Public Empowerment Policies for Crisis Management

A literature review on community approaches that involve the public in crisis management:

Fostering community resilience through coproduction by response organisations and citizens

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Public Empowerment Policies

The project Public Empowerment Policies for Crisis Management (PEP, 2012–2014) identifies best practices in a community approach to crisis resilience, and gives directions for future research and implementation, including the use of social media and mobile services, to further community resilience as a co-production of response organizations and citizens.

The project Public Empowerment Policies for Crisis Management (PEP) is a cooperation of several teams of researchers from January 2012 to December 2014. This EU-funded project is coordinated by the University of Jyväskylä and based on extensive ground work by research teams from:

- The Mid Sweden University, Sweden
- Global Risk Forum, Switzerland
- Inconnect, the Netherlands
- The Emergency Services College, Finland
- The University of Jyväskylä, Finland
(consortium coordinator prof.dr. Marita Vos).

Public Empowerment Policies enhance crisis management as a coproduction of response organizations and citizens. The project will identify best practices in the community approach to crisis resilience and give directions for future research and implementation, including the use of social media and mobile services, to further citizen response. The input of the experts in the field of crisis management and communication is a key element in pursuing the goals of this project.

The materials can freely be used by crisis response organisations, with citation. Feedback by users and researchers is highly appreciated.

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Public Empowerment Policies for Crisis Management, FP7-284927

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Summary

Within the framework of the research project *Public Empowerment Policies* for Crisis Management, a literature review was conducted with the aim of summarizing the existing research on community approaches that involve the public in crisis management, and seek to enhance community resilience through co-production by response organisations and citizens. Two rounds of database search for literature were carried out: one focused on crisis communication in different communities, and the other on different kinds of collaboration in crisis and disaster management. Some of the main findings are presented below.

The perception, assessment and knowledge of risks and crises in communities are influenced by individuals' relationship with their physical and social environment. Rural and urban residents evaluate crisis plans differently, and will follow recommended actions during a crisis situation differently.

Accordingly, in the preparation phase, before an emergency situation, crisis or disaster occurs, it is important to map diverse perceptions and opinions in communities and social groups, in order to be prepared to adapt crisis communication to diverse stakeholders during a crisis, when instantaneous information is needed to avoid severe damage or harm and enable protective action to be taken. Values of personal responsibility and community involvement need to be included in mitigation strategies.

The literature does not go very deeply into the mapping of different types of communities or social groups and their preferences concerning spokespersons and message content, and hence this could be further investigated to meet the goal of enhancing community resilience. For example, rural residents might need information that encompasses not only their own safety but also that of their livestock, which are of important economic and personal value to them.

New residents might not be aware of special conditions in the area, warning systems or emergency procedures. These include the risk of natural disasters such as volcanic eruptions, earthquakes, hurricanes and flooding, and information and procedures in the event of an emergency, such as where recommended shelters are situated.

Minority communities (such as racial and ethnic communities) are more vulnerable during crises, and display lower trust in authorities and officials. Distrust was a

significant barrier to the acceptance of risk communication messages. Thus it has been recommended to make more use of existing organisations, such as churches, for communication and education. Local partnerships are valuable.

Some authors in the reviewed literature emphasized that the focus should be on people and what people can do, instead of what risks and hazards they might face. A major part of the literature stresses the importance of using pre-existing or established networks (i.e. families, workplaces, associations, organisations, congregations, etc.) when reaching out to people. People prefer to participate in collective efforts through the groups and institutions in which they normally participate, rather than through forms of collaboration created specifically for crisis and disaster management. Thus, collaboration between different actors should occur prior to an actual event, and the matter of collaboration does not have to focus on crises or disasters *per se*.

Many of the existing organisations, groups and networks grounded in collective needs and interests could be highlighted as potential actors in crisis and disaster preparedness and response. People and networks within specific interest groups or professions that have no previous connection to crisis management might be in possession of skills or material resources vitally needed in crisis and disaster preparedness and response.

As stated in the reviewed literature, ethnicity, gender and social and economic circumstances are but just a few of the causes of discrimination in many crisis and disaster management efforts. By capacity building and inclusive voluntary community work, processes of empowerment can be triggered. The result is an enhanced sense of community and more opportunities for co-production.

Important partnerships can be formed among groups that interact with a given population on a daily basis: scout troops, sports clubs, home-school organisations and faith-based and disability communities are examples of networks where relationships can be built. Thus, all members of the community should be part of the emergency management team, including social and community service groups and institutions, faith-based and disability groups, academia, professional associations, and the private and nonprofit sectors. Identifying the critical points of contact for all constituencies in the community renders communication and outreach most effective.

1. Introduction

The present desk study contains a literature review summarizing the existing research on community approaches involving the public in crisis management, and the co-production of response organisations and citizens in enhancing community resilience.

The desk study is one part of the research project Public Empowerment Policies for crisis management (PEP), which aims to identify the crisis response abilities of the public.

1.1 Background

At times of disaster, impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are well prepared and ready to act and are equipped with the knowledge and capacities for effective disaster management (Hyogo Framework for Action 2005:12). Depending on its scale and impact, an emergency or disaster is likely to require the resources of a number of agencies and organisations in order to meet the needs that will be presented. When citizens, volunteers, communities and organisations work together, they can better inform and

prepare themselves to reduce the impact, disruption and trauma of an emergency and complement the civil protection arrangements (www.informedprepared.eu).

One key activity, according to the Hyogo Framework, should be to develop specific mechanisms to engage the active participation and ownership of relevant stakeholders, including communities, in disaster risk reduction, in particular building on the spirit of voluntarism (Hyogo Framework for Action 2005:13). These mechanisms are also mentioned in the Yokohama Strategy and Plan for Action for a Safer World as the policies, legislation and institutional arrangements required to bring together all parties in the disaster and risk management sectors to plan and respond in more integrated and better coordinated ways (Yokohama Strategy 2005:17). From a wider frame of reference, the strategy states that the supporting roles of other government agencies, local authorities, essential infrastructure and lifeline utilities managers, business interests, non-governmental organisations and the public itself all need to be factored into a more inclusive and deliberate process (ibid).

In response from the European Parliament and the Council's call for increased action at Community level to prevent disasters and mitigate their impacts, a Community approach on the prevention of natural and man-made disasters is being launched. The approach should also contribute to the implementation of the Hyogo Framework for Action [COM(2009)82]. According to the Community approach, awareness-raiing of the general public can contribute to disaster prevention (ibid. 6). Likewise, the European Security Research and Innovation Forum (ESRIF) states that European citizens should be regarded as a decisive and integral active part in any future crisis management solution. Every individual has his or her own resilience capabilities that need to be enforced and deployed in a crisis situation (ESRIF Final Report 2009:112). One way of moving forward towards increased public engagement in situations of crisis and disaster is to formally recognize the value of local volunteer efforts (UN Volunteers 2005). Regulatory frameworks encourage volunteerism by empowering volunteers with formal roles during and in the aftermath of disasters (ibid).

Raised awareness could also result in monetary benefits, as people aware of potential risk are inclined to be more receptive to risk warnings and protect themselves and their property accordingly [SEC(2009)202]. In this way, the public may become actively involved in the development and implementation of disaster risk prevention measures (ibid. 28). Even small changes in protective behaviour can be valuable (Burns & Slovic 2012: 580). One way of mitigating the costs is by increasing public engagement in crisis preparedness and response. Such programmes should emphasize the actions people should take to become better prepared rather than the physical impact of disasters (ibid).

1.2 Project Objectives

The aim of the project Public Empowerment Policies for crisis management (PEP) is to investigate how the crisis response abilities of the public can be enhanced and to clarify what public empowerment policies are successful in realizing these objectives[1]. A general goal of crisis management is prevention and reduction of harm or damage. This is supported by the communication goals set for citizens: empowerment to act, social understanding of risks and increased cooperation. The role of communities in crisis response can be enhanced, while human technology can support preparedness training and the issuing of instructions in crisis situations.

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[1]http://cordis.europa.eu/projects/rcn/102066_en.html

The primary goal of the project is to bring together expertise to construct a Road Map showing promising areas and directions for future research and implementation. Various studies will bring new insights; using mixed research methods to identify what public empowerment policies are strong enablers of public resilience. By investigating best practices in educating citizens and working with communities, taking their point of view into account, potential key enablers for public empowerment can be identified and analysed. The project will implement studies that address current gaps in the research. To identify the key enablers for public resilience, a broad overview of best practices in how authorities currently enhance public response abilities will be delivered. In addition the project will clarify how authorities can successfully involve social groups and communities in crisis preparedness and response. Promising developments in the use of social network online tools and mobile devices will be identified within a human technology approach, taking preferences and public acceptance into account.

1.3 WP2 Community approach

Community approaches – a desk study

Work Package 2 (WP2) is tasked to clarify in depth how community approaches involving social groups in crisis preparedness and response are used, including experiences and success factors e.g. how to connect with community needs and activate efforts within the community.

The first objective of WP2 is to conduct a desk study – presented here – resulting in an overview of the use of community approaches that involve the public in crisis management. The focus is on local communities and their role in involving citizens. The work package as a whole will, based on the findings, culminate in a guide for community-based approaches in enhancing crisis resilience.

We use a mixed method methodology that includes a desk study, an analysis of quantitative data, in- depth interviews and expert interviews. Following the present desk study, an analysis of a Swedish data-base, including information about crisis preparedness and response, perceptions and experiences, will be undertaken. Based on this analysis, key social groups will be identified for in-depth interviews. The interviews will deepen understanding of how crisis management and communication can be coproduced by building trust and creating partnership-like relations between the public and stakeholders. The international applicability of the conclusions will be scrutinized in interviews with the members of the project's International Expert Panel. The study with communities will be implemented in Sweden, focusing on remote areas with need for self-reliance, e.g. when storms cause power cuts and isolation may last for weeks. Furthermore, the Swedish crisis management policy context is particularly suited for this analysis since national regulations stress individual responsibility for preparing and handling crises (MSB 2011).

2. Definition and application of key concepts

2.1 Community

Definitions of the term *community* are context dependent (NRC 2011; Chandra et al. 2011; Twigg 2009). In conventional emergency management research, communities are often viewed in spatial terms, as groups of people living in the same area or close to the same risks (Twigg 2009:9; McAslan 2011:6; Dove 2008). In the risk and crisis

communication literature, community is also conceptualized in different ways. Avery et al. (2010) use the concept of community as a geographical unit. They distinguish between different communities as follows: urban, suburban, large town and small town=rural areas (2010:341). Bird et al. (2011) also distinguish between urban and rural communities. This location-oriented definition overlooks other significant dimensions of community, which are to do with common interests, values, activities and structures (Twigg 2007:9). It also ignores the reality that disasters do not respect jurisdictions (NRC 2011:14). Communities are complex and often not united. One community might contain another, and individuals can be members of several communities at the same time, linked to each by different factors such as location, occupation, economic status, gender, religion or recreational interests (Turner 2010:281; Twigg 2009:9; SCRA 2010:43-45). Sometimes the conceptualizations of community include special populations within a community, i.e. racial and ethnic minorities (Crouse Quinn 2008). Further, communities are dynamic: people may join together for common goals and separate again once these have been achieved (Twigg 2009:9, McAslan 2011:6). Seeing communities as dynamic and connected with entities beyond jurisdictional boundaries does not negate the importance of collaboration that reflects the needs, priorities, and economics of the geographic communities and regions the collaborative networks serve (NRC 2011:15). On the contrary, viewing communities in terms of location provides an easily recognizable group of people facing common risks and threats, and with common interests in responding together to such events (McAslan 2011:6). However, digital communities also exist, and the work of Dutta-Bergman (2006) shows that participation in community networks on the internet is related to participation in local (physical and geographical) communities.

A tentative definition of a community approach

For the purpose of studying approaches to increase public empowerment during crises, we propose that a broad conceptualization of community is used, which takes into account the conceptualizations of community presented above. We thus define *community* as a collective of people living in a particular area, or being socially connected through a common ethnicity, religion or interest. Using a broad conceptualization is important, since researchers argue that crisis management and crisis communication need to mirror the diversity of modern societies (Sellnow & Sellnow 2010). As stated by FEMA (2011:3), "There are different kinds of communities, including communities of place, interest, belief, and circumstance, which can exist both geographically and virtually." Building on this conceptualization, *community approach* refers to ways in which citizens and groups might be included in the management of crises and thus facilitate more effective crisis management. Thus, community approaches attempt to engage the full capacity of the private and nonprofit sectors, including businesses, faith-based and disability organisations, and the general public (FEMA 2011:3).

