



Slope stability study of the 2001 Taipei National University of the Arts landslide

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Situated within a subtropical and mountainous region where frequent typhoons hit, rainfall-induced landslides have been a critical issue in Taiwan. On September 29, 2001, due to the torrential rainfall brought by the Typhoon Nari and Lekima, a downslope in Taipei National University of the Arts failed. The sliding source hit and severely damaged the Tao-Yuan junior high school. Before the 2001 Taipei National University of the Arts landslide, several landslides had already occurred in this landslide-prone region. In this study, a two-dimensional (2D) slope stability analysis, based on the limit equilibrium analysis (LEA), is conducted to analyze the 2001 Taipei National University of the Arts landslide. LEA has been the most popular and widely used technique given that it can estimate the factor of safety of a slope with some preliminary site investigation information. By comparing the failure surface and factor of safety (FOS) suggested in the post-disaster report [1], reasonable soil parameters, which are in an agreement with the experimental results [1], can be obtained through the study. The obtained soil parameters can later be applied to coupled transient unsaturated seepage-stress finite element analysis (FEA) [2] that will help practical engineers to understand the onset of failure in the future study.

REFERENCE

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