



KNOW4DRR
Disaster Risk Reduction Knowledge

Enabling knowledge for disaster risk reduction in integration to climate change adaptation

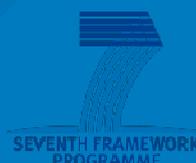
Guidelines to promote the integration
among existing networks active in the
DRR field

Deliverable n° 3.4

Delivery date 30.08.2014

P.N° 603807

ENV.2013.6.5-2 Mobilising
environmental knowledge for policy
and society. b) Improved
science-based policy decision
making in disaster risk reduction



Project acronym	KNOW4DRR
Contract Number	603807

Main Authors: S. Menoni, O. Mejri	
Authors: Raphael Spiekermann, Stefan Kingberger, P. Zeil	
Contributions: G. Minucci, F. Atun, L. Pedoth	
Partner	HUA
Partner 01	
Partner 02	
Partner 03	
Partner 04	

Contributions
All project partners
PLUS (Stefan Kienberger, Raphael Spiekermann)

Versioning			
Version	Date	Name	Organization
Version 01	30/07/2014		
Version 02	30/08/2014		
Version 03			
Version 04			

Review
Grazia Concilio

INDEX

1. Introduction: initial purpose of the project with respect to networks	5
2. The networks that we have engaged in the Know-4-drr project	7
3. Issues emerging from a non-exhaustive analysis of networks active in DRR and CCA	16
3.1 Networks reliance on a key promoter, a project, an institution	16
3.2 Networks with respect to the time scale	17
3.3 Link between networks and knowledge management system	17
3.4 The potential and limits of crowdsourcing	18
3.5 Is the distinction between the four social groups identified in the Know-4-drr project relevant when looking at networks active in DRR and CCA?	20
4. A network of network: is it feasible? Is it desirable?	23
5. References	25
6. Annex: synthesis of the discussion panels held in the Salzburg Workshop	26

1. Introduction: initial purpose of the project with respect to networks

Networks will likely take on an increasingly significant role for DRR, including CCA, because of their capacity to bring stakeholders together to share experiences, increase the knowledge base and thus facilitate improved decision-making by stakeholders in policy and practice.

When we wrote the project proposal we were very optimistic about the possibility to develop ideas even guidelines for promoting the integration among networks that are active in the DRR and CCA fields. We thought that many networks have been founded to promote knowledge and information exchange among a variety of stakeholders and that a way to create a link among them and across them could be relatively easy to find. Actually our initial idea was that such networks are already collaborating to some extent with each other. In order to develop this idea we organized at Salzburg, by the Paris Lodron University, a workshop held on May 26-28 2014. Seven representatives of networks were invited, a respectable number, among which some rather well known by people in the disaster and climate change fields. The workshop constituted an important opportunity to learn about the networks' experience and everyday work, and for the Know-4-drr consortium to exchange ideas about the potential of linking among them. Apart from the networks, also representatives of Ministries and national platform (in particular the German Committee for Disaster Risk Reduction) were present and could provide their view about using and interacting with some of the networks.

Subsequent work required to analyse the results of the workshop, including the videos reporting interviews that were carried out with many of the networks representatives, literature review, so as to come up with ideas for a potential guidelines. We must say at this point, even though it will be further discussed in the conclusions to this deliverable, that achieving a full interaction among the networks is perhaps a misplaced objective. Meeting with networks representatives, studying their activities, interacting with some of the networks later on during the project, permitted to better understand what those networks actually are, what they do, and to reframe our own objective set at the beginning of the project.

Another important reason for exploring the world of network was provided by the requirement of one of the project's evaluator to consider also the role of social media in the way knowledge and information about risks and climate change is produced and shared nowadays. Whilst we did not explore how groups on Twitter or Facebook are dealing with disasters and risk prevention (if they are) we considered that many networks that are active on the net actually use social media for their own activities. It is very easy today to provide a link from a website to a group active in a social media.

The following sections of the deliverable are therefore aimed first at analyzing the networks that have been engaged in the Know-4-drr, that were invited to the Salzburg workshop and the few with which further activities and interaction has taken place. Then some fundamental issues that we have understood and

discovered, also referring to available literature are discussed in section 3, before the final conclusions.

2. The networks that we have engaged in the Know-4-drr project

Internet penetration in Europe has been certainly massive and steadily increasing in the last years, even though relevant differences still exist among Member States and represent a worry for governments and for the European Commission.

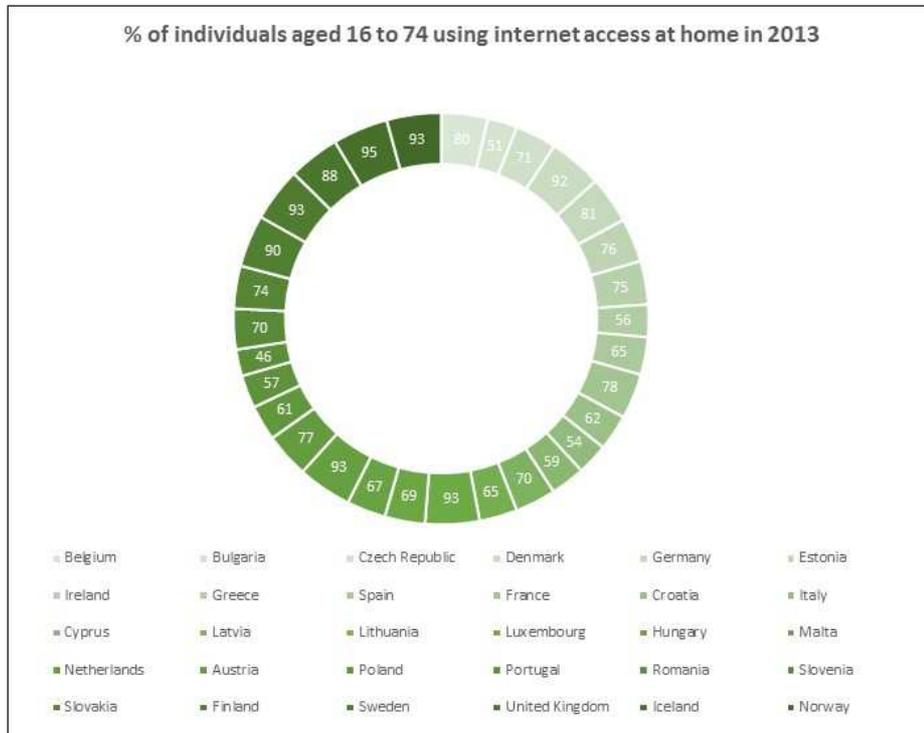


Figure 1. Access to internet from home by country

The differences between countries such as Sweden and Germany with more than 90% people accessing the web from home and others like Italy or Greece with half of the shares (around 50% of use) testify for a rather large gap to be filled in the EU. Still the numbers that can be found browsing the Eurostat site are certainly impressive.

