CapHaz-Net

Social Capacity Building for Natural Hazards
Toward More Resilient Societies

POLICY BRIEF Nº II

On the Shoulders of Giants: A Summary of CapHaz-Net's Initial Findings

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The capHaz-Net Policy Briefs are a major project tool to translate and disseminate the project results to a wider audience. We call our newsletter a ›policy brief‹ because we want to address the natural hazards community at large – that is not only scientists but also the interested public as well as practitioners and decision-makers from different institutions, organisational levels and geographical scales. The policy briefs are available online at http://www.caphaz-net.org

About capHaz-Net

capHaz-Net – Social Capacity Building for Natural Hazards:
Toward More Resilient Societies
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Flood in Steyr,
Austria

1 Introduction to Social Capacity Building

Despite our best attempts, damages attributed to natural hazards in Europe are not decreasing. As a result, CapHaz-Net's objective is to understand the way in which different members of society at different levels respond to, cope with, recover from, and adapt to the negative impacts of natural hazards.

The creation of a culture of disaster resilience is a crucial challenge for current European societies.

At this stage of the project, a broad literature review has been conducted and it was found that we are working within an emerging field of research. It has become clear that while capacity building is a term increasingly used within frameworks and policies, it is yet to evolve in scientific discourses.

To date, most capacity building efforts have largely focused on developing countries and are based on an assumed lack of skills, resources, practices, abilities, knowledge, etc., or a perceived inadequate performance, which can be improved through training, education, discussion, partnership, participation, or experience exchange.

This policy brief is a concise overview of some of the main findings of the literature review which CapHaz-Net carried out so far. Based upon this, social capacity building for natural hazards in Europe appears to be an emerging field of research.

By using the term *social* capacity building we want to emphasise that capacity building is a long-term, iterative, and mutual learning process, based on the cooperation and interaction of a variety of members of society including individuals, organisations, and communities, and is concerned with different forms of capacities (knowledge, motivational, network, economic, institutional, and procedural).

CapHaz-Net focuses on the social dimensions of natural hazards.

Moreover, CapHaz-Net understands social capacity building as a process that is: aided by **risk governance**, better understood by assessing **social vulnerability** and **risk perceptions**, and realised through methods of **risk communication** and **education**.
The following sections aim to provide a very brief overview of why the above mentioned topics are important for social capacity building and what their implications are for the successful building of resilient individuals, organisations and communities. More detailed discussions can be found in the respective reports at: **http://www.caphaz-net.org/outcomes-results.**

2 Risk Governance

Governance encompasses a number of formal and informal social arrangements and procedures, which change over time and constantly redefine the relationships between state institutions and civil society.

Understanding the different levels and scales of governance, as well as defining who governs what, is critical in the development of future management strategies of natural hazards.

Relevance to social capacity building

→ A broad shift is taking place in the way societies are governed. For example, a ›rolling-back‹ of the state, increased privatisation, and the entry of new forms of actors into the political decision-making process are to be considered.

→ Our understanding of threats to safety, health, and well being is changing. The limitations of the existing approaches to risk reduction are becoming apparent as risks are perceived to be more uncertain than previously thought.

Implications for social capacity building

→ There is a great consensus in the scientific literature that natural hazards need to be dealt with by multiple actors at various levels. All members of society have an interest in the management of and adaptation to natural hazards. As such, democratic institutional and regulatory frameworks need to be set up which aim to meet the needs of all members of society. Such an approach requires participation in order to understand the attitudes and relations between different actors.

The Ambivalent Implications of Shifts of Governance

NEW FORMS OF GOVERNANCE	GOVERNANCE OF NATURAL HAZARDS	POTENTIAL POSITIVE IMPLICATIONS	POTENTIAL NEGATIVE IMPLICATIONS
NETWORKS OF MULTIPLE MEMBERS OF SOCIETY BEYOND THE STATE	Government agencies, private sector utilities, businesses, community groups, householders.	Different voices are heard; different skills, knowledge, and capabilities are drawn on; better communication, and coordination.	Unclear accountability; illusion of involvement; tokenistic inclusion; slow decisions, and compromise solutions.
MULTI-LEVEL GOVERNANCE NETWORKS	International agreements; cooperation between nations; regional and local networks.	Greater flexibility, sharing of skills and resources; more cooperative solutions between levels.	Unclear distribution of responsibilities; conflicts between scales.
DIVERSE FORMS OF CONTROL	Communication and persuasion; use of market mechanisms; regulation of private companies.	More effective and efficient ways of achieving policy objectives.	Reliance on market mechanisms disadvantages those with fewer resources; fragmentation, and ineffective regulation.
DISTRIBUTED RESPONSIBILITY	Sharing of responsibilities with private sector, NGOs, and individuals.	Empowerment; more effective action; local decision making; more resources.	Unclear responsibilities; fragmentation of policy making and policy implementation; under resourced and marginalised groups may become more vulnerable.

