



Roads, landslides and mountain community resilience in Far Western Nepal

Prakash Khadka (1), Wei Liu (1), and Arnulf Schiller (2)

(1) Int. Inst. for Appl. Syst. Anal. (IIASA), Risk and Resilience Program, Laxenburg, Austria (liuw@iiasa.ac.at), (2) Geological Survey of Austria (GBA)

Mountains are hotspots of landscape changes, especially in developing countries, such as Nepal. Landslides is common across almost all Nepal's vast Himalaya mountains, especially the Far Western region where poverty situation is severe and geomorphic processes are dynamics. Here landslide risk is on the rise, driven by a complex combination of factors including climate change, earthquake and unsustainable land uses. Roads, while essential for development of the region, are in the core of the apparent land cover dynamics and major proximate driver of slope destabilization and denudation, especially when they are badly constructed. We investigated the evolution of landslides in Sunkuda village of the Bittadchir Rural Municipality at the Bajhang district of Far Western province, using a combination of data from field surveys, remote sensing, interviews and participatory GIS. We show land cover and use changes over the past thirty years and their spatio-temporal relationship with the development of land erosion and landslides. The construction of the Bajhang district road cutting cross the Sunkuda slope and the lack of deliberate design of drainage system contributed substantially to the form of multiple gullies and landslides and loss of lives, assets and lands over the past twenty years, including the Dhokla landslide that buried one community and drove dozens of households away from the area. We conducted a participatory systems analysis on the complexity of the landscape and geomorphological changes in Sunkuda and record land use changes induced by landslides for mitigating, coping with and adapting to the risks. We also report ongoing effort and challenges in working with municipal governments and local communities to co-generate land use plans to better manage and reduce landslide risks. Our study will shed light for building community disaster resilience in Western Nepal in the midst of fast environmental, socioeconomic, and policy changes and for hillslope communities across the developing world.