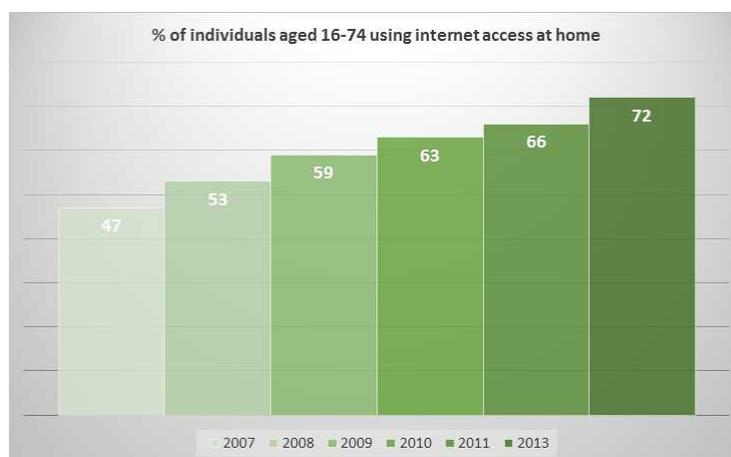


Figure 2. Comparison of internet access by year

Figure 3 shows the percentage of people between 16 and 74 years accessing the internet at home, while Figure 4 represents the share of this percentage browsing on sites related with educational and training activities. Even though in the latter case the percentage is still small, it increased by 16% in just five years.

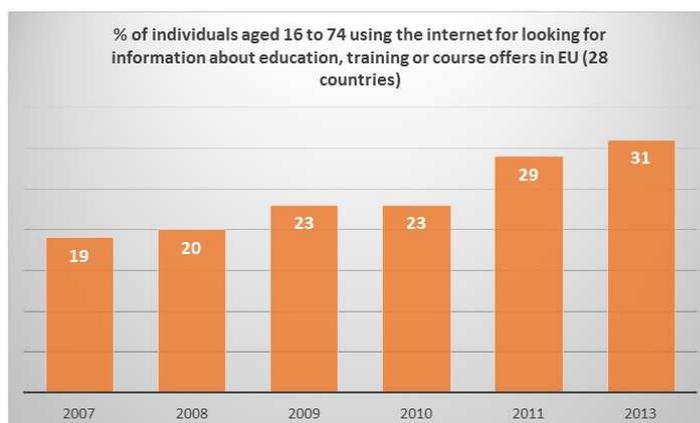


Figure 3. Comparison of access to educational services by year

In a report regarding the Digital Agenda Scoreboard of the European Commission issued in 2013, an analysis of the use of the internet and internet based services across 27 EU member States is described. It provides interesting numbers about the penetration of the Internet in different countries and about the types of uses that are most common. As for the latter, in the report it can be found that “email remains the most popular activity with 66% of individuals reporting using it in the last three months” representing an increase of 5% with between the years 2010 and 2012, the last period for which the data was available when the study was conducted. Exchanging mails is followed by looking for information about goods and services (62%, +5 % in the period 2011-2012) and then by reading online news or newspapers (45%, +5% in the period 2011-2012). Interestingly for our purposes in this deliverable is the fact that “the next most popular activities are internet banking (40%), posting messages to social media sites or instant messaging (40%, +8% between 2010-2012), using travel and accommodation services (36%), buying/ordering goods or services (35%), playing /downloading games, images, films or music (35%, +7p.p. between 2010 and 2012) and listening to web radio and/or watching web TV (33%, +7p.p. 2010-2012).

Posting on social media, listening to web radio or TV, reading newspapers and news online are a remarkable share of the total use of the internet that, coupled with the professional use in academia and research settings justifies the rise of networks dedicated to exchange ideas, opinions, information and knowledge regarding a variety of issues, including environmental and related to disaster risk and climate change.

The configuration of the possession of information was reshaped by the introduction of technology and new communication tools in everyday's life as well as crisis situations. Accordingly, Lagadec affirms that "we cannot deal with disasters without taking into account the new configuration of people communication and use of technology. The entire process has to be re-considered in order to manage this new way of life" and invites to add these essential parameters to the reflection about risk and disaster management. In fact, the computer based information and communication revolution as denoted by Quarantelli, allowed the gradual shifting of information and communication technologies (ICT) from the military to the civilian applications. Indeed, the presence of computers, satellites, cellular phones and internet have influenced significantly the behaviour of all actors involved in disaster management activities. The feelings and perceptions of people, their actions and reactions, the way they will communicate and how they will interpret the information, what they will avoid to do or what they will do for the first time is actually highly influenced by the presence or not of ICT.

It is certainly in the World Wide Web (web) that the hugest revolution has occurred. The web includes search engines, social media and the global hypermedia public sphere and offers through the different protocols and formats (e.g., http, HTML, XML, RDF, etc.) the possibility to represent data and to guarantee the interoperability among it. Moreover, the web permits to integrate the interpersonal communication technologies such as mails, forum, blogs, instant messaging, social networks, etc. The concept of Web 2.0 was introduced in 2004 during a conference organized by O'Reilly Media as the "new wave" of the web that "permits a new generation of services and business opportunities". This expression refers to communities and services based on the web that facilitate the collaboration and the sharing among users.

Moreover, the use of the Web has actually moved in the last years from being the main communications mean of the Internet permitting not only to access to information but also to memorize, organize and manage data online. Likewise, the Web 2.0 revolution with the vast amount of ways in which people can be connected online has called the interest of cloud computing services in order to establish means of turning the flow of information and communication into business potential. Cloud computing is defined as “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction”. In other terms, cloud computing refers to the delivery of computing and storage capacity as a service to a heterogeneous community of end-recipients over a network (usually the internet).

The possibility offered by the combination of the Web 2.0 and the cloud computing of providing not only data but also software is crucial for in contingency management. In fact, this infrastructure offers the Software as a Service (SaaS) to the users that do not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities. Indeed, the applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g., web-based email), or a program interface.

Indeed the networks that we have considered in the Know-4-drr project have emerged because and thanks to all the features that have been just described above: increasing access and use of the internet by all sorts of publics, a space (apparently unlimited) with huge potential of sharing and exchanging information, and thanks to the more recent advancement space offering the possibility to store information and data as well as to provide online services for a variety of purposes.

