Large-scale bedrock landslide and the evolution of natural history in Kamikochi Valley, northern Japanese Alps

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The Kamikochi Valley demonstrates a spectacular landscape composed of glacigenic troughs and cirques, periglacial debris-covered slopes, and fluviogenic flood plains as well as alpine-subalpine vegetation continuum so that this scenic spot has been visited by numerous climbers and tourists. Quaternary geology and geomorphology of the Kamikochi have progressed during the last several decades. Although the previous studies have emphasized an importance of Quaternary glaciations and periglaciations, the role of landslide processes has not always been focused despite the Kamikochi is situated under volcano-seismic active environments with high precipitation. Our reappraisal of geomorphology has revealed that large scale bedrock landslides related to deep-seated gravitational slope deformation (DSGSD) are important factors affecting the evolution of landscape (landforms and vegetation) of the Kamikochi.

For example, Bentensawa (6-7 ka) and Myojinike (age unknown) rock avalanches caused a river obstruction forming dammed lake or flood plain. Dakesawa rock avalanche (past 1000 yrs?) produced block field without surficial fine materials such like a block stream. Genbunsawa rock avalanche (4 ka) caused many hummocks 5-10 m high.

Landslide deposits have created unique natural environments different from outside landslide areas, which would have caused unique landscape. In this meeting, we will show chronological tables (^{14}C and TCN), geomorphological maps, oblique airphotos all of which focuses on bedrock landslide phenomena in Kamikochi Valley.

Keywords: Large-scale bedrock landslide, Natural history, Landscape evolution, Last Glacial , Holocene

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