

REVIEWER'S REPORT

Manuscript No.: IJAR-53491

Date: 23-08-2025

Title: Analyse de la variabilité des sols des fermes agroécologiques dans les quatre régions naturelles de la République de Guinée

Recommendation:

Accept as it isYES.....

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: Tahir Ahmad

Reviewer's Comment for Publication.

Résumé (French Abstract)

The abstract offers a **clear and coherent summary** of the study.

- **Context:** The importance of agriculture in Guinea and its challenges is well articulated.
- **Objective:** The aim to analyze soil variability is stated directly and concisely.
- **Methodology:** A representative sampling approach involving 135 soil samples across different farm categories is appropriately mentioned. Use of **ACP (PCA)** and **CHA (HAC)** adds depth and analytical rigor.
- **Findings:** The dichotomy between control farms and agroecological (mother and sister) farms is clearly presented, showing concrete agrochemical differences such as pH, density, phosphorus availability, and cation exchange capacity.
- **Interpretation:** Results are linked to agricultural practices, and the concluding sentence aligns the study with broader global frameworks such as the SDGs.
- **Language:** The writing is clear, academic, and concise.

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Overall, the abstract demonstrates **high scientific value**, with a strong alignment between methods, results, and broader implications.

Abstract (English)

The English abstract is a faithful translation of the French version.

- Terminology is technically accurate, with correct use of “cation exchange capacity,” “Principal Component Analysis,” and “fertility.”
- The structure and clarity of the narrative mirror the French version well.
- It maintains a strong research tone and is easily comprehensible to an international audience.

The translation supports academic communication effectively and broadens the accessibility of the research.

Introduction

The introduction provides a well-structured background.

- It opens with a discussion of the **shift toward agro-industrial models** in developed nations and their **negative impacts on biodiversity and ecosystems**.
- Sources are up-to-date and relevant (e.g., FAO, Willemen, Poschlod), establishing credibility and scholarly grounding.
- The rise of **agroecology** as an alternative paradigm is introduced as a direct response to these environmental concerns.
- While the focus is initially global, it sets a conceptual framework for the more **localized study** that follows.

The paragraph demonstrates **thematic clarity** and effectively sets the stage for a study on **soil quality within agroecological systems** in Guinea.

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General Observations

- **Methodological Coherence:** The use of PCA and HAC is methodologically sound for analyzing complex, multivariate data sets such as soil properties.
- **Scientific Relevance:** The study addresses a critical issue in West African agriculture—**soil degradation and variability**—and frames it within agroecological responses, which are increasingly promoted by international institutions.
- **Policy Relevance:** By linking outcomes to the **SDGs**, the study elevates its practical and strategic significance for both national and international stakeholders.
- **Terminological Precision:** Use of terms like “fermes mères,” “CEC,” and “densité apparente” is accurate and domain-appropriate.
- **Multilingual Value:** The bilingual presentation of the abstract enhances scholarly reach and contributes to broader dissemination.

Conclusion of the Review

This paper presents a **scientifically solid, methodologically sound, and contextually relevant** investigation into the variability of soil characteristics in Guinea's agroecological farms. It demonstrates a clear understanding of agroecological principles, data analysis, and environmental sustainability. The integration of quantitative soil metrics with broader agroecological practices gives the study both depth and policy relevance.