Having said that, let's have a closer look at the networks that have been invited and analysed in the project. Boxes 1 to 7 describe in very general terms the networks we have interacted with in the Know-4-drr project.

The most prominent and perhaps only common feature that is quite evident is that all of them are web based, all of them disseminate their activities through the web. There are differences though in the type of use of the internet: some networks, such as Preventionweb (box 1), WeAdapt (box 2), ADRRN (box 3) work through the web, they use the web as a key primary tool for their activities. Others, such as Resilience Engineering use the internet as a window to disseminate their own activities.

As for other characteristics and objectives, the networks are rather different, which makes linking them in a substantial way not so easy.

As for the disaster cycle, some are oriented towards delivering their services in the emergency phase: the most eminent example is certainly Crisis Mappers, though most of them are actually focused on the preparedness and mitigation phase.

Also with respect to the spatial scale such networks are different: some are global in their scope, as clearly PreventionWeb is; others wish to reach NGOs and small scale authorities and levels of government, such as ADRRN.

As for their focus, some networks are really focused on either DRR (like ADRRN) or CCA (as WeAdapt), further they are also focusing on specific topics and issues, like for example resilience, in the case of Android, or industrial safety and reliability of complex systems as in the case of Resilience Engineering.

BOX 1

Name of the Network: PREVENTION WEB – Serving the information needs of the disaster risk reduction community

UNISDR, <http://www.preventionweb.net/>

PreventionWeb.net is a participatory web platform for the disaster risk reduction community. The portal aims to facilitate an understanding of the subject of disaster risk reduction (DRR). Besides, it provides information on the work of professionals in the disaster risk reduction area by providing current news and views on the topic, and tools for exchange and collaboration.

The scope of the platform is global. The platform's outcomes are both academic and technical reports, news, information on current tools, reports, videos, photos and also a job application portal.

Shortly PREVENTION WEB is:

- A platform that addresses you towards relevant documents and publications in the domain;
- A platform, providing room for sharing opinions and exchange ideas among users (a sort of virtual discussion room, a wiki, a blog);
- A platform that provides different tools to be used: risk assessment models, vulnerability assessment indicators, etc.

Box 2

Name of the Network: weADAPT

Agency responsible for the KMS: Stockholm Environment Institute

Date of creation: 2007 - wikiAdapt 2011 - weADAPT in its current form

weADAPT is an online 'open space' on climate adaptation issues (including the synergies between adaptation and mitigation) which allows practitioners, researchers and policy makers to access credible, high quality information and to share experiences and lessons learnt with the weADAPT community. It is designed to facilitate learning, exchange, collaboration and knowledge integration to build a professional community of research and practice on adaptation issues while developing policy-relevant tools and guidance for adaptation planning and decision-making. Practitioners, researchers, students, adaptation planners and policy makers are the expected users of the platform. The outcomes of the KMS are ideally, improvements in adaptation planning, research and practice and there are some emerging 'stories of impact' to demonstrate where this is happening.

weADAPT is:

- A sort of e-learning platform;
- A platform that addresses you towards relevant documents and publications in the domain;
- A platform providing room for sharing opinions and exchange ideas among users (a sort of virtual discussion room, a wiki, a blog);
- A platform that provides different tools to be used: risk assessment models, vulnerability assessment indicators, etc.
- Mainly an intelligent information system e.g. through our use of semantic tagging

BOX 3

Name of the network: ADRRN (Asian Disaster Reduction and Response Network)

<http://www.adrrn.net/>

The Asian Disaster Reduction and Response Network (ADRRN) was established in 2003 and MERCY Malaysia is its Secretariat. ADRRN is a network consists of 45 NGO members from more than 16 countries across the Asia-Pacif region who work together through various channels including websites, training programs, exchange visits as well as join field projects.

The ADRRN aims at promoting coordination, information sharing and collaboration among NGOs and other stakeholders for effective and efficient disaster reduction and response in the Asia-Pacific region.

The various network members work closely with the National governments in various Asian countries to advocate about the issues of vulnerable communities. In addition, ADRRN members work for various issues of DRR and awareness campaign in the region to raise awareness about various issues of DRR, to build the capacity of members for effective response, to reduce the gap between knowledge and practice and advocacy activities.

BOX 4

Name of the network: Crisis Mappers Net (International Network of Crisis Mappers)

Date of creation: 2009

<http://crisismappers.net/>

The International Network of Crisis Mappers (Crisis Mappers Net) was launched at the first International Conference on Crisis Mapping (ICCM) in 2009. The Crisis Mappers Net is the largest community of experts, practitioners, policymakers, technologists, researchers, journalists, scholars, hackers and skilled volunteers engaged at the intersection of humanitarian crises, new technology, crowd-sourcing, and crisis mapping.

The network leverages mobile & web-based applications, participatory maps & crowdsourced event data, aerial & satellite imagery, geospatial platforms, advanced visualization, live simulation, and computational & statistical models to power effective early warning for rapid response to complex humanitarian emergencies. Moreover, the Crisis Mappers Net as information scientists also attempts to extract meaning from mass volumes of real-time data exhaust.

This network offers a neutral space for conversation and information sharing. Besides, Crisis Mappers Net hosts an annual conference event, the ICCM. Such conference showcases best practices and most recent contributions, innovations, and deployments from the global community.

BOX 5

Name of the network: USHAHIDI

Agency responsible for the network: Ushahidi

Date of creation: 2008

www.usshahidi.com

Ushahidi was originally a website developed to map reports of violence in Kenya after the post-election fallout at the beginning of 2008. Later on, Ushahidi has grown into a global non-profit technology company with origins in Kenya.

Ushahidi is responsible for founding the iHub, a technology hub in Nairobi which has helped build the technology community in East Africa, growing to over 14,000 members, has incubated 150 tech startups that have created over 1000 jobs.

The current mission of Ushahidi is the change the way information flows in the world and empower people to make an impact with open source technologies, cross-sector partnerships, and ground-breaking ventures.

BOX 6

Name of the network: The ANDROID Disaster Resilience Network

Agency responsible for the network: Centre for Disaster Resilience Maxwell Building,
University of Salford

<http://www.disaster-resilience.net/>

The ANDROID network is an Erasmus academic network aiming at promoting co-operation and innovation among European Higher Education (HE) to increase society's resilience to disasters of human and natural origin. The network includes 67 member organisations from 31 countries as well as many associate member organisations and it provides an opportunity for people to share knowledge and experience.

