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A Methodology for Vulnerability Assessment of Communities prone to Landslide related Disasters

M. Papathoma-Koehle, B. Neuhaeuser, K. Ratzinger, H. Wenzel
VCE Vienna Consulting Engineers, Vienna, Austria (papathoma-koehle@vce.at)

Vulnerability is a dynamic element that should be assessed taking into consideration several factors. The assessment of the vulnerability of communities prone to landslide related disasters is a topic that until now has not been thoroughly investigated. Very few studies are discussing the topic and limited research has been carried out as far as the relationship between the different types of landslides and their impact on buildings and infrastructure is concerned.

Following a landslide susceptibility assessment study in the Swabian Alb in Germany, the vulnerability of the communities concerned is investigated. We propose a new methodology for landslide vulnerability assessment based on an existing vulnerability assessment method for tsunami related disasters. The methodology takes into consideration the characteristics and use of the buildings, their importance for the local economy and the characteristics of the inhabitants (population density, age). The factors that affect vulnerability are imported in a GIS database which is then used for the visualisation of the physical, human and economic vulnerability. The results may have important implications for disaster management and emergency planning and the database can be used by various users (insurance companies, local authorities, emergency services) according to their needs. Preliminary results from Lichtenstein, Baden Württemberg, Germany are presented.