



Susceptibility to mountain hazards in Austria - paradigms of vulnerability revisited

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The concept of vulnerability is pillared by multiple disciplinary theories underpinning either a technical or a social origin of the concept and resulting in a range of paradigms for either a qualitative or quantitative assessment of vulnerability. However, efforts to reduce susceptibility to hazards and to create disaster-resilient communities require intersections among these theories, since human activity cannot be seen independently from the environmental setting.

Acknowledging different roots of disciplinary paradigms, issues determining structural, economic, institutional and social vulnerability are discussed with respect to mountain hazards in Austria. The underlying idea of taking such an integrative viewpoint was the cognition that human action in mountain environments affects the state of vulnerability, and the state of vulnerability in turn shapes the possibilities of human action. It is argued that structural vulnerability as originator results in considerable economic vulnerability, generated by the institutional settings of dealing with natural hazards and shaped by the overall societal framework. Hence, the vulnerability of a specific location and within a considered point of time is triggered by the hazardous event and the related physical susceptibility of structures, such as buildings located on a torrent fan. Depending on the specific institutional settings, economic vulnerability of individuals or of the society results, above all with respect to imperfect loss compensation mechanisms in the areas under investigation. While this potential for harm can be addressed as social vulnerability, the concept of institutional vulnerability has been developed with respect to the overall political settings of governmental risk management. As a result, the concept of vulnerability, as being used in natural sciences, can be extended by integration of possible reasons why such physical susceptibility of structures exists, and by integration of compensation mechanisms and coping strategies being developed within social sciences.

If vulnerability and its counterpart, resilience, is analysed and evaluated by using a comprehensive approach, a better understanding of the vulnerability-influencing parameters could be achieved, taking into account the interdependencies and interactions between the disciplinary foci. Thereby the overall aim of this work is not to develop another integrative approach for vulnerability assessment, different approaches are rather applied by using a vulnerability-of-place criterion, and key issues of vulnerability are reconsidered aiming at a general illustration of the situation in a densely populated mountain region of Europe.