ANDROID's objectives are: 1. to promote discourse among European applied, human, social and natural scientists to, pool their results and findings, discuss methods and develop interdisciplinary explanations that increase society's resilience to disasters; 2. to describe, analyse, and compare the capacity of European cities and HE to address disaster risk, and thereby reinforce the link between education and society; 3. to build the capacity of European Higher Education to address emerging challenges in disaster resilience, strengthen the link between research and teaching, and inform policy development.

The network's teaching and research is concerned with what resilience is, what it means to society, and how societies might achieve greater resilience in the face of increasing threats from natural and human induced hazards. In addition, the network will also raise awareness and promote a common understanding among stakeholders of the importance of disaster resilience education and the essential role of European HEIs in improving society's ability increase disaster resilience.

As outputs of the ANDROID network (and partners) activities, the network produces a range of publications, from regular newsletters to focused research reports.

Also in terms of what they offer, the networks present a rather diverse outlook: some offer services, like Crisis Mappers, Ushahidi, others instead propose an access to documents, information on various issues of DRR or CCA, such as Android or PreventionWeb.

What emerged rather surprisingly from the workshop is that most attendants did not know each other, giving the idea of networks working with and for their own users in a rather isolated fashion and that nobody has had the idea insofar of trying to create linkages among them.

The discussion that was held in Salzburg rotated mostly around some key points, such as the conditions at which networks work seem useful to fulfil societal needs in the field of DRR and CCA, their ways of organising and sharing knowledge, the durability of networks. Representatives of networks had different opinions regarding those issues, but most of them recognised that the internet provided a powerful and in the meantime a constraining environment. Powerful because it is easy to reach at least potentially a wide audience, because it is easy to shorten physical distances, to provide in a common individual space a large variety and quantity of information. Constraining because everything seems very fluid, networks seem to spring very rapidly but also similarly rapidly lose relevance and disappear, because it is not easy to measure and find evidence of the real impact a network has on people's life, unless specific initiatives are taken with this purpose.

3. Issues emerging from a non-exhaustive analysis of networks active in DRR and CCA

Here below we wish to examine some key findings of our own interaction with networks and of literature review. We should be clear about the fact that not much has been written on the topic, and some researchers in sociology have actually complained about the too little attention the topic has been devoted in research. Even on the use of social media in disasters we were unable to find a large number of articles: this is just an initial field of investigation, with some important reports that have been produced by international organisations or by institutions active particularly in crisis response. We had also this difficulty in our work: while the largest use of social media is during crises and emergencies, little use has been witnessed insofar for promoting prevention, mitigation and cautionary behaviours.

3.1 Networks reliance on a key promoter, a project, an institution

All the networks we have invited to the Salzburg meeting have been founded, created and are currently run by a main organisation, that takes the lead for the content, for guaranteeing the continuity in the activities. So PreventionWeb is a UNISDR initiative, Resilience Engineering is the front page of the association with the same name, Ushahidi is a non profit company, Android is an academic network created through an Erasmus Mundus initiative, WeAdapt is run by the SEI Institute of Stockholm. Somehow the ADRRN is an exception, as it is made of 52 NGOs active in 20 Asian countries.

Networks need to maintain themselves and maintain their website and platforms alive: this requires rather trivially funding that come from research funding, from governments, from international organisations or from the activity of the network, as is the case of Ushahidi. Ushahidi and ADRRN are eminent examples of the non-profit, third sector, made of volunteerism and of the work of professionals who earn their living carrying out their work for companies, associations, entities that are not making a profit, but funded by foundations and other types of donors. Ushahidi for example is funded among others by the Rockefeller Foundation and gets its funding from selling their consultancy to public administrations or other interested customers only for a 30% of their overall budget. In return the software that is produced by Ushahidi members is totally open and free. What Ushahidi sometimes sell is a service related to an advanced use of the platform. Still its activity is mainly promoting resilience and sustainability around the globe through specifically targeted projects (for example the Resilient Cities Project of the Rockefeller Foundation).

Understanding how the networks are maintained and what are the sources of revenue is not easy and requires a deep understanding of the mechanisms of working with and through the internet.

What was clear from the workshop and also from our own analysis is that such networks are strongly dependant on donors, on the institutions that run them, and

therefore they exist as long as such supporting institutions, donors, organisations feel it is important and useful to keep them.

3.2 Networks with respect to the time scale

A relevant differentiation that we were able to analyse and also to a certain extent experience being part of them (Mejri, 2013) is between peace and crisis time. Networks behave differently in those two crucial phases of what is called the “disaster cycle” perhaps with a bit overused term by now. However what is certainly relevant for our discussion is that in times of crisis networks develop as part of the response as people participating to it are eager to produce results that will be tangible and useful in the calamity. The crowd mapping experience is certainly of this kind and proved to be very useful in mapping entire areas where no official map was available to rescuers (Meier, 2015) like in the case of Haiti.

In peace time networks work differently: the motivation that stands behind the work of the volunteers and those who took the responsibility for maintaining the network reflects longer terms projects and build on everyday life. This is not to say that the two types of activities are incompatible, or that a network can work only for one of the two phases. Rather there is certain dynamism, both in times of crisis and in the shift between crisis and “normal” functioning of networks’ activities. This is perfectly in line with what had been already discovered by sociologists long ago regarding emerging groups during disasters (Quarantelli, 1986): some are just a resilient response to challenges and immediate needs that characterize the emergency, whilst other will continue functioning in different ways and with extended mission also later after recovery and reconstruction.

3.3 Link between networks and knowledge management system

Considering the activities run by the different networks, particularly for what concerns the web based material and services they provide access to, a crucial link with knowledge management systems has been observed for many of them. In other words, the key service such network provide is structured and organised access to relevant information and knowledge on DRR and CCA with or without a geographical connotation. PreventionWeb is covering the entire world, whereas ADRRN clearly focus on Asia, with other networks focusing on the countries that are donors or part of the project that sustains them.

In general though it can be said that such networks provide more than just material for disseminating their own activities, they aim at providing guidance to knowledge in the field of interest. Resilience Engineering organises conferences every two years, relies on the publication of relevant books dealing with complex industrial sectors safety and on resilience as a new perspective to be acquired by engineers to shift from an approach that seeks safety and minimises the potential for failures, to an approach that recognises some failures as inevitable at some point and therefore look for modes of failing in a non catastrophic way.

Android is a network that has generated a PhD program aiming at educating researchers in the topic of resilience. WeAdapt offers a knowledge base with a map that can be interrogated by areas or by themes. PreventionWeb provides a section to contact experts on specific issues, an element that will be considered as a typical feature of KMS (see Deliverable 3.1).

