



SHARING RESPONSIBILITY IN AUSTRALIAN DISASTER MANAGEMENT

FINAL REPORT FOR THE SHARING RESPONSIBILITY PROJECT

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Left - Blythe McLennan presenting at the 2012 Bushfire CRC and AFAC conference.

Centre - Project workshop in action.

Right - John Handmer presenting at the 2013 Bushfire CRC and AFAC conference.

All photos by the Bushfire CRC.

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“A way of seeing is also a way of not seeing.”

Burke, 1935, cited in Klein, J. T. (1990). *Interdisciplinarity: history, theory, and practice*. Detroit: Wayne State University Press, pp.182.

“By now we are all beginning to realize that one of the most intractable problems is that of defining problems.”

Rittel, Horst W. J., & Webber, Melvin M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4(2), 155-169.

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i. Executive summary

The *Sharing responsibility* project sought to open up a process of critical and reflective examination of the widely supported principle of Shared Responsibility in Australian disaster management with a focus on its meaning, significance and challenges for the way that governments and citizens work together to manage disaster risk. The ultimate aim of the project was to support stakeholders of Australian disaster management to make decisions about how to pursue a vision of Shared Responsibility.

Background

The current, and widely supported, focus on the need for Shared Responsibility in Australian disaster management is in large part a legacy left by the 2009 Victorian Bushfires Royal Commission (VBRC) (Teague *et al.* 2010). However, COAG's National Strategy for Disaster Resilience (NSDR) gave a principle of Shared Responsibility even greater policy traction by firmly placing it as a central pillar of a "whole-of-nation, resilience-based approach to disaster management" (COAG 2011, p. ii). However, neither the VBRC nor the NSDR, nor any subsequent developments arising from them, have clearly defined what Shared Responsibility actually entails. In particular, they say little about what exactly needs to change in the current roles and relationships between government and non-government actors in order to put it into practice.

Internationally, sharing responsibility between the State and citizens, or government and non-government actors, is recognised in political and governance research as a core dilemma across a wide range of risk-related policy sectors in a number of countries. This dilemma is connected to a very fundamental governance challenge faced by modern democratic political systems today: the changing nature of relationships between government and citizens in the face of dynamic and complex social, economic, environmental, political and technological conditions. Because of this, political theorists and political actors alike increasingly argue that there is a wide scale need for a "new balancing of responsibilities between different actors and social spheres: government, industry, individual citizens, political organizations and the institutions of civil society" (Sevenhuijsen 2000, p. 7).

While this international context may at first seem too broad and high level to be directly relevant to current developments in Australian disaster management, this is certainly not the case. Indeed, the focus on community resilience and Shared Responsibility in Australian disaster policy is a particular expression of widespread trends in modern policy responses to these broad, fundamental socio-political dynamics. Yet the connection of widespread political and governance trends to policy discourses on resilience and responsibility remains largely unexamined in Australian disaster research.

The project

The *Sharing responsibility* project began with a strong awareness that before decisions can be made about how to pursue Shared Responsibility, the question of "what is wrong and what needs fixing" (Schön and Rein 1994, p. 24) needs to be answered. Importantly, this is as much a process of framing – of selecting from amongst "the various different ways to define what the problem "really" is" (Birkland 2004, p.343) – as it is about recognising that an objective policy problem exists "out there" somewhere that needs addressing (Howlett *et al.* 2009, p. 93). The *Sharing Responsibility* project was designed to expose and examine how responsibility-sharing challenges in Australian disaster management are framed at different levels.

Stage 1 (the 'concept review') used a structured review to examine ways that "what is wrong and what needs fixing" with responsibility-sharing between government and non-government actors are conceptually framed in risk management research.

Stage 2 ('stakeholder engagement') was an on-going focus that sought to assist stakeholders to reconsider the problems and potential solutions for Shared Responsibility by 'seeing' them in new ways.

Stage 3 (the 'policy review') involved a review of the types of mechanisms that have been used to shape how responsibility is shared between government and non-government stakeholders across a range of risk management contexts.

Stage 4 ('case studies') and Stage 5 ('synthesis workshops') were combined to examine responsibility-sharing issues encountered in Australian disaster management in a way that was sensitive to the way different stakeholders frame these issues. The first case examined was the way challenges were reflected in public submissions to the VBRC. Two major stakeholder engagement workshops were also held to engage a wide range of stakeholders in public conversation about their perspectives on "what is wrong and what needs fixing" with Shared Responsibility.