2.2 The Public / Citizens

The public is the population that constitutes a community, state, or nation[2]. *The general public* is a concept used when an organisation or authority communicates through mass communication channels to a wide audience, while *publics* is used for varieties of audiences targeted by organisational communication. Sometimes *stakeholders* or *constituents* are also used (Tench & Yeomans 2009). *Public* denotes the political and

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[2] http://dictionary.reference.com/browse/public

economic sphere of society concerned with providing basic government services, such as the police, military, public roads, public transport, primary education and healthcare[3]. Public is to be contrasted to *private*, meaning the part of a nation's economy which is not controlled by the government[4]. The concepts of public and private with reference to government control are important in the debate on public-private collaboration in crisis management.

In this report, the term *citizen* refers to various levels in society such as individuals, families and other groups. Some of these groups have resources that could be mobilized by including them in the response network and thus seen as social capital in crisis resilience. Citizens are human subjects or agents with legally prescribed rights and responsibilities. Citizenship carries with it the obligation to behave in certain ways, to respect the laws of the land, and to perform such duties as are asked[5].

2.3 Emergency and crisis communication

Emergency and crisis management sometimes integrate communication aspects, but sometimes talk about crisis management without explicitly commenting on these aspects. Communication researchers, however, are naturally more prone to discuss the role of communication in emergency and crisis management. Thus we first turn to the role of communication in emergency and crisis management.

The role of communication

"Effective communication is a key element in understanding how to most appropriately prevent, prepare, respond to, and learn from risks and crises" (Spence, Lachlan & Burke 2011:275).

Risk communication and crisis communication are expanding research fields both of which include a number of research areas and scientific perspectives (Coombs & Holladay 2010; Heath & O'Hair 2009).

Risks are often associated with chemicals or radiation; however, public health risks are also included in this concept, and consequently risk communication includes both health risks and organisations' ability to operate at an appropriate level of safety (R. L. Heath & O'Hair 2009:10). Heath and O'Hair define a crisis as the manifestation of a risk. The principal rationale for risk communication is to initiate and direct protective action (Rod, Botan & Holen 2012).

Crises comprise a number of different types: natural disasters, terrorist attacks, economic crises, industrial crises, oil and chemical spills, transportation disasters, human resource problems, problems with the production of services, and crises of trust (Johansson & Nord 2011; Tracy 2007). Departing from an organisational perspective, a crisis is defined by Coombs (2012:2) as "the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organisation's performance and generate negative outcomes".

Crisis communication is defined by Coombs as "the collection, processing, and dissemination of information required to address a crisis situation"(Coombs 2010:20).

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[3] www.investorwords.com/3947/public_sector.html
[4] www.investorwords.com/3860/private_sector.html

[5] www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t306.e117

The challenge of crisis and risk communication, according to Heath and O'Hair (2009:7), is to base judgments on sound science, responsible values, and reasonable policy all of which may challenge convention and even put obstacles in the way of risk and crisis managers working to make systems responsive to lay publics' concerns and their often limited ability to engage with, understand, and appreciate complex messages. Moreover, as crisis and risk become a topic for conversation and media attention, concerns, values, facts, and policies circulate throughout relevant parts of society (Heath & O'Hair 2009:8).

Here, we focus on the role of communication in increasing community resilience in context of emergencies and crises. In a study on the concept of resilience, the authors conclude that community and disaster resilience "describe a community's intrinsic capacity to resist and recover from a disturbance", while the social-ecological interpretation "stresses the importance of thresholds in a society's capacity to adapt to crises" (Castleden, McKee, Murray & Leonardi 2011:373). Importantly, nearly all the publications reviewed by the present authors stressed the importance of communication for resilience alongside learning, adaptation, risk awareness and social capital. Communication in these publications comprised communication technology and physical telecommunication systems, inter-organisational communication between the people and agencies involved in disaster recovery, and interpersonal communication in the social networks that promote community cohesion.

2.4 Emergency and crisis management

The majority of articles reviewed for this report refer to the concept and research field of *disasters*. Generally, when speaking about management in the academic fields of risks, crises and disasters, one is referring to the process by which an organisation deals with a major event that threatens to harm the organisation, its stakeholders, or the general public. The present report deals with how communities include citizens in preparedness for, and the mitigation of, major events that threaten to harm the community.

Determining whether an event is to be characterized as a crisis, an emergency, a disaster or a catastrophe is not self-evident. Many researchers today acknowledge that such events occur along a continuum that enables one to distinguish between emergencies, disasters, and catastrophes (see figure 1 below). Thus, a crisis is an integral part at all points along the continuum.

Figure 1. Continuum of disaster (Phillips et al. 2012:33)

Emergencies are part of everyday life in a community. Response situations may include heart attacks, house fires, and car accidents. In a longer time perspective, emergencies

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are fairly predictable and most situations are handled by local emergency response organisations. Thus, for anyone not directly involved, life goes on as usual.

During a *disaster,* the local community may not, alone, be able to respond to the event. There is a disruption in the everyday structure and function of the community: "The infrastructure may suffer major damage. Most of a community may lose electrical power. Water may not be available. Highways and bridges may be impassable, or destroyed. Family members may be separated from each other, have no food or water, or their homes may be destroyed. Businesses, schools, and other organisations will be closed due to damage or destruction; customers, employees, and students will be unable to travel to such locations. In short, everyday life as we know it ceases during a disaster" (Phillips et al. 2012:34).

During a *catastrophe*, most daily routines of individuals, families, organisations, governments, businesses, and other facilities are totally disrupted. The basic characteristics that distinguish a catastrophe from a disaster are that (1) most or all of the community built area is heavily impacted, including structures housing police, fire, welfare, and medical centers; (2) the social impact and aftermath is complicated due to the many deaths, to the lack of transport and infrastructure, and to the lack of communication possibilities; (3) catastrophes tend to affect multiple regions, which prevents help from nearby communities; (4) most everyday community functions, including work, recreation, worship and education, are sharply interrupted; (5) there is much more and longer coverage by national mass media, and; (6) the political arena becomes extremely important, manifested by concrete and symbolic presence in the affected communities (Quarantelli 2006). In the present report, *crisis management* refers to the process of community mitigation, preparedness, response and recovery along the continuum of disaster.

As mentioned above, crisis and crisis management is an integral part of the continuum of disaster. The process of managing the different stages can be deployed into phases that are characterized by different goals and resources (Lettieri et al. 2009:125). In their literature review, Lettieri et al. (2009) conclude that there are three different temporal and logical stages of crisis management: pre-crisis, crisis and post-crisis. In more detail, the pre-crisis is the period before the occurrence of a disaster (i.e. an event along the disaster continuum), the crisis is the aftermath of the disaster and the post-crisis is the period between the fading of the crisis and the return to normality. Thus, the different stages each have a logical relationship with disasters. On the basis of the literature, Lettieri et al. suggests a reference model for the process of disaster management based on the following phases: mitigation and preparedness (mainly in the pre-crisis stage); response (in the crisis stage); and recovery (in the post-crisis stage) (2009:125). This model is similar to the integrative crisis management framework proposed by Ammann (2006). The proposed framework specifies the steps of risk identification, analysis, assessment and evaluation of necessary risk reduction and mitigation measures in all elements of the risk cycle, i.e. prevention and preparedness planning (pre-crisis); interventional measures (crisis); and recovery tools and practices (post-crisis).

2.5 Community resilience

Community resilience entails the ongoing and developing capacity of the community to account for its vulnerabilities and develop capabilities that aid that community (Chandra et al. 2011:9). The concept refers to the ability of a human system to respond and recover. It includes those inherent conditions that allow the system to absorb impacts and cope with the events, as well as post-event adaptive processes that

facilitate the ability of the system to recognize, change, and learn in response to the event (Cutter et al. 2008:2). The UK government, for example, defines community resilience as "communities and individuals harnessing local resources and expertise to help themselves in an emergency, in a way that complements the response of the emergency services" (SCDC 2011:3 a).

Focusing on resilience means putting greater emphasis on what communities can do for themselves and how to strengthen their capacities, rather than concentrating on their vulnerability to disaster or environmental shocks and stresses, or their needs in an emergency (Twigg 2009:8). Thus, the concept of community resilience has developed within a salutogenic perspective (Paton & Johnston 2001:272). Twigg suggests that community resilience should be understood through broad definitions and proposes an application of the concept as the capacity to: (a) anticipate, minimize and absorb potential stresses or destructive forces through adaption or resistance, (b) manage or maintain certain basic functions and structures during disastrous events, and (c) recover or 'bounce back' after an event (Twigg 2009:8).

Historically, the burden of responsibility for community well-being was placed on federal land management agencies, while communities were relegated to passive roles regarding their own well-being. In the community resilience paradigm, communities are primary and active agents in their own well-being (Magis 2010:404). This shift in the understanding of resilience is paradigmatic, not only in its reorientation to change, but in its perception of a community's ability to take planned action and effect change (ibid).

A comprehensive literature review on community resilience definitions and dimensions concluded that (a) communities can develop resilience strategically via collective action; (b) that community resilience is facilitated through developing and engaging diverse resources from throughout the community; (c) that community members can be active agents in the development of community resilience; and (d) that resilience is developed through engaging the community's resources, i.e. taking action and not just developing the community's capacity (Magis 2010:406).

2.6 Public empowerment

Community empowerment is often used to describe policy and service delivery change that more actively involves residents of communities in shaping what happens in their community. The concept has been described as a reworking of the relationship between the State and the community in a way that emphasizes the role of the voluntary and community sector to directly influence the delivery of social policy through the neighbourhood agenda (Adamson and Bromiley 2008:2). Some authors argue that community empowerment is neither an unproblematic area nor necessarily an unmitigated social good. Emejulu and Shaw (2010), for example, state that community empowerment can be used as a tool to 'responsibilise' specific groups so that they conform to dubious policy priorities (2010:6).

In the present report, *public empowerment policies* refers to ways in which authorities can actively enable community resilience, by utilizing a community approach to connect with citizen networks and initiatives, and supporting *citizen response* by preparedness education, agile mobile services and social media activities.

2.7 Co-production

In this report, crisis resilience is seen as a *co-production* of response organisations and citizens. According to Duggan (2011), the concept of co-production can provide a useful analytical lens for describing how public services are delivered and also for developing effective and empowering models of achieving public value (Duggan 2011:5). The definition of co-production employed by Joshi and Moore (2004) is very much inspired by the original work by Elinor Ostrom in that it focuses on the engagement of citizens in the provision of public services through complex interactions with state agencies (Joshi and Moore 2004:39). However, their definition is more precise, stating that: "Institutionalised co-production is the provision of public services through regular, long term relationships between state agencies and organized groups of citizens, where both make substantial resource contributions." (Joshi and Moore 2004:40)

The theory and practice of co-production is about seeking to transform public services by building in co-production so that they become sustainable and produce better outcomes. Models of co-production are built around the three principles of (a) recognizing that people have assets and not just problems; (b) redefining work so that unpaid activities are valued and supported and; (c) building reciprocity and mutual exchange and strengthening and extending social networks (SCDC 2011:3 a).

As stated by the Scottish Community Development Centre, community resilience and co-production can be understood as endpoints, with engagement and empowerment being the processes through which these endpoints can be reached. Capacity building and voluntary community work, then, are the starting points on which the other processes and outcomes are based (SCDC 2011:5 b).

3. Notes on the method for literature search

The literature in this report was gathered through a mix of strategies. The primary literature consists of articles abstracted from scientific (peer-reviewed) journals, while the secondary literature was gathered through books, Google Scholar search and the Libris database.

Two rounds of literature search and review were conducted. One focused on literature treating risk and crisis communication, with particular focus on engaging the public. A literature search was conducted using the keywords [crisis communication + public empowerment] AND [crisis + communication + community] in the databases Web of Science and Communication abstracts. Books and reports on the subject were retrieved during March 2012 (using the same search terms) from the Libris database, containing international and Swedish books and research reports in all Swedish university libraries. The other search focused on literature on community approaches and citizen participation in crisis management. The strategy for finding the primary literature is presented in table A below. The search for secondary literature was more intuitive, but in the main the same key words were used. The articles on community approaches and citizen participation were gathered through a database search (mainly Academic Search Elite and ProQuest Social Sciences) during the first two weeks of February 2012. Table A. displays the key words used in the initial search. In order to narrow down and distil the material, a number of inclusion criteria were used. These criteria also served to exclude literature on risk and crisis management that was not in line with the present study, i.e. health related management and crisis management in an organisational context. In order to structure the remaining articles in a useful way, three questions were posed to the literature: (1) does the article focus a bottom-up or top-down perspective, (2)

what phase of emergency and crisis is focused, and (3) what is the national context of research? For a schematic outline of the reviewed primary literature, see the appendix.

