Abstract:
Expansive soils swell when they come in contact with water and shrink upon drying. Use of admixtures to prevent volume changes is the most common and economical solution to deal with this problem. The purpose of this paper is to check the suitability of lime, silica fume (SF) and a mixture of SF and lime (SFLM) for improving engineering characteristics of expansive soils. SFLM was prepared using five percent SF and ten percent lime. Four replacement levels of lime, SF and SFLM were considered which include five percent, ten percent, fifteen percent and twenty percent. The aging effects on specimens were studied at 7 days, 14 days and 28 days. The unconfined compressive strength of soil increased by thirty two percent by adding fifteen percent SFLM whereas reduction in swell and swell pressure reached ninety eight percent and eighty seven percent, respectively. Physical properties (such as consistency limits and resistance to swell potential) improved by adding twelve percent to fifteen percent lime or four percent to seven percent SF.

For full paper, contact:
Prof Muhammad Masood Rafi
Editor-in-Chief, NED University Journal of Research
Ph: +92 (21) 99261261-8 Ext: 2413; Fax: +92 (21) 99261255
Email: NED-Journal@neduet.edu.pk
Website: http://www.neduet.edu.pk/NED-Journal

1 Geotechnical Engineer, Geo-services Engineering Consultants, Rawalpindi, Pakistan, Ph. +92(0)345-7879309, Email: arslansami233@gmail.com.
2 Assistant Professor, University of Engineering and Technology, Lahore, Pakistan, Ph. +92(0)333-34379618, Email: imti90@yahoo.com.
3 Geotechnical Engineer, Geo-services Engineering Consultants, Rawalpindi, Pakistan, Ph. +92(0)333-15453899, Email: bilal.uet182@gmail.com.