The table identifies some of the key features of this ›new‹ form of governance, highlighting the possible positive and negative ways in which these may materialise in the governance of natural hazards.

If you want to know more about risk governance and natural hazards, please go to **http://caphaz-net.org/outcomes-results.**

Avalanche protection in Switzerland

Gaining an understanding of what resources and abilities members of society have available to them, how they are able to employ them, and how they perceive their own vulnerability can help shape effective social capacity building efforts.

3 Social Vulnerability

Social vulnerability studies aim to identify and understand why certain groups of people may be more exposed, more sensitive, and / or have less capacity to adapt to and cope with the impacts of natural disasters than other groups.

An understanding of the causes and effects of social vulnerability is a prerequisite for the development of any kind of adaptation or management strategy.

Relevance to social capacity building

→ It is not the height of a flood or the intensity of an earthquake but the *social context* in which these events occur that we need to understand in order to be able to appreciate the true consequences of hazard events.

→ Improving risk reduction and disaster preparedness for natural hazards requires the identification and assessment of various vulnerabilities of individuals, societies, economies, institutional structures, and environmental resource bases.

Implications for social capacity building

→ Social capacity building efforts should target both (external and internal) sides of social vulnerability: the external side by working towards an overarching form of risk governance; and the internal side by focusing on educating, improving the level of perceived risk, building motivation, and a sense of individual responsibility as well as responsibility within communities to manage and mitigate their own risk.

→ The question of »Who defines what on which ground?« is key to any vulnerability assessment. People's vulnerability needs to be seen in light of their capacities to influence and define their own fortunes. Appropriate bottom-up and top-down approaches also need to be contextualised and explored.

If you want to know more about social vulnerability and natural hazards, please go to **http://caphaz-net.org/outcomes-results.**

People considered ›lacking‹ capacity should be directly involved in defining and dealing with their own vulnerabilities and thus building their own capacities.

4 Risk Perception

Risk perception studies aim to understand how knowledge, experiences, values, and feelings influence people's judgements regarding the seriousness and acceptability of natural hazards and the associated risks.

Knowing about actors' perceptions of risks and vulnerabilities is a prerequisite to develop locally embedded and applicable coping measures and strategies of adaptation.

Relevance to social capacity building

→ In order to better build capacities it is important to understand that how people decide and act is influenced by the way they perceive risk: whether they consider themselves as being exposed to risks of natural hazards, or whether they see themselves in the position to cope with and adapt to hazards and disasters.

→ Perceptions may also differ depending on the type of risk, the risk context, the personality of the individual, and the social context.

Implications for social capacity building

→ A literature review revealed that one of the most important factors of risk perception is personal experience. It was found that risk perception and risk awareness reach high levels directly after a hazard event, but soon fade away over time. It is essential to help people recall the experience of the disaster in order to motivate protective actions against future hazards.

→ The literature also revealed that risk perception seems to be influenced by the perceived trustworthiness of authorities, confidence in protective measures, and confidence in the information provided. Therefore, an information campaign will only be successful if it is accompanied by trustful relationships between residents and the information providing authority.

If you want to know more about risk perception and natural hazards, please go to **http://caphaz-net.org/outcomes-results.**

Personal experience and trust are significant factors for risk perception of natural hazards.

Wildfires

Understanding how individuals perceive risk can help to improve risk communication and risk education.

5 Risk Communication

Risk communication can be broadly defined as exchange of risk-related information between decision-makers, experts, stakeholders, and the affected public. However, in reality, risk communication is more complex, as it occurs between different spatial scales, between a multiplicity of societal actors, for varying purposes and through various tools and channels – making communication research and evaluations particularly challenging.

Little is known about the effects of risk communication with regard to natural hazards. There is some evidence that one-way methods raise awareness, while two-way, dialogue based communication methods are much more effective at gaining trust and mutual understandings.

Relevance to social capacity building

→ Little empirical knowledge is available on the effects of risk communication in terms of social capacity building. What is more, there is hardly any active reflection on what capacities are actually needed and to what extent. The bulk of relevant literature refers to technological or health risks.

→ Empirical findings on the effects of one-way risk communication (for example, flyers or information campaigns) suggest that while such communication efforts often are successful in raising risk awareness and in increasing risk-related knowledge, their effects on people's actual risk preparedness and emergency behaviour are very limited.

→ Two-way, dialogue based risk communication, however, appears to enhance trust in authorities and the mutual understanding between experts and local stakeholders which provide a valuable basis for more effective one-way risk communication. Thus, combining one-way and two-way risk communication seems to be the most promising strategy.

