

# Public Empowerment

– Guidelines for engaging the  
public in crisis management

**AUTHORS:** M. Vos, A. van het Erve, N. de Gouw,  
M. Haataja, L. Hokkanen, C. Johansson,  
M. Linnell, A. Olofsson, S. Öhman, H. Rantanen,  
H.T. Sullivan, M. Stal, F. Vergeer, E. Wall.



## Public Empowerment Policies for Crisis Management

Public Empowerment Policies  
for Crisis Management, FP7-284927



The research project 'Public Empowerment Policies for Crisis Management' leading to these results has been funded as part of the European Community's Seventh Framework Program (FP7/2012–2015) under grant agreement n° 284927.

# 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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[www.projectPEP.eu](http://www.projectPEP.eu) · [crisiscommunication@jyu.fi](mailto:crisiscommunication@jyu.fi)



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# 01

## Introduction

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*This guide is written for crisis managers and communication experts in public authorities and non-governmental organizations. It offers insights, guidelines and examples of how community resilience can be enhanced.*

This guide is written for crisis managers and communication experts in public authorities and non-governmental organizations. It offers insights, guidelines and examples of how community resilience can be enhanced.

There is no one simple way to create community resilience and enhance the public response in different kinds of emergencies. There are no simple solutions, as resilience is a phenomenon that is determined by many variables. Nevertheless, there are strategies that can be used in certain situations, engaging people, in preparation, response, and aftercare. In the recent past, some strategies can be noted to have worked, such as a citizen initiative that spontaneously occurred during a crisis, or a campaign in a community that really truly changed the attitude and behaviour of the target group. The European countries show great variety in community engagement, in both policies and practices. Their cultures and resources differ, as also do their political and economic structures and the interaction between local, national or international actors.

The aim of this guide is to help managers and communication experts develop strategies for empowering people in the different phases of the safety chain.

To engage people and educate also those who may not be particularly interested in preparedness and response information, better communication strategies for knowledge transfer need to be developed and utilized. These can include:

- Involving citizen and citizen groups in the planning and implementation of preparedness and response materials
- Providing information at the right time
- Making information accessible and more entertaining
- Utilizing social role models in disseminating information.





# 02

## Public empowerment

*Public empowerment policies are initiatives and activities that aim at increasing the awareness and preparedness of citizens. They create resilience, self-efficacy and preparedness for risks and crises on the part of the public and specific groups.*

Public empowerment policies are initiatives and activities that aim at increasing the awareness and preparedness of citizens. They create resilience, self-efficacy and preparedness for risks and crises on the part of the public and specific groups. When collecting examples of initiatives, we found different approaches. Public empowerment can be undertaken using a top-down, bottom-up or cooperative approach.

## 2.1 Top-down approaches

Where the practical implementation of empowerment policies has started, but is not yet applied, the initiative often remains top down, for example in introducing preparedness campaigns. Initiatives like these can be seen as laying a foundation, but the effectiveness of such campaigns should not be overestimated. When the first signs of a change towards empowerment show, citizen groups - such as organized volunteers - have to some extent and at some points been included in the planning process, rather than just seen as target groups. There is awareness that implementation can only be effective if all societal levels work together, including the level of citizen groups.

## 2.2 Bottom-up approaches

A strategy that has often worked well is a citizen initiative that spontaneously occurs during a crisis or a campaign in a community and truly changes the attitude and behaviour of the target group. Such initiatives can be initiated by citizen groups, and public organisations can invite, facilitate and support these, for example by being open to them and creating a supportive infrastructure.

## 2.3 Cooperative approaches

Co-production with public groups is needed, especially in a high-impact crisis. Such collaboration is particularly feasible when the focus is on crises with a high probability of re-occurrence in a certain region. In such cases, competences and resources can be mapped and local groups included in crisis preparedness and planning.

## 2.4 Why empowerment needs attention

After years of specialization, the quality of rescue services in Europe are often of very good quality and citizens can rely on them. However, major crises call for a strong citizen response as well, and the public sector mind-set does not (always) seem to be ready for this.

In the response network a co-production attitude may be present to a greater or lesser extent. If collaboration with publics is part of the official mind-set, this is an important building block for resilience. Such collaboration also needs flexibility, looking for possible changes in the division of tasks and in collaboration in emerging situations.

Preparation of publics makes more sense when the emphasis is on re-occurring crises, while delegation to authorities and inter-authority cooperation is called for in the case of lower probability crises. An all-hazard approach can include preparedness for various kinds of crises.





# 03

## Key enablers and development

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## 3.1 Key enablers of public empowerment

The following factors help realize public empowerment for crisis management:

- **Inviting people to participate through concrete actions**  
In various example initiatives, people were asked by authorities, through various communication strategies, to actively participate in crisis management. Such initiatives have proven successful in enhancing preparedness for crisis response (in much the same way as police requests for public assistance when searching for missing children, and collecting DNA material in cold case murder investigations).
- **Inviting people to participate in communication and sharing the results**  
Many people are willing to help if asked, for example to take and upload pictures or videos of the damage in their locality. The sharing of information obtained from citizens with the wider public can have beneficial effects. For example, authority websites where pictures, videos and reports supplied by involved citizens or journalists are published are likely to be trusted by those seeking information.
- **Including public communication initiatives in authority communication**  
Public initiatives to share information can be facilitated by mentioning them in authority communication channels. Examples include the inclusion of a Twitter hashtag in a government Twitter account, or including a link on the authority website to certain public websites, Twitter or Facebook accounts.
- **Accessibility and inclusiveness of authority communication**  
Information should be accessible to all by its dissemination through a variety of media and opting for an inclusive approach that taking the diversity of the different members of the public into account, e.g. people with visual impairments, and with different languages and cultural backgrounds. The setting of thresholds in order to obtain information should be avoided.

- **Making information widely available and easy to find**  
To facilitate empowerment, information should be widely available to enable advance understanding of a threat, rather than waiting until an incident has occurred. It should be available at any and all times for those seeking it. Information should also be easy to find. Important sources should be known to the public, and show high on search engines. If people need to wonder about which authority website the information can be found on, time will be lost and people may have to rely on other sources.

While at the political level awareness of the lack of attention accorded to community resilience seems high, concrete examples, and possibly also regulations, needed for its implementation in real life have not been forthcoming. The fact that all too often public input, ideas and suggestions are not really welcomed by authorities is a shortcoming that should be remedied.

