring Networks

*A Systematic Review*

Fatuma Mwinyimvua<sup>1</sup>

<sup>1</sup> Department of Crop Sciences, Mkwawa University College of Education

Correspondence: [fmwinyimvua@gmail.com](mailto:fmwinyimvua@gmail.com)

**Published:** 03 October 2023

**Received:** 02 August 2023

**Accepted:** 09 September 2023

**DOI:**

[10.5281/zenodo.19485261](https://doi.org/10.5281/zenodo.19485261)

## Author notes

*Fatuma Mwinyimvua is affiliated with Department of Crop Sciences, Mkwawa University College of Education and focuses on Agriculture research in Africa.*

## ABSTRACT

**Background:** Regional agricultural health monitoring networks are critical for early detection and management of crop and livestock diseases, yet their methodological rigour in generating reliable diagnostic data for clinical outcomes is not systematically appraised.

**Purpose and objectives:** This systematic review evaluates the methodological rigour and diagnostic reliability of regional agricultural health monitoring networks in Tanzania, focusing on their quasi-experimental designs for measuring clinical outcomes in crops and livestock.

**Keywords:** *Agricultural health surveillance, Methodological rigour, Diagnostic reliability, Sub-Saharan Africa, Quasi-experimental design, Regional monitoring networks, Tanzania*

### Article Highlights

- Significant heterogeneity in methodological quality across networks
- Frequent absence of validated reference standards for field diagnoses
- Standardised case definitions linked to higher diagnostic accuracy
- Routine audit cycles improve data quality assurance

### Statistical Insight

Networks employing standardised case definitions and routine audit cycles showed significantly higher diagnostic accuracy ( $p < 0.05$ ) in the generalized linear mixed model analysis.

*This review highlights critical gaps in validation procedures within Tanzania's agricultural health monitoring systems.*

## ABSTRACT-ONLY PUBLICATION

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

## REQUEST FULL PAPER

 **Email:** [info@parj.africa](mailto:info@parj.africa)

Request your copy of the full paper today!

## SUBMIT YOUR RESEARCH

**Are you a researcher in Africa? We welcome your submissions!**

Join our community of African scholars and share your groundbreaking work.

 **Submit at:** [app.parj.africa](http://app.parj.africa)



Scan to visit [app.parj.africa](http://app.parj.africa)

### **Open Access Scholarship from PARJ**

Empowering African Research | Advancing Global Knowledge