

Poster

Jahrestagung ARGE Vergleichende Hochgebirgsforschung und AK Hochgebirge

Urban Earthquake Risk in Peripheral Areas of West-Nepal

Author: Johannes Anhorn, Südasien-Institut, Universität Heidelberg
Thomas Lennartz, Südasien-Institut, Universität Heidelberg
Marcus Nüsser, Südasien-Institut, Universität Heidelberg

Contact: anhorn@sai.uni-heidelberg.de

Earthquakes pose a major threat to people living in settlements across the Nepal-Himalaya. The combination of high rates of seismicity, steep topography, and fragile buildings, renders mountain dwellers in Nepal especially vulnerable. Considerable population growth, unplanned settlement expansion and inadequate utilization of modern building materials, are currently aggravating the situation. This holds true as much for big agglomerations like Kathmandu, as for the hundreds of small but quickly growing settlements, which are spread all over the rural hill areas of the country.

The poster presents the case study of Musikot, the headquarters of Rukum district, Mid-Western Development Region of Nepal. Earthquake hazard is particularly high in Western Nepal, where the absence of major earthquakes in recent history has led to a high rate of stress accumulation. Being the administrative centre and most important bazaar town in the region, the population of Musikot grew by more than 40 % within the last decade to some 13,000 inhabitants. This tremendous growth brought about spatial expansion and compaction of the settled area and changes in building structures. Based on repeat photography, the analysis of satellite imagery and detailed ground mapping, recent changes in settlement structure are evaluated in view of current building codes and official regulations on settlement development in earthquake prone areas in Nepal. The buildings stock itself is assessed in terms of earthquake risk using screening methods customized according to international guidelines and localized fragility functions.