## 3.2 Development of public empowerment

The societal climate forms the basis for the empowerment of publics. If there is previous experience of crises in a certain region, this facilitates risk awareness, but whether this entails passive acceptance of the risk or the feeling by people that they can do something about it also depends on the culture. The collective memory may also indicate directions for preparedness; here, storytelling is one of the possible communication strategies that can be employed to reinforce the tendency to act to enhance preparedness.

The bonds formed in well-connected societies may be helpful in responding to crises, while an inclusive society means that more groups will be included in the process. Community resilience initiatives may seek to strengthen such ties. Empowerment can be part of the fabric of a society, where people are invited to undertake their own development, and it may be possible to harness the mode of working of the government to the realization of such goals, for example, participative policymaking. If the latter is the case in various policy areas, such an approach is also more likely to be chosen in the field of rescue management.

The extent to which resources are available makes a difference, but this can also be a matter of priorities. Community resilience-enhancing activities need the involvement of policymakers, organisations and groups on many levels. Such activities will not necessarily naturally follow from the interaction of just one organisation with publics, as the way in which resources are allocated may hinder what could be beneficial at an aggregated level. Broader thinking is needed. To enable

crisis management to function as a co-production of various professional and volunteer actors, various competences are required, including communication capabilities. The cross-border exchange of practices can facilitate finding suitable ways to integrate this approach in both (inter)national and local ways of working. Good practices can inspire others, while pitfalls encountered in the learning process should also be addressed as these arise.

Public empowerment needs continuous attention and at various levels from national to local, and in policymaking, planning and implementation. Preparedness activities need to be re-invented in new ways to continue attracting attention to related issues and maintaining societal resilience.





# 04

## Community approach

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*The aim of the guide is to provide easy-to-use guidelines for involving the public in crisis management for crisis managers and other professionals working in local organisations.*



Community approaches involving social groups in crisis preparedness and response are considered very effective in increasing resilience. But what are experiences and success factors? In this guide the focus is on local organisations and on their role in involving citizens.

The aim of the guide is to provide easy-to-use guidelines for involving the public in crisis management for crisis managers and other professionals working in local organisations.

The guide can be summed up in four key words, or '**The four I's; Inclusive, Interested, Insistent, and Inventive**', and includes recommendations on how to act to successfully involve the local community in an organisation's crisis management. **The four I's** are first summarized and then explained more in detail, providing guidelines.

## 4.1 The four I's in principle

### Inclusive

*Think* of community groups and citizens as a resource. Let them know they are needed, and act accordingly. *Invite* groups, and join them at their meetings, to inform them about the specific needs and vulnerabilities within your local community or jurisdiction. *Arrange* social occasions, such as "risk excursions", where representatives of the municipality, local authorities and community groups go on a local tour to inspect and discuss potential dangers and vulnerabilities. *Include* community groups in preparedness activities and exercises. Let them know you need them and expect their participation. Avoid giving the impression that all necessary resources are located within the professional structure.

- Think of community groups and citizens as a resource and act accordingly.
- Keep in mind that most people are willing to engage as volunteers in the event of a crisis.
- Recognize heterogeneity within community groups as an asset.
- Create social spaces for collaboration and initiate joint exercises to be done in common.
- Think of community groups and citizens' diverse needs and preferences for communication.

## Interested

*Be non-prestigious* and treat community groups and citizens as potentially crucial resources. Let them know that you wish to be up to date on the quantity and nature of the community groups in your jurisdiction. Demonstrate your interest by inviting and visiting them to describe and explain the specific needs and vulnerabilities that have been identified within your local community. *Be open and transparent* about what these specific needs and vulnerabilities are in your jurisdiction or geographical area. Don't be prestigious but instead ask citizens for help where help is needed.

- Invite and visit community groups in order to inform them about local risks and vulnerabilities.
- Volunteers can be found in already existing groups based on various hobbies and interests.
- Relate to what motivates people when offering them tasks in crisis management.
- Use ICT and social media in an interactive way by responding to people's inquiries and ideas.
- Be attentive so that key individuals and resources are not neglected.
- Think of diverse community groups and citizens as important information sources in a crisis.

## Insistent

*Maintain social contact* with community groups. Visit their arrangements and arrange a social occasion on a regular basis. Update information and maintain dialogue with groups and citizens through social media and email lists. Let them know you need them and expect their participation during joint exercises. *Reconnect and evaluate* preparedness exercises in a collective manner, utilizing social media and the digital infrastructure. Expect your collaborative partners to be knowledgeable about the relevant policy and principles governing crisis management.

- Recognize the advantage of staying in touch with community groups.
- Facilitate formalized structures of collaboration without specifying tasks in detail.
- Aim at building long-term relations.

- Focus on young people, including children, to create opportunities for the future.

## Inventive

*Be creative and explorative* in using ICT and social media to connect with citizens and groups. Make sure that the threshold for entering and becoming involved is kept at a low level. There should be no barriers to joining collaborative activities and also no difficulties withdrawing. Make sure administration and bureaucracy are kept at a minimum, while continuing to satisfy legal demands regarding insurance and compensation.

- Be creative and explorative in using ICT and social media to connect with citizens and groups.
- Be creative in finding and utilizing new arenas for recruiting citizens and groups.
- Make it possible for the public to spontaneously engage in crisis management on short-time contracts, or when a crisis happens.

## 4.2 Guidelines for the four I's

### Inclusive

In tackling the wide variety of tasks pertaining to societal safety, the present time offers good opportunities for bringing together the various resources and competences that already exist. This means that heterogeneity regarding such factors as gender, age or life stage, education, and socioeconomic status should be understood as an opportunity in the context of improved crisis management. The present project has reported several positive examples of municipal representatives who consider their voluntary grassroots organizations and groups to be their most precious tools for facilitating the quick and effective mobilization of relevant local resources (Linnell et al. 2013). The importance of joint exercises and the willingness of citizens to participate in them was clearly pointed out by the members of voluntary groups involved in the present project. Hence a major opportunity for municipal safety coordinators and those in similar positions would be to recognize this and include the organized voluntary public in preparedness exercises programmes. Rapid technological development also creates new means to include and communicate with various publics and communication networks. However, not all citizens use the new digital media, and thus, gaps in knowledge may emerge in the event of a cri-

sis. Therefore, it is important to adapt crisis communication to diverse needs and preferences in order to include different groups, such as the young, elderly, natives, immigrants, and urban and rural inhabitants.