Table A. Literature review and abstraction
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Key words in the initial search:

> [community approach OR community]
> AND [crisis management OR risk management OR disaster management]
> AND [citizen participation OR public participation]
> AND [involvement] AND [resilience]

Inclusion criteria:
> a. Articles should cover research on community approaches to crisis management
> b. Focus should be on public/citizen participation in the management of crises/ disasters
> c. Articles should account for models of coproduction between emergency personnel and citizens

Key elements in the texts:
> 1. Does the article focus a bottom-up perspective?
> 2. What phase of emergency and crisis is focused?
> 3. What is the national context of the research?

4. Research themes / approaches to crisis and emergency management

Below we present the key themes and approaches to crisis and emergency management found in the literature. The first section (4.1) addresses the previous research on crisis communication in different types of communities. Communities in this section are categorized as (a) *urban and rural*; (b) *young people*; (c) *minority communities*; (d) *online and offline communities*; (e) *media use*; and (f) *diversity in management of communication*.

The second section (4.2) examines the literature on different kinds of collaboration in crisis and disaster management. Collaboration refers to the arenas and situations where the public could engage in meaningful participation on issues concerning crisis and disaster preparedness and response, i.e. potential platforms where citizens, emergency management personnel and other relevant actors and agencies can come together and interact. The different kinds of collaboration described in this section are categorized as (a) the collaboration of citizens, organisations, emergency professionals and local authorities; (b) the example of Community Based Disaster Management; (c) building resilience through private-public collaboration; (d) the multi-agency collaboration of 'insider' agencies; (e) public health agencies and the public; (f) community resources, networks and capital(s); (g) voluntarism and convergence; (h) volunteer organisations in crisis preparedness and response; (i) perspectives on disability in crisis and disaster management; and (j) synthesis: the example of FEMAs 'whole community approach'.

4.1 Crisis communication in different types of communities

Urban and rural communities

Communication before (including risk communication), during, and after a crisis is an integral part of crisis management in all phases. Communication consists of processes where information on risks, precautions, mitigation, responsibility, and learning is created, exchanged, and interpreted. One important theme that surfaced in our literature review is the relationship between sociodemographics and risk and crisis response. Risk perception and preparedness in the preparation/prevention phase has been treated by a number of scholars (Bird et al. 2011; Carlino, Somma & Mayberry 2008; Crouse Quinn 2008; Dove 2008; Meredith, Eisenman, Rhodes, Ryan & Long 2007; Paton, Smith, Daly & Johnston 2008; Rod et al. 2012; Spence et al. 2011).

The results show that the perception of risk and assessment of hazard by communities is influenced by their relationship with their physical and social environments. A study of Icelandic residents found important differences in knowledge and perceptions between rural and urban communities, and that issues such as livelihood connections and inherited knowledge influenced residents' perspectives and behaviour, including both their ability and willingness to comply with the recommended evacuation procedures (Bird et al. 2011). However, although differences between urban and rural communities are discussed, the authors comment that clear dichotomies do not always appear, and that the heterogeneity within communities also needs to be considered.

In this case, most residents had an accurate knowledge of the volcano, the proposed warning system and the emergency response plan. The Urban residents perceived this plan to be appropriate, while rural residents did not. In comparison, urban residents were more likely to follow recommended actions, while rural residents, if weather conditions were adverse, would personally assess the situation before deciding on a course of action. Also, urban residents demonstrated a high degree of trust in information provided by all emergency management agencies and were therefore more likely to accept decisions and communications from these institutions. Rural residents expressed a high degree of trust in information provided by scientists, moderate trust in information from the Icelandic Civil Protection Office and police and low levels of trust in information from the media. Given these results, it is recommended to use both authority officials and scientific experts as spokespersons to increase trust in communication.

There was also a difference in media use: urban residents relied more on newspapers than rural residents: "We get them so late so the news is old" (Bird et al. 2011:1216). Network coverage affected the use of mobile phones; rural residents did not carry their phones with them to the same extent as urban residents due to the poorer network conditions in the countryside.

New residents were lacking in knowledge of the volcano, the warning systems and emergency response procedures. Whereas for rural residents, inherited knowledge, passed on by the tradition of oral history, contributed to raising awareness of risk and affected risk perceptions, which were thus based on historical accounts. Thus, sharing local knowledge, and linking oral histories with scientific knowledge is recommended in seeking to establish common ground for communication about volcanic hazards.

A Norwegian study found that residents willing to follow evacuation instructions lived in areas with a disaster history. Often they were university graduates, had good

relationships with experts, and found risk information useful. Trust in experts appeared as the strongest key determinant. (Rod et al. 2012).

Factors such as hazard knowledge, sense of community, and attachment to place indicated that rural residents were more resilient to volcanic hazards. The authors conclude that in rural communities, the values of personal responsibility and community involvement in emergency response procedures, in addition to community cooperation and neighbourliness, could be instrumental in reducing vulnerability. The researchers accordingly recommended that emergency management agencies consider these issues in order to implement more appropriate volcanic risk mitigation strategies.

When urban versus rural vulnerability and resilience were compared, they depended on community characteristics and behaviour. Urban residents were more willing to evacuate, had a better ability to access warnings, instruction and advice, and a larger percentage had no dependent children. These factors reduce vulnerability. On the other hand, urban residents demonstrated lower levels of general and local knowledge. A higher percentage of urban residents lived alone or were newcomers to the community. These factors increase vulnerability. Additionally, rural residents displayed a greater sense of community and attachment to place, factors which decrease vulnerability and increase resilience. Overall, according to these factors, rural residents should be less vulnerable and more resilient to volcanic hazards.

These results are in accordance with a study in Central Java, Indonesia, where local communities on the volcano had developed a system for living on its slopes and conceptualizing its hazards that was based on naturalizing, familiarizing, and 'domesticating' the threat from the volcano. In contrast, the state technologized and exoticised the threat (Dove 2008). Where villagers saw eruptions as recurrent catalysts for productive change, the state saw them as episodic threats to well-being.

Bird et al. (2011) recommend establishing working relationships where communities and emergency management agencies engage in complementary roles in the development of risk mitigation strategies. This will empower residents and thereby increase trust in 'official' information. Paton et al. (2008) also stresses that the quality of the relationship between people, communities and civic agencies determine whether people adopt measures that can reduce their risk from volcanic hazard consequences (Paton et al. 2008). Moreover, community participation provides the social context within which collective knowledge can be accessed and risk management needs formulated. However, if gaps in knowledge remain, being able to articulate these gaps into questions allows community members to represent their needs to external sources (Paton et al. 2008:186).

When residents perceive that their concerns have been resolved through their relationship with emergency management agencies, it is more likely that they will believe in those agencies and the information they provide. This will also facilitate personal responsibility for adopting preparedness measures. Cooperation, understanding, and communication between the scientific community, government authorities and residents is essential to ensure public safety (Jóhannesdóttir & Gísladóttir 2010). This finding was also reported by Paton et al. (2008), who concluded that "the relationship between civic emergency management agencies and communities is a significant component of the social context in which risk beliefs are forged and enacted, and one that involves more than just making information available" (Paton et al. 2008:187).

Because residents are likely to rely on multiple sources of information, the media is crucial for disseminating information before, during and after an event through all channels (e.g. radio, television, internet). Emergency management agencies, scientists and media should also work closely to ensure a trusting and productive relationship prior to and during any hazardous event. Inherited knowledge and risk perception need to be considered in conjunction with social issues inherent in the affected communities. Top-down methods of risk mitigation were rejected by residents, particularly by those with inherited local knowledge and emotional and economic connections to their livelihoods (property and livestock).

The application of a Participatory Rural Appraisal approach to volcanic hazard management, which incorporates scientific with traditional knowledge and enhances communication, respect and understanding between communities and emergency management agencies, is proposed. In order to open up channels of communication, agencies must go beyond consultation. Residents must have an active role in planning and preparedness, and local rescue teams must be used as an internal resource to help the community resist, absorb, accommodate to and recover from the effects of a volcanic eruption (Bird et al. 2011:1222).

Young people

The risk perception and preparedness of young people (13-19 years old) exposed to volcanic hazard were studied by Carlino, Somma and Mayberry (2008). Although displaying relatively appropriate volcanic risk perception, attributable to risk education programmes provided by schools, they were less knowledgeable about volcanic processes, and knew very little about the National Emergency Plan for the area. The risk education programme participants had more awareness of risk and reduced hazard-related fears, thereby supporting the value of hazard education for young people.

Students lacked knowledge about the most dangerous phenomena, pyroclastic flows, and 29% also had erroneous beliefs that a tsunami could occur despite the fact that no such volcano-related tsunami has ever been recorded in the area in historical time. They may have stressed the importance of tsunami hazards following exposure to stories and images after the 2004 tsunami in the Indian Ocean. Perceptions may also have been affected by stories in the media arguing that there was a likelihood of a tsunami occurring in the area in the future. Such information has produced the erroneous idea that similar catastrophic disasters could also occur as a consequence of eruptions of submarine volcanoes in Italy. Clearly, rumours and misinformation may have contributed to the students' inaccurate hazard perceptions.

Researchers warn that the situation may be exacerbated during an eruption because it is common for incorrect information to be spread during emergencies, in particular the media may provide misinformation to a large number of people if not appropriately supported by scientists. Like in Iceland, respondents appeared to trust scientists more than the mass media or local authorities (Carlino et al. 2008:240).

Minority communities

In the wake of Hurricane Katrina it has been clearly illustrated that racial and ethnic minority communities are more vulnerable. Differences and determinants of health are systematically associated with different levels of underlying social advantage. Economic resources, race/ethnicity, occupation, and other factors can compound the health risks for populations already disadvantaged by their group status. Preparing for risks and

crises, such as a pandemic, must be understood in this context (Crouse Quinn 2008).

These minorities, due to experiences of racism, display significant distrust of authorities and officials. Distrust is a significant barrier to the acceptance of risk communication messages, and therefore it is suggested that officials need to make more use of existing organisations, such as churches, for disaster education and communication. Working with local partnerships would provide new opportunities for conducting the formative research prior to any emergency that is essential to the development of effective educational programmes and CERC (Crisis and Emergency Risk Communication). Credibility in communication in general, as well as in health communication, depends on whether the message recipient perceives the message source as trustworthy and believable. Meredith et al. (2007) identified types of trust particularly important for African Americans facing the threat of a bioterrorist attack. Findings show that message trust is based on the extent to which it conveys empathy and caring, competency and expertise, honesty and openness, and dedication and commitment on the part of the public health authorities.

Honesty and consistency of information from public health officials were the components most frequently identified as determining trust or distrust. Errors of omission, such as when messengers fail to provide the whole truth, can create an atmosphere of mistrust and can damage the credibility of officials, even when these have the best of intentions. Public health messages that err toward more information combined with community interaction can help build more successful partnerships, minimize blame, and strengthen trust.

Patterns of trust varied according to the scenario stage; honesty was most important upon initially hearing of a public health crisis, whereas fiduciary responsibility and consistency were important upon confirmation of a crisis and the ensuing public health response (Meredith et al. 2007).

Pandemic planning and implementation of plans in case of a severe pandemic may be more successful with if the public is engaged in planning prior to an outbreak. Braunack-Mayer et al. (2010) used deliberate forums to elucidate informed community perspectives.

During a crisis situation such as a pandemic, there will be serious constraints on the extent to which public health professionals will be capable of creating more targeted communication strategies. With reduced workforces and increased demands, many communications will be targeted at the general public. Therefore, significant pre-event education is vital for building the knowledge, understanding, and capacity needed to respond appropriately to more general mass media messages (Crouse Quinn 2008:20). Crouse Quinn suggests a model to improve strategies for CERC in minority communities, table 1:

TABLE 1
Strategies to Improve CERC and Build Engagement According to Stages of Crisis

Pre-Event	Event	Postevent
Use a community-based participatory research approach to discovering concerns, identifying promising strategies, and building trust	Conduct as much formative research as possible to identify key affected audiences and concerns	Engage community partners in evaluation of communication efforts
Engage community partners to conduct a community hardiness assessment	Contact critical spokespersons	Engage in communication focused on successful grieving and resilience
Identify and bring trusted community partners into planning for communication and broader planning efforts with local and state health departments	Engage community partners who act as channels for communication	Evaluate lay health advisors' effectiveness and new training needs
Prior to the event, consider, if appropriate, the use of lay health advisors and natural leaders	Deploy lay health advisors	Revise communication plans to incorporate necessary changes
Work with community partners to develop and implement training of lay health advisors	Include media channels trusted by racial and ethnic communities	Evaluate dissemination and channels-reach, frequency, process
Form partnerships with organizations that can successfully communicate with undocumented immigrants	Work with partners to disseminate necessary CERC materials and messages	Determine if new training is needed for spokespersons or new spokespersons need to be identified
Identify appropriate channels to reach different segments of the community	Hold meetings with community partners and spokespersons on a regular basis	Examine evaluation results with partners to devise new strategies
Identify appropriate spokespersons and develop trusting relationships prior to event	Develop new materials and messages as necessary	Determine if staff need additional training
Work with partners to develop a complete communications plan	Conduct community forums, as possible	Develop revised materials as necessary
Develop staff capacity to create messages that are culturally and linguistically appropriate and targeted at appropriate literacy levels	Highlight positive models of coping and hardiness	Consider community forums to discuss lessons learned
Develop and pilot test materials		
Conduct communication activities, including community forums, to explain public health law that may be relevant in an emergency		

NOTE: CERC = crisis and emergency risk communication.

