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Collaboration and communication

Building a research agenda and way of working towards community disaster resilience

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Abstract

Purpose – The purpose of this paper is to provide a case study of Participatory Action Research (PAR), reporting on a collaboration, communication and disaster resilience workshop in Sydney, Australia. The goal of the workshop was to explore the challenges that organisations perceive as blockages to building community disaster resilience; and, through collaborative practitioner-led activities, identify which of those challenges could be best addressed through a deeper engagement with communication research.

Design/methodology/approach – The authors link communication, collaboration and disaster resilience through the lens of PAR, detailing how communication and resilience experts can collaborate to improve disaster prevention, management and mitigation practice.

Findings – The authors identify a number of theoretical considerations in understanding horizontal and vertical interfaces for improved communication. The authors also highlight how practical collaborative workshops can draw on communication researchers to facilitate collaborative resilience activities. PAR is shown to help move participant focus from resolving inter/intra-organisational tensions to facilitating public good, offering evidence-based recommendations which will foster a more reflexive and communicative approach to building disaster resilient communities.

Research limitations/implications – This paper does not seek to apply community resilience to the general public, no community representatives were present at the workshop. This does not mean that the focus is on organisational resilience. Rather the authors apply PAR as a way to help organisations become more engaged with PAR, communication research and collaborative practice. PAR is a tool for organisations to use in building community resilience, but also a means to reflect on their practice. Whilst this should help organisations in building more resilient communities the take up of practice by participants outside of the workshop is a matter for future research.

Practical implications – This method of collaborative resilience building could significantly improve the shared responsibility amongst key organisations, mobilising skills and building awareness of integrated resilience thinking in practice for stakeholders in disaster management activities.

Originality/value – This paper provides original evidence-based research, showing the linkages between communication theory, collaboration practice and the tools used by organisations tasked with building community resilience. This innovative synthesis of skills can aid in building PAR led disaster resilience across prevention, preparation and mitigation activities for all potential hazards, threats and/or risks, however, it will be particularly of interest to organisations engaged in community resilience building activities.

Keywords Resilience, Collaboration, Communication, Action research, Hierarchal and horizontal networks, Research-based planning

Paper type Research paper

Introduction

Disaster resilience is a term people both love and hate, depending on the perspective from which it is approached. However, one feels about it, it remains a prominent notion in the policy landscape. This paper reports on a Participatory Action Research (PAR) workshop bringing together communication researchers and representatives from organisations who help communities in building resilience to disasters. Hosted by Macquarie University's (Australia) Centre for Climate Futures, the goal of the workshop was to collaboratively explore the challenges organisations perceive as blockages to building community disaster resilience; and, through practitioner-led activities, identify those challenges best addressed through deeper engagement with communication research. The paper commences with a description of the workshop objectives and the PAR methodology. This is followed by a definition of the key terms framing the workshop, including clarified distinctions between organisational and community resilience. The workshop report is then linked to a 2013 symposium, which generated a research agenda through which communications scholars could better engage with resilience practitioners (Burnside-Lawry *et al.*, 2013). By building critical links between these activities we locate our workshop report in a wider conversation, showing the benefit of building bridges between communication researchers and community disaster resilience practitioners. The paper identifies and offers critical analysis of communication challenges faced by participating organisations in their community disaster resilience work, and shows how PAR can shift participant focus – from resolving inter/intra-organisational tensions to facilitating the public good. The paper concludes by presenting evidence-based recommendations which extend this research agenda, offering support to organisations and fostering a more reflexive and communicative approach throughout their efforts to build disaster resilient communities.

The workshop: objectives and PAR method

In order to address the goal of collaboratively exploring challenges perceived by organisations as blockages to building community disaster resilience, the following objectives were developed. The workshop sought to:

- establish a communication and collaboration framework for community resilience projects;

- share beneficial case studies of best practice from previous (or future) projects, and explore the challenges of sharing experiences;

- identify and document current ways of working, especially where successful collaborations have come forth or where communication breakdowns have undermined the goals of resilience projects; and

- develop a means to engage and improve communication between the required respondents in the community, emergency services, private sector and civil services.

