

Influence of Rice Husk Ash on Sub-Grade Bearing Strength in Stabilization of Expansive Soils for Low Volume Roads in Kenya

Abstract.

The cost of cement and lime used in stabilizing soils can be reduced by using locally available rice husk ash which is known to contain pozzolanic properties. This paper studies the variations in sub-grade bearing strength of clay when rice husk ash (RHA), lime and cement are added in varying proportions. Chemical analysis was first carried out to establish the silica content in the RHA. CBR test was conducted to establish the strength properties of the various soil mixes. RHA was used as the main stabilizing agent added at varying proportions of 0%, 5%, 10%, 15% and 20%. Lime and cement proportions were constant in each batch but varied across the six batches as 0%, 2% lime, 4% lime, 6% lime, 1.5% cement and 2% cement. The test results show that RHA in combination with lime can be used as an economic and eco friendly stabilizing agent giving a significant improvement in the sub-grade bearing strength of cotton soil.

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