Table A. Strategies to improve CERC (Crouse Quinn 2008:22)

Knowledge gaps between groups of different socioeconomic status have been studied, and the knowledge gap hypothesis states that the population segments with higher socioeconomic status tend to acquire information at a faster rate than the lower status segments, putting underprivileged groups at a disadvantage at a time when information acquisition is critical (Spence et al. 2011).

Having few social networks, being unemployed, and being of younger age were significantly associated with having heard evacuation orders and whether victims perceived that they had heard clear orders (Taylor-Clark, Viswanath & Blendon 2010).

During crises and major disasters, knowledge gaps can render at-risk subpopulations especially vulnerable. Moderators of knowledge gaps are communication skills such as reading ability, social contacts, exposure of important information, and the nature of the communication medium (Spence et al. 2011:264). Spence et al. extending this line of research, demonstrated that ethnicity and age are more important parameters of the knowledge gap, and that intercultural and intergenerational difference in message processing account for knowledge gaps independent of socioeconomic status.

Thus, the authors state that cross-cultural differences in informational needs, interpretation, and response may be better predictors of knowledge gaps than simple economic status. They compare their results with past research concerning message interpretation across subpopulations during crises and emergencies, as there is evidence to suggest that members of historically underserved communities may be less likely to ascribe credibility to a risk or crisis message without first confirming that information through interpersonal channels, such as exchanges with family, clergy, or community leaders (Spence, Lachlan, Burke & Seeger 2007). The knowledge gaps detected are

problematic in instances in which information from public health and government organisations may be essential for well-being or survival. When populations are unable to access information for preparation and prevention, message elements become secondary. Also, messages designed for broader audiences, which do not consider the characteristics of the target audiences, may not be effective in the light of differences based on race, age, and gender.

Online and offline communities

Community has a critical role during crises, when a wide variety of communicative activities are initiated. Crises threaten the fabric of communities, and community participation. Accordingly, it is important to study the activation of social networks and community ties in the wake of the crisis.

Communication behaviour during the September 11 terrorist attacks was studied by Dutta-Bergman, who found that individuals participating in online communities were more likely to participate in real communities, supporting the theory of channel complementarity in the realm of community participation (Dutta-Bergman 2006). Studying the relationship between new media use and community participation, it is concluded that community participation on the internet and face-to-face participation in the local community are related.

"Individuals who participated in online communities by posting their thoughts about the attacks and by reading the thoughts posted by others about the attacks were also typically more likely to share their thoughts and ideas with the members of their local communities" (Dutta-Bergman 2006:481)

These results support the view that individual-level differences within the population matter with respect to how individuals respond to crises. Those individuals who reach out to their real communities when struck by a crisis also reach out to their online networks for garnering social support and gathering information, and vice versa. Technology serves as a facilitator, as an infrastructural tool that gets used by actively engaged individuals. The same individuals who participate in their offline communities also utilise technology as a means for community participation.

In summary, community members give and receive social support differently in the face of a crisis. Some community members are more clearly oriented toward participating actively in their social support networks than others. While some individuals actively call upon their interpersonal networks, others do not actively seek out or participate in such networks.

The difference between community participants and non-participants is based on a systematic difference in the population with respect to the overall orientation of members toward their communities. This notion of complementarity locates the internet as a tool in the communication between community members (Dutta-Bergman 2006:476). Also, socially generated crises in local communities may contain important tensions in need of management: confidentiality vs. openness, support vs. accountability, and empathy vs. distancing (Enander, Lajksjö & Tedfeldt 2010).

Media use

A study on uses of social media by public relations professionals revealed that they did not recognize the internet as the most important source of information for their publics

in either crisis or routine situations (Avery et al. 2010). This situation is likely to change as communication technology and social media development proceeds. However, the results raise the important question of how to encourage enhance the adoption of new technology and knowledge development in order to deploy that technology in risk and crisis communication.

Before, during, and after major disasters, the coordination of emergency response activities is an enormous problem due to the number of individuals and organisations involved, issues with the interoperability of technology, impacts of the disaster on the communication technologies used (for communications), problems with adequate information sharing, and the lack of pre-existing social networks that can support the community response effort, among others (Jaeger et al. 2007).

Viewed in light of organisational complexity, the World Wide Web is an appropriate technical infrastructure for communications that can help organisations deal with emergencies or other unexpected events. The web, as an informal and adaptable system, is increasingly relied on by community members and by a broad array of public and private organisations. Thus it is important that organisations use the web for key communication and coordination tasks in emergency preparedness and response (La Porte 1999).

Jaeger et al. (2007:593) discuss the communication problems that arise during an emergency situation:

> In an emergency, two key groups of people need the ability to exchange information and coordinate activities in community response: professional emergency responders (PER) and residents. PER—including police, fire, medical services, emergency management personnel, National Guard, and FEMA—have knowledge and equipment to deal with medical, fire, and law enforcement needs before and during the emergency. PER must be able to gather, analyse, and disseminate information rapidly, promptly recognizing patterns and coordinating response activities. Residents may help to identify an emergency, may help others avoid it, and can play a significant role in recovery. Residents also need information and coordination to self- organize and respond by helping each other when scarce centralized services are overwhelmed by an emergency. The ability of residents and PER to directly exchange information during an emergency is necessary to provide a more accurate portrait of the severity and breadth of major disasters. However, the responses to recent major disasters have demonstrated significant gaps in the ability of PER and residents to engage in this vital information sharing and coordination.

The authors conclude that lessons from recent natural catastrophes and the terror attacks of 9/11 are that the current telephone, radio, and television-based emergency response systems cannot meet all of the community-wide information sharing and communication needs of residents and responders during major disasters. If mobile telecommunications devices and the Internet are combined, however, the potential exists to provide higher capacity and a more effective service, as well as create interactive communication mechanisms that can facilitate just-in-time communication and collaboration between large numbers of residents and responders.

CRGs are web-based systems that integrate internet and mobile technologies to facilitate response in large-scale emergency situations by enabling individuals to report information, PER to disseminate instructions, and residents to assist one another. In this

way, CRGs enable residents and responders to work together in community response to emergencies (Jaeger et al. 2007). The authors discuss CRGs and how research about community networks can be used to install trust and social capital in such a system.

A recent study concluded that evacuees use a diversity and multiplicity of media, where various media are used for different purposes according to need (Lev-On 2012). Small media, with a rather limited and local reach (such as pamphlets, SMS, niche websites and small-scale meetings) are predominantly used for most of their needs, overshadowing mass media usage. Thus knowledge of the situational context is important to be able to judge what communication channels are most effective.

Following Hurricane Katrina, blogs were studied in order to develop an understanding of what risk and crisis communication functions they served (Macias, Hilyard & Freimuth 2009). Four major functions — communication, political, information, and helping — included both filtering and linking with respect to rescue needs and efforts, missing persons, ways to offer and find assistance, fostering community, and providing information on damage and government response. Additional functions were a 'thinker' function where bloggers expressed opinions, especially on government response, and an emotive or therapeutic function. Several of the blog functions indicated the role of the internet in maintaining a sense of community in times of crisis.

Hurricane Katrina also resulted in a study on the role of television during a natural disaster (Miller & Goidel 2009). Miller and Goidel conclude that news organisations facilitate the gathering and transmission of information that can help citizens and policy-makers understand the scope, causes, and consequences of an unfolding disaster. However, they are also subject to institutional biases that may lead to distorted presentations of reality, and that misinformation, stereotypes, and misunderstandings are perpetuated. In 'breaking news' and development on the ground, news organisations are invaluable; but their institutional characteristics hinder their ability to gather contextually rich information on the causes and consequences of disasters. Hurricane Katrina also demonstrated that, in a crisis, problems with other communication media lead to novel uses of internet technology (Procopio & Procopio 2007). A study of internet use revealed users seeking interactive fora that favoured the instrumental and expressive types of communication essential to community creation and maintenance. Online users went to interactive for a specific link to their neighbourhoods to activate their social networks, and familiar local news stations to acquire information they trusted in a crisis situation.

Diversity in management of communication

Granatt (2004) discusses the complexity of society which renders integrated emergency planning to meet multiple contingencies. For communication, the required capability is to reach mass target audiences swiftly and authoritatively. News media can be involved in Public information and warning partnerships (PIWPs), which are voluntary arrangements designed to deliver integrated emergency planning for communication. They harness the collective resources and goodwill of public, private, not-for-profit and media organisations without compromising media independence and, therefore, public trust.

Community partnerships and civic responsibility can assist in emergency planning and response to improve community resilience, as shown by analyses of award-winning public awareness campaigns on risks (Veil 2008). At-risk communities may be reached with crisis communication if partnerships with religious organisations are established

(Lachlan & Spence 2011). Participatory communication and personal influence was also important in order to resolve conflicts and social crises in Africa (Pratt 2009).

Sellnow and Sellnow (2010) argue that an approach that attends to the varying learning styles inherent in different audiences is more effective in reaching all stakeholders during a crisis than a common single warning shared through standard media channels.

Heath et al. (2009) examined whether, to make communities more fully functioning, crisis information, evaluation, and advice were best supplied by multiple voices. The basic question addressed was whether a diverse community becomes more fully functioning if its community emergency management planning and communication (law of requisite variety) reflect that diversity.

The results indicate that approximately half of the persons surveyed did not feel adequately prepared to respond during the emergencies in question. Among those who did, diverse voices (source similarity and message sensitivity) increased their sense of self, expert, and community preparedness. If citizens have access to information delivered by sources resembling themselves and in messages that are sensitive to who they are, they feel more able to deal with crisis emergency response.

Community theory postulates that planning and response compliance increase as multiple voices join to provide the requisite diversity in planning and response. Information intended to empower a community must be disseminated, vetted by various voices, and tested against past experiences.

The findings appear to depend on demographic differences. Demographics are an excellent focal point for this analysis; census data and mere observation can help understand the richness or paucity of diversity and how it is represented in a community.

In this study, the persons who reported feeling less well served by emergency planning were Hispanics, lower income individuals, and younger residents. Hispanics were less likely to predict that a crisis/emergency event would occur. They felt significantly less familiar with safety procedures and guidelines. They believed that they were less likely to be warned appropriately (Heath et al. 2009:139). Thus, the results of the study suggest that emergency management planning and communication is less likely to experience crisis if diversity of opinions is brought into planning and communication that are sensitive to different groups of residents' perceptions of the world.

A study comprising interviews with 37 local emergency managers revealed that they conceptualized communication as dissemination rather than as a process of research and evaluation. This study calls for local emergency managers to conduct outcome evaluations of risk communication campaigns to increase public participation (Veil, Littlefield & Rowan 2009).

Falkheimer and Heide (2006) summarized research results on crisis communication and proposed the use of ethnicity in crisis management, focusing collective cultural identity as dynamic, relational and situational in crisis theory and practice. Based on a social constructionist epistemology, the authors recommend that future research and practice in multicultural crisis communication consider the following: (1) audience orientation – focusing sense-making, (2) a proactive and interactive approach – focusing dialogue, (3) a community-focused approach – focusing a long-range pre-crisis perspective and, (4) an ethnicity-approach towards intercultural communication.

Summarizing the research on crisis communication related to public empowerment, we clearly see that the effectiveness of communication before and during a crisis is influenced by a number of important factors. These factors are integrated in the following model, which is based on our interpretation of the research results and understanding of the field.

Public empowerment through risk and crisis communication

As we can see, the model illustrates that access to information and knowledge, and the adaptation of information to target audiences are factors that are related to the development of understanding and trust in communities. Likewise, perceptions of honesty and openness are related to perceptions of the reliability of spokespersons, which also affect understanding and trust. In order to follow advice in a crisis situation, understanding and trust are essential. This can only be created in a dialogue with the relevant public groups. The model can be further developed, by including e.g. dialogue, in future research.

