

# **Evaluating Suitability of Soil Stabilization Methods for Local Road Construction Industry**

Herath H.M.S.M., Mampearachchi W.K.

Soil stabilization is defined as any treatment applied to improve its strength and reduce its vulnerability to water. With the rapid development of local infrastructure industry, there is a scarcity of good quality soils which causes to delay of projects, increase of cost as well as decrease the quality of the final product. Therefore it is essential to find out reason for non popularity of soil stabilization and develop some guidelines to effectively used in road construction sites. *A survey was conducted among professional in road industry* Survey result revealed that only 35% of the participants had a fair knowledge and experience on soil stabilization but 72% and 56 % of participants were skeptical on quality control and the cost respectively.

Engineering properties of soil Sample collected from different places were determined and same soil has being used to determine the properties after stabilizing according to the available guideline, with locally available stabilizers ( Cement and Lime).Laboratory test results indicates that both stabilizer improve soil properties in considerable amount and Degree of Pulverization (DOP), mixing time are important parameters in soil stabilizing .Further, field tests are conducted to measure the applicability of stabilization technology using locally available materials and machineries

According to the laboratory test results shows 80% degree of pulverization (DOP) is required to gain a higher compressive strength of cement and lime stabilized soil. The effect of delayed compaction showed a strength reduction of 22% for cement and 12% for lime at the OMC. Lime and cement stabilizers increase OMC and therefore compaction should be carried at higher moisture content. .Breaking action is more effective rather than rolling action in soil - stabilizing. So, rotaries may be more effective than motor grader or backhoe (which are presently use)

Key Words: soil stabilization , OMC, DOP,