The PAR method

Macquarie University's Centre for Climate Futures brought together a diverse group of 25 professional researchers, civil servants, emergency responders and collaboration consultants, all of whom had an active interest in building community resilience to

disasters in Australasia. Held in Sydney, the one-day workshop "Communication, Collaboration and Resilience", used a PAR design to create a new type of forum; one that fostered inter-agency communication and provided an interface between research and practice. As such it was expected to provide the foundation for a shared understanding that would give rise to a series of well-focused and relevant reports, articles and research grant proposals.

PAR is a method of enquiry which requires practitioners to be involved in every stage of the project (Hearn *et al.*, 2009; Whyte, 1991). Whilst there are many variations between disciplines, the main thrust of this approach is to engage through a reflexive form of collaborative engagement:

> At its heart is collective, self-reflective inquiry that researchers and participants undertake, so they can understand and improve upon the practices in which they participate and the situations in which they find themselves. The reflective process is directly linked to action, influenced by understanding of history, culture, and local context and embedded in social relationships (Baum *et al.*, 2006, p. 854).

In the workshop we applied this logic as a style of communicative practice emphasising inter-agency communication and collaboration as a form of PAR. The workshop was designed to demonstrate the PAR methodology to participants, but it was also a reflexive exercise where participants could share relevant skills and personal stories. The outcomes would thus demonstrate the value of more collaborative inter-organisational practice as a key step in building stronger skills for community engagement and collaborative disaster resilience. The PAR design sought to: enhance mutual awareness of compatibilities in participants' interests and skills; build trust between participants to facilitate communication and effective knowledge transfer; and build a more collaborative ethos across organisational boundaries. By doing so, the PAR methodology would lead to an inter-agency network where more collaborative community resilience practices could emerge; in particular when PAR techniques subsequently trickle-down into the design of future community resilience projects. The workshop was an opportunity to model both vertical and horizontal communication amongst representatives of a wide range of organisations, build trust amongst participants and provide a platform for collaborative action research projects in the future.

Trust is a vital component of resilience building (Goldstein, 2009, 2012; Walker and Salt, 2006, 2012). If actors trust each other they are far more likely to collaborate beyond the restrictions of hierarchal organisations and daily routines. Activities were structured to create a safe space for discussion whilst building a common appreciation amongst the participants of their respective skills and capacities. Collaboration of this kind can facilitate resilience building both from the perspective of individual actors in their home organisation but also in exploring the pressures to communicate and collaborate with other experts, and most importantly with the general public (Kirmayer *et al.*, 2011; Kuyken *et al.*, 2009).

In higher education we refer to this classroom practice as building a "safe space" for the exchange of ideas[1]. The dynamics are very different in a collaborative workshop with practitioners rather than students, however, the principles remain sound. In building a safe space the goal is to enable the participants, allowing them "to feel secure enough to take risks, honestly express their views, and share and explore their knowledge, attitudes, and behaviours" (Holley and Steiner, 2005, p. 51). By doing so the discussions aim to counter "the silo effect" of inter and intra-organisational tensions,

where employees within the organisations feel forced into competition – be it for a limited pool of funding, through competitive grant schemes or by means of harshly evaluated performance indicators attached to project evaluations[2]. It also provides a potential interface between these specialist organisations – often sporting hierarchical top-down communication structures, with more horizontal networks of communication being more typical of informal peer-association groups[3].

The workshop itself thus became a PAR project to explore how changing the environment and structure of communication between participants could highlight common ground, common frustrations, common goals and compatible skills amongst participants from a diverse range of backgrounds. It demonstrates in practice how horizontal communication strategies can interface with hierarchical organisational structures, encouraging a more networked collaborative way of working. Where activities foreground the compatibility of interests through discussion it becomes more likely that collaborative skill-sharing and team-building can be achieved as an outcome. Such efforts highlight the added-value of collaborative PAR to policy makers and practitioners, and offer potential improvements in communication between stakeholders throughout the collaboration process. There is little, however, in the way of consistent guidance or advice on how to achieve this. By building trust through conversation we wanted to explore the common ground, common experiences and common frustrations of participants, allowing them to engage in the development of project proposals that could facilitate and enhance collaborative and communicative resilience building in practice; by coming together, first, in the risk free environment provided by the workshop itself. A part of this process was ensuring, where possible, the use of a common language, to which end we explored common definitions of key terms with all participants.