4.2 Collaboration in crisis and disaster management

The collaboration of citizens, organisations, emergency professionals and local authorities

Crisis preparedness and response will not be effective without the participation of vulnerable communities. When involved in the mitigation process, communities' confidence, capacities and coping mechanisms develop in an upward spiral (Newport & Jawahar 2003:33). A common denominator between different conceptualizations of community preparedness and response approaches is an acceptance of communities as being capable of drawing upon internal resources and competencies to manage the demands, challenges and changes encountered (Paton & Johnston 2001:272; NRC 2011:59).

According to Newport and Jawahar (2003:33), community participation should be viewed as a social process in which the vulnerable groups organize themselves for their common needs and problems. However, in order to make it a practical reality, crisis and disaster mitigation requires not only the participation of the individual within the vulnerable community, but also the involvement of related institutions, NGOs and the general public (Newport & Jawahar 2003:33; Victoria 2002:274; Chen et al. 2006:219) as a supportive institutional construct (Yodmani 2001:5; Paton & Johnston 2001:274). Thus, building resilient communities involves ensuring that communities and community members have the resources, capacities and capabilities necessary to 'bounce back' and recover in a manner that minimizes disruption and facilitates growth (Paton & Johnston 2001:273).

While self-sufficiency and self-organisation, according to López-Marrero and Tschakert (2011) are key to resilience, actions must not rely on just one group. Instead, it is important to promote joint projects that involve both community members and emergency managers (ibid 2011:244). Resilience, though, must be fostered through a mix of strategies (Paton & Johnston 2001:275; ADPC 2009:3), as dependence on a single strategy has negative consequences for resilience. This is because dependency constrains adaptive capacity (López-Marrero & Tschakert 2011:245). Consequently, to be able to draw upon internal resources and competencies, communities must be empowered and, as discussed by Rich et al. almost twenty years ago, empowerment is often achieved by meaningful participation (1995:660).

As stated in the introduction, communities are of many different kinds. They might be based on place, interest, belief and circumstance, and they exist both geographically and virtually. The question then is how to achieve the meaningful participation of the diverse groups and individuals constituting modern communities. What approaches and strategies should be employed to capture, encourage and channel the resources and capacities existing within the complex communities of today? This report does not provide a definite answer to the question, as any approach or strategy employed must be related to the nature of the crisis or disaster in specific geographic and demographic contexts. Nevertheless, this study maps and explores a variety of possible approaches with the aim of reflecting the diversity of enablers and initiatives in present societies and communities.

The example of Community Based Disaster Management (CBDM)

Local governments using citizen participation for disaster mitigation and response is nothing new. Citizens volunteering as emergency response personnel was also mentioned in relation to World War II (Chen et al. 2006:211). In general, the goal of community-based disaster management is to transform vulnerable or at-risk communities into disaster-resilient communities (Victoria 2002:274). By using a CBDM approach, providing them with more access and control over resources and basic social services, people's capacity to respond to emergencies increases (Jahangiri et al. 2011:83). Community participation is generally viewed as a social process, but on a practical level some efforts are required in education, training and awareness-building both within the vulnerable groups as well as with related agencies and institutions (Newport & Jawahar 2003:33; López-Marrero & Tschakert 2011:229; McEntire & Myers 2004:148-149; Jahangiri et al. 2011:89). Thus, the underlying rationale of CBDM is the empowerment of and ownership by local stakeholders at the community or municipal level, which should lead to a sustainable reduction in disaster risks over time (Maskrey 2011:48).

However, many CBDM initiatives resemble programmes and projects that are implemented at the community or local levels rather than with *community or local ownership* (United Nations 2011:139; Yodmani 2001:4; Maskrey 2011:48). Many programmes are successful during the project period, but gradually fade as time passes, due to a lack of effective participation and capacity building of the local communities (Pandey & Okazaki 2005:2). Buckle (2001:10), too, notes that since the implementation of community based approaches differs in various countries for various cultural, socioeconomic, political, and health-related reasons, it is not possible to design a uniform application to fit every possible context. Similarly, Jahangiri et al. (2011:89) points out that the type of community participation and contribution may differ according to the characteristics of the country in question.

There are many stakeholders involved in a CBDM process. These can be divided into two broad categories, *insiders* and *outsiders* (ADPC 2009; Victoria 2002; Rodríguez & Aguirre 2005). Insiders are those individuals, organisations and stakeholders who are located within the community. As insiders, every individual, family, organisation, business and public service in a community has a role to play in reducing disaster risks, as all of them could be affected by disasters. A local Disaster Management Committee should mobilize the different actors in order to implement the multitude of projects, strategies and actions to be deployed during a CBDM process (ADPC 2009:3). Outsiders refer to those sectors and agencies located outside the community who want to reduce community vulnerability and enhance its capacities for disaster risk management. Outsiders include, for example, government ministries and departments, voluntary organisations and NGOs (ADPC 2009:4). Their role is to support the community's efforts in reducing their vulnerabilities and enhancing their capacities. They can do this through providing technical, material and financial support. Successful disaster education and management must involve the integration of both insider and outsider accounts. The desired outcome is a creative synthesis of these various values and truths through highly interactive and collaborative processes (Rodríguez & Aguirre 2005:3).

When all these actors join in collaboration on the disaster management arena, community volunteers, local disaster management committees and organisations becomes the necessary interface or channel for outsiders such as NGOs and government agencies (Victoria 2002:274). Thus, in their role as institutional support (i.e. providers of financial resources, technical expertise and political influence), outsider agencies must be aware of their potential dominant position towards the affected communities (ADPC 2009:4). See Victoria (2007:278-280) for an elaborated discussion on the role of NGOs and government agencies in CBDM programmes.

The outside agencies may initiate the CBDM process as part of their agenda, or the communities may contact them in order to receive support. Where the initiative comes from is less important; what matters is that after initiating the process, the community participates in study of their disaster risks, action planning and decision making on mitigation and preparedness solutions and in the implementation stage (Victoria 2002:277).

Aiming at transforming vulnerable communities into disaster-resilient communities, CBDM programmes generally develop in a six- to seven-step process (Victoria 2002; ADPC 2009; Danish Red Cross 2005). First, outside organisations connect with the community at-risk (or communities contact them in order to receive support); second, the parties involved create a common understanding of the present risk- and disaster situation; third, participatory assessments of hazards, vulnerabilities, and capacities are carried out; fourth, appropriate mitigation and preparedness measures are identified; fifth, the community forms a disaster preparedness and response organisation; sixth, short-, medium-, and long-term risk reduction measures, activities, and projects are implemented; and seventh, continuous improvement of the disaster risk reduction plan, and documentation and dissemination of good practices for replication, are carried out (Victoria 2002:274).

In order to identify key factors for successful CBDM, Pandey and Okazaki (2005) conducted six case studies in the Asian region, targeting three specific hazards: cyclones (India and the Philippines), earthquakes (Indonesia and Nepal) and floods (Bangladesh and Cambodia). Crucial factors for sustainable community-based work were, among others, the participation of community citizens and groups in all stages of the process, shared motivation and sense of ownership among community and supporting agencies,

well-delivered educational and training inputs in accordance with the objectives of the project and the needs of the community, and a specific focus on sectorial groups like women, elderly, children and ethnic minorities. These results are in accordance with the reviewed literature on CBDM approaches, for example Jahangiri et al. (2011:92), López-Marrero & Tschakert (2011:229), and Victoria (2002:276).

As a practice, CBDM programmes have taken root in all developing regions. Since the 1990s, CBDM approaches have been increasingly taken up by almost all of the major international NGOs and other organisations such as the World Bank and United Nations Development Programme (Maskrey 2011:45). Programmes similar to CBDM include, for example, the Integrated Community Disaster Planning Programmes that have been employed by the Red Cross in Southeast Asia (Danish Red Cross 2005) and the Local Level Disaster Management that has evolved mainly in Latin America and to a lesser extent in Asia (Maskrey 2011:45).

Building resilience through private-public collaboration

International research on recovery highlights the importance not only of strong local government capacity, but also of a cohesive system of public, private and volunteer groups integrated into the community (Johnston et al. 2012: 253). Since a major part of the workforce is engaged in the private sector, responsibility for building community resilience cannot rest upon the public sector alone. Thus, all sectors must collaborate to build community-level disaster resilience (NRC 2011: xi).

Much of what is known about disasters and emergency management is based on studies of households, broader communities, and organisations in the public sector (Phillips et al. 2012: 378). However, recently the private sector has begun to attract attention in the context of disasters and emergency management. Three major reasons are considered by Phillips et al. (2012): first, there is a growing awareness of the financial costs of disasters and, as stated above, this cost cannot be handled by the public sector alone; second, recent major events have highlighted the importance of the role of the private sector in emergency response, as many key elements of the critical infrastructure (i.e. electricity, telecommunications and transportation) are owned or operated by private companies; and third, 'businesses' ought to be added to the list of key stakeholders (along with individuals and households, community groups, and government agencies) that must resume normal operations quickly during the recovery phase (Phillips et al. 2012:379; Henstra 2010:239). In addition, businesses should be ready to respond to and recover from disasters because (a) companies have a moral duty to protect their employees, (b) companies need to follow existing laws related to safety, and (c) companies can return to business much more quickly, which helps not only the business sector, but also the larger community and the affected region (Phillips et al. 2012:23).

The National Research Council (NRC) discusses a framework for enhancing disaster resilience where the emphasis is on private-public local-level strategies. Some key issues mentioned are the importance of recognizing the significance of local networks and recognizing network diversity. Efforts to mobilize individuals and groups are at their most efficient and successful when initiated through existing networks and institutions, using multiple mechanisms (NRC 2011: 60).

People are more motivated to participate in collective efforts through the groups and institutions in which they normally participate, rather than as isolated individuals. Inclusive networks can be created by linking and optimizing existing professional, religious, service, social, economic, and other networks. Collaboration with local

agencies can increase the effectiveness of collaboration, not only through increased interaction with the emergency management community, but also the relationships of local organisations with members of the community (NRC 2011: 61). Private-public collaboration, whether directed at enhancing a community's quality of life, solving community problems, or aiding communities in becoming disaster resilient, will be most successful when it includes an early comprehensive assessment of the diverse community network assets (NRC 2011: 62).

Private-public cooperation can be pursued informally or in a more structured way, and it can be pursued over a short- or long-term perspective. Formalized cooperation usually involves some degree of financing and a plan for action. At present, private-public cooperation in crisis management is often pursued in an informal and temporary manner (KBM 2008: 58).

Cooperation is often centred on a specific problem or activity, and limited in time to the duration of a certain project. But cooperation can also favourably be long term and formalized (see figure 2 below). Previous studies show that it is better to use pre-existing or established forms of collaboration (if such exist) instead of creating new forms specifically for private-public cooperation in crisis management (KBM 2008:59; Henstra 2010: 239).
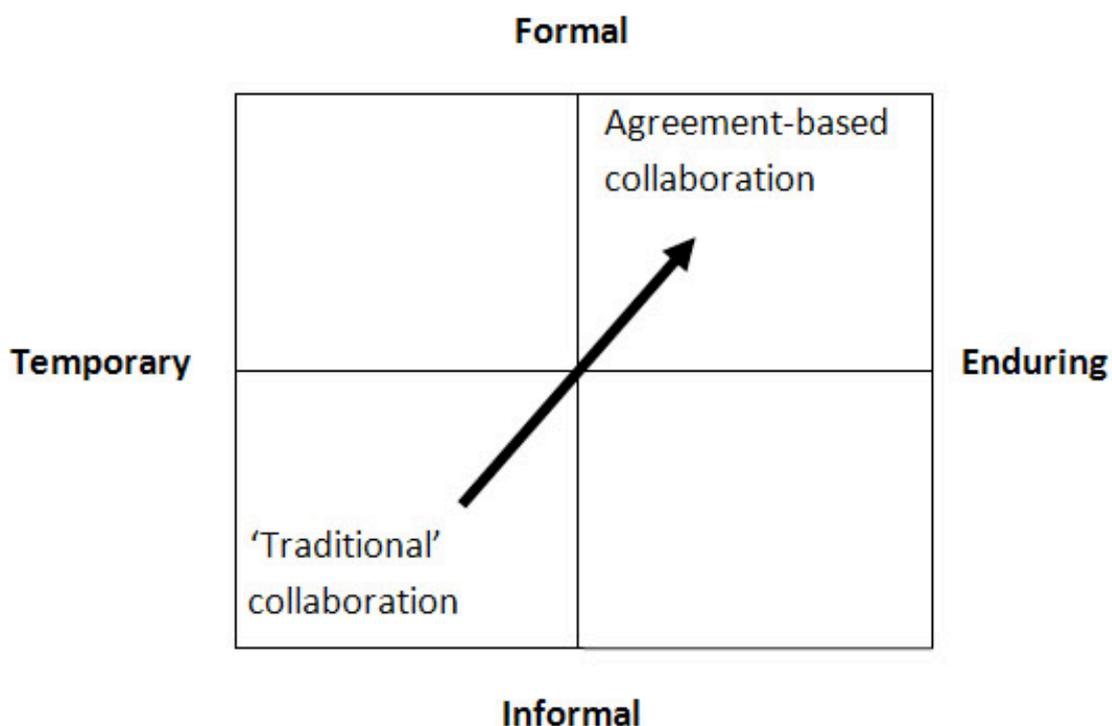

Figure 2. Dimensions of private-public cooperation (KBM 2008:58)

The multi-agency collaboration of 'insider' agencies

During a crisis or disaster there is no time for an emergency manager to set up meetings with his or her state or federal representatives. The emergency manager must have confidence in the competence of other agencies, just as other agencies must trust the emergency manager's competence in his or her area of responsibility (McEntire & Myers 2004:150). Thus, inter-agency networking before a crisis occurs is crucial to the implementation of an effective crisis mitigation and recovery programme (ibid).