## Interested

Municipal representatives along with other local authorities and professionals (e.g. police, rescue services and medical care) are in position to, and would certainly benefit from reinforcing people's feeling of belonging and thereby boosting the collective responsibility for societal safety and security. Municipal safety coordinators, for example, could do this by inviting and visiting community groups to inform them about specific needs and vulnerabilities in the local community or jurisdiction. Enduring relations could be maintained through an increased and well considered use of social media and other ICT tools. Strong connections between municipal actors and voluntary groups would make it possible to single out key individuals from such voluntary groups along with other non-organized individuals in the local community possessing skills and competences of crucial importance for building efficient response structures. It can be assumed that an abundance of citizen-based resources exist that need only to be "drawn out" and "drawn upon".

Furthermore, by focusing on already existing volunteer groups and NGOs in the community it should be easy to find volunteers interested in crisis management. By connecting to people's existing interests, one can also motivate them to engage in volunteer crisis management. For example, many people are already engaged, in particular, in the well-being of children, young people and elderly people.

## Insistent

Both municipal safety coordinators and voluntary groups can benefit from the building of long-term connections instead of merely assuming that the crisis situation itself will somehow automatically induce the emergence of collaborative efforts. A lesson learned from the research done for the PEP project (Johansson & Linnell 2012, Linnell et al. 2013) is that collaborative efforts are centred all too often on specific issues, and consequently restricted in terms of time. Thus a long-term perspective should preferably be taken to collaboration, which should be subject to a greater degree of formalization. As stated above, a useful way of keeping the actors connected and updated would be through the increased and well considered use of appropriate social media and other ICT tools. Several positive examples are provided in Lindquist et al. (2013). Further, it is important to involve children and

young people in volunteer crisis management to ensure continuous relations between the municipality and the public.

## Inventive

The present project suggests that collaborative efforts may often occur outside the narrow frame of traditional voluntary organizations. For example, formal contracts can hinder people from engaging in volunteer crisis management, thereby highlighting the importance of informal settings and short-time contracts. The growing number of network-like forms of organizations, supported by social media and other ICT tools, offers opportunities to transform bureaucratic and time consuming forms of collaboration to better fit present forms of voluntary involvement.

An important step in this direction would be recognizing community innovation and creative improvisation. An instructive example provided by Kendra and Wachtendorf (2007) is the Project Impact program initiated by the US Federal Emergency Management Agency (FEMA) in 1997. This initiative was a “large-scale programmatic effort to affect the alignment of community social organization with the capacities needed for change” (Kendra & Wachtendorf 2007: 322). For example, one community identified ways to leverage funds from environmental groups, leisure groups, a parks department, a planning department, and emergency management to buy out flood-prone property and develop green spaces for recreational use. The programs initiated under Project Impact were not necessarily, in themselves, new ideas. However, all initiatives were deployed in new ways and for new purposes, and their aim was to foster new thinking within the community.

Another example of community innovation and creative improvisation was the unplanned use of resources during the evacuation of Lower Manhattan on September 11, 2001. The waterborne evacuation of several hundred thousand commuters and others from Lower Manhattan used a wide range of vessels not previously involved in any evacuation planning efforts or schema. Similar examples of community innovation and creative improvisation, though smaller in scale, attracted some attention after the shootings at Utøya in Norway, 2011.

In this connection, new ways of financing insurance and economic compensation for volunteers while on duty need to be developed (Linnell et al. 2013). Insurance and economic compensation is often regulated through traditional member organizations, which means that for voluntary individuals to be insured while on duty, they must become organized volunteers, that is, members of traditional (often civil defense) organizations. However, for many semi- or non-organized volunteers, membership in such organizations is not an option. A sug-



gestion, therefore, is that issues of financing should be disconnected from the mediating role of traditional civil defense organizations and instead handled between the actor responsible for the task (e.g. the municipality) and the voluntary individual.

In addition, new ways of securing the right knowledge, skills and competences need to be developed. This means, first, that the threshold for voluntary individuals to become engaged needs to be lowered (see the sections Inclusive and Interested above) and second, that the distribution of interests, skills, resources and competencies among voluntary individuals need to be documented in an accessible yet ethically tenable way. One way for the municipal safety coordinator (or similar) to single out key individuals is to include different voluntary groups in preparedness exercises and training activities.

Recruitment needs to include other groups than traditional civil defense organizations. Examples of possible arenas and institutions for recruitment identified in the present project are popular adult education, employment services, upper secondary schools, public buildings like town halls, libraries and exhibition halls, education for immigrants and recent citizens', sports clubs', religious congregations', interest-based and cultural associations, and workplaces. Further examples on how to include grassroots organizations and groups, as well as non-organized individuals, in the work of strengthening community resilience are provided by FEMA (2011). The power of grassroots initiatives, community innovation and creative improvisation thus must be facilitated by organized government agencies. Rather than centralize, resilience ought to be stimulated at the levels of society where people actually live their lives. The goal must be to foster preemptive resilience at the community level. Some recent thoughts and applied examples are given in Bennett (2012).

# 05

## Technology supporting public empowerment

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*Social media and mobile technology have not only brought new channels for providing information, but also new interactive and bi-directional ways of implementing communication.*

## 5.1 Importance of communication and technology in increasing resilience

In crisis and emergency situations, individuals need information that is correct, clear and understandable. This information should be presented in a timely manner through multiple channels to ensure that as many people as possible affected by an incident are reached. Next in importance to providing information, is communication with citizens. This concerns finding out what their needs are their needs and facilitating their response and cooperation. If public organisations do not take the initiative, the information void will be filled by other actors and sources that may not always be reliable. However, resilience depends on the activities of many organisations and individuals, and non-governmental organisations (NGOs) as well as other long-term or ad hoc groups also play an essential role in communication during crises and emergencies.

Communication is the key factor in building resilience, and technology can contribute significantly to this. Modern technology, such as social media and mobile technology, has not only brought new channels for providing information, but also new interactive and bi-directional ways of implementing communication. From the point of view of response organisations, modern technology can be used in: *(1) providing direct information, (2) facilitating multi-directional information flows, and (3) data gathering.*

Social media, websites and smart phone applications provide a direct channel for communication – next to mediated by the news media – between response organisations and citizens –. Technology can help provide the information and resources that citizens needs in emergencies, enable cooperation and empower them to help themselves and their fellows. This supports those affected by the emergency by giving them a sense of control and the ability to cope with the situation. Providing information via various channels, including social media, also assists individuals to connect with each other, share and exchange experiences and possibly assist each other in coping better with a diversity of incidents. Information travels fast within and across social networks.

