

Review of: "Enhancing Soil Stabilization in Soft Soils Through The Addition of Sand to Soil-Cement Piles: a Comprehensive Study"

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Potential competing interests: No potential competing interests to declare.

1. -The topic of enhancing soil stabilization in soft soils is particularly relevant in geotechnical engineering. The incorporation of sand and CSSB additive seems to be a novel approach that may offer new insights into soil stabilization techniques.
2. The study's methodology section appears thorough, with systematic experimental testing including natural moisture content, natural density, specific gravity, and particle composition. These are crucial parameters that contribute to the understanding of the mechanical behavior of the soil-cement mix.
3. A layered compaction method and variations in cement content and sand ratios are rigorous and well-thought-out. The inclusion of tests under natural environmental conditions could provide practical insights.
4. Results presented in tables exhibit an increase in uniaxial compressive strength with the addition of sand and CSSB additive. It's crucial, however, to ensure that the results are statistically analyzed and that conclusions drawn from them are supported by the data.
5. It would be necessary for the manuscript to have a detailed discussion linking the experimental results to the underlying soil mechanics principles. The impact of sand in filling voids and the cementation effect from the additives should be theoretically explained.
6. The study emphasizes eco-friendly aspects of soil stabilization. The manuscript should discuss the environmental implications of using the CSSB additive and compare them to traditional stabilization methods.
7. The findings need to be contextualized within real-world applications, especially in the regions where the soil samples were taken from. The economic feasibility of using sand and CSSB additives on a larger scale should also be addressed.