In an extensive literature review on disaster management, Lettieri et al. (2009) traces some of the main features of inter-agency networking. The findings indicate the importance of well-developed coordination between and within all the organisations involved through team working across all phases, from strategy to recovery and not only during response (Lettieri et al. 2009:129).

In a recent paper, Johnston et al. (2012) pointed to the importance of multi-agency community engagement during the response and recovery phases of a crisis or disaster. The coordination of diverse professional resources is required to deal with the physical, social, and personal consequences of extreme events (Johnston et al. 2012:253). The issue has also been highlighted by Paton (2006), who states that as the event progressively moves through the response phase, adaptive capacity will increasingly involve interaction between communities and societal-level institutions, such as businesses and emergency response agencies (Paton 2006:313). Thus, the quality of reciprocal relationships between communities and societal institutions will influence the quality of the community experience of recovery on the whole community level (ibid).

The collaboration of agencies, institutions and the public in situations of crisis and disaster is often achieved in an ad hoc manner (Johnston et al. 2012:264), and thus difficulties might arise in getting communities to participate in complex decision-making in times of stress immediately after a disaster event (ibid. 265). One possible strategy to alleviate this problem is to ensure that communities participate in similar participatory decision-making processes prior to an event, so that the process and structure are familiar to them, thereby locating them in a more recognizable and less stressful environment after a disaster (ibid).

Public health agencies and the public

Public health services are uniquely placed at the community level to build human resilience to crises and disasters (Keim 2008). In a recent article, Barishansky and Mazurek (2012) define the intersection of community resilience and public health, and explore what the public health sector can do to raise community resilience. The authors state that over the years the public health sector has been given more and more responsibilities. Chandra et al. also point out that the sustained ability of communities to withstand and recover from adversity (e.g. economic stress, influenza pandemic, man-made or natural disasters) has become a key policy issue in recent years (2011:1). In addition to its traditional agenda, public health is now required to serve, in some capacity, as a response agency alongside police, fire, emergency medical services and so on. Public health departments are to ensure that local civic leaders, citizens, and families are educated about threats and empowered to mitigate their own risks, in order to ease the need for additional assistance (Barishansky & Mazurek 2012:3).

It is increasingly recognized that communities may need to be on their own after an emergency before help arrives and thus need to build resilience before an event (Chandra et al. 2011:1). By promoting safety and health, public health works to reduce the pre-existing burden of disease, build social capital, and strengthen community resilience to a wide range of hazards, including extreme weather events like drought, wildfire, floods, cyclones and landslides (Keim 2008). In the context of crisis and disaster management, health promotion involves working with people to prevent, prepare for, and respond to, disasters so as to reduce risk, increase resilience and mitigate the impact of disasters on health (WHO 2003:202).

As stated above, community engagement helps relieve the burdens on health and safety agencies by enabling more members of the public to assume the role of responder rather than victim (Schoch-Spana 2006:16). In critical situations, leaders should be able to tap the civic infrastructure (i.e. the public, voluntary associations and social service organisations) to support agencies during response and recovery, and meet the diversity of needs in modern communities (ibid). In the management of less critical situations during everyday life emergencies, like heart attacks, the public is encouraged to assume the role of first responder to relieve the burden on health agencies. The UK first aid charity St John Ambulance[6] and the Swedish medical university Karolinska Institutet[7] use a web-based SMS solution that enables unit leaders to contact volunteers quickly so that the nearest individual trained in cardiopulmonary resuscitation (CPR) is called when someone is experiencing cardiac arrest.

Community resources, networks and capital(s)

Communities have many different kinds of resources related to social phenomena. Magis (2010) describe some of these resources in terms of community capitals. Community capitals are the social, cultural, spiritual, and political capitals inherent in a community. *Social capital* refers to the ability and willingness of community members to participate in actions directed to achieving community objectives, and to processes of engagement; *cultural capital* refers to people in social groups and reflects communities' ways of knowing the world; *spiritual capital* refers to the effects of spiritual and religious practices, beliefs, networks and institutions that have a measurable impact on individuals, communities and societies[8]; and *political capital* refers to community members' ability to access resources and power, to express themselves, and to participate as active agents in their community (Magis 2010:406-407). The formation of effective and productive social networks constitutes a key element in the development of social capital (NRC 2011:106). Also, using and strengthening existing social networks means investing in the social, economic, and political structures that make up daily life and connecting them to emergency management programmes (FEMA 2011:16). In a recent article, López-Marrero and Tschakert (2011:231) list the different elements that support community resilience in the face of hazards. Social capital, according to the authors, is a key source of resilience upon which partnerships and collaboration depend. Networks, partnerships and collaborations of stakeholders and institutions operating at different levels also promote social learning, foster diversity and create opportunities for recovery, renewal and reorganisation (López-Marrero & Tschakert 2011:231).

Aguirre (2006:4) mentions 17 disaster-related institutions in which relevant networks can be assumed to operate. They are the family, religion, politics, economy, medicine and health, education, science, law and the courts, risk management (including insurance as well as the police, firefighting and other response instrumentalities), mass media and communication, transportation, energy, food, water, leisure and entertainment, construction and other built environment activities, and land use and environmental regulation and protection. Networks of social relations populate these institutions, so that social life in them can be conceptualized as involving social networks acting within and across these institutional boundaries (Aguirre 2006:4).

The multitude of networks, groups, associations and institutions within a community is sometimes referred to as *the social infrastructure* of communities (FEMA 2011:16). At other times, the term *civic infrastructure* is used. The civic infrastructure of a community

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[6] www.sja.org.uk/sja/volunteer/first-aid/community-first-responder.aspx
[7] www.smslivraddare.se

[8] www.metanexus.net/archive/spiritualcapitalresearchprogramme/what_is.asp.html

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comprises the public's collective wisdom and capability to solve problems; voluntary associations (both virtual and face-to face) that arise out of shared interests or a public good; and social service organisations that look to the wellbeing of various groups (Schoch-Spana et al. 2007:8). In situations of extreme events, like crises and disasters, leaders should be able to tap the civic infrastructure to support emergency agencies during response and recovery. Thus, volunteer integration and partnerships with community based organisations should have experience of working on a daily basis before the event (Schoch-Spana et al. 2007:16).

As mentioned above, community approaches in emergency preparedness and response are most successful when begun through existing networks and institutions. People are less motivated to work toward a goal as isolated individuals; rather, they prefer to participate in collective efforts through the groups and institutions in which they normally participate (NRC 2011:60). Therefore, community stakeholders collaborating in resilience-enhancing strategies should consider how to reach individuals and groups through the organisations to which they belong (ibid. 61). Knowing who interacts with whom can be critical for developing coordinated emergency response plans before a disaster occurs. Thus, local community members need to be involved in response planning to determine what social networks exist and how to activate them during a disaster (Chandra et al. 2010:22).

The themes discussed in the previous and coming sections all relate one way or another to community cohesion. Cohesion is fostered and manifested through networks, partnerships and collaborations. Meaningful participation, like volunteer activities, contributes to a sense of community and community cohesion. Slatter and Worth (2011) have proposed a model displaying the relationships between different levels of cohesion. They found that the level of community cohesion depends on the capacity of the local community infrastructure at four levels: (1) *the connection between people and place*; (2) *links between citizens – especially neighbourliness*; (3) *a feeling of belonging and the ability to express their identity as a community*, and; (4) *the capacity for shared activism* – 'doing things together' – enabled by community networks and public facilities (Slatter & Worth 2011:7).

While these levels were not developed specifically for the purpose of crisis and emergency management activities, they could serve as inspiration when considering different conditions and possibilities for citizen participation in the co-production of crisis preparedness and response activities on the community level.

Voluntarism and Convergence

In the aftermath of September 11, 2001, Citizen Corps[9] was initiated to capture the spirit of service and voluntarism that emerged throughout communities in the US. The mission of Citizen Corps is to harness the power of every individual through education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues, and disasters of all kinds. These programmes provide opportunities for people to participate in a range of measures to make their families, their homes, and their communities safer. Citizen Corps is coordinated nationally by the Department of Homeland Security's Federal Emergency Management Agency (FEMA). Together, Citizen Corps and FEMA coordinate an ambitious initiative for increasing individual preparedness and engaging community members in enhancing security and resilience. This initiative is called 'A

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[9] www.citizencorps.org

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Whole Community Approach' (see page 34 below).

Fisher (1998) among others has shown that general beliefs about people's behaviours during crises and disasters are often fallacies, supported by media news reports. Panicking crowds, looting and antisocial behaviour is thus part of the disaster mythology. On the contrary, a quantity of studies report that people typically react to situations of collective stress with a spirit of concern and generosity, and that volunteer activities increase in the direct aftermath of an event (Trainor & Barsky 2011:25).

The interaction between professional emergency actors and the general public has been considered by Enander (2010:15-16) from two perspectives. One focus is on admitting the concerned public into the 'risk- and crisis arena' as partners in dialogue, planning, decision-making and practical measures, and the other is on activating the passive public and engaging them in constructive community risk- and crisis management. With respect to the latter, the public might be perceived as passive when people fail to understand - or consciously ignore - a threat. Collective passivity or ignorance could be the outcome when the public experiences repeated threat warnings over a short span of time (Wang & Capucu 2007). Crucial factors in both approaches are perceived level of trust towards authorities, and perceived level of personal responsibility and capacity (Enander 2011:164-165). A high level of trust towards authorities combined with high confidence in personal responsibility and capacity is a strong motivator for people to comply with recommendations and to take pro-active action (ibid).

An increasing number of studies stress the fact that emergency management agencies should encourage and utilize citizens' active participation during crises and disasters. This could be done by the assimilation of citizens' skills, knowledge, and experiences when planning for crises (Enander 2011:166), by mobilizing and coordinating relevant social networks (Aguirre 2006:4-6), and by paying serious attention to channelling volunteer potential (Trainor & Barsky 2011:27).

Aguirre (2006) mentions two types of social networks that need to be included in the project of creating resilient communities. In the first group are the networks, groups, and voluntary organisations that deal explicitly with crisis and disaster management. These groups often respond to disasters but are not financially or otherwise assisted to facilitate the work of professional emergency workers, or, as Aguirre puts it, "they come, they help, and they disappear" (Aguirre 2006:5). In the second group are the many relevant networks that do not define themselves as doing anything related to community resilience but who are in possession of skills or material resources vitally needed during crisis and disaster management. These groups arise in response to crisis but are often not recognized or used effectively by emergency management officials (NRC 2011:62). Aguirre illustrates this type of network with fishermen. As owners of boats they came to be key actors in the aftermath of Hurricane Katrina. They had the resources required for searching and rescuing victims in the flooded area (Aguirre 2006:6).

Apart from the two types mentioned by Aguirre, there are also other relevant networks to be considered. FEMA (2011:18) provides a concrete example about a research team that had worked for months after the catastrophic earthquake in Haiti 2010. They identified two different types of social and organisational networks providing aid to earthquake survivors. One network consisted of the large relief agencies that focused on transporting a large volume of humanitarian aid from outside the country and into the disaster area (this network is thus similar to the first type mentioned by Aguirre). The second type of network involved pre-existing social groups that routinely worked

with, and inside, local Haitian neighbourhoods to provide basic social services. This network was established in the local community prior to the event, dealing with the everyday needs and problems of the community residents. Thus, one important aspect of effective emergency management is acknowledging the value of leveraging the *existing* social infrastructure.

Brennan (2007:8; 2006:2) emphasizes the fact that volunteers interacting together not only enhances local personal and community safety, but that volunteer interaction also serves the function of transcending class and racial divides in the search for community well-being. Thus, volunteerism provides a mechanism to cut across gender barriers and more adequately include women, youth, and minorities in local decision-making.

