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Sagging geomorphology on ridges along the Fukui-Gifu prefecture boundary, central Japan

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We describe sagging geomorphology such as double ridges and uphill-facing scarps on the ridges along the Fukui-Gifu prefecture boundary, and discuss their relationship with the geologic structures of this area by using contour maps and 'Inyouzu' made from the DEM data with 1 m-mesh density; the data and maps were provided by the Etsumi Sankei Sabo Office, Chubu Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism. In the study area occur chert, melange and basalt of the Mino terrane, Neogene andesitic lava and volcaniclastic rocks of the Ito-o Formation, and Neogene Nogohaku-san granodiorite. Total distance of the ridge analyzed is 49.8 km, where 182 sites of sagging geomorphology with total length of 8.9 km are recognized. The distribution of the sagging geomorphology in the volcanic rocks and granodiorite area is dense, whereas in the chert and melange is sparse. Although most of the double ridges are parallel to the orientation of main ridge, some uphill-facing scarps are oblique or perpendicular to the ridge. Large-sclae uphill-facing scarps were formed in case that the attitude of bedding is parallel to the orientation of the main ridge. Carbonaceous materials and sediments have been accumulated in most of the linear depressions between the double ridges and between the uphill-facing scarp and the slope. Analyses of these sediments in future must reveal the development history of the sagging geomorphology in this area.

Keywords: sagging geomorphology, double ridge, uphill-facing scarp, Fukui, Gifu