Definition of key terms
The distinction between organisational and community resilience is integral to this paper. For the purposes of this paper we distinguish between the resilience of organisations with an emphasis on "hierarchy, organisational structure, command-and-control, risk and quality management" (Rogers, 2015, p. 4) and community resilience "as potential for individuals to collaborate (with key organisations) through locally relevant action" (Rogers, 2015, p. 4), sometimes referred to as a "shared responsibility". The workshop did not seek to build community resilience out in the community by working with the general public directly, rather, the workshop: offered a safe space in which to review communication techniques that organisations use when building community resilience; question if existing techniques acted as communication blockages to realising the end goal of a community resilience building project; and explore potential solutions to engender a more successful communicative practice. Workshop participants were encouraged to focus on the potential of PAR as a dynamic means to discover ways to engage communities more effectively, not as a measurement of internal resilience for the participating organisations[4]. Sharing of stories, frustrations and experiences of blockages or limitations within organisations was reflected upon throughout the discussion, but did not drive it. This allowed a focus on the activities themselves as means for improving collaboration. PAR itself becomes a means to simultaneously dissolve organisational blockages whilst more directly involving local communities in multiple phases of disaster management: from preparation, prevention, response and recovery as a whole but also at the level of smaller scale project implementation and project evaluations.

Community resilience
The workshop included a diverse range of participants, each with a stake in different stages of the disaster management cycle (Burnside-Lawry *et al.*, 2013, p. 30). It was agreed that a working definition of community resilience be used to focus participants. The group reflected on Gaillard's (2010) contention that disaster preparedness will not be effective without the engagement of communities, and that disaster risk reduction (DRR) practitioners and academics can learn from community development approaches "enhancing capacities, reducing vulnerability and building resilience requires increasing participation of local communities, as has long been encouraged in development research, policy and practice (Gaillard, 2010, p. 224). One working definition of community resilience offered was "the ability of a system community or society exposed to hazards to resist, absorb accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions" (UNISDR, 2009). Workshop participants went further, suggesting that community resilience is a participatory process for passing the power and responsibility for action to citizens, whilst building trust between experts and individuals (Rogers, 2015, pp. 55-56). This process enables communities to "bounce forward", ensuring that community resilience is not used as a cost-cutting measure for service delivery by expert agencies; rather it is an innovative process of mutual learning with transformative possibilities.

Community resilience and collaboration
Efforts to build community resilience often emphasise capacity building and generative coping mechanisms that involve communities in strategic planning (Davoudi *et al.*, 2012; Norris *et al.*, 2008; Prosser and Peters, 2010). Collaboration between stakeholders increases public confidence, helps to share responsibility for planning, prevention, response and recovery and reduces community reliance on the emergency services or other government or non-government organisations. There is, however, no single model for "good" collaborative community engagement, no single set of tools that will foster healthy and sustainable communication practices in diverse local, regional, national and international situations and little evidence of a politically compatible inter-disciplinary approach that can build collaboration through action research. A significant theme within the Sendai Framework for DRR 2015-2030, is the convergence between "community resilience" and "collaboration" in policy, as research expands beyond scientific concerns with environmental impacts to include social science understandings of risk reduction. This convergence requires collaboration between key stakeholders-scientists, policy makers, development and disaster management practitioners and residents (UKCIP, 2011). Communication between key stakeholders thus plays a critical role in the process of collaboration.

Communication, community resilience and collaboration
When seeking to build resilience to disasters there is a recognised need for more collaborative engagement across organisations (Cutter *et al.*, 2013) and a more nuanced understanding of communication practices to help facilitate this (Burnside-Lawry, 2012; Burnside-Lawry *et al.*, 2013). Organisational resilience often focuses on how organisations are limited within their silos or lack networked communication practices for sharing best practice (Seville *et al.*, 2006). This is often driven by the emergency services as first responders (i.e. organisational that are capable of delivering services under stress)

or by private sector (i.e. operation of critical infrastructure under stress)[5]. Community resilience gains traction in national policy (Office of the Attorney General, 2011) in a different way, more closely aligned to funding schemes that allow non-governmental organisations[6] to take on community development aligned with emergency management needs. The dearth of evidence for best practice in collaborative and participatory projects that fit this mould of service is becoming a greater issue for both scholars and practitioners. All stakeholders with an interest in building resilience can benefit from activities that explore the communication blockages that currently stymie such efforts to build more sustainable models of self-reliance and shared responsibility, both in Australian communities and for other agencies engaged in resilience building around the world.