Volunteer organisations in crisis preparedness and response

Volunteer organisations, like faith-based, community-based and civic organisations, play an important role in crisis and disaster management. In the US, the National Voluntary Organisations Active in Disaster[10] (NVOAD) coordinates more than fifty members to provide disaster assistance (Phillips et al. 2012:23). Many organisations have determined their own specific set of tasks during crisis and disaster response. As a result, they can decrease duplication of tasks and maximize resources (Phillips et al. 2012:24). One example, provided by Holcombe (2007), describes how the characteristics of a faith-based organisation can influence the type of service it chooses to provide:

> For example, the leader at a black Baptist church that served as a shelter [*during Hurricane Katrina*] noted that the congregants were able to identify with the evacuees since many personally understood needing material assistance. Leaders and members at a large black Methodist church have a lot of experience dealing with the homeless population, partly because a large proportion of their own congregants are homeless. Thus, in a position to understand the evacuees who were homeless even before the storm, the church focused its relief efforts on serving this hard-to-reach group of people. (Holcombe 2007:114)

Civic organisations usually do not focus on disaster concerns, but serve as extension organisations when crises or disasters occur. In Sweden, 17 agencies and organisations have established a national platform for disaster risk reduction. This platform works to prevent and handle the effects of crises and disasters in line with Sweden's commitments to the Hyogo Declaration and the Hyogo Framework for Action (MSB 2010:7). Examples of organisations associated to the platform are the Volunteer Air Corps, the Voluntary Radio Organisation, the Civil Defence Organisation, the Swedish Women's Voluntary Defence organisation, and the Swedish Working Dog Association (www.msb.se).

Community organisations differ from civic organisations in that they focus mainly on those in need locally before extraordinary events like disasters occur (Phillips et al. 2012:413). These organisations offer emergency managers an important connection to local residents:

> Staff and volunteers in community-focused organisations know and understand the local context. They know who is in need, which households may fall through the cracks, and the most effective ways to use incoming assistance. Community

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[10] www.nvoad.org

organisations also bring in expertise that emergency managers may lack. A local senior citizen center, for example, understands what seniors need and how to serve them. (Phillips et al. 2012:414)

The BC Coalition of People with Disabilities[11] (BCCPD) is a Canadian umbrella organisation, representing over 120 community organisations in emergency planning for people with disabilities. The organisation works to promote the inclusion of people with disabilities in emergency preparedness and response activities, and for that purpose has developed a programme for community training in emergency planning for people with disabilities (BCCPD 2010). The programme invites staff and volunteers from volunteer centres and disability organisations, as well as friends, family and others in the informal networks of people with disabilities. Also, emergency response professionals, seniors' organisations, groups dealing with issues of poverty, care aids, paratransit drivers, and people from diverse cultural groups and interested members of the public, are invited to take part in this programme.

Perspectives on disability in crisis and disaster management

The Red Cross World Disasters Report of 2007 states that people – and not disasters – create discrimination. Ethnicity, gender, language, religion, political view, national or social background and economic circumstances are but just a few of the causes of discrimination, hampering many crisis and disaster management efforts (Red Cross 2007:2). The World Disasters Report of 2007 focuses on some specific categories of vulnerability in situations of crisis, such as minorities, women, the elderly, and the disabled.

Who is resilient and who is vulnerable is discussed by, among many others, Buckle, Marsh and Smale (2001). They state that everyone is vulnerable in one way or another to some loss: "Even the wealthy may be vulnerable to loss of irreplaceable memorabilia, emotional or psychological loss. Even though they have the resources to easily replace material losses. Equally, most people will have some degree of resilience, some coping capacity, some resources or networks or support services to draw upon" (Buckle et al. 2001:23). Similarly, there are groups that are traditionally accepted as being vulnerable. However, it is important to understand that the elderly for example, are not vulnerable because they are elderly. They may be vulnerable because they have reduced mobility or have sensory impairments. These may be impediments that other younger people also share (Buckle et al. 2001:22).

In crisis and disaster management activities, it is important to think about disability broadly.[12] Traditional narrow definitions of disability are not appropriate (NCD 2005:11). The term disability does not apply only to people whose disabilities are noticeable, such

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[11] www.bccpd.bc.ca

[12] In this report we use the term disability since this is the term consistently used in the reviewed literature. However, we are fully aware that the term impairment could also be employed. Impairment refers to an injury, illness, or congenital condition that is likely to cause a loss or difference of physiological or psychological function, while disability refers to the loss or limitation of opportunities to take part in society on an equal level with others due to social and environmental barriers. Disability is thus the result of negative interactions that take place between a person with an impairment and her or his social environment. An impairment is not the cause of, nor does it justify, disability.

(www.leeds.ac.uk/disability-studies/archiveuk/.../ defining impairment and disability.pdf)

as wheelchair users and people who are blind or deaf. The term also applies to people with heart disease, emotional or psychiatric conditions, arthritis, significant allergies, asthma, multiple chemical sensitivities, respiratory conditions, and some visual, hearing, and cognitive disabilities (ibid).

As stated above, it is important to think broadly about disability in crisis and disaster management. Notwithstanding, we might need framework of sorts to help us relate the broad perspective to our everyday life approaches to disability. The EU sees disability as a social construct and stresses the environmental barriers in society which prevent the full participation in society of people with disabilities [COM(2003)650 pp.4]. Similarly, the National Council of Disability states that people with disabilities should be able to use the same services as the other residents of the community in which they live:

> Although they may need additional services, the emergency management system must work to build provisions for these services into its plans so that people with disabilities are not excluded from services available to the rest of the community. If planning does not embrace the value that everyone should survive, they will not. (NCD 2005:11)

In the last few decades, approaches to disability issues have been based on a social model of disability. The focus is on disabled people's rights and on the need to change society to be inclusive of everybody. In these models, it is the way that society is organized to exclude people with impairments that is considered disabling, not the individual impairment (EC Guidance Note 2004:3). Or, as stated by Hemingway and Priestly, "Just as disability is not the inevitable outcome of functional impairment, human 'disaster' is not the inevitable outcome of natural 'hazard'. Rather, disabled people's vulnerability to human disasters is embedded within social structures, institutional discrimination and the presence of environmental barriers." (Hemingway & Priestly 2006:58)

In summary, the disability discourse has moved from special needs to functional needs. Individuals with functional needs are people who before, during and after an incident may have additional needs in one or more of the following functional areas: maintaining independence, communication, transportation, supervision and medical care (Cameron 2011).

Supporting citizens with disabilities to become an effective part of the economy and society as a whole means participation in the mainstream for everyone for whom this is possible and in every area where this is possible. Mainstreaming requires well-informed policy-making and wide participation in the policy process to ensure that disabled people, and their diverse needs and experiences, are at the heart of policy-making each time it has an impact, directly or indirectly, on their lives [COM(2003)650 pp. 6]. Thus, people with disabilities must be included not only as an effective part of the economy and society as a whole, but also in the specific area of crisis and disaster management.

For example, the Verona Charter on the rescue of persons with disabilities in case of disasters (2007), states that:

> (a)   Persons with disabilities and their organisations need to be actively involved in decision-making processes concerning situations of humanitarian emergencies and the occurrence of natural and man-made disasters and in all the related emergency management activities. This involvement should be fostered by the development of inclusive policies at all levels starting from organisations

of persons with disabilities and families, communities up to national and international organisations. Persons with disabilities and their organisations need to be aware of the management of all phases of the intervention in case of risk situations and empowered to be active actors. (Article 3)

(b)   The establishment of local community networks have to be encouraged and empowered also when it comes to addressing the needs of persons with disabilities in situations of humanitarian emergencies and the occurrence of natural and man-made disasters (i.e. Social networks and neighbourhood network). (Article 7)

(c)   The potential of new technologies should be fully implemented and used to empower persons with disabilities and to ensure equal opportunity and treatment also in emergency situations. (Article 11)

(d)   Information should be correct and easily understandable, accessible by all and appropriate to meet the different needs of persons with disabilities considering the different kind of disabilities. (Article 12)

Hemingway and Priestly (2006) reported on case studies from Hurricane Katrina that provided evidence on the readiness and capacity for disaster response among disabled people's organisations and community-led advocacy organisations. This readiness was reflected in informal networks of support and communication and in specific forms of disability expertise that were not readily available within the mainstream disaster response systems (Hemingway & Priestly 2006:63). The authors therefore conclude that improvements in resilience to disaster must include investments in the full participation and equality of disabled people in vulnerable communities (ibid. 64). Likewise, the National Council on Disability reports that the strengths and skills of community based organisations (CBOs) serving people with disabilities are yet not well integrated into the emergency service plans and strategies of local government (see the previous section). Emergency managers need to strengthen their relationships with these organisations by recruiting, encouraging, and providing funding and incentives to CBOs so that they can participate and assist in disaster preparedness and relief (NCD 2005:12).

Shein (1989) proposed a theory of the deaf community that includes both a strong sense of affiliation no matter where deaf people live in the world, as well as a sense of alienation from the hearing society that does not understand them. During Hurricane Katrina, White and her colleagues sent word out to the deaf community that cots and mattresses were needed by the deaf evacuees. Within hours they began arriving, along with captioned television sets and TTY (i.e. text telephone) devices for deaf evacuees to make phone calls (White 2006:52).

In several locations, disability task forces, offices, or agencies have fostered positive change through cooperation and collaboration. For example, the City of Chicago's Mayor's Office for People with Disabilities pulled together builders, architects, developers, and the disability community to design a new, accessible building code. The effort connected people in a partnership that produced change (NCD 2007:227).

Synthesis: the example of FEMA's 'Whole Community Approach'

As stated by Aguirre (2006), increasing community resilience means that governments must facilitate and strengthen independent and coordinated and cooperative social networks. Such networks could then be the catalysts of social and cultural change in

a society through the introduction of mitigation practices (Aguirre 2006:4). This, says Aguirre, "…would be resilience from the bottom up as it were, allowing for myriad mitigation efforts that would be loosely facilitated by governments" (ibid).

One such initiative was recently introduced by the US Federal Emergency Management Agency (FEMA). The 'Whole Community Approach' represents a new foundation for increasing individual preparedness and engaging members of the community in enhancing security and resilience. The concept of A Whole Community Approach is a means by which residents, emergency management practitioners, organisational and community leaders, and government officials can collectively understand and address the needs of their respective communities and determine the best ways to organize and strengthen their assets, capacities, and interests (FEMA 2011:3).

The Whole Community Approach acknowledges that changes in transportation systems, changes in housing styles, shifting employment trends, and increased ethnic and linguistic diversity, in combination with new technologies, will alter the ways in which local residents plan their home-to-work commuting patterns as well as their leisure time (FEMA 2011:1). The challenge for those engaged in emergency management is to understand how to work with the diversity of groups and organisations and the policies and practices that emerge from them in an effort to improve the ability of local residents to prevent, protect against, mitigate, respond to, and recover from any type of threat or hazard effectively (ibid. 3).

The approach is guided by three main principles: (1) *we have to understand and meet the actual needs of the whole community*. Thus, community engagement can lead to a deeper understanding of the unique and diverse needs of a population, including its demographics, values, norms, community structures, networks, and relationships; (2) *we have to engage and empower all parts of the community*. Thus, engaging the whole community and empowering local action will better position stakeholders to plan for and meet the actual needs of a community and strengthen the local capacity to deal with the consequences of all kinds of threats and hazards; (3) *we have to strengthen what works well on a daily basis.* Thus, building community resilience requires finding ways to support and strengthen the institutions, assets, and networks that already work well in communities and address issues that are important to community members on a daily basis (FEMA 2011:4-5).

The advantage of creating a holistic and all-embracing change process, such as the Whole Community Approach, is enormous (Aguirre 2006:7). For example, in a vigorous system of networks, people would use these associational arrangements to channel their charity, thus discouraging the phenomenon of convergence (i.e. the 'downside' of voluntarism, when people and material assemble in unstructured ways at the sites of disasters). In addition, the emphasis on social networks would allow governments to provide training and specify functions which would be performed by volunteers who would participate in the management of crises and disasters as part of certified networks of social relations (Aguirre 2006:8).

5. Major themes and research opportunities

In the previous sections we featured a wide spectrum of conditions for the empowerment of citizen participation in crisis and disaster management on the community level. The main focus of section 4.1 was on crisis communication in different types of communities, while section 4.2 described different types of collaboration in crisis and disaster management. The present section aims to clarify the major themes

which emerged during the literature review. The order of themes highlighted is not hierarchical in any sense, and some themes are naturally recurrent or overlapping. First, the themes and conclusions from section 4.1 and 4.2 will be summarized. Following that, the report is rounded off by suggesting some research gaps and opportunities found in the course of this literature review.

