

Mananya Chantasorn 2012: Comparison of Methodologies for Landslide Susceptibility Assessment at Huai Maephun Watershed, Uttaradit Province. Master of Science (Watershed and Environmental Management), Major Field: Watershed and Environmental Management, Department of Conservation. Thesis Advisor: Mr. Piyapong Tongdeenok, Ph.D. 96 pages.

Landslide susceptibility assessment in Huai Maephun watershed, Uttaradit province, was carried out using weighted index factor method and statistical approach analysis. The factors causing landslide are composed of slope, type of rock, elevation, landuse, soil texture and rainfall amount. Most factor were classified individually on the basis of the degree of susceptibility and importance values by Analytical Hierarchy (AHP) technique. The logistic regression analysis was applied to the weighted index factors. Most factors were paired with the occurrence of landslide to find the relationships and to formulate the statistical model for prediction of landslide susceptibility area.

The result shows that, by using weighted index factor method, the weighted index varied on the importance values of landslide potentials. The degree of landslide susceptibility of study area were scaled down as follows: very high (34.48%), high (46.74%), moderate (10.32%), low (4.87%) and very low (3.22%). Meanwhile the statistical approach analysis shows that the most significant factor is soil texture, then type of rock, rainfall amount, landuse, slope and elevation respectively. The degree of landslide susceptibility were also scaled down as follows: very high (3.10%), high (45.39%), moderate (12.37%), low (21.71%) and very low (17.42%). By comparison of the predictions with the actual landslide occurred in the past, it was founded that the weighted index factor method results high accuracy with 0.33 of Kappa statistic (KHAT) and 68.89 % of overall accuracy. While the statistical approach analysis results 0.65 of Kappa statistic and 82.10 % of overall accuracy. This can be concluded that the statistical approach analysis is suitable method for landslide susceptibility assessment in Huai Maephun watershed, Uttaradit province.

---

Student's signature

---

Thesis Advisor's signature