Personal devices such as mobile phones can further support the targeting of authority notifications and other information by utilizing characteristics such as the location of an individual. In addition, the receiver can decide on preferred apps or subscriptions, and select settings that, for example, take visual impairments into account.

*Multi-directional communication flows* are a characteristic of communication in the new media. This means that technology can support

active cooperation between response organisations and the public. Communication in crisis or emergencies has traditionally been viewed as information flow from the emergency authorities to the public. Nowadays, instead of being mere recipients of information, publics can take the initiative, and communicate and share information about on-going incidents – including criticism of the management of the emergency – through various new platforms (internet, social media applications). The new communication channels also create new possibilities for authorities to follow the public debate and interact with citizens, building an interactive relationship with the publics. Moreover, the new media channels bring with them new expectations regarding what citizens can do for citizen actions and new responsibilities for response organisations.

Because information flows online and in the social networks of citizens, response organisations need, for various reasons, to be aware of what is being discussed online. Merely informing people makes no sense if the effects of doing so are not monitored. Are people acting according to recommendations, were the instructions clear enough, and did they take public perceptions into account? Did the public see the recommendations as an answer to their questions about what to do, or did the instructions issued fail to answer those questions and do they have new and different problems? It is also important to monitor social media content to detect false rumours early on and help prevent the further spread of misinformation. Such initiatives can enhance the sense of security and reduce uncertainties among individuals.

The benefits of engaging in interaction with citizens, from both the organizations' as well as individual point of view, have been widely recognized, and the practice is becoming more commonplace.

The need to interact and share opinions during emergencies can be met by establishing platforms through which individuals can seek and receive information and emotional support, and share their experiences. Communication platforms, such as social media services, can be used by local communities to organize themselves, request help and identify existing needs in crisis situations. Participation by citizens is also encouraged and coordinated by various non-governmental organisations (NGOs). Communication technology enables the public to contribute and participate in community resilience and citizen response. Digital volunteerism, crowdsourcing and microtasking are technical means to facilitate the participation of citizens in collaborative resilience.

In addition to facilitating direct information and multi-directional communication flows, technology can be used for *data gathering* with respect to the information provided and shared by the public online.

Individuals using social media can function as sensors and information providers, combining both human knowledge and the available communication technology, including mobile devices equipped with positioning technology and useful tools for interaction such as cameras. Technology enables social media services to support time- and place-indexed data, and consequently the users of these services will create a large amount of time-stamped and geo-located data. These data can be used to improve the quality of information for decision-making processes and situational awareness, for example, by incorporating trend examination techniques. Social media services provide a database of user-generated situation reports, and with GPS-enabled mobile communication devices these reports can be geo-located and mapped (Chae, Thom, Ebert, Bosch, Ertl, Yun & Maciejewski 2012, p. 143). In recent years, data volume regarding emergencies has exceeded the capability of manual evaluation, and special tools to screen, filter and analyse large amounts of data have become necessary.

It is important that the emergency authorities take part in crisis communication flows. The information shared and disseminated through social media needs to be verified and monitored by responsible actors; public authorities need to gather information and monitor the situation at hand, so as to be able to use this knowledge, not only as a basis for their own actions, but also in collaboration with citizens to further resilience. It is important to that a multi-channel approach is taken in crisis communication: it should not rely on single source, channel or device. Crisis communication should be inclusive and take into account very different public groups with different needs, for example individuals with disabilities and vulnerable groups, and therefore cannot adopt a 'one channel fits all' approach.

#### **What is needed:**

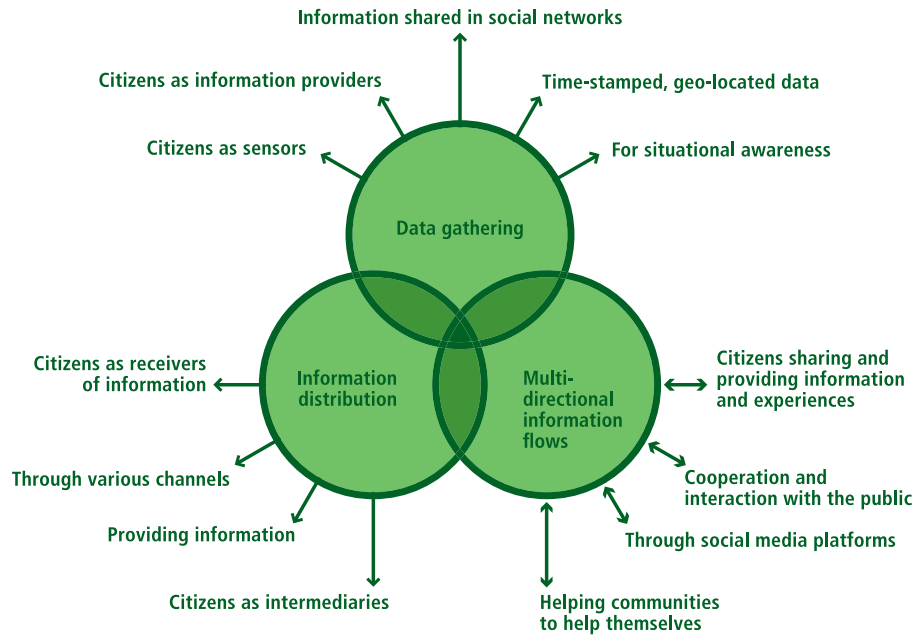
- Personally relevant, targeted information, in understandable form, that reaches individuals in a timely manner, and takes into account their needs and e.g. location.
- Ways to exchange information and share experiences to further community resilience.

#### **How technology can be utilized:**

- New platforms offer ways for the public and authorities to gain and share information, and therefore improve crisis management and collaborative ways to increase safety as a co-production of response organisations and individual citizens and public groups.

This is further clarified in the Figure 1.