3.4 The potential and limits of crowdsourcing

Wellman (2001) suggested that “computer networks are inherently social networks, linking people, organisations, and knowledge” this is because “computer networks principally support social networks, not groups. A group is one special type of a social network; one that is heavily interconnected and clearly bounded. Much social organisations no longer fits the group model”. This idea of shifting from group based to network based society has sounded in the meantime appealing and scaring to social scientists (Di Maggio et al., 2001): on the one hand the enthusiastic perspective of dismantling any barrier due to time and space, as through networks people can be connected even when they are not physically online at the same moment and – more obviously – staying in very different locations. On the other hand the negative view, according to which social networks online are destroying connections and social life in the “real” physical world.

From the scientific literature, and perhaps also from our own experience none of those two extreme interpretations is correct. Actually the internet enabled functions have changed our way of communicating and working but have not eliminated previous arrangements, both social and organisational. Actually the internet is part of our everyday life, being connected is one possibility we have to exchange information and knowledge, but it had not eliminated the previous ones. It integrates the latter. In fact, as professionals from the media use to say, the television has not eliminated the radio, and the radio has not eliminated newspapers, so the internet has not eliminated all the others. Actually it offers new opportunities, combining different media in new ways. Arge (1998) suggested for example that internet is a “meta-medium: a set of layered services that make it easy to construct new media with almost any properties one likes”. This is not different from the findings we have summarised in the Guidelines to produce media communication to foster and encourage DRR and CCA (see Deliverable 3.4). As suggested in the Deliverable though we are far from having explored and used the full potential of the new media, both at work and in communication. Wellman (2001) suggested that a question to be answered is how “do people in [networked organisations with multiple, transitory, dispersed teams] obtain knowledge from others?”. It seemed a crucial question that we argue has not found yet a fully satisfactory answer.

As very correctly put by Di Maggio et al. (2001) “Technology’s effects reflect not its inherent potential, as futurists assume, but active choices that are shaped by technology owners’ perceived interests, existing organisational structures and routines, and by cultural norms”. That technology and availability of specific technical potentialities or realities does not lead social change is an issue that has been explored for long by Cipolla (2009) in his work on the material history of

Europe. Availability of technological competence and tools does not translate into innovation if there is not economic and social demand for it; on the other hand at the beginning a new technology is often used imitating the usage of older ones, neglecting potentialities that could clearly bring major change. An eminent example is provided by the first iron bridge on the Severn River in the UK dating back to the 1781. The new material has been used as a substitute of wood, neglecting the enhanced and much better elastic behaviour of iron with respect to wood. What those two arguments tell us is that time and experimentation is needed to exploit at best a technological innovation and even more time to fully embed it into social arrangements.

It is our common experience in Southern European Countries and perhaps not only there that digitalisation and internet have sometimes even worsened the obtainment of service and the conditions of work, by adopting the new technologies to fit outdated, complicated, unnecessarily abstruse norms and regulations.

How all this makes sense for the networks that are the object of this document?

There are some important implications in what sociologists and computer scientists investigating the behaviour of individuals acting in computer networks and of networked organisations have discussed and investigated.

First it is clear that the potential of the networks lies in the capacity of the latter to capture the interest and the attention of those connecting to and through it. In fact, while the Internet provides apparently unlimited capacity of connection and outreach, there is a limit due to the possibility of paying attention to a variety of stimulus and interesting topics. What is possible in theory does not fully translate into reality, exactly because we can invest only part of our time and our attention in the network. As different crises and emergencies have shown, for example the use of social media in the Arab and especially in the Tunisian Spring has shown (Mejri, 2013), attention can be maximised for a given time, when something crucial and really huge is happening. Then though only a more limited of people can keep developing discourse and meet in the networks, while many others return to their normal, pre-event activities and use of the Internet.

Second, very importantly, specialized networks, such as those active in DRR, CCA or in social work and activities such as Ushahidi, can continue function and develop only as long as the community that is connected and active in it believes in its utility and profit from its existence. On the one hand specialized networks, as the definition by Wellman (2001) suggests, are connecting not only people but also knowledge, they provide an access to a crucial resource that is knowledge on specific issues and topics. Individuals participating in the network need to find useful and usable knowledge and in the meantime continue contribute to its creation. On the other hand such networked communities can be labelled as communities of practice, that have in common important knowledge and information demands and offer capacity.

Third, as said in different ways by representatives of networks but as can be also understood browsing through their content, networks and Internet based communities of practice are not at all accidental not happen by chance. This is perhaps a naïve way of considering crowdsourcing: thinking that the crowd will produce autonomously and randomly intelligence and sense. In order to obtain a viable from crowdsourcing one need to have a predefined very clear objective; one

has to be very clear about why and for what purpose the crowd is activated. In the meantime, once data, information and even knowledge is crowdsourced, one needs a strategy for using the result of the activity and the data and information that has been generated.

So, for example, representatives of Ushahidi and Crisis Mappers clearly stated that you need a strong hard core of committed volunteers in a given community (many times a “physically based community”) to guarantee that the crowdsourced produce good quality data and meaningful results. This is to say that creating a network as you are in the meantime creating a community of practice you need to be very clear about goals, strategies, use of generated data and knowledge. This brings back to the observation that we made during the Salzburg workshop and analysing literature about the fact that the large majority of Internet based networks are based or founded on an institution, a non profit organisation, a research centre that has a precise goal, commitment and willingness in developing and running the network. As will be discussed in Deliverable 3.1, the “origin” of the networks we find in the DRR and CCA fields is not to be searched in the social media, in the spontaneous generation of blogs or messages generation like Twitter, but rather in “business” organisations. Clearly though such networks are different as far as their ultimate goal is concerned: generally non profit oriented, aimed at improving the capacity of communities and administrations in dealing and preventing disasters.

3.5 Is the distinction between the four social groups identified in the Know-4-drr project relevant when looking at networks active in DRR and CCA?

We believe the distinction between the four broad social groups identified in the Know-4-drr project to be relevant in the discussion about networks. Recalling what has been said in the first paragraph of this section in fact, networks need to be managed by an entity, a organisation, that can be public, a private business, a research institution, or an NGO or associations pertaining to the so called “civil society”. The networks we have invited and analysed pertain to all of the four types in terms of managing underlying institutions. Still an issue arises as the public that potentially may reach, use, benefit from the networks is very varied and as we have seen all or most the networks have also a relevant role in educational/informational activities.