Communication is a vital aspect of collaboration to build community resilience; however, communication researchers have yet to make significant inroads into the framing or implementation of building community resilience to disasters. This is particularly problematic where there is a clear and important contribution to be made across all fields of communication including the "Cinderella of disaster communication", interpersonal communication (Mills, 2014).

Building on the findings

Our efforts to begin filling this knowledge gap in communication and collaboration commenced at a symposium on communication and disaster resilience held at RMIT University, Australia, in November 2012. This generated a broad research agenda that aimed to focus the media, communication and social science contributions to ongoing research in such a way as to not only enhance community engagement, but also to improve the theory and practice of communication through grounded and practical community resilience projects. The research agenda that emerged identified six themes to help frame, enhance and develop community-driven projects (see Burnside-Lawry *et al.*, 2013).

The second workshop, held at Macquarie University in 2014, offered an opportunity for the core group to re-visit these themes with new participants-primarily from emergency management organisations, non-governmental organisations and related branches of the civil service. Discussion led to workshop participants focusing on "Theme 2 – communication strategies to build community resilience" (Burnside-Lawry *et al.*, 2013). Participants identified a need for greater cross-over of experience and skills in communication as a means of increasing more collaborative best practice to build community resilience. This is a particularly wicked problem at the interface between stages of the disaster management cycle, linking lessons learned from a response to a previous disaster, with preparation for future events. Fluent and meaningful communication is vital to ensure that lessons learned from exposure are integrated into future learning – so that the mistakes made in the past, as well as vulnerabilities identified, are addressed in future planning and actions. Within the safe parameters of PAR participants voiced their frustration about disparities between the ways we think something is working and how it actually does work. Organisational representatives suggested the need to discover methods to identify, articulate and test the efficacy of communication methods used by all stakeholders involved in building community resilience to disasters.

Identification and analysis of challenges

During the workshop's morning session group discussion focused on current challenges facing participants within their host organisation. This allowed delegates to

share experiences and concerns about the trajectory of resilience thinking and practice. It also allowed the group to begin to establish a common framework, understanding the personal background, interests, approaches and skills offered by each individual and the group, for future collaborations. Using a PAR method, participants then sought to highlight from the many challenges facing organisation involved in building community disaster resilience, those that could be specifically addressed by filling the knowledge gap in communication and collaboration practices.

In doing this, participants engaged first in discussion of their own communication practices, exploring mutual connections (social, organisational and methodological) and building an understanding of the limitation of organisational hierarchies. By undertaking a low risk discussion, participants began to explore shared incentives and mutual interests, building a common framework for discussion of research needs. The practice of reflection, a crucial component of PAR, enabled the group to translate workshop discussions into future design of community resilience building activities. A summary of challenges perceived to be associated with a knowledge gap in communication and collaboration practices follows.

Challenge 1: hierarchical systems to networked systems

During the workshop participants reflected on the need for a cultural shift in emergency management organisations from a command-control, hierarchical system to an open system of connecting, communicating and cooperating. A challenge identified by participants in the workshop was how to encourage emergency management organisations to experiment with new methods for overcoming the cultural differences between their centralised, hierarchical governance models – with a tendency towards directive leadership – and the horizontal relationships emerging dynamically in the public sphere. This is a contradiction in terms as statutory obligations for these organisations require clearly established governance structures, clearly defined roles and responsibilities for all organisations and clear monitoring and evaluation of all programmes. On the other side of the coin it appears that to meet the challenges of a disaster resilient logic for emergency management these same organisations must engage in a networked approach that relies on organic flows of emergent collaboration and a distributed style of leadership that shares power more broadly with agents outside of the organisational hierarchy (Kaminska and Rutten, 2014, p. 12). This is a tangible contradiction in a governance model that, necessarily given the monitory schema of modernity, often prioritises efficiency of the organisation and accountability of employees over participation and collaboration with non-experts. This has proved difficult to achieve for many organisations represented at the workshop. As the disconnect between hierarchal organisational structures and operational practices, and the difficulty in mapping these ways of working into the autonomous partnerships that emerge in the community through their horizontal, more egalitarian, less accountable, "monitorable" or measurable activities.

