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Geomorphological and geological features of landslide topography in Shikoku island

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The slope where the landslide occurred move easier than the surrounding slope, because the slip surface was formed under the slope. The slope where the landslide occurred is called the landslide topography. We think that by analyzing the landslide topography we can assess the landslide hazard. National Research Institute for Earth Science and Disaster Prevention (NIED) published the landslide map in Kyushu Island, Sikoku Island and the main island in Japan. The objective of this research is to clarify geological and geomorphological features of landslide topography in Sikoku Island by analyzing the landslide map of NIED.

The Shikoku Island is composed of the plane area of 11 % and the mountain area of 89 %. The landslide topography is distributed only in the mountain area. The geological setting of the mountain area can be classified into five kinds. The geological setting is composed of the accretionary complex of 54 %, the metamorphic rock of 24 %, sedimentary rock of 13 %, the plutonic rock of 6 % and the volcanic rock of 2 %. We calculated the total landslide area ratio (landslide area divided by total area) in each geological setting, the accretionary complex is 3.6 %, the metamorphic rock is 13.4 %, sedimentary rock is 6.2 %, the plutonic rock is 0.7 % and the volcanic rock is 3.7 %.

The difference of total landslide ratio indicates that the assessment of landslide is greatly different in each geologic setting. The cause of the difference is discussed by analyzing the geological and geomorphological features in each geological setting, and the role of the landslide in slope development is clarified in this research.

Keywords: Landslide topography, Sikoku island, Landslide, Landslide map