

## Origin of hummock swarm developed in Kamenoharaike landslide of Oki Dogo, Shimane Prefecture

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In the Tsuma district, Okinoshima-town located in the southwestern part of Oki Dogo, several landslides, occurred in Omosu Formation mainly of trachyte and rhyolite lava interbedded rhyolitic tuff, are characterized by swarm of elongated, rounded hillocks around small valleys .

Our investigated Kamenoharaike landslide is one of them and has a triangle shaped moving body which is about 2.5km long to the toe and maximum 2.0 km wide at the main scarp. From the topography of the moving body it estimates that the dip angle of sliding surface is approximately less than 5 degrees.

At Kamenoharaike landslide we found many hillocks consisting of jointed hard lava of trachyte or rhyolite, and some outcrops of soft clayey rhyolitic tuff underlying the lava with high water content. This two-storied house structure suggests existence of cap rock structure of upper hard layer of trachyte or rhyolite lava and lower soft layer of rhyolitic tuff before slope movement.

Interpretation of landslide landform used for topographic map at a scale of 1:25000 and aerial photographs at a scale of 1:10000 has revealed that the moving body of Kamenoharaike landslide is separated from about 30 hummocks many of which are arranged parallel or sub-parallel to the main scarp. The hummocks has a range from 50 to 500m in length and from 20 to 200m in width, and the top of hillock rises from 10 to 80 from the level of valley bottom. The aerial shape shows a lozenge, oval and parallel-tetragon. The existence of hummock swarm and their arrangement pattern coincide with topographic features of spread (one of movement type of landslides) demonstrated by Oyagi(2003).

Mountain area behind the main scarp is developed in deep linear depressions, suggesting existence of open cracks, parallel and sub-parallel to the directions of elongated hummocks in the moving body. From this fact, it is possible that formation of the linear depressions is prior to movement of spread over the area of Kamenoharaike landslide. However as the two linear depressions of east -west and the southwestern-northeast trend divide the main scarp into three segments, the linear depressions have been active after the formation of the main scarp of Kamennonaraike landslide

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