Communication in complex systems can create conflict, especially when organisations have deeply entrenched hierarchies with top-down communication patterns or have widely distributed decision-making networks with unclear incentives or reporting chains (Mookherjee, 2006). Such hierarchies make it difficult to engage with the horizontal communication patterns more common to the digital age – which operates on a 24-hour news cycle with live information of variable quality emerging from non-sanctioned sources in unpredictable ways before, during and after any potential disaster (e.g. social media networks, live streams). Engagement with these

tensions is required if resilience is to be actioned as a means of constructive collective action, democratic participation and participatory communication.

This challenge is also identified by Kaminska and Rutten (2014), who state "one of the main challenges to implementing an effective capability is resolving how to bridge the command-and-control, hierarchical culture of emergency management organisations to the horizontal, networked culture of the digital domain" (p. i). A useful analysis of this point can be illustrated using Krebs (2007) organisational diagram; this highlights the new and emerging "information landscape" of the knowledge economy, generated by social media technology in his case study. Krebs describes the movement from the traditional, hierarchical forms of communication and organisation (Figure 1) to an organisational structure with emergent networks that respond to dynamic environments (Figure 2).

Krebs (2007) contends that this new form of organising does not replace the hierarchical model, still necessary to represent the authority structure and the division of functional responsibility (note the red dot in the middle of Figure 2, representing the Department Head); but the new structure is overlaid, representing an emerging, "flatter" network. This "horizontal" network facilitates knowledge transfer and information flow outside the formal lines of communication and authority available within rigid hierarchal organisations. Such an analysis of the network interface aligns well with the complexity of bringing organisations with a more hierarchical system of working into alignment with the horizontal networked flexibility implied in PAR as a tool for building community resilience. Workshop participants explored these issues and sought to facilitate another style of communicative practice, emphasising communication and collaboration as key areas of action for both stronger community engagement and more rigorous research to guide best practice (Table I).

