

Landslide hazard's impact in Pakistan and need of application of GIS based mapping

By Rehana Bakhsh

andslides are one of the most widespread disasters that cause serious losses to various aspects of life. Landslides includes all types of mass movement down a slope which can consist of soil, rock, debris, organic matter, artificial fill, are downward or outward movements based on the velocity of motion. Himalayan is one

Landslide; especially Balakot Valley is well known for damage of public infrastructure, roads and badly affects the tourism sector. Various impacts of landslides have increased in past decades due to the rapid growth of urbanization in Pakistan. Landslide effects especially in Balakot Valley have damaged many aspects of human life and the natural environment.

The entire Balakot Valley lies in the North of Mansehra District. Mansehra is located at the northeastern border of the Pashtunkhawa province.

The topography of Balakot Valley is dominated by the high mountains, varying in elevation from of 2000 meters in the south to over 4500 meters above the sea level in the north.

Various impacts of landslides have increased in past decades

due to the rapid growth of tourist activities in Northern Pakistan. Landslide effects have damaged many aspects of human life and the natural environment, and many difficulties remain for accurate assessments and evaluations. The lacks of systematic studies have resulted in a number of mishaps and even life losses along Balakot Kaghan road.

Steep slopes, fragile land

The entire Balakot Valley lies in the North of Mansehra District. Mansehra is located at the northeastern border of the Pashtunkhawa province.

cover and strong earthquakes followed by heavy rains act together to create favorable conditions for landslide hazards. An in adequate safety situation in the Balakot Kaghan valley is the biggest challenge towards promoting tourism in this valley. The tourism points,

road infrastructures are directly too exposed to landslide hazard. This hazard exposure has become due random urbanization and unplanned road construction and deforestation.

Landslides have caused major socioeconomic impacts on tourism in by affecting the homes, possessions and communications system of local people which ultimately affect the facilitation for the seasonal tourism. Landslide hazard zone mapping using GIS and RS is the best way to assess the risk of landslide hazard in mountainous areas.

It is highly recommended that ground penetrating radar/GPR and soil testing based research well help to understand in depth of landslide hazard condition. Government of Pakistan should provide better facilities and funds by applying GIS methods to overcome or at least to reduce the problem of land sliding in Pakistan.

The Writer is a Student, of Department of Environmental Science at SBKWU Quetta.