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Ignorance and Vulnerability: Taking the Limits of Knowledge into account in Vulnerability Analysis

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The assessment of vulnerability commonly takes into account the exposure of people, infrastructure and buildings at risk. More elaborated taxonomic approaches also consider political-economical variables such as income, age, gender, ethnicity etc. and how they influence both the exposure of people to risk and their capacity to respond and cope with the consequences of disasters.

This paper argues that such static approaches are not sufficient to grasp current vulnerabilities. Extensive empirical analyses in Germany conducted within the EC funded project FLOODsite (Task 11) indicate that none of these classical variables are able to entirely explain the vulnerability of persons with regard to their ability to anticipate, cope with and recover from the impact of a natural hazard. This finding is also supported by research done within FLOODsite in Northern Italy, England, and Wales. To explain this finding is surely a challenge, as it qualifies the above mentioned basis of the concept of vulnerability – the assumptions about causal factors stemming from the realm of social inequality. However, the paper will deliver some answers: Most importantly, the concept of vulnerability was developed in geographical contexts, which are defined by a highly unequal distribution of resources, which is not necessarily given in a European context. Furthermore, current environmental and societal dynamics (e.g. global change) result in a greater complexity that surly present a challenge to vulnerability analysis. With regard to these complexities, it is particularly the question of how to deal with increasing uncertainties and the still not yet known consequences of climate change that should be dealt with more rigorously in the analysis of current and prospective vulnerabilities.

Therefore, the second part of the paper proposes a different view on vulnerability analysis that allows capturing the outlined challenges. The paper refers to Hollings' work on surprises and resilience by introducing different "myths" about nature (Holling 1978; Holling 1986). As "myths" Hollings named constructions by which humans try to capture the essence of experience and that give guidance for their actions. The single myths are nature benign, nature ephemeral, nature tolerant and, finally, nature resilient.

By means of an empirical case study, which is based on a household survey (n=327) and qualitative interviews (n=20) conducted at the Mulde River in Germany (FLOODsite, Task 11, PhD thesis) it is shown which "myths" are predominant among both the population at risk and local decision-makers. In a second step, it is reconstructed how the respective myths influence the ignorance among the two groups of actors (population at risk and local decision-makers). It is demonstrated that *because* both decision-makers and the population had a very solid and reliable knowledge about the river (local knowledge) that resembles the myths nature benign and tolerant, they were particularly vulnerable to the flooding. The main reason therefore is that because of these myths actors did not take into account that the 2002 flood might by far exceed previous floods both with regard to their spatial extension and destructive potential. In a third step, it is analysed how this relates to the vulnerability of the entire community. The final part brings together the discussion on resilience and vulnerability by focusing on the notions of ignorance and outlines implication for flood risk management under conditions of increasing uncertainties.

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