



Farmers' awareness on landslide susceptibility on their plots: a first step towards household resilience in the Rwenzori region, Western Uganda

Kewan Mertens (1), Lies Jacobs (2), Jan Maes (1,2), Matthieu Kervyn (2), and Liesbet Vranken (1)

(1) Department of Earth and Environmental Sciences, KU Leuven, Leuven, Belgium (Kewan.Mertens@ees.kuleuven.be), (2) Department of Geography, VUB, Brussels, Belgium

In the mountainous area of the Rwenzori region, western Uganda, landslides frequently destroy houses and plots of farmers living and cultivating on unstable slopes. The impact of these landslides on the local livelihoods depends on the exposure and the resilience of the households. Both the exposure and the resilience can be modified to a certain extent with specific measures, e.g. planting slope stabilizing trees or paying for (informal) insurance. The adoption of such measures and the willingness to accept measures imposed by local governments crucially depends on the local awareness of landslide risk.

The aim of this research is to estimate awareness on landslide susceptibility, as a proxy for landslide risk, among household heads in a landslide prone area in the Rwenzori region, Western Uganda. The objective is to compare household and plot characteristics between aware and unaware households. This will allow us to identify those households which are less aware of landslide susceptibility and therefore most likely to be less resilient when exposed to landslide risk.

We use data from a susceptibility map constructed in 2016 and a structured household survey conducted in the Rwenzori region in 2015. The susceptibility map is based on a SRTM 30m DEM and validated with field observations, while the household survey includes the answers of more than 450 households that have been asked to evaluate the landslide susceptibility on their plots. Simple probit models at plot level are used to compare the estimated landslide susceptibility with the modelled susceptibility. We use this comparison to identify the household characteristics of those households that do not correctly estimate the landslide susceptibility on their plots. We will exploit the fact that landslide susceptibility is very space specific and that households can therefore have plots in both susceptible and unsusceptible areas.

The research is currently ongoing, but we hypothesize that younger farmers with a lower education level, lower trust, social capital and networks and with a recent migration history are less able to estimate landslide susceptibility on their plots. Literature on other disasters has demonstrated that human capital, social networks and past experience are crucial factors in determining risk perception. To our knowledge this is the first study to specifically investigate landslide risk awareness in a developing country, integrating both detailed socio-economic and geographical data.

While estimating the awareness of landslide susceptibility is not sufficient to come to an estimation of a household's coping capacity, we consider it to be a first and necessary step towards a full estimation of household resilience.