Geophysical Research Abstracts
Vol. 16, EGU2014-605, 2014
EGU General Assembly 2014

Multihazard risk analysis and disaster planning for emergency services as a basis for efficient provision in the case of natural hazards – case study municipality of Au, Austria

Anika Maltzkait and Clemens Pfurtscheller
Institute for Interdisciplinary Mountain Research, Innsbruck, Austria (clemens.pfurtscheller@oeaw.ac.at)

Multihazard risk analysis and disaster planning for emergency services as a basis for efficient provision in the case of natural hazards – case study municipality of Au, Austria

A. Maltzkait (1) & C. Pfurtscheller (1)

(1) Institute for Interdisciplinary Mountain Research (IGF), Austrian Academy of Sciences, Innsbruck, Austria

The extreme flood events of 2002, 2005 and 2013 in Austria underlined the importance of local emergency services being able to withstand and reduce the adverse impacts of natural hazards. Although for legal reasons municipal emergency and crisis management plans exist in Austria, they mostly do not cover risk analyses of natural hazards - a sound, comparable assessment to identify and evaluate risks. Moreover, total losses and operational emergencies triggered by natural hazards have increased in recent decades. Given sparse public funds, objective budget decisions are needed to ensure the efficient provision of operating resources, like personnel, vehicles and equipment in the case of natural hazards. We present a case study of the municipality of Au, Austria, which was hardly affected during the 2005 floods. Our approach is primarily based on a qualitative risk analysis, combining existing hazard plans, GIS data, field mapping and data on operational efforts of the fire departments. The risk analysis includes a map of phenomena discussed in a workshop with local experts and a list of risks as well as a risk matrix prepared at that workshop. On the basis for the exact requirements for technical and non-technical mitigation measures for each natural hazard risk were analysed in close collaboration with members of the municipal operation control and members of the local emergency services (fire brigade, Red Cross). The measures includes warning, evacuation and, technical interventions with heavy equipment and personnel. These results are used, first, to improve the municipal emergency and crisis management plan by providing a risk map, and a list of risks and, second, to check if the local emergency forces can cope with the different risk scenarios using locally available resources. The emergency response plans will identify possible resource deficiencies in personnel, vehicles and equipment. As qualitative methods and data are used, uncertainties in the study emerged in finding definitions for safety targets, in the construction of the different risk scenarios, in the inherent uncertainty beyond the probability of occurrence and the intensity of natural hazards, also in the case of the expectable losses. Finally, we used available studies and expert interviews to develop objective rules for investment decisions for the fire departments and the Red Cross to present an empirically sound basis for the efficient provision of intervention in the case of natural hazards for the municipality of Au. Again, the regulations for objective provision were developed in close collaboration with the emergency services.