Challenge 2: how can communication improve cross-sector stakeholder collaboration?
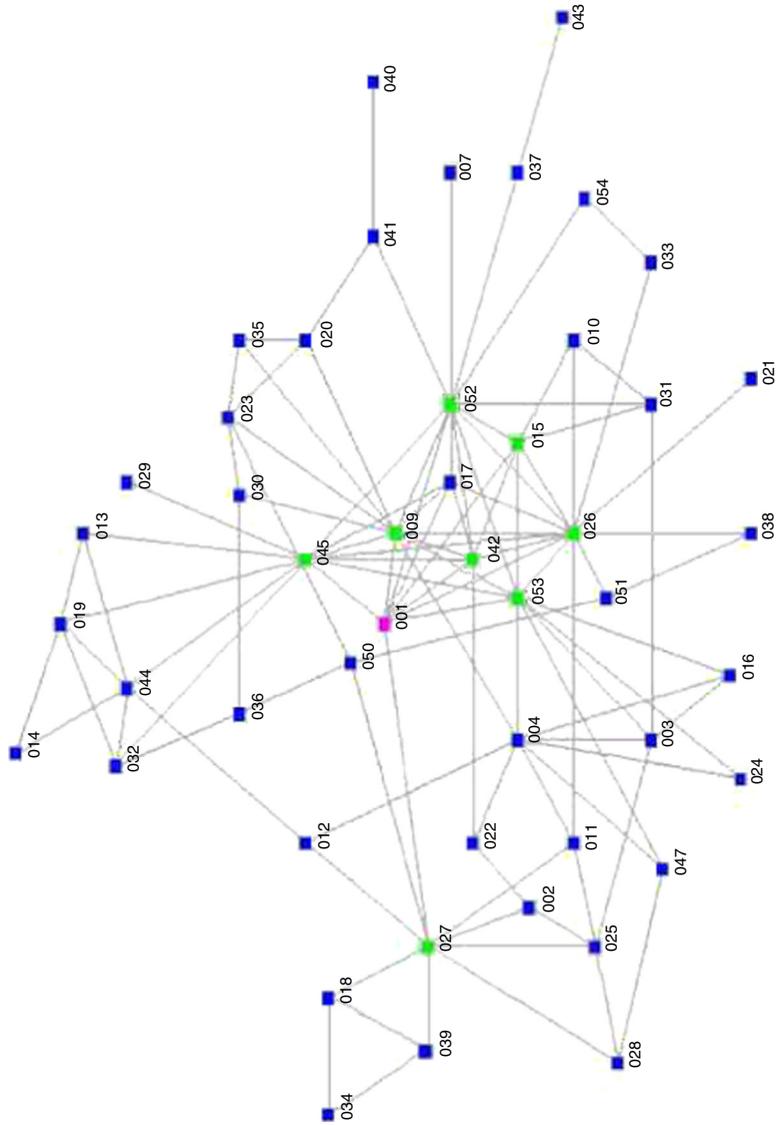A second challenge identified by workshop participants was the need to identify conditions required to improve the tools for collaborative and participatory activities amongst first responders, the public and non-governmental organisations (Table I). Strategies that can bridge organisational divides and create social bonds between the agents and the public was agreed to have a salutary impact on activities in emergency management, thus enhancing disaster prevention and risk mitigation activities as well as response and recovery operations. Case studies have shown that the use of social media to engage disaster-affected populations can provide first responders with accurate, timely and relevant information during a disaster. However, successful cooperation between communities and first responders during a disaster is only possible if relationships and trust between parties have been built in advance (Kaminska and Rutten, 2014). As the disaster management cycle is iterative and ongoing, the process of learning from change, adapting to the new normal, even transforming to remove identified vulnerabilities, is critical. Sharing information in dynamic networks in a discursive and collaborative communication structure has become important.

There is little evidence on the effective interplay of hierarchical organisations with horizontal networks in emergency management to date; but this is beginning to change. Collins and Ison (2006) describe the "process" of interactions occurring between participants as a form of social learning through collective engagement with others. The authors contend that collaborative social learning enables changes in knowledge and understanding that are reflected in modified policies and practice by

Source: Krebs (2007, p. 2)

84
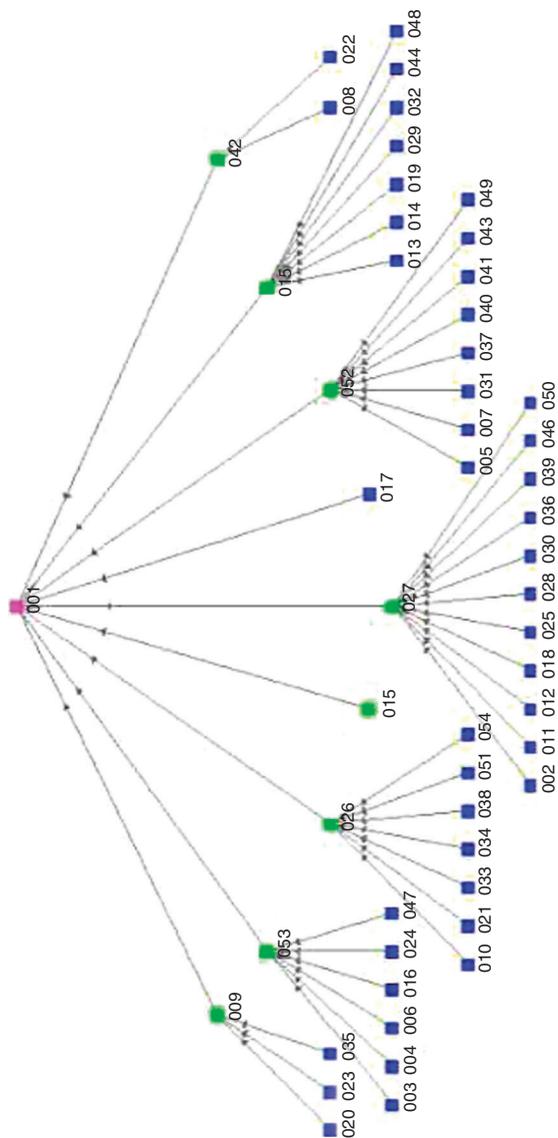
Source: Krebs (2007, p. 2)

