**Summary**

Disasters are not natural events, but rather are intersections between natural hazards and societal processes that leave people exposed and vulnerable to these hazards. While our understanding of the physical science of natural hazards has grown rapidly, this has not translated into reduced loss of life and property. These is a pressing need for a better understanding of the social drivers of vulnerability to natural hazards. Social science has made important progress in this area, yet there remain many open questions, particularly where research paradigms have developed independently of one another. The three research contributions that comprise this thesis identify open questions in this field for which the study area of post-tsunami Aceh province, Indonesia, can provide new general insights.

Contribution I examines the question of where to rebuild after a disaster. With coastal populations growing and sea levels rising, reconstruction decisions after coastal disasters are increasingly consequential determinants of future societal vulnerability and thus the sustainability of development. The humanitarian sector tends to favor rebuilding in-place to avoid the social disruptions of mass relocation, yet evidence on what affected people want is mixed. Using the case of post-tsunami Banda Aceh, Indonesia, we investigate whether a policy to rebuild in-place in the disaster-affected area suits an urban population that was previously unaware of the hazard. We show that following the tsunami, a substantial proportion of the population prefers to live farther from the coast. This has caused a new price premium for inland properties and socio-economic sorting of poorer households into coastal areas. These findings show that offering reconstruction aid predominantly within a hazard-exposed area can inadvertently transfer disaster risk to the poor.

Contribution II examines the influence of feelings, deliberative preceptions, and disaster experince on protective behaviour in a crisis. Research in risk psychology has shown that people's feelings and deliberative evaluation interact to influence their decisions and behaviours related to risks, yet these studies have typically investigated mild emotions in non-crisis settings. Research on the evolutionary basis of fear and innate defensive behaviour suggests that deliberative evaluation may be least influential in moments of the greatest threat, but this generally has not been tested with studies of human behaviour in real-world crises. Here we address this gap by examining coastal residents' evacuation behaviour in a strong earthquake in 2012 in Aceh, Indonesia, in areas that were previously devastated by the 2004 tsunami. We show that fear drives evacuation behaviours and intentions while deliberative evaluation does not. Post-traumatic stress symptoms correlate with higher likelihood of immediate evacuation, partly by increasing the level of fear. Relevant to disaster management policy, we also show that despite the fact that the 2012 earthquake was not followed by a tsunami, people are willing to evacuate again if a similar earthquake were to happen in the future.

Also examining behaviour in the 2012 earthquake, Contribution III examines whether people actually trust and use specially designed tsunami vertical evacuation (TVE) buildings, a question that has not previously been researched. Our survey of residents living near TVE buildings (n=202) shows that they clearly prefer horizontal evacuation: in the 2012 earthquake, only 26% evacuated to a TVE building, while 74% evacuated horizontally; if a similar earthquake happened in the future, only 32% intend to evacuate to a TVE building, while 68% intend to evacuate horizontally. To investigate the reasons for this, we extend protection motivation theory to examine people's choices among protective actions under social influence. Those who prefer to evacuate horizontally do not trust the safety of the TVE building and think they can reach a safe inland destination in time, while those who prefer to evacuate to a TVE building think they cannot reach a safe inland destination in time. Encouragement from friends and family influences people's evacuation destinations but official information and training do not. These findings suggest that more attention to the social context is crucial for the effectiveness of TVE buildings. Our extension of protection motivation theory to include choices among protective actions under social influence can be broadly useful in research on self-protective behavior in natural hazards, public health, and other contexts.

In conclusion, this thesis makes contributions both to our fundamental understanding of human behavior and to policy approaches to the practical problems of disaster management and risk reduction. These findings advance our understanding of the social drivers of vulnerability to natural hazards and highlight areas where policies that are out of step with the social context can become ineffective or can have unintended negative consequences.