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# Relationship between gully erosion and soil-layer hardness on grazing pastures

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At present, large-scale grasslands such as public pastures are about 900 spots in Japan. Most of these are located on sloping lands. Therefore, gully erosion has occurred in some grasslands.

In this study, distributions and cross-sections of gully erosion were surveyed in the public pasture in Tochigi prefecture, Japan. Soil hardness of shallow and deep layer were also investigated using the SH type handy dynamic cone penetrometer etc. along gully channels. The cross-sectional profile of the gully channel was compared with the depth of a hard layer that appeared in the soil layer. The results indicated that the maximum depth of the gully cross-section was governed by the hardness characteristic of the soil layer (Fig.1).

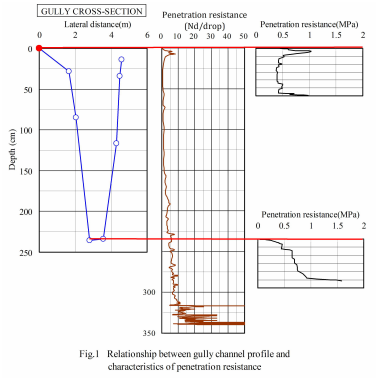


Fig.1 Relationship between gully channel profile and characteristics of penetration resistance

Keywords: Grazing pasture, Soil erosion, Gully erosion, Soil hardness