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Soil Loss Assessment at Steep Slope: A Case Study at the Guthrie Corridor Expressway, Selangor, Malaysia

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Abstract : The study was in order to assess soil erosion at plot scale Universal Soil Loss Equation (USLE) erosion model and Geographic Information System (GIS) technique have been used for the study 8 plots in Guthrie Corridor Expressway, Selangor, Malaysia. The USLE model estimates an average soil loss soil integrating several factors such as rainfall erosivity factor(R), Soil erodibility factor (K), slope length and steepness factor (LS), vegetation cover factor as well as conservation practice factor (C &P) and Results shows that the four plots have very low rates of soil loss, i.e. NLDNM, NDNM, PLDM, and NDM having an average soil loss of 0.059, 0.106, 0.386 and 0.372 ton/ha/ year, respectively. The NBNM, PLDNM and NLDM plots had a relatively higher rate of soil loss, with an average of 0.678, 0.757 and 0.493ton/ha/year. Whereas, the NBM is one of the highest rate of soil loss from 0.842 ton/ha/year to maximum 16.466 ton/ha/year. The NBM plot was located at bare the land; hence the magnitude of C factor(C=0.15) was the highest one.

Keywords : USLE model, GIS, Guthrie Corridor Expressway (GCE), Malaysia
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