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## Landslide Susceptibility Analysis and Verification on Damrei Romel of Cambodia using Frequency Ratio and Logistic Regression Models

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For landslide susceptibility mapping, this study applied, verified and compared a probability model, a frequency ratio and statistical model, a logistic regression to Damrei Romel of Cambodia, using a Geographic Information System (GIS). Landslide locations were identified in the study area from interpretation of aerial photographs and field surveys; and a spatial database was constructed from topographic maps, geology and land cover. The factors that influence landslide occurrence, such as slope, aspect, curvature and distance from drainage were calculated from the topographic database. Lithology and distance from fault were extracted and calculated from the geology database. Land cover was classified from Landsat TM satellite imagery. The relationship between the factors and the landslides were calculated using frequency ratio and logistic regression models. The relationships, frequency ratio and logistic regression coefficient, were overlaid to determine each factor's rating for landslide susceptibility mapping. Then the landslide susceptibility map was compared with known landslide locations and verified. The logistic regression model had higher prediction accuracy (94.28%) than the frequency ratio model (91.35%). The method can be used to reduce hazards associated with landslides and to land cover planning.