**Figure 1.**  
Uses of new technologies in  
emergency communication

## Accessible technology and inclusive design

Technology can facilitate efficient ways to communicate, and to process and organize data for the purpose of risk and crisis management. In many cases, it is important to target information to those who are or could be affected by an incident, since receiving irrelevant information may lead to turning out the channel of contact. Mobile technology enables individuals be reached whenever and wherever they are: notification technologies can utilize the geographical positioning capability of a mobile device (cell positioning, WiFi, GPS).

In emergency situations, information must reach all members of the community at risk. It is essential to insure that the technologies themselves do not exclude segments of the populations. In order to have accessible technology, systems used in crisis communications must be inclusive by design.

*“Accessibility is the degree to which a product, device service or environment is available to as many people as possible”,* according to Sullivan (2013), who stresses that technological systems are usable by a broad range of individuals. Systems can be made accessible in two general ways: (1) direct accessibility takes the approach that systems can be designed to be directly usable by all including those with disabilities; (2) assistive technologies mean add-on hardware or software that make a system usable by someone with a specific type of disability. *Inclusiveness* as a principle ensures that all members of the user community are considered in the design, implementation and operational usage of a product or service. An inclusive approach in communication

incorporates the needs and requirements of all members of the community at risk.

Simple user interfaces can solve part of the problem of barriers related to the use of mobile devices. However, messages delivered should also be presented in a format and style that is understandable, for example, in alerts using, broadcast media, text messaging, voice calls, electronic displays, and outdoor sirens. Accessibility should also be considered from the point of view of service use, as it is linked to the possibilities for using diverse means, such as sms, video, web-based forms, mobile apps, and social media services such as Facebook and Twitter.

## Technology acceptance

The Technology Acceptance Model (TAM) by Davis (1989) is one of the models most widely used to explain the acceptance of technological innovations. Although TAM is used as such to explain technology acceptance across various innovations, general acceptance models have commonly been modified, extended and refined in different studies to better suit specific innovations or situations. In this guide, the factors relevant to the acceptance of technologies used for enhancing crisis or emergency communication among the public and within communities are theoretically based on TAM. (Haataja 2013.)

Technology acceptance is influenced by the following factors.

- **Usefulness:** how can technology improve the sense of safety?
- **Ease of use:** (1) the ease of receiving, understanding and perceiving content presented via a technology; (2) the ease of finding and seeking information via a technology; and (3) the ease of sharing information and interacting via a technology; (based on Kaasinen 2005) (5) the ease with which taking these services can be taken into use; and (6) the amount of information presented via the service.
- **Trust:** (1) trust in giving and allowing personal information to be gathered e.g. positioning via a mobile device, (2) trust in the technology used, and (3) trust in the service provider.
- **Subjective norm:** the impact of the opinions of others' on the individual's behaviour - social influence, authoritative influence, peer pressure.
- **Perceived innovativeness:** willingness to take up new technologies; variables that have influence on the acceptance of various technologies.

- **Prior similar experience:** the effect of prior similar experience is considered to have a positive influence on perceived usefulness it facilitates imagining the potential benefits that could result from the adoption of a similar technology and perceived ease of use (Agarwal & Prasad, 1999).
- **Compatibility / acknowledged needs:** risk / benefit assessment - (1) are potential threats perceived? (2) Can the adoption of the system improve personal safety? (Wu, 2009).
- **Personal characteristics:** age, gender, income and education might have an influence on the acceptance and motivation to use and adopt emergency communication technologies.



**Figure 2.** Acceptance of technologies used for enhancing crisis or emergency communication

Many citizens already use social media services on a daily basis. Therefore, from the public's point of view using social media in emergencies would not require adopting and learning to use new or different methods. Recent large scale crises have testified to the fact that the public turns to social media for communication in crises. As far as individuals are concerned, applications that are used in everyday life, especially if add-ons such as Twitter Alerts further enhance social me-

dia usage in an emergency context, could be more functional in terms of familiarity with the service and also comprehensiveness of content.

## Data security, privacy and legal issues

In their study, Beneito-Montagut et al. (2013) did not find any legal barriers restricting social media use by organisations. However, in general, some legal factors may restrict organisations' use of social media as a source of data and information. First, since in the worst scenario we are dealing with life-or-death situations, the question arises of who is to be held liable if something goes wrong. The legal responsibilities in these cases are not very clear, as there are multiple actors in the equation, ranging from individuals providing data, to crisis mappers and organisations making use of that information. In addition, organisations may hesitate to further distribute information aggregated from social media if there are any validity concerns. Despite efforts to verify the data aggregated, without the establishment of clear regulations and responsibilities, organisations' use of data for critical decision making could be hindered.

Second, there are issues concerning privacy and confidentiality. Organisations have to respect the privacy of individuals in crisis and emergency situations. Therefore, handling this type of data, for example geo-location, could restrict or present additional challenges for organisational freedom of action. In most cases, individuals should sign consents stating explicitly what type of data can be shared and who can use their personal data and for what purpose. Furthermore, it should be guaranteed that the systems and applications deployed are secure so as to prevent any misuse of private individuals' personal data, for example, data identifying individuals who are vulnerable and at risk. (Burns & Shanley 2013).

Doubts and concerns over security and privacy issues have naturally had some influence on the willingness of individuals to use social media (publicly) and especially to provide and share personal data and information in crisis situations. For example, in political uprisings, fear of being identified by the opposition can cause individuals to turn to the use of closed social networks and groups.

When new technologies and social media services are applied in crisis communication, the terms of their use should be made clear.

# 06

## Public empowerment in crisis phases

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*For each of the crisis phases we will further explain:  
characteristics of the phase, recommendations,  
technology aspects, and examples of best practices.*

## 6.1 Preparedness phase

### Characteristics of the preparedness phase

#### General:

- Preparedness is an on-going planning process for which an all-hazards approach is recommended. The measures needed are drawn up in preparedness plans.
- The goal is to contribute to building public hazard and risk awareness.
- Vulnerability analysis is needed to identify target populations and special groups within them.
- The role of communication in this phase is to support preparedness measures, e.g. inform and educate people about risks and how these might be prevented, build collaboration, and monitor whether people feel anxiety over certain issues.

#### Public perception and motivation:

- The interest of the public varies over time and by hazard. Even people living in a hazard zone may not appreciate the importance of preparedness.
- There are natural actors within the third sector. Identification of these and coordinating and networking with them will greatly facilitate joint preparedness.
- The various public groups need to be identified according to how they seek and receive information about risks.



