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(57) Abstract :

The invention introduces an innovative way of approach to strengthen the poor soil with a composite of tamarind powder and lime powder, thereby enhancing the engineering properties for durable pavement construction in an economical way. By optimum dosages of tamarind seeds powder and lime powder within the black cotton soil sample, the invention achieves significant improvements in bearing capacity of soil contributing towards durable, sustainable and economically viable additive materials. Through rigorous testing, it was demonstrated that soil stabilised with tamarind seeds powder and lime powder achieved a significant increase in bearing capacity of poor soil. Furthermore, the specific gravity of soil sample showed significant increase after incorporating the additives. In a nutshell, these empirical enhancements establish this invention's potential to stabilise the poor soil with a focus on sustainability, durability and bearing capacity performance. This structured format aligns with the requirements for a patent document, presenting a clear and concise description of the invention, its background, objectives, and detailed methodologies, culminating in specific claims about the novelty and applicability of the enhanced soil stabilization method.

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