Figure 2.
Diagram
of decentralised
work practices

decision-makers and publics (Collins and Ison, 2006, p. 4). Jung and Song highlight the contemporary significance of creating "resilient organizational interaction and community spirit" where inter-organisational networks are more flexible and more effective for coping with complex and uncertain phenomena, but they also note that, to make such collaborative networks effective, community characteristics and social vulnerabilities should be seriously considered (Table I).

Challenge 3: how to change response-centric approaches to include pre-emptive engagement
Clearly emergent in the discussion was a wider sense of frustration with the densely populated but operationally segregated network of associations in which the participants' work. The "policy space" appears dominated by response organisations who are by the necessity of "all-hazards" approach, required to expand their principle operations to focus on pre-emptive and engagement activities. Whilst expanding into these areas of operation, the communication frameworks in which they operate are typical of paramilitary front-line services. The message was clear that the internal organisational culture and volubility of the actors is seen by many as not "fit-for-purpose", slow to change to the apparent pressures of resilient remodelling and thus a blockage to the requirements of resilience thinking and practice.

From "challenges" to "solutions"
From this set of identified challenges (Table I), a will for finding collaborative solutions was moulded. Workshop participants began to engage more broadly with the distinction between "needs" – for example, driven by organisational pressures and the confines of job descriptions – and "wants" – ideal projects and outcomes that they could see being used to break down the blockages and solve some of the systemic problems, as well as meet key outcome goals for smaller scale projects. Refocusing discussions on common tensions and desires helped move debate to the requirements of building more horizontal communicative arrangements within the existent system, with potential for cross-organisational future collaborations. This distinction between needs and wants proved vital in operationalising the ideal situation for each individual working within often highly political and hierarchical organisations; organisations themselves under pressure to win funding in highly competitive grants programmes or subject to externally determined budgets – themselves tied to specific political priorities or to charitable and non-governmental funding streams.

Participants acknowledged the expertise that could be offered by collaboration. This enhanced the general good will of participants and highlighted the potential value of collaborative approaches to problem-solving. Such approaches could be brought

Challenges	
1	Explore what will successfully motivate and sustain behaviour change, from a command-control, hierarchical system to an open system of connecting, communicating and cooperating
2	Research ways to re-skill current teams or recruit new contributors to identify and meet the conditions required to improve cross-sector stakeholder collaboration
3	Research and evidence to show how and why the culture of "response-centric" organisations must change to pre-emptive, engagement approaches

Table I.
Challenges identified
by the Sydney
workshop

forth through formal partnerships, but in doing so such partnerships become subject to the limitations and hierarchical administrative blockages that limit the interfacing of emergency experts with horizontally oriented, public communication networks. It became clear during the workshop that there are other options for collaboration more aligned with bonding between actors than a formal bridging between organisations. Multi-axial partnerships may be assembled and facilitated through informal collaborative arrangements in which we share our common understanding of the challenges ahead without statutory partnership agreements typical of public-private partnerships between government agencies and NGOs.

With this in mind, the afternoon session sought to combine a greater understanding of common institutional and organisational "needs" within a framework for enquiry. It was during this session that delegates presented a number of "dream" projects. Building on the discussion held in the morning, participants developed these projects further, drawing out some key questions for future research. This set up a framework for some broader common research questions, which again moved the focus from organisational tensions to the public good; from internal organisational resilience to the tools needed to build community resilience more effectively.

An evidence-base for future research needs

In reflecting on the PAR method there are valuable lessons to be learned. By commencing the day with an opportunity for participants to address their frustrations with the status quo the discussion quickly identified knowledge gaps within participating organisations. A key interest to emerge was an increased understanding amongst front-line engagement officers of how and why the general public become active, stay active and engage in sustainable collaborative practice; and how to render this information salient to managerial policy discussion at the upper levels of their respective organisations. The following questions gave focus to the common framework of research needs established by participants:

(1) What motivates people to engage early?