In this regard, we believe that some thought could be given to the nature of the information and the knowledge that is shared through the networks.

In fact the new technologies and the emerging social behaviours in the use of the technologies have made some definitions and distinctions regarding the proprietary nature of information and the trustworthiness of it obsolete and difficult to fit in the new configurations.

For example, when labelling the information as coming from a private source, two different situations can be referred to. On the one hand, it designates the private sector as source of disaster information either during the pre-disaster phase as monitoring data or after the disaster happens as residual risk assessment (e.g., commercial satellite imaging, sensor networks data, etc.). In the USA, where the presence of the private sector in the crisis field is very large, the Federal Emergency

Management Agency (FEMA) calls, in terms of partnerships between the private and public sectors, to enhance situational awareness by sharing information. The FEMA declared¹ that all levels of government and the private sector have much to gain through shared situational awareness rather than rely only on information gathered by governmental means.

On the other hand, the information private source also denotes the population and the private citizens that actually may be involved directly or not in the emergency. With the web 2.0 nowadays configuration, we assist to the entrance of the citizen information in the public arena of information providers and dispatchers. New media are not only competing with traditional media but also complementing their activities.

Figure 4 represents a matrix that crosses the information source (i.e., private or public) and the typology of media (i.e., traditional or new) presenting four possible combinations.

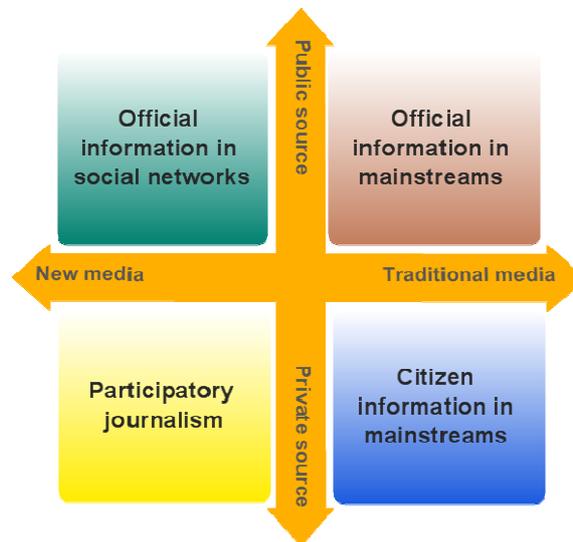


Figure 4: Private and public information pattern

The public/private interface related to disaster risk management change across the disaster cycle and its phases. Before an event, information is mainly provided by public bodies, with some NGOs intervening in educational projects to raise the awareness of local communities facing a variety of threats. It is nevertheless during the emergency and early stages of recovery that the most significant changes have been witnessed in the very recent years, with fundamental implications for the legitimacy, the property and the means chosen to disseminate information to a variety of stakeholders.

Indeed, the public and state information owned and diffused by the public institutions are considered as the official “version” by the crisis management stakeholders (i.e. organisations, decision-makers and the more general population).

¹ FEMA Private Sector Focus, <http://www.fema.gov/privatesector/index.shtml>

On the one side, this information is used in order to prioritize the help actions and to allocate the needed resources by the decisional level, defining in point of fact the whole workflow of disaster management and recovery. On the other side, the official information is as a rule perceived as the trustworthy information by the population which utilize it to take their personal or communitarian decisions.

Information is usually considered official if it pursues one or both of these two conditions: it has an institutional source and it is communicated by reliable media (i.e. mainstream televisions or radios that may be state or private according to the country). Furthermore, as the ownership of information is considered as a powering function the institutions are highly-protective about this authority and till some years ago the official information was only disrupted by the presence of geographically localised “rumors” and the diffusion of inaccurate or misleading disaster communication.

The configuration of the possession of information was reshaped by the introduction of technology and new communication tools in everyday’s life as well as crisis situations.

In this new scenario, the official information spread by mainstream media during crisis phases may be in “conflict” with unofficial information that is produced by private citizens or NGO’s, made visible and available to everyone, all over the world, in few seconds, through the net and the social networks. The unofficial information may be characterized by the following properties:

- The source of the information may be considered private (i.e. most of it is produced by single citizens)
- The access to the information is made public by the use of public media-sharing websites and social network platforms (see figure 1)
- The diffusion of the information follows both peer-to-peer and broadcasting paradigms depending on the technological tool it employs reaching not only the private population but also the institutions and the different stakeholders of the crisis management process.
- The sharing information activities over the net are immediate and follow a rather real-time model

The population (i.e. victims of the disaster and more general population) elevated focus on the disaster, especially the highly damaging ones and during the few hours following it, create a huge increasing demand of information that is replied by the production of a massive quantity of content-related information about crisis.

4. A network of network: is it feasible? Is it desirable?

Going back to the initial goal that has been considered initially in the Know-4-drr project and briefly recalled in the introduction, we can suggest that a network of networks in DRR and CCA does not make a lot of sense as the situation stands today.

This is because the active networks that we invited, interviewed and analysed are very focused in their perspective and their goals, they are managed by different agencies and organisations, and therefore they mirror the interests and purposes of the latter. Even though from a general point of view all the networks share some common interest in enhancing preparedness, prevention capacity, resilience and adaptation capacity to disasters and climate change, they do it from different perspectives, different aims and responding to different mandates. The latter are somehow related to the funding that permitted the creation and the maintenance of the network itself.

An even more compelling argument relates to the evidence highlighted by some researchers regarding the way communities online actually communicate and how members actually network within the larger, indefinite space of the Internet. Two aspects are of interest here. The first is the fact that any new initiative in the web, be it an e-commerce business, a WebTV, a news blog will have to compete with many others to capture the internet surfers' attention. While apparently the internet is offering unlimited opportunities to share, exchange information and engage in groups, provoking what has been labelled as "information" (an perhaps also opportunities) overload, attention remain a limited even scarce resource. Therefore from surveys carried out recently, it emerged that the most visited sites polarize by a very large extent the attention of the publics, leaving very little extra space for all the other online initiatives. This means that the same networks that we have invited and we analysed for the Know-4-drr project struggle for getting the attention of the communities they wish to involve. In fact, Ushahidi representatives told us clearly that the largest effort in engaging is done offline, with traditional advocacy for their activities. The fact that surfers visit a site by itself is not a sufficient indicator of their real interest and willingness to become part of the network. Equally important are the time spent on a site and the number of people accessing the documents and/or services a network provides.

