technique. In order to evaluate the landslide susceptibility, landslides data which occurred or enlarged from 2002 to 2004 was used. Accuracy of landslide susceptibility detected by Decision tree technique is as large as 82.4%. This estimation is accurate enough in comparison with previous studies. Namely, Decision tree technique can analyze the landslide susceptibility with high accuracy. Landslide susceptibility was evaluated using data with occurred or enlarged from 2002 to 2004. It was clarified that from 2002 to 2004, landslides tend to occur or enlarge in the catchments which have high landslide susceptibility. Consequently, landslide susceptibility in this study demonstrates the occurrence or enlargement of landslides in the Akaishi Mountains. Tree-structures indicate that landslides occurred or enlarged frequently in the catchments which have larger than 29° and 33° in average and mode of slope angle, respectively. This result well agrees with previous studies, and, tree-structures of Decision tree indicate important explanatory variables at the higher order in the tree-structure. In conclusion, this study indicates the quantitative relationship between occurrence of landslides, topography and lithology.

Key words: DEM, landslide susceptibility, decision tree technique

Soil distribution and soil catenary feature in South Korea
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Present study considers the soil catenary distribution inferred from eluviation and illuviation of geochemically active heavy metals within Ferrasols, Fluvisos, Cambisos, Acrisols and Arenosols along the pedo-geomorphologic units in Korea. Soil catenary distribution indicates the peculiar features due to climatic conditions of high annual precipitation, mountainous landscapes, soil properties and parent material characteristics. A catenary sequence from summit slope to footslope has been typically determined by the comparatively higher heavy metals in the soils than clark values on regional and global levels, i.e., highly vulnerable soils on the summit or shoulder slopes to erosion by overland flow have resulted in associated intensive redistribution of soil particles on the footslopes and toeslopes. The most intensive eluviation occurred in Arensol due to its highly saturated hydraulic conductivity of coarse fractions, whereas the most active illuviation was markedly found in Ferrasol, Luvisol and Acrisol. Along the hillslopes, intensive catenary distributions were indicated from Vertisol to Luvisol and from Lithosol to Acrisol, where a significant increase in heavy metals from surface to subsurface horizons was determined along the catena. In particular, deposition of soil fractions showed that the detachment of soil particles or poor resistance to erosion for the Lithosol is resulted in the movement of the heavy metals within surface and subsurface horizons from Lithosol to Acrisol. The slight resistances to erosion have strongly affected the catenary development along the vertical and lateral distributions of the heavy metals within soil fractions in Lithosol, Fluvisol and Arenosol.

Key words: soil distribution, soil catena, Korea