(2) How do we improve communication between individuals and organisations?

(3) How do we provide indicators in terms of cost/benefit (i.e. change and improvement) from community engagement? (as resilience building).

These research questions began to guide the final discussion-led activity where participants used a grant cover sheet template to write up a title and 100 words or less on an ideal project they felt would be useful for cross-agency collaboration, meeting a key need of their own organisation and drawing on the skills and capabilities of fellow participants. Where possible these projects would also have a stronger emphasis on communication and collaboration with communities using PAR techniques. The proposals gave focus to the workshop report, directly linking activities on the day to improved communication outcomes in future projects. Any resultant projects would thus be contextually embedded in a reflexive communication network within, across and between the various organisations represented.

Conclusion

The one-day "Communication, Collaboration and Resilience" workshop explored the potential of communication scholarship to assist organisations enact more

communicative and participatory community resilience interventions. In particular, the workshop sought to identify how communication research could foster more communication, collaborative and participatory approaches by key organisations as they seek to enhance community ownership of disaster-related decision-making, particularly when undertaking "community resilience" building activities.

While held prior to the 2015 World Conference for Disaster Reduction (Sendai, Japan), the workshop discussions produced a similar outcome – a call for "a broader and more people-centred, preventative approach to disaster risk" (UNISDR, 2015, p. 4). Both the World Conference and the Sydney workshop recognised that the goal of achieving acceptable levels of community resilience were being thwarted by insufficient local action on climate change and inconsistent disaster risk management practice, highlighting "the need to build cross-sectorial collaboration between key stakeholders" (UNISDR, 2015, p. 7). The overlapping interests and skills across these portfolios were not, initially, well understood by participants.

As identified by Magsino when "connections between organisations are not fully understood, the status of the connections cannot be measured, nor can they be measured for change". This is equally so for the exchange of best practice, skills and knowledge about the models, techniques, methods and tactics of community engagement. Our goal was not, as such, to measure these connections, rather we aimed to reflexively explore them with participant organisations. In doing so we would all have a better understanding of the problems and blockages in building community resilience practices for these organisations. The process helped to identify opportunities for collaborative solutions that could better meet the challenges of community resilience; one that must be simultaneously participatory, collaborative and yet build self-reliance – rather than dependence on organisational services – if it is to be effective.

The workshop shared collaborative practice familiar to communication researchers, using the PAR methodology in a workshop environment, reporting on the workshop as a case study, thus providing an evidence-base which proves the benefits of this approach. A preliminary mapping of key institutional and organisational challenges was established, mutually agreed upon research needs were developed. The group is now pursuing future funding and grant awards to undertake further PAR research.

Outcomes of the workshop show that there are clear advantages to adopting an action research-led form of knowledge transfer when facilitating better community resilience building practice. The Sydney workshop identified a growing need for practical and outcome-oriented guidance to help facilitate experimentation in a work environment traditionally focused on key impact indicators; and more aligned with financial and political pressures than with the practical gains of managing emergencies in a more collaborative way. Such guidance can help communities and emergency management organisations interact more effectively on all aspects of disaster resilience, but it is particularly useful as a better of working when seeking to build disaster resilience with the general public.

The lessons learned from the one-day event thus lay the groundwork for future collaborative resilience building and PAR, by participants and by others, demonstrating the potential of more collaborative and communicative practice when exploring how to better build community disaster resilience.

Notes

1. See, for example, Ward *et al.* (2011).

2. There is very little critical scholarship on the limitations of project evaluation methods or project funding mechanisms in disaster management. Some useful pointers on the limits of evaluation methods in health can be found in Reeve and Peerbhoy (2007) and also some more general pointers in Mertens and Wilson (2012).

3. This has been addressed in regard to markets, networks and hierarchies (Thompson, 1991) but not adequately analysed through disaster resilience or for process improvement in joining up stages of the disaster cycle.

4. An excellent treatment of organisational resilience as aligned to systemic cooperation can also be found in Seville *et al.* (2006).

5. A good example of how this complexity can be addressed can be found in Kendra and Wachtendorf (2003).

6. See for example the UNISDR "resilient cities" campaign and the Rockerfeller Foundation "100 resilient cities" programme.

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