



Characteristics of Erosion Development and Dynamics of Gravelly Debris Flow in the Houyenshan based on Numerical Simulation

Yen-Hsin Chung (1) and Chia-Ming Lo (2)

(1) Department of Civil and Disaster Prevention Engineering, National United University, Miaoli, Taiwan (st821178@gmail.com), (2) Department of Civil and Disaster Prevention Engineering, National United University, Miaoli, Taiwan (cmlo@nuu.edu.tw)

This study focused on the erosion development and dynamics of gravelly debris flow at the Houyenshan watershed through geomorphology interpretation, field investigation, and discrete element method. The study constructed a discrete element method to simulate the process of gravelly debris flow and determine the scope of influence with regard to deposition. And then, the study integration of the interpretation, field investigation, and simulation results to evaluate erosion and landslide hazard in study area. Finally, the results can serve as a reference for disaster prevention, mapping and zoning of the areas susceptible to geological hazards, and associated mitigation project planning.

Key Words: erosion development, gravelly debris flow, geomorphology interpretation, field investigation, discrete element method.