Summary of major themes

• Perception, assessment and knowledge of risks and crises in communities are influenced by individuals' relationship with their physical and social environment. Rural and urban residents evaluate crisis plans differently, and will follow recommended actions during a crisis situation differently.

• Accordingly, in the preparation phase, before an emergency situation, crisis or disaster, it is important to map diverse perceptions and opinions in communities and social groups, in order to be prepared to adapt crisis communication to diverse stakeholders during a crisis, when instantaneous information is needed to avoid severe damage or harm and afford protection. Values of personal responsibility and community involvement need to be included in mitigation strategies.

• Trust in information provided by emergency management agencies, and the media also vary. Thus, during a crisis, the choice of spokesperson is crucial to ensure that crisis communication messages are trusted and recommended actions followed. However, the literature does not go very deeply into the mapping of different types of communities or social groups and their preferences concerning spokespersons and message content, and hence this might be further investigated in order to meet the goal of enhancing community resilience. One example is that rural residents might need information that concerns not only their own safety but also that of their livestock, which is of important economic and personal value to them.

• New residents might not be aware of special conditions in the area, warning systems or emergency procedures. These include the risk of natural disasters such as volcanic eruptions, earthquakes, hurricanes and flooding, and information and procedures in the event of an emergency, such as where recommended shelters are situated.

• Moreover, the disaster history of the area influences the willingness to follow evacuation instructions. In areas where community members have experienced disasters they are more prone to follow instructions.

• Young people (13-19 years old) have been shown to differ in their awareness and appropriate knowledge of the risk for natural disasters. Media stories produced erroneous ideas, and rumours and misinformation contributed to inaccurate hazard perceptions. Here, the development and role of social media has not yet been studied to any great extent.

• Minority communities (such as racial and ethnic communities) are more vulnerable during crises, and display lower trust in authorities and officials. Distrust was a significant barrier to the acceptance of risk communication messages. Thus it has been recommended to make more use of existing organisations, such as churches, for communication and education. Local partnerships are valuable.

• *People rather than disasters:* Some authors in the reviewed literature emphasized that the focus should be on people and what people can do, instead of what risks and

hazards they might face. The principle underlying this line of argument is that all crises and disasters are different and have different impacts depending on the context and structure of the affected community. Thus, what matters is that people become involved and take actions to become better prepared, rather than focusing on the physical impact of disasters.

• *Flexibility of approaches:* In the reviewed literature, we saw that communities are not static and predictable entities with clear boundaries and homogeneous populations. On the contrary, modern communities are nested, dynamic and complex. They can be based on circumstance, belief, interest or place. Similarly, crises and disasters are always different in scope, intensity and magnitude. The consequences of disasters differ in various regions due to geographic, demographic, socioeconomic, political, cultural, and other issues. Thus, it is not possible to design a uniform approach or application to fit every possible context. Approaches must be applicable to diverse environments and communities.

• *Utilize pre-existing forms of collaboration:* A major part of the literature stresses the importance of using pre-existing or established networks (i.e. families, workplaces, associations, organisations, congregations, etc.) when reaching out to people. FEMA (2011:16), for example, states that "Leveraging and strengthening existing social infrastructure, networks, and assets means investing in the social, economic, and political structures that make up daily life and connecting them to emergency management programmes." Efforts to mobilize individuals and groups are more successful when begun through familiar networks. People prefer to participate in collective efforts through the groups and institutions in which they normally participate, rather than through forms of collaboration created specifically for crisis and disaster management. Thus, collaboration between different actors should occur prior to an actual event, and the matter of collaboration does not have to focus on crises or disasters per se.

• *Utilize local actors and networks:* Resilient communities should be able to draw primarily upon internal resources and competencies to manage the demands and challenges encountered during a crisis or disaster. Local authorities should be able to tap the civic infrastructure of the local community in order to get the relevant resources, relief and input needed in the specific case. Internal resources and competencies refers not only to an involved and empowered public, but also to the multitude of public, private and civic agencies, organisations and businesses active on the community level. Previous research, for example Chandra et al. (2010:23), has suggested that the decentralized and flexible structure of local social networks allows them to respond quickly, and that a centralized, rigid emergency response takes longer to mobilize and can ultimately delay the distribution of needed resources.

• *A salutogenic vision:* Recurring in the literature is the idea that we have to strengthen what already works well on a daily basis at the community level. We have to start with existing and familiar networks and integrate crisis and disaster management activities into these. We have to emphasize and encourage good examples, and not get caught up in the weaknesses and vulnerabilities of local communities. A fundamental assumption in the co-production of theory and practice is that people have assets and not just problems.

• *A 'philosophy' of resilience:* Public participation in community resilience is not simply a technique to be applied at different stages of the project cycle; it is also a philosophy about how development is approached and implemented. Increased and authentic

citizen participation that focus on both the process and the outcome is also seen by some public administrators as essential for quality policy development, and ultimately improved quality of life. As stated by FEMA and others, we have to foster a way of thinking on safety and resilience that is nourished in a culture of neighbourliness and helpfulness. Community resilience is about acknowledging and using community diversity and heterogeneity for a common cause. Thus, drawing on the principles of FEMA's 'Whole Community Approach', we have to understand and meet the needs of the whole community, and we have to engage and empower all parts of the community. As noted by the National Research Council (NRC), disaster resilience is a by-product of more general activities designed to improve the social and economic well-being of community residents. Being prepared for and surviving adversity are prerequisites of a healthy community (NRC 2011:41).

• *Acknowledge and support unconventional voluntary efforts:* Many of the existing organisations, groups and networks grounded in collective needs and interests could be accentuated as potential actors in crisis and disaster preparedness and response. People and networks within specific interest groups or professions with no previous connection to crisis management might be in possession of skills or material resources vitally of value in crisis and disaster preparedness and response. Untraditional voluntary initiatives and efforts should be acknowledged and rewarded. The International Federation of Red Cross and United Nations Volunteers recommends integrating volunteerism as a mainstreamed issue in national policies and programmes to ensure that the capacity of citizens to engage in flexible and diversified voluntary action is not reduced.

• *Empowered individuals and communities counter discrimination:* As stated in the reviewed literature, ethnicity, gender and social and economic circumstances are but just a few of the causes of discrimination hindering many crisis and disaster management efforts. By capacity building and inclusive voluntary community work, processes of empowerment can be triggered. The result is an enhanced sense of community and more opportunities for co-production. Meaningful participation that connects community citizens contributes to the channelling of communication and facilitates interaction that cuts across class and other divides.

• *Develop and formalize private-public collaboration:* Today, private-public collaboration in crisis management is often pursued in an informal and temporary project-based manner. However, collaboration should aim at long-term and agreement-based activities, to establish a stable and familiar infrastructure prior to a situation of crisis or disaster.

• *Enablers of public empowerment:* This review of the literature has traced a number of potential enablers at community level to support meaningful involvement and participation of the public in crisis and disaster management activities. The categorization provided here does not pretend to be complete or exhaustive in any way. Nevertheless, it reflects the networks, groups, institutions, organisations and agencies mentioned in the selected literature. In addition, the categorization aims to be an informative and inspiring list for those interested in community development with a focus on crisis preparedness and response.

> *Public and civil sector collaboration*
> Health agencies and institutions in collaboration with voluntary associations provide a relevant platform for involving citizens in crisis preparedness and response. The public can be encouraged to assume the role of first responder to relieve the burden on health agencies.

The social and civic infrastructure of communities
Skills, knowledge and material resources within local communities can be harnessed in order to create a culture of resilience. Assuming that we all have assets and not just problems, it becomes obvious that we all have something to contribute. People possess skills, knowledge and material resources vitally of value during situations of crisis. One's occupation or interest might embrace connections and capitals relevant in crisis management at the community level. For example, important partnerships can be formed among groups that interact with a given population on a daily basis: scout troops, sports clubs, home-school organisations and faith-based and disability communities are examples of networks where relationships can be built. Thus, all members of the community should be part of the emergency management team, including social and community service groups and institutions, faith-based and disability groups, academia, professional associations, and the private and nonprofit sectors. Identifying the critical points of contact for all constituencies in the community makes communication and outreach most effective.

Volunteer organisations
Volunteering in faith-based, community-based or civic-based organisations is a very important way to breed social capital. Many faith-based organisations do community work with a specific orientation to crisis and disaster management. Civic organisations often serve as extension and supporting organisations when crisis or disasters occur. Community organisations focus mainly on those in need locally during normal conditions. Thus, in case of extraordinary events, community organisations usually possess important knowledge about local conditions.

Research gaps and opportunities

• Socioeconomic status influences knowledge acquisition, according to the knowledge gap hypothesis. Underprivileged groups are at a disadvantage at times when information acquisition is most critical. However, cross-cultural differences in informational needs, interpretation, and response may be better predictors of knowledge gaps than socioeconomic status. More research on knowledge gaps and variables influencing knowledge differences is needed.

• Relationship quality between communities and emergency management agencies is proposed as a prerequisite for the enhancement of community resilience, but the processes of establishing and developing such relationships have not to date been fully studied. Communication, understanding and collaboration are essential, but we need to go into more depth in how these processes work and how they can be enhanced. In this way, participatory approaches, such as the Participatory Rural Appraisal approach to volcanic hazard management (Bird et al. 2011) can be further developed and evaluated.

• The adoption of new technology and knowledge development in risk and crisis communication is an important research topic in seeking to facilitate the usage of new technology and providing community members with the opportunities needed to take full advantage of these innovations. In an environment characterized by multiple communication channels, coordinating activities and gaining recommendations from different organisations (public and private organisations, and communities) are essential steps, as best practices on collaboration need to be established. Evaluations of the situational context need to be integrated into these studies, including the effectiveness of different channels, as well as the communication function they serve.

• The results of previous research are summarized in a model that may be tested in future research and used in the PEP project. Important parameters include access and adaptation of information, development of understanding and trust, which have been proposed to contribute to public empowerment in a crisis (see page 20).

• As seen in the present report, a large part of the literature comes from the US, while contributions from the EU remain rather modest. The general conclusion of this study, therefore, is that empirical research on how to include the public in collaboration on crisis and emergency management in the European context is needed.

• A well-connected community may be in a better position to share the information to be used in crisis situations with its stakeholders. Strategically, doing so will likely improve its stakeholders' resilience (NRC 2011:41). Thus, the more we know about our communities, the better we can understand their real-life safety and sustaining needs and their motivations to participate in emergency management-related activities prior to an event (FEMA 2011:4). Therefore, research should be focused on (1) how to motivate and integrate community-based, faith-based, and other nongovernmental organisations – including those not crisis-oriented – into resilience-focused collaboration; (2) how emergency management can be moved towards a 'culture of collaboration' that engages the full fabric of the community; and (3) how to build capacity for resilience-focused private-public sector collaboration (NRC 2011:105-106).

• The majority of the research reviewed for this report acknowledges a broad definition of communities, such as the one explained in the introduction. However, by tradition and simplicity, most research is done with the location-based community as the unit of analysis. Lots of people do not recognize their community as the people who live nearby to. Consequently, all kinds of communities should be considered as valid groups that can prepare for emergencies, and thus suitable objects of further research.

• The Multinational Community Resilience Group (Bach et al. 2010:27) proposes five analytical themes for further research. These themes, and the questions constructing them, are very much in line with the aims of the present project, *Public Empowerment Policies for Crisis Management*, described in the introduction. The themes proposed are also assumed to work as a support construct for policy opportunities and recommendations. The themes can be summarized as follows:

Themes: (1) *Understanding communities*; (2) *Social capital development*; (3) *Leadership; (4) Sustainability*; and, (5) *Mediating institutions.*

Some of the questions to be answered through continued research are:

> (1) What are the best practices among government and private sector agencies and social sector organisations in listening to, learning from, and engaging with community groups (including the general public) in local neighbourhoods?

> (2) What experiences at the local level activate and sustain local residents' interest and involvement in resilience activities?

> (3) What information do they need to motivate behavioural change and trigger preparedness activities?

> (4) How are these activities organized?

(5) What specific barriers do diverse communities face in participating in resilience activities?

(6) What types of support do communities need once they have decided to 'do something', including access to sources of expertise (people and guidance documents) or equipment and other assets?

(7) Who do they think this should come from?

(8) What 'entry points' exist for building an effective exchange between communities and national governments on resilience polices?

Similar themes for further research and policy opportunities have also been advanced by, among others, Chandra et al. (2010; 2011), FEMA (2011) and NRC (2011). Thus, these questions provide a good basis for the research still to be done within the project *Public Empowerment Policies for Crisis Management.*

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