Geophysical Research Abstracts
Vol. 19, EGU2017-8543, 2017
EGU General Assembly 2017

Social transformation in transdisciplinary natural hazard management

Marie-Sophie Attems, Sven Fuchs, and Thomas Thaler
University of Natural Resources and Life Sciences, Institute of Mountain Risk Engineering, Vienna, Austria

Due to annual increases of natural hazard losses, there is a discussion among authorities and communities in Europe on innovative solutions to increase resilience, and consequently, business-as-usual in risk management practices is often questioned. Therefore, the current situation of risk management requests a societal transformation to response adequately and effectively to the new global dynamics.
An emerging concept is the implementation of multiple-use mitigation systems against hazards such as floods, avalanches and land-slides. However, one key aspect refers to the involvement of knowledge outside academic research. Therefore, transdisciplinary knowledge can be used to discuss vital factors which are needed to upscale the implementation of multiple-use mitigation measures. The method used in this contribution is an explorative scenario analysis applied in Austria and processes the knowledge gained in transdisciplinary workshops. The scenario analysis combines qualitative data and the quantitative relations in order to generate a set of plausible future outcomes. The goal is to establish a small amount of consistent scenarios, which are efficient and thereby representative as well as significantly different from each other. The results of the discussions among relevant stakeholders within the workshops and a subsequent quantitative analysis, showed that vital variables influencing the multiple use of mitigation measures are the (1) current legislation, (2) risk acceptance among authorities and the public, (3) land-use pressure, (4) the demand for innovative solutions, (5) the available technical standards and possibilities and (6) finally the policy entrepreneurship. Four different scenarios were the final result of the analysis.
Concluding the results, in order to make multiple-use alleviations systems possible contemporary settings concerning risk management strategies will have to change in the future. Legislation and thereby current barriers have to be altered in order to create a possibility for innovative solutions. If the state of the art in technical perspectives allows constructions with limited additional risk, multiple-use structures are an option in risk management. The present and future land-use pressure also intensifies the economic interest in finding and accepting such measures.