Implications for social capacity building

→ Risk communication is largely understood and enacted as the transfer of information about hazard probabilities, the likely consequences, and what one should do about it. It seems that there is hardly any discussion of the benefits, dangers, the costs of mitigation measures, residual and emerging risks, the thresholds of acceptable risks, and of achievable or desirable safety levels. Communication practices in the natural hazards discourse centre around the communication of events and the ›objective‹ risk of them happening rather than the wider social, economic, and cultural risks relevant to communities at risk.

→ There are only a few ›best practices‹ that comprehensively apply lessons and guidelines from the risk communication literature (e. g., that communication should be based on the needs of the audience). Therefore, we can conclude that there is a considerable gap between the theory and the practice of risk communication for natural hazards in Europe.

If you want to know more about risk communication and natural hazards, please go to **http://caphaz-net.org/outcomes-results.**

Risk warnings
near Arnside, UK

Compared with other risk-related fields, risk communication in the context of natural hazards, and in particular its relevance for social behaviour, is still under-researched.

The same holds true for risk education.

6 Risk Education

Risk education, as defined by CapHaz-Net, refers to the transfer of generalised (thematic, organisational, technical) knowledge of and skills to better cope with natural hazards. This transmission occurs from professionals in teaching institutions (schools, providers of courses) to students.
Risk education has a much higher degree of formalisation than risk communication as it is codified in the frame of national curricula and textbooks for pupils of different ages.

Risk education must foster equality and ›ownership‹ in order to reduce vulnerability and successfully build social capacities.

Relevance to social capacity building

→ Public understanding of natural hazards enhances the population's willingness to undertake risk reduction and emergency response plans, and is therefore an important part of social capacity building.

→ The notion of knowledge transfer is not restricted to a one-way relationship from teachers to pupils. Rather, children are also regarded as transmitters of risk-related knowledge to their parents and other people in their social network and hence, important contributors to social capacity building.

Implications for social capacity building

→ On average, the social dimensions of natural hazards and complex approaches are rare in risk education; support from research is needed for changes in this regard. Future studies should further investigate if and how risk education influences risk perception, risk vulnerability and behavioural changes in society. Currently there is a great lack of research about (school-based) risk education in Europe, particularly in regards to the efficacy of such efforts.

If you want to know more about risk education and natural hazards, please go to **http://caphaz-net.org/outcomes-results.**

A few examples of the geography textbooks analysed by CapHaz-Net

7 Importance of Findings

An understanding of each of the aforementioned topics and how they currently address social capacity building is an important step forward towards constructing a useful pathway towards more resilient societies.

As we see, social capacity building is a somewhat new concept in this context. The implications that have been put forward here create new research possibilities and a direction towards the conception of social capacity building. What comes out of this research so far is the need to involve all relevant actors in a democratic form of risk governance that allows those who are seen as ›lacking‹ capacities to help define their own vulnerability. This therefore, leads to trustful relationships and encourages successful communication and education which supports the enhancement of resilience.
However, one also has to bear in mind the new challenges presented by risk governance, for example, the need to clarify responsibilities between all actors involved and, possibly, a reallocation of resources.

Mulde River flood,
Germany 2002

We encourage more research on social capacity building for natural hazards across Europe which is in large parts only poorly investigated.

8 Next Steps

If you are interested in certain topics or if you want to get involved – just send us an email: caphaz-net@ufz.de and / or visit our website at **http://www.caphaz-net.org.**

There are many different ways of how you can contribute to CapHaz-Net.

→ You can send us insights of your work you consider as relevant for social capacity building or provide us with good (or poor) practices in the field of natural hazards.

→ You can register on our website in order to receive the latest information of CapHaz-Net including policy briefs and other documents.

→ You can send us direct feedback, critical remarks and questions concerning these documents via e-mail at: **caphaz-net@ufz.de**

Upcoming Events

Regional Hazard Workshops

→ Regional Hazard Workshop II
4–5 April 2011 in Gorizia (Italy)
Topic ALPINE HAZARDS
Group and plenary discussions stimulated by inputs from regional stakeholders and selected scientists, both from outside and within the CapHaz-Net consortium, leading to a SWOT analysis of selected Alpine case studies.

→ Regional Hazard Workshop III
10–11 May 2011 in Leipzig (Germany)
Topic EXPERIENCE IN IMPLEMENTING THE EU FLOODS DIRECTIVE WITH A FOCUS ON PARTICIPATION ISSUES
Regional and national stakeholders from Central European countries (DE, CZ, PL, and AT), including water authorities, will discuss and share their experiences with the implementation of the European Floods Directive with invited scientists and the CapHaz-Net consortium.

Project meetings
→ Final CapHaz-Net Project Meeting:
15–16 December 2011 in Birmensdorf (Switzerland).
Synthesis by the consortium of the main findings from the different work packages of CapHaz-Net with stimulating inputs of the advisory board and selected invited experts.

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