The second important factor relates to the observed behaviour of internet communities: rather than becoming a huge large net, such communities appear like islands, larger or smaller in a wide ocean with little if any connection among them. This was observed for example by Mejri (2013) in the way news, information, opinions and calls for action were spreading within the Tunisian community in the Country and outside without actually reaching other communities. A similar result was obtained by Nagar et al. (2012) in their analysis of the Twitter coverage of the 2010 typhoon in the Philippines and the Brazil flood in 2011. They found that "Although the news is seeded in different disjoint parts of the network, it very quickly cumulates into a giant connected component that comprises more than 90% of the users tweeting about the disaster", however "the component closes on itself by remaining disconnected with the rest of the Twitter network". It appears therefore that connecting among networks is not an automatic affair or something those who run and hold responsibility for the network will do unless there is a

motivation for it, unless they discover it provides an added value to them and their activities.

Perhaps it is simply too early to elicit the critical elements that would permit a larger connection among the many initiatives. Sometimes the fragmentation may become an issue, like for example in the case of organisations doing the same or very similar things during a crisis (for example Google Crisis with People Finder, Ushahidi, and more recently the Disaster Assistance by ESRI). It is therefore very positive that international organisations such as UNOCHA for example are working with some of those networks, they may be helpful and permit them in the meantime coordinate their own effort together with the services offered through the internet based technologies. We need probably more time and further analysis to suggest how a stronger connection among networks active in the DRR and CCA fields can be better connected responding to a view and a strategy that is still missing not only within the networks themselves but also within the organisations, national and international that could benefit from the networks activities.

5. References

- Cipolla, M. 2009, *Storia economica dell'Europa pre-industriale*, Il Mulino.
- DiMaggio P., Hargittai, E, Neuman, WR. 2001. "Social implications of the Internet", in *Annual Review of Sociology*, vol: 27, 2001.
- European Commission, Commission Staff Working Document. Digital Agenda Scoreboard, SWD(2013) 217 final, Brussels, 12.06 .2013
- Karppinen, K. 2013. *Rethinking Media Pluralism*, Fordham University Press.
- Meier P. 2015. *Digital Humanitarians. How Big Data is Changing the Face of Humanitarian Response*, Taylor and Francis Press.
- Mejri, O., Hagi, H. 2013. *La rivolta dei dittatoriati*, Mesogea.
- Nagar, S., Aaditeshwar, S., Joshi, A 2012. Characterization of Social Media Response to natural disasters, in the "International WWW Conference Committee (IW3C2)", WWW 2012 Companion, April 16-20, Lyon, France
- Quarantelli E. L. 1986. *Disaster crisis management*, Disaster Research Centre, Delaware University, preliminary Paper.
- Wellman B., 2001. "Computer networks as social networks", in *Computers and Science*, 293.

6. Annex: synthesis of the discussion panels held in the Salzburg Workshop

The workshop held in Salzburg, Austria within the project KNOW-4-DRR aimed at bringing together representatives of various networks from the DRR and CCA communities – as well as complementary fields - in order to identify synergies, develop common understanding of the challenges being addressed by the networks and the approaches being used, and find new ways of working together.



Relying on the *Metaplan© Method* to conduct the interactive workshop ensured that all participants were involved in goal-oriented discussions on the following subjects:

- The role of networks in DRR and CCA: Discovering synergies, commonalities and individualities between DRR and CCA
- Current “success strategies” of networks: What are key factors for the durability and sustainability of networks?
- Reflecting on the role of networks: function, added value, approaches, and tools to DRR and CCA networks and their role in the creation of knowledge, its sharing, exchange and implementation
- The impact of networks on decision-making by stakeholders in policy and practise: Can networks bridge scales and help find trade-offs between issues?
- Looking forward: Is an increased collaboration between networks desired and/or reasonable?

The results of these discussions are summarized as follows:

1. Achievements of networks

a. A voice at higher levels of decision-making

- i. It was agreed that networks help voice experience and needs of civil society at higher levels by promoting the interests and concerns of a wider community.
- ii. Networks also provide a positive leveraging effect of capacities and in prioritizing actions
- iii. Networks amplify attention and collect resources on a certain issue or action sector, also in the sense that evidence and experience from the ground is gathered and connected to other agendas at higher levels

b. Connecting people

- i. Networks create a space for people to meet, exchange ideas and experiences and, most importantly, to learn
- ii. Networks are a place where relationships of trust can be built and direct communication is facilitated
- iii. Networks join forces for a common vision
- iv. Networks can help cross institutional boundaries and particularly connect science with practitioners
- v. Comparing different “sense-making” strategies
- vi. Bringing different forms of knowledge/ perspectives to a problem, often leading to lateral thinking and alternative approaches to problem-solving

c. Knowledge provision and sharing

- i. Networks collect and provide information and knowledge in a structured form
- ii. Knowledge exchange between members of a network and different stakeholders
- iii. Networks can disseminate information (publications, websites, etc.)
- iv. Facilitate knowledge transfer between disciplines and regions
- v. Convergence of different backgrounds for a common objective
- vi. Foster common understanding e.g. between researchers and practitioners

d. Implementing knowledge

- i. Networks are committed to deliver project outputs, as well as streamlining research and other activities. Furthermore, networks help avoid duplication/ reinventing the wheel by collecting and recycling experiences.
- ii. Thanks to the internet, networks can coordinate knowledge, information and data to provide services, consultation and goal-oriented answers
- iii. Enabling inter-/transdisciplinary communication

A plenary discussion followed revolving around: Governance and resources, outcomes, users, outreach, dissemination and impact, synergies of networks, sustainability and relevance. Responses were given to the following question: What,

in our view, are the challenges that networks face? Contributions were clustered according to their coherence.

2. Challenges faced by networks

a. Funding and sustainability

- i. Finding sources of funding for networks is a constant challenge, without which the maintenance, i.e. keeping networks alive, is problematic
- ii. Following and adapting to changes in a dynamically changing environment
- iii. Short-term planning can challenge sustainability of network and its achievements/outputs

b. Redundancy

- i. Achieving synergies, i.e. to complement and add value to other initiatives and integrate with them rather than starting something new which has many overlaps of activities with other networks
- ii. How to capture history/ learning/ meta-learning: who does what where given networks are constantly in flux and changing within a complex system
- iii. There is no such thing as a network guide: you get to know networks more by chance
- iv. Being innovative and non-repetitive

c. Outreach and dissemination

- i. To produce results that can have a concrete impact on the real world
- ii. To provide/translate internal understanding to users/ outside world
- iii. Impact evaluations as a measure of success
- iv. To have the contributions of networks to DRR more recognized in spite of their limitations

d. Engagement

- i. Providing members with the motivation to contribute (incentives)
- ii. There seems to be a paradox between the awareness of the benefits of networks on the one hand and creating time for the networks by members is a challenge on the other hand

e. Growth and governance

- i. Often based on fixed personal relationships
- ii. From closed network system to open system: how to make networks less dependent on personal relationships
- iii. Fixed hierarchical structures
- iv. To identify the real agenda and motivation of a network
- v. How to operate/adapt with less-than-expected infrastructure

f. Reliability and quality assurance

- i. Excluding or missing user needs
- ii. What everyone can need
- iii. Objectivity in quality assurance
- iv. To become a reliable reference for stakeholders through the quality of information, selection of priorities and suggestions

Five working groups were then formed to look more closely at the identified challenges from different angles/ perspectives and work on how these challenges can be overcome.

