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REVIEWER'S REPORT

Manuscript No.: IJAR- 57467

Title: PHYSICOCHEMICAL AND MINERALOGICAL PROPERTIES OF CLAYS FROM FOUR SITES IN SENEGAL FOR THEIR USE IN THE PRODUCTION OF COMPRESSED EARTH BRICKS

Recommendation:
Accept

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

Reviewer Name: Dr. Ashish Yadav

Detailed Reviewer's Report

Reviewer's Comment for Publication.
Acceptance Comment are mentioned below suitable for the paper titled "PHYSICOCHEMICAL AND MINERALOGICAL PROPERTIES OF CLAYS FROM FOUR SITES IN SENEGAL FOR THEIR USE IN THE PRODUCTION OF COMPRESSED EARTH BRICKS"

Reviewer Comments: Accept

Reviewer Comments –

1. Introduction

The introduction clearly establishes the relevance of sustainable construction materials, particularly compressed earth bricks (CEBs), in modern infrastructure. It effectively highlights the importance of utilizing locally available clay resources in Senegal. The research problem is well defined, focusing on the need for physicochemical and mineralogical characterization. The context of environmental sustainability and cost-effective construction is appropriately addressed. The objectives of the study are clearly stated and aligned with practical applications. Overall, the introduction is coherent and provides a strong foundation for the study.

2. Literature Review

The manuscript reflects a good understanding of existing studies on clay characterization and stabilization techniques. It adequately discusses prior work related to geotechnical properties, mineral composition, and stabilization using lime and cement. The references support the study's objectives and provide a solid theoretical background. However, the inclusion of more recent studies could enhance its relevance. The linkage between previous research and the Senegalese context is reasonably established. Overall, the literature review is satisfactory with minor scope for enrichment.

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3. Solution Approach / Methodology

The methodology is comprehensive and well-structured, combining geotechnical, chemical, and mineralogical analyses. Techniques such as X-ray fluorescence (XRF), X-ray diffraction (XRD), thermogravimetric analysis (TGA), and infrared spectroscopy are appropriately employed. The selection of four distinct clay sites strengthens the comparative analysis. The procedures are clearly described, ensuring reproducibility. The approach effectively integrates multiple characterization techniques for robust findings. Overall, the methodology is scientifically sound and appropriate for the research objectives.

4. Results and Discussion

The results are clearly presented and logically interpreted in relation to the study objectives. The variation in grain-size distribution and plasticity indices is well analyzed. The identification of dominant oxides and minerals provides meaningful insights into material behavior. The discussion effectively links these properties with suitable stabilization techniques. Practical implications for compressed earth brick production are well highlighted. However, slight elaboration on performance comparison could further strengthen the discussion.

5. Conclusion

The conclusion effectively summarizes the key findings of the study in a concise manner. It clearly differentiates between high-plasticity and low-plasticity clays and their respective stabilization methods. The recommendations for lime and cement stabilization are practical and relevant. The study's contribution to sustainable construction practices is evident. The conclusions are well supported by the results presented. Overall, this section is clear, precise, and impactful.