## Recommendations supporting empowerment in the preparedness phase

- Interest may be low for preparedness activities, as the threat is often less visible at this stage or has no immediate effect on day-to-day life. Therefore, in this phase connecting with existing groups, such as schools, churches and non-governmental organisations, is recommended.
- Authorities can map local groups of volunteers and special interest associations with the aim of inviting them to participate in crisis communication planning and joint drills. Often, only a few of the existing groups are included in authority crisis plans. Some groups focus on volunteering for crisis situations, while others have side activities that benefit citizen preparedness. By mapping the available resources, a more complete picture can be gained, including private sector organisations as an additional resource.
- Educational activities can be undertaken together with local or other partners. If campaigns are used, they should not just offer one-way information, but, to be more effective, connect with concrete initiatives by citizen groups.
- Preparedness information to the public should be widely available and easy to find.
- Social media accounts and followers need to be in place and promoted, e.g. by offering preparedness information. Preparedness information can be used to create connections with citizens, for example, when people become followers of a response organisation's Twitter account or subscribe to receive future information.
- As high probability crises excite most interest among citizens, an all-hazards approach can be used that includes information related to various types of crises. This generalized approach also prevents too much emphasis on violence and terrorism, which should be avoided for ethical reasons.
- Risk perception and media use habits can be investigated.
- At this stage, the communications infrastructure is functioning normally, but its capacity for increased traffic should be checked, e.g. for adding crisis websites and call centres.
- Personnel and spokespeople can be trained.

## Technology aspects and how it supports the preparedness phase

### Technology aspects:

- The technology is functioning and multiple channels of communication are available.
- For the public to become familiar with the functioning of technological solutions designed for use during actual emergencies, they need to try them out already during the preparedness phase. This may require incentives.

### How technology could support public resilience:

- Technology offers platforms for a community approach and more personalized communication.
- Smart phone applications and games may help to prepare and advise people on how to act in an emergency.
- Technology can help in finding already existing active groups and / or communities that can be added to communication networks. Inviting fans and followers in social media promotes an organisation's visibility in social media: the reach of the message is increased when shared, liked or commented on.

## Examples of best practices

- Cold Weather Plan for England  
[www.gov.uk/government/publications/cold-weather-plan-for-england-2013](http://www.gov.uk/government/publications/cold-weather-plan-for-england-2013)
- Emergency 2.0 Wiki  
[http://emergency20wiki.org/wiki/index.php/Main\\_Page](http://emergency20wiki.org/wiki/index.php/Main_Page)
- Before the storm – an educational game for middle-year students designed to get them thinking about storm preparation and disaster resilience. / Australian Emergency Management Institute:  
<http://www.em.gov.au/Resources/Pages/Before-the-Storm-phone-game.aspx>
- American Red Cross smart phone applications: get ready, get notified, find help: <http://www.red-cross.org/prepare/mobile-apps>

## 6.2 Early warning phase

### Characteristics of the early warning phase

#### General:

- As a first step at the beginning of this phase, information is gathered, noting 'weak signals' or issues as these develop, and examining various data sources.
- Nowadays, the public has modern technology at its disposal making it an active data source.
- The second step is taken when an emergency appears likely to happen. This step initiates preparations to mobilize resources, including informing the public.
- Channels for issuing public warnings need to be selected carefully. This includes both news media (press and broadcasting) and direct channels of communication.

#### Public Perception and Motivation:

- When informed about an imminent emergency, the public will be more interested in searching for additional information.
- Active groups will be willing to convey and forward information.
- False alarms will not be appreciated by the public.

## Recommendations supporting empowerment in the early warning phase

- Attention should be focused on those most likely to be involved in the crisis.
- Information needs to be continuously updated about the likelihood of the threat materializing, e.g. a heavy weather forecast.
- As interest and urgency increase, people who did not previously subscribe to information, or become a follower of a Twitter account, can be asked to join.
- People are asked to be prepared. This can concern precautionary action to minimize damage, such as asking people to report signs, forward information or help others to be ready. This includes intermediaries and contacts with partners in and outside of the response network.
- It is important to monitor both the social and news media, and pay attention to the worries and concerns of citizens, e.g. in the case of an evacuation that houses are patrolled, and animals looked after.
- Support by citizens should be encouraged. If community resilience is high, citizen groups will be active in connecting people in this phase as well. This can be online and face to face, for example when preparedness is being discussed within families and communities.

## Technology aspects and how it supports the preparedness phase

### Technology Aspects:

- When collecting information, the public may be encouraged to take part through participatory sensing applications. While these are currently technically feasible, the motivation of observers to collect data remains unclarified.

### How technology could support public resilience:

- Monitoring social media can be used to search for weak signals. Specific algorithms, terms or keywords can be used for filtering information, and the development of issues can be followed, e.g. in certain geological areas.
- Technology can help reach and target individuals, groups or communities in the possible danger zone.
- Technology can provide channels through which people can report their observations on the evolving situation.

## Examples of best practices

- Fire Ready app, Australia <http://www.cfa.vic.gov.au/>
- Flood warning system, Germany [www.hochwasserzentralen.de/](http://www.hochwasserzentralen.de/)
- A community based Facebook group for flood update in Australia: <https://www.facebook.com/#!/pages/SEQ-Flood-Update/191689447509987?fref=ts>
- The Federal Emergency Management Agency (United States) provides FEMA mission-related information on Twitter: @fema

## 6.3 Alerting phase

### Characteristics of the alerting phase

#### General:

- In this phase the emergency is inevitable and the response organisations and the public need to be notified without delay:
- It is important that the core content of the warning is the same for all members of the general public while additional information is given to specific public groups.
- Monitoring whether people need more information on certain issues is important.
- Voluntary groups are vital assets in this work.

#### Public Perception and Motivation:

- Part of the public is urgently looking for more information, but there are always groups or individuals who ignore a general alert and need to be specifically addressed.
- The target population is often mobile and a large percentage of the target may be outside their home area (e.g. tourists) and thus more vulnerable and without means to cope.

