

# **Landslide Study and Mitigation Measures in the Hattia Bala Reservoir, Muzaffarabad, Kashmir, North Pakistan**

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A detailed landslide investigation for landslide potential threat and their mitigation measures have been conducted along Karli Reservoir in Hattia Bala area. In the earthquake of Oct. 8, 2005, seismic activity a large blocked mass collapsed and displaced two major streams of Karli and Salmia basins forming two reservoirs. By using 1:25000 scale topographic map, landslide inventory has been made. The study area has suffered with variety of mass movements and majority of mass movements belong to debris flows, rock falls, circular and gravitational landslides. Besides these movements 3 year old landslide has been reactivated, tensional cracks have been developed in the structurally disturbed areas which are posing high threat for reservoir and inhabitants residing at the toe of slopes.

In this paper potential threat of landslide study based on geomorphological, hydrological geological and geotechnical investigations of the area, a geohazard zonation map of the area has been prepared which will be very helpful for the development of the area.

Remedial counter measures: In the end conclusion remarks have been suggested for reservoir management authorities as well as for public management authorities.

**Key words:** *landslide, potential, mitigation, seismic, geohazard*