In order to make results complimentary all groups worked along the following questions:

- How should it ideally be? (Where do we want to go?)
- What are obstacles/ hindrances?
- What are first steps in the right direction?

The topics the groups worked on were as follows:

1. Growth and Governance

a. What is the problem?

- i. Power hinders achievement and quality of the outcome
- ii. Organized top-down or bottom-up?
- iii. To comprehend the real agenda and motivation of a network
- iv. Replicating efficiency of no-expert networks
- v. Opening networks: current absence of new/young volunteers
- vi. Individual versus collective responsibility as regards risk

b. What should the situation ideally look like?

- i. Game of power driving and improving the achievements and quality of outcomes
- ii. Empowerment of ownership balance
- iii. Open network systems: Finding ways to include people/organisations outside of the known community
- iv. Mutual recognition of networks
- v. A dialectic process is an insurance against losing potential valuable conclusions
- vi. More data/info but privacy protected

c. What are obstacles?

- i. Hidden agendas may hinder the achievement of official targets
- ii. Fixed hierarchical structures
- iii. Nationalistic feelings
- iv. Rating and reputation of institutions in the name of alliance
- v. Lack of management capacities

d. What are first steps in the right direction?

- i. Availability of information
- ii. Open knowledge and dissemination amongst actors
- iii. Free flow and exchange of good practices of agendas within network
- iv. National DRR Platforms
- v. Subsidiarity
- vi. Scientific use ambiguity and diverse sense-making productively

2. Quality, Outcome Orientation, User Needs

a. What is the problem?

- i. Lack of reliability and quality assurance
- ii. Lack of outcome orientation
- iii. Excluding or missing user needs

b. What should the situation ideally look like?

- i. Clear scopes and intentions
- ii. Appropriate structures in place
- iii. Broad competency and experience

c. What are obstacles?

- i. Lack of standards in place
- ii. Formal/ informal networks and relationships

d. What are first steps in the right direction?

- i. Feedback from users
- ii. Constant reality checks

3. How to sustain relevant networks

a. What is the problem?

- i. Sustainability of funding, relevance, operational, adaptability and evolution

b. What should the situation ideally look like?

- i. Topic/goal of network high on political agenda
- ii. Clear added value of being part of network (mutual benefits)
- iii. Active participation at core (formulation of agendas, funding activities)

c. What are obstacles?

- i. Too much information/ email traffic
- ii. Political agenda: Those with a political role in network doing so “on the side”
- iii. Efforts in managing, creating network process on the one hand, tools that can enable focus on core work on the other

d. What are first steps in the right direction?

- i. Identify solutions and prioritize
- ii. Focus on the context and available resources
- iii. Clearly identify benefits of network and discuss with members

4. Outreach, dissemination, impact

a. What is the problem?

- i. Outreach dissemination
- ii. Lack of clarity (goals) with users
- iii. Networks inform themselves, but not great at informing outsiders
- iv. Limitations and risks are not always openly discussed
- v. Lack of impact evaluation measuring success/failure and is also difficult to measure

b. What should the situation ideally look like?

- i. Feedback that users are satisfied with network input
- ii. Fulfil clearly-stated demand

- iii. Have clarity of goals with users
- iv. Be frank about aim but also limitations
- v. Provide participants with rewarding incentive-making environment

c. What are obstacles?

- i. Trying to do everything rather than focusing on what you know how to do
 - i. Not always open about risks with public
 - ii. Reticence to talk about failures
 - iii. Lack of workable monitoring systems and open objectives/plans
 - iv. Time often too limited
 - v. Funders may not pay for impact studies

d. What are first steps in the right direction?

- i. Have a clear engagement path
- ii. Tailor information to different groups that are targeted
- iii. Have clear institutional framework
- iv. Have clear goals and outcome mapping
- v. Have clear, transparent monitoring system and indicators
- vi. Encourage long-term personnel engagement and memory
- vii. Have local agreements, clarity about financing and contributions

5. Increasing added value of networks

a. What is the problem?

- i. No overview of all networks
- ii. Lack of metadata on networks
- iii. Working in silos/ replication
- iv. Dependency on personal relationships
- v. Difficult to evaluate quality of network

b. What should the situation ideally look like?

- i. Information portal
- ii. Cooperation
- iii. Identify synergies

c. What are obstacles?

- i. Power struggles
- ii. Competition over scarce funding resources
- iii. Lack of mutual understanding
- iv. Information portal difficult to maintain/update
- v. Information portal may lack buy-in use
- vi. Narrow “view”/ perspective
- vii. Need for common terminology/ language

d. What are first steps in the right direction?

- i. Adapting funding schemes
- ii. Survey of known networks to assess needs and get buy-in
- iii. Combination of “insiders” and “outsiders”
- iv. Increase visibility of such events as this workshop

v. Making benefits of network more visible

When looking at the results of the discussion groups and considering the objectives of the workshop, what are our recommendations and proposals for next steps?

The following statements were noted:

- *“What kind of information-interaction among networks? This is key!”*
- *“We (in Asia) require knowledge to validate what is happening on the ground. To see how knowledge is used in the community.”*
- *“Small businesses are not interested in CCA or DRR. They want to work, produce, be safe ...”*
- *“We tend not to report failure. A failure is an outcome different from what was expected. So instead of failure: what are we missing?”*
- *“We are still missing links between CCA and DRR. In a year from now perhaps our position in the presentation board of the introduction will change.”*
- *“Well, within insurance, the gap between climate change and disaster risk has been bridged. Climate change is considered just another risk.”*
- *“Work has to be done to enhance links between networks in CCA and DRR – one reason for coming to this workshop.”*
- *“Perhaps insurance has filled the gap; however scientists are yet to do so.”*