## Recommendations supporting empowerment in the alerting phase

- The level of urgency is high and so communication should address all target groups in a timely and inclusive way, using multiple channels and also contacts with intermediary organisations and associations.
- Guidelines for effective messages should be known, and prepared basic messages, customised for this particular situation, may be used. Important instructions should be repeated. Instructions should be separated from background or affective information. The focus is on what people need to do, to prevent or reduce harm. Negative phrases and jargon are to be avoided. Additional information may be made available, for example, in a multi-channel approach using links.
- Normally, people have a tendency to act and they often help each other; the ‘panic myth’ in that sense is not true. People should be encouraged to help each other, for example, in the case of an evacuation. In some cases, people may also need to be protected from harming themselves.
- Natural behaviour should be taken into account, for example, picking up one’s children, despite advice to stay indoors.
- It should be taken into account that people are mobile and may not be at home with their families; some may be at work or in traffic, while others may be visitors to the region and have difficulty coping with the situation.
- Mobile technology enables individuals to be reached whenever and where ever. Location-based alerts are possible and in the near future smart phones apps may also show the way out of a danger area or facilitate a reply. Social media can also be used to report that one is safe.
- Monitoring social and news media is important to see if warnings and instructions are followed, or if there are problems that need attention.



## Technology aspects and how it supports the alerting phase

### Technology Aspects:

- The technology usually continues to function during this phase, although some communication channels may become congested.
- The need for mobile communications and targeting special groups is also a matter of technology.

### How technology can support public resilience:

- To ensure that the critical information will be received by the target audiences, multimodal warnings and alerts need to be used (for example, text messaging, voice calls, electronic displays, outdoor sirens).
- Location-based data can be used to target the information; mobile devices can be used to determine the geographical position of individuals and to target notifications and more accurately identify those actually affected by the emergency.
- Structured alert messages (see WEA, below) can assist urgent communication, and smart phone features may facilitate different language versions.
- Social media platforms offer easy, fast and direct sharing of information.

## Examples of best practices

- Fire Wise Communities, USA <http://www.firewise.org/>
- Flood warning system, Germany [www.hochwasserzentralen.de/](http://www.hochwasserzentralen.de/)
- Wireless Emergency Alerts (WEA): <http://www.fema.gov/wireless-emergency-alerts>
- Twitter Alerts: <https://about.twitter.com/products/alerts>

## 6.4 Active response phase

### Characteristics of the response phase

#### General:

- The preparedness plans are implemented and it is important to remember that their feasibility is vital for success.
- Includes actions taken to save lives, property and environment, and prevent further damage in the crisis situation.
- Will affect various authorities, NGOs and ad hoc groups, as well as individual citizens.
- Information exchange and coordination within the response organisation and within the overall response network is essential.
- It is important that all public groups, including vulnerable groups, have access to timely and correct information.
- The information targeted at citizens has to be updated continuously and the needs of public groups should be monitored and analysed.

#### Public perception and motivation:

- There are various groups with different needs and urgency, such as the injured, uninjured, family and friends, those not affected but in immediate danger, etc.
- The people in most urgent need may not be able to communicate or actively search for information.
- The role of voluntary and ad hoc groups is important.
- Depending on the emergency and the local culture, the public may not understand or trust all the information provided.
- The public needs understandable information on the situation at hand, instead of probabilities and specialist jargon.

## Recommendations supporting empowerment in the response phase

- At this stage active engagement is needed, while failure of the communications infrastructure may make it difficult to reach people, hence alternatives may need attention.
- The high level of interest and urgency challenges resources. To cope needs good contacts with local groups and communities, non-governmental organisations, other civil society actors and private organisations. The evolving situation calls for developing new forms of collaboration that fit the situation.
- Providing personally relevant and targeted information continues directly through various channels, and in addition via intermediary organisations.
- Information and other needs of citizens are clarified by monitoring social and news media, also to counteract the spreading of false information.
- The public can be asked to share information, for example pictures and videos of damage in the area, with authorities. This can then be shared with others.
- Spokespersons give meaning to what has happened and show empathy.
- Citizens can share experiences in social media networks to help cope with the situation. Authorities can link to citizen initiatives on their own channels.

## Technology aspects and how it supports the response phase

### Technology aspects:

- The technology infrastructure may be severely affected by the crisis. It is important to gather knowledge of the actual status of the relevant communication networks.
- The authorities will usually have back-up systems at their disposal, although with limited functionality and band width, especially those for field units.
- FM radio broadcasting will usually function regardless of the emergency.
- Internet and social media applications may also start to function quite soon, at least in a fragmented manner (i.e. some people can be reached but not all).
- The re-charging of batteries might be a problem.

### How technology can support public resilience:

- Social media applications have good scalability to maintain capacity for high volumes; even when the phone lines are down, the internet might still work.
- Microblogging services serve well in communicating brief, real-time information updates that might not cross over in traditional mass media.
- Technological communication solutions enable the public to collaborate and participate in the process, for example by acting as sensors on the ground, utilizing mobile technology, or participating globally from anywhere by taking part in crowdsourcing actions, such as microtasking.
- Crisis mapping application techniques can visualize crisis developments in real time.
- Transforming a mass of data into usable information can be done by computational / technological solutions (data mining, crowdsourcing, web-based systems for filtering, searching and analysing information about the crisis situation) or with the help of digital volunteers. The information provided can be validated using various means, such as geo-locating, keywords and language processing, amount of similar or same content posted, and URLs.
- Multimedia capabilities of mobile phones can be used to adapt information into a form that can more readily be perceived and understood by the phone's user.
- Shared platforms (Wikis, Sharepoint, Google Docs) enable several actors to create, share and upload documents from anywhere with internet access in order to coordinate knowledge and action between response organisations.

## Examples of best practices

- Ushahidi/ Crowdmap [www.ushahidi.com](http://www.ushahidi.com) / <http://ushahidi.com/products/crowdmap/>
- Community Resilience system, UK <http://www.communityresilience.cc/>
- Sahana software for interactive mapping was used for targeting response actions after the Haiti Earthquake in 2010: <http://sahanafoundation.org/deployments/haiti-earthquake-of-2010/>
- The Australian Emergency Management Institute has a DisasterWatch application that provides publicly available news and information about disasters in Australia via direct feeds from a range of authoritative sources in the States and Territories and nationally. (<http://www.em.gov.au/Resources/Pages/DisasterWatchPhoneApp.aspx>)
- Safeandwell.org, Google Person Finder: the American Red Cross offers a service called 'Safe and well' in which a register is set up that enables people in a disaster area to report that they are safe and that can be searched by concerned family and friends. With Google Person Finder one can report missing and found persons. <http://google.org/personfinder/global/home.html>

## 6.5 Recovery phase

### Characteristics of the recovery phase

#### General:

- Recovery includes actions necessary to assist communities to restore their everyday lives. This requires good collaboration and the participation of citizens in decision making.
- The ability of a community to accelerate the recovery process begins with its efforts in pre-disaster preparedness and overall resilience.
- Recovery is not only the restoration of a community's physical structures. Of equal importance is helping the community and individuals to recover from their physical and emotional hardships and help strengthen their resilience.
- Monitoring of the situation, actions and needs of citizens and organisations involved is important.

