

REVIEWER'S REPORT

Manuscript No.: **IJAR-53422**

Date: 19-08-2025

Title: Determinants of Agricultural Productivity in Karene District, Sierra Leone (1980–2024): An Econometric Analysis of Land, Labor, and Capital

Recommendation:

Accept as it is
 Accept after minor revision.....
 Accept after major revision
 Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality	✓			
Techn. Quality		✓		
Clarity	✓			
Significance		✓		

Reviewer Name: Dr.P.Manochithra

Date: 19-08-2025

Reviewer's Comment for Publication.

(To be published with the manuscript in the journal)

The reviewer is requested to provide a brief comment (3-4 lines) highlighting the significance, strengths, or key insights of the manuscript. This comment will be Displayed in the journal publication alongside with the reviewers name.

This manuscript provides a rigorous econometric analysis of agricultural productivity determinants in Sierra Leone's Karene District. By applying the Vector Error Correction Model over a 45-year dataset, it highlights the critical roles of land use and labor efficiency while addressing limitations of capital investment. The study's findings offer valuable empirical insights for policymakers, development agencies, and scholars seeking sustainable agricultural strategies in sub-Saharan Africa.

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Detailed Reviewer's Report

1. Originality

The manuscript makes a meaningful contribution to the literature on agricultural economics in sub-Saharan Africa by applying a long-term econometric approach (1980–2024) to a district-level study. Most prior works emphasize national-level or short-term studies, while this paper uniquely integrates land use, labor efficiency, and capital investment in the specific context of Karene District. This originality strengthens the academic value of the paper.

Strengths: Novel focus on district-level data and use of a 45-year longitudinal dataset.

Weaknesses: The literature review could better emphasize how this study differs from and extends prior empirical work in Sierra Leone.

2. Technical Quality

The study employs the **Vector Error Correction Model (VECM)** and robust diagnostic tests (ADF, Johansen Cointegration, Breusch-Godfrey, Breusch-Pagan, CUSUM). The methodology is sound and appropriate for capturing both short-run and long-run dynamics. The descriptive and inferential statistics are well presented.

Strengths:

- Proper use of time-series econometric methods.
- Adequate diagnostic tests to validate model assumptions.
- Clear presentation of regression results and hypothesis testing.

Weaknesses:

- The insignificance of capital investment requires deeper explanation (e.g., institutional inefficiencies, credit constraints).
- Tables could be condensed or moved to an appendix to improve readability.

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3. Clarity

The manuscript is generally well-written, with logical organization from introduction to recommendations. The flow of arguments is clear, though the language could be streamlined in certain sections (e.g., methodology and literature review are lengthy and repetitive).

Strengths:

- Structured into objectives, research questions, methodology, results, and policy implications.
- Effective use of tables and figures for data presentation.

Weaknesses:

- Some sentences are overly long and could be simplified.
- The abstract could be more concise, focusing on key findings and policy implications.

4. Significance

The findings are highly significant for both academic and policy audiences. The study shows that **land use optimization and labor efficiency** are the most critical determinants of agricultural productivity, while **capital investment alone does not yield significant impact** without institutional support.

Strengths:

- Practical recommendations for policymakers (land rights, farmer training, efficient capital allocation).
- Direct relevance to food security and rural development in Sierra Leone and comparable sub-Saharan contexts.

Weaknesses:

- Recommendations could benefit from more quantifiable policy targets (e.g., projected productivity gains from specific interventions).

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5. Overall Assessment

The manuscript is a **valuable and publishable contribution** to agricultural economics and development policy research. It provides robust empirical evidence and policy-oriented insights that can guide strategies to enhance productivity in fragile economies. With minor improvements in clarity and contextualization of capital investment findings, the paper will be even stronger.

6. Suggestions for Improvement

1. Strengthen the discussion of why capital investment showed insignificant results, with examples of policy or institutional inefficiencies in Sierra Leone.
2. Condense repetitive sections (especially methodology) to improve readability.
3. Revise the abstract to emphasize findings, contributions, and implications more succinctly.
4. Expand the comparative dimension in the discussion—link results more explicitly to similar contexts in sub-Saharan Africa.