What we have learned

Collectively, the findings from this project provide answers to two fundamental, underlying questions about Shared Responsibility that disaster management stakeholders are most likely to seek answers to from this project: *what is Shared Responsibility and how do we do it?*

The Shared Responsibility discourse is articulating a new social contract for disaster management but half of the contract terms are missing.

At a broad, societal level, calls for a "new focus on shared responsibility" and a "resilience-based approach" are calls for a new social contract for disaster management compared to the recent past. The idea of a social contract is a metaphor for the balance of rights and responsibilities between the State and its citizens (e.g. government and communities) that is accepted in society – formally and informally – as the legitimating basis for a system of governance.

By recognising the discourse on Shared Responsibility and disaster resilience as an articulation of a new social contract we can see that one half of the contract is missing in the discourse: the rights and benefits that citizens would receive. The need to include a rights-based discourse is evident in contention over core risk management dilemmas such as the protection of citizen and property holders' rights, the legitimacy and accountability of government agencies and government decisions, and the uneven distribution of impacts, impositions and benefits of disaster risk and risk management activities. The absence of a rights discourse in Australian disaster management has the potential to seriously undermine the legitimacy of the new disaster resilience social contract. A clear implication of this is that a legitimate, new social contract is unlikely to be advanced in Australia without a corresponding rights discourse alongside the discourse on citizen (e.g. 'community') responsibility.

Shared Responsibility is an emergent and unpredictable property of a complex disaster management system that cannot be prescribed.

While Shared Responsibility is a singular, overarching vision in Australian disaster policy discourse, when it comes to sharing responsibility in practice stakeholders actually face a multitude

of diverse yet overlapping and interacting challenges. For this reason Shared Responsibility is best thought of as an emergent property of a complex disaster management system.

Significantly, emergent properties are difficult to predict. What they look like cannot be easily determined before they emerge. This suggests that attempts to definitively map out or prescribe what Shared Responsibility in Australian disaster management ought to look like may be misguided. A more realistic alternative approach might be to focus on developing processes for stakeholders to collectively negotiate and engage in responsibility-sharing at the different levels and in the diverse settings where risk management takes place.

Pursuing Shared Responsibility requires more inclusive governance frameworks in Australian disaster management.

There is a need to develop more inclusive governance frameworks in Australian disaster management at all levels. Inclusive forms of governance explicitly include broader social participation throughout the whole policy process – from agenda setting through to implementation and evaluation (Renn and Schweizer 2009; Aguilar and Montiel 2011). Importantly, these governance processes largely take place outside of the urgency of immediate response to disaster events and their aftermath.

While emergency service agencies and other government actors in Australian disaster management are increasingly engaging more actively with NGOs and civil society/communities at various stages in the disaster management cycle, it needs to be said that inclusive governance is not community engagement by another name. Community engagement is commonly a part of implementing a solution to a problem as it is framed by a governmental agency or network. By contrast, inclusive governance frameworks bring together government and non-government stakeholders together to collectively frame “what is wrong and what needs fixing” (e.g. Renn and Schweizer 2009).

Of course, developing more inclusive governance frameworks is not a magic bullet for pursuing Shared Responsibility, nor is it without its own responsibility-sharing challenges. However, there is implicit but firm support for a move towards more inclusive governance in disaster management within the NSDR and amongst government and non-government disaster management stakeholders. Despite this, there is as yet no explicit policy agenda for, nor significant movement towards actually putting such frameworks into place.

Using the research

Disaster management is by nature an action-oriented industry that is focused on ‘getting the job done’ under difficult and urgent conditions, with high stakes and in the face of intense public scrutiny. It is no surprise then that most research that aims to support the sector is *solution or implementation oriented* research that focuses on ways to support, enhance or improve practice. While solution oriented research remains an important focus in disaster research, there is a need for greater research attention on the *construction of research, policy and management problems* in this field. Stakeholders regularly wrestle with the recognition and definition of problems at levels of programs up to policy strategy. This is particularly so now, as emergency service agencies and their industry bodies and networks actively grapple with making sense of, and responding to, major disaster events and the public inquiries that have followed them.

Research that asks and answers questions about the construction, or framing of policy and management problems supports a different and deeper kind of learning than solution oriented research. This is the type of learning that O’Brien et al (2010) describe as focused on “doing it

differently” rather than on “doing it [the same thing] better” (p. 499). Thus it can be contrasted to instrumental or everyday learning that contributes to incremental change and adaptation of existing policies and programs (Williams 2008). The approach taken in the *Sharing Responsibility* project has contributed to asking and answering questions about the construction of the Shared Responsibility problem that supports this deeper, reflective form of learning.

ii. End user statement

Emergency services authorities have long played a pivotal role in public safety and have reacted quickly and positively to address changing risk facing the community. However, accelerating societal change has impacted on their position as well respected, knowledgeable subject matter experts that the community turn to in time of need. An increasingly well informed and inquisitive community which has become more expectant and less forgiving of perceived failure to prevent loss of life and serious property and environmental damage has required the emergency services authorities to review every aspect of their role and function, in part voluntarily, in other ways through the scrutiny of Coronial Inquests, Royal Commissions or Parliamentary review.

These changes have contributed to the dichotomy of a community today which simultaneously in part wishes to be advised and informed personally through the medium of social networking and individual advice about the occurrence of any incident, with specific, personalised advice as to what to do to protect themselves, and in equal parts a desire to be crucially engaged in setting Government and authorities' policy direction and decision making.

In essence, communities today are no longer passive recipients of Government assistance in times of emergency and this has added to the impetus for change across the emergency services industry.

Advances in technology have been grasped quickly by the community and created expectation that the emergency services authorities have access immediately to this technology and therefore should be better able to improve service delivery and reduce the cost of major emergency through quicker intervention and faster response. There is little comprehension of the complexity of public administration designed to ensure proper procurement processes, information verification and security management and degree of equipment field testing required to ensure that technology procured supports the role and function of the emergency services in an effective and cost efficient way.

The paradox is this: better technology in the hands of the public and emergency services authorities and its impact on training of emergency services personnel may lead to better informed communities and more effective emergency response and therefore a greater level of successful outcomes. More success leads to community expectation of no failure and less effort on their part, leading to greater reliance on the emergency services authorities to succeed and subsequently greater shock in the event of loss of life or property and immediate public and media criticism of any failure.

Another area of significant change has been the continuing urbanisation of the Australian community, a net loss of country residents and towns diminishing in population and the rise of dormitory suburbs in areas around mining tenements. This has resulted in emergency service authorities being required to seek alternative means to deliver their messages to individuals that are less likely to fundamentally see themselves as part of a community to explain the risk of disaster and to seek support in dealing with these risks.

This complex and often contradictory world has given rise to the need to review and discover appropriate mechanisms to ensure that the community, its individuals, the commercial and industrial sector, and government are integrally linked to achieve the desired outcomes through a collaborative approach, clearly defined and shared in appropriate measure. Thus the 'Sharing

Responsibility' project was established and designed to provide a focus for understanding how each group sees and understands its responsibilities, the scope of these, and to define the areas of difference and work to achieving the outcome of a shared vision.

The research undertaken throughout this project has been instrumental in assisting emergency service authorities think more broadly about their relationship with the community, how best to translate public policy into community supported action, and to collaborate more with all elements of the community to ensure that the community is not a passive recipient of 'paternally focussed' services but instead a willing and valuable contributor to improved services and successes, with a better understanding of the need to develop and practice self-reliance to recover quickly in circumstances where the emergency incident overwhelms all aspects of the prevention, preparedness and response by the community and emergency services authorities alike, to become a disaster.

The Shared Responsibility project has therefore contributed enormously to the growing body of knowledge about how we as a society deal with risk and uncertainty and to provide some examples of what is currently 'wrong and what needs fixing' in respect to responsibility sharing and in developing potential mechanisms to learn from past events and learn to think differently to achieve new ways to share the responsibility for disaster management in appropriate measure. Emergency services authorities, as end users of this research, have assisted in shaping the scope and direction of the research program, and have been involved throughout the program. There is great confidence in the quality and importance of the research outcomes and a strong sense that these will assist in framing the future direction toward a sharing of responsibility at all levels of society.

End users commend this report to you.

Mick Ayre
Director, Regional Operations
SA Country Fire Service.

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iv. List of acronyms

ABC	Australian Broadcasting Corporation
AEMI	Australian Emergency Management Institute
AFAC	Australasian Fire and Emergency Service Authorities Council
ANU	Australian National University
CEM	Comprehensive Emergency Management
CFA	Country Fire Authority (Victoria)
COAG	Council of Australian Governments
CRaCS	Centre for Risk and Community Safety
CRC	Cooperative Research Centre
DPCD	Department of Planning and Community Development (Victoria)
DM	Disaster management
ECR	Early career researcher
EM	Emergency management
EMA	Emergency Management Australia
ERM	Emergency Risk Management
NCCARF	National Climate Change Adaptation Research Facility
NGO	Non-government organisation
NSDR	National Strategy for Disaster Resilience
NSW	New South Wales
NT	Northern Territory
PPRR	Prevention, preparedness, response and recovery
PSDLE	Prepare, stay and defend, or leave early
RMIT	Royal Melbourne Institute of Technology
SCCT	Situation crisis communication theory
TISN	Trusted Information Sharing Network for Critical Infrastructure Resilience
UNDP	United Nations Development Programme
UNISDR	United Nations International Strategy for Disaster Reduction
VBRC	Victorian 2009 Bushfires Royal Commission
VQ	Volunteering Queensland
WA	Western Australia

1 The wicked problem of Shared Responsibility in Australian disaster management

Responsibility for managing disasters associated with natural hazards has always been shared in Australia in some form or other. By its very nature, and particularly under the established Australian models of Comprehensive Emergency Management (CEM) and Emergency Risk Management (ERM), disaster (or emergency) management is a multi-party undertaking that requires coordination and collective action amongst a range of parties.

The need for collective, coordinated action in Australian disaster management is recognised in a number of industry statements, policies and position papers. One example is EMA's emergency management arrangements:

Australia's emergency management arrangements bring together the efforts of all governments and private and volunteer agencies to deliver coordinated emergency management across all hazards. These arrangements are also based on a high level of trust and cooperation between the community and emergency managers, as the result of common experiences dealing with natural disasters (EMA 2009, p. 4).

The importance of collective action is also strongly evident in the 2010 version of the AFAC position on bushfires and community safety: "Collective action by people preparing for and responding to bushfires will invariably achieve better results than individuals acting alone" (AFAC 2010, p. 6). It is also evident in the strong link made between 'Shared Responsibility' and the need for collective (as opposed to individual) action made in the Council of Australian Government's National Strategy for Disaster Resilience (NSDR): "If all these sectors work together with a united focus and a shared sense of responsibility to improve disaster resilience, they will be far more effective than the individual efforts of any one sector" (COAG 2009, p. 22).

Assumptions and expectations about the way responsibilities should be shared between parties to enable such coordinated and collective management have shifted in formal statements on disaster and emergency management arrangements over time. This is particularly the case with respect to the relative responsibilities of emergency service agencies and the people and businesses that are exposed to natural hazard risk. Under the 'traditional' CEM model that was adopted in the 1970s to replace the previously ad-hoc, civil defence approach (Britton 2002; McEntire *et al.* 2002), an almost exclusive focus on responding to hazard events vested responsibility heavily in experts working in state and territory emergency service agencies (Britton 2002). This reflected an earlier worldwide trend towards the "professionalization of risk" (Plough and Sheldon 1987; Barnes 2002). One of the principles underpinning CEM was an "all agencies (or integrated) approach" (Abrahams 2001; EMA 2004). It was the model adopted in Australia to formalise responsibilities for disaster management amongst government agencies and levels (Gabriel 2003). However, it viewed communities as relatively passive recipients of external (government agency) assistance in times of emergency.

In the 1990s the idea of managing risk more broadly than hazards – with its human as well as physical dimensions – led to the Australian adoption of an Emergency Risk Management (ERM) model (Salter 1997). The broader focus on risk also highlighted the need for community involvement in preparing for and preventing emergencies (Gabriel 2003; Elsworth *et al.* 2009). In Australian community bushfire safety, the "Prepare, Stay and Defend or Leave Early" (PSDLE) approach was developed by Australian fire authorities, which emphasized community (or more

precisely household) self-reliance (Handmer and Tibbits 2005; Tibbits and Whittaker 2007). This emphasis was also influenced by a perceived increase in public expectations of emergency service agencies. As