#### Public perception and motivation:

- The public is active in interacting with all actors in order to get back to normal.
- Matters of compensation will be more important in this phase.



## Recommendations supporting empowerment in the recovery phase

- Rebuilding needs effort and public initiatives are needed.
- In this phase, initiatives on the part of all the actors involved can be encouraged, again utilizing contacts with citizen groups and intermediate organisations. All resources are useful and contacts with private organisations in the area also welcomed. An integral approach will focus on the functioning of society as a whole, including economic and social recovery.
- Much public initiative is needed, for example, cleaning up after a flooding or riot, to make a neighbourhood function again.
- Monitoring social and news media helps to see how people are coping with implementing the activities needed in the recovery phase and what information and other needs they have.
- Decisions often have to be made about how an area is to be rebuilt. Empowerment calls for participative decision making, involving the local citizens in setting aims and how the work will be done. Recovery is all too often delegated to organisations that tend not to include citizen views.
- Property damage will need to be addressed, e.g. through insurance claims.
- Emotional aspects also need attention, for example, by spokespersons, showing that affected families are not forgotten. Public initiatives for sharing and mourning can be supported, for example, by memorial events and websites. Social networks have an important role, not only in the online environment but also face to face in groups and associations. Individual physical and psychological support needs to continue as long as this is needed.

## Technology aspects and how it supports the recovery phase

### Technology aspects:

- Technology will be restored gradually.
- This phase often reveals a number of systems and applications with conflicting or out-dated information.

### How technology can support public resilience:

- Social media can provide a channel for bi-directional communication between the organisations and citizens involved, and a common platform for people to share their concerns and experiences and possibly build a sense of community which, in turn, can be of assistance in the crisis recovery stage.
- Social media platforms can be utilized in encouraging donations.
- Facilitating the supply of support and mobilizing volunteers can be done through social networks. Technologies can be used to indicate what kinds of contributions are needed and where, and/or provide interactive mapping of available resources (e.g. where generators, clean water, food or shelter can be found)

### Examples of best practices

- Transition Network <http://www.transitionnetwork.org/>
- Empowering the public, USA <http://epic.cs.colorado.edu/>
- Community Resilience System, USA <http://www.resilientus.org/>
- The American Red Cross Volunteer App allows receiving and responding to push notifications for volunteer jobs based on the user's location and enables sharing volunteer opportunities with friends to encourage additional volunteers: <http://www.redcross.org/mobile-apps/volunteer-app>

## 6.6 Evaluation phase

### Characteristics of the evaluation phase

#### General:

- Includes actions to form an overall picture of the past emergency.
- Will help to update preparedness plans.

#### Public perception and motivation:

- Although most people may want to forget and move on, there is a window of opportunity for awareness education.
- The people will answer questionnaires if they are well formulated, but will soon tire of answering them, while the results of interpreting or overlapping studies can be weak or even misleading.

### Recommendations supporting empowerment in the evaluation phase

- Attention needs to be drawn to lessons learned, as people may be eager to resume normal life, rather than dwell on what has happened and how this needs to be taken into account in the future.
- To serve empowerment in the case of future threats, an analysis of what has happened, reflection and learning, can be initiated using the contacts previously built with citizen groups and public, civil society and private organisations.
- Monitoring social and news media shows how people look back on the crisis situation.
- In the aftermath of a crisis, the organisations involved need to be accountable for how they dealt with the crisis. This includes the crisis management measures taken.
- In the response network the crisis events need to be evaluated and lessons learned addressed in the wider network of all social groups and associations, public and private organisations involved.

## Technology aspects and how it supports the evaluation phase

### Technology Aspects:

- Technology is functional again.
- The careful design of online queries is important.
- Social media offer a source for data mining in the evaluation phase.

### How technology could support public resilience:

- Filtering and data mining: time-stamped social media content can help in forming a detailed report of what has happened. Applications for mapping or placing tweets on timelines can help learning from past crises and in developing new ways to engage with the public through tailored risk and crisis communication. (Wending, Radisch & Jacobzone 2013, p. 24–25.)
- Social networks can be utilized in collecting feedback.

## Examples of best practices

- The community-initiated Facebook groups that emerged in Australia during the 2010/2011 floods provided real-time situational information originating from several public authorities and the general public. Some of these groups still actively provide local emergency information and provide public authorities with a chance to utilize and review informal communications. (Bird, Ling & Haynes 2012.) <https://www.facebook.com/#!/pages/CQ-Flood-Update/145906185464161?fref=ts>
- After the Galena flood in Alaska, residents have taken the lead throughout the rebuilding/future mitigation phase. The Yukon River Rescue Facebook page is used to help coordinate fundraising efforts and share information in the Anchorage area for the Yukon River flood response: <https://www.facebook.com/YukonRiverRescueAnchorage>
- In Akiachaka, Alaska, local students play a key role in helping make their villages stronger, safer and more self-reliant. Students are trained on how to collect data, which is then utilized e.g. in mitigation plans: <http://www.ak-prepared.com/plans/mitigation/documents/Akiachak%20BestPractice.pdf>



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# Recommended reading

Booz Allen Hamilton (2009). Special Report. Expert Round Table on Social media and Risk Communication during Times of Crisis: Strategic Challenges and Opportunities. Retrievable from: [http://www.boozallen.com/media/file/Risk\\_Communications\\_Times\\_of\\_Crisis.pdf](http://www.boozallen.com/media/file/Risk_Communications_Times_of_Crisis.pdf)

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Reports of the project Public Empowerment Policies for Crisis Management, retrievable from [www.project-PEP.eu](http://www.project-PEP.eu)

Special issue of Human Technology on Community Resilience in Crises, November 2014, retrievable from [www.humantechnology.jyu.fi](http://www.humantechnology.jyu.fi) or via [www.project-PEP.eu](http://www.project-PEP.eu)





**Public Empowerment Policies  
for Crisis Management**