

PHOTO-GEOMORPHIC CLUE TO DETECTION OF LANDSLIDE-PRONE SLOPES, DRAWN FROM NOTABLE DISASTERS IN POSTWAR JAPAN *

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ABSTRACT

We studied causal conditions for 25 cases selected from disastrous landslides in postwar Japan, using pre- and post-slide airphotos. There are many factors controlling slope instability. But, for any landslide, individual slope conditions up to sliding must be different from those of its surrounding 'stable' slopes and from those of the same site considerable time before. An analysis of these differential conditions peculiar to pre-slide slopes is named 'a space-time comparative analysis of slope instability'. To actualize this analysis, we adopted the following procedure: (1) modelling equation for slope instability index; (2) differentiating manifold significance of 'land form' for slope instability; (3) comparative evaluation of the proximate inducing variables in terms of kind, intensity, and recurrence period; and (4) inspection of multi-date airphotos and cross-check with other information.

A conclusive cross-table, with morphogenetic slope types and recent destabilizing variables, shows placement of the 25 cases together with some other examples and provisional risk grades for each site class.

Key Words: Landslide, Slope instability, Postglacial morphogenesis, Photo-geomorphology, Multi-date airphotos, Space-time comparative analysis.

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* The full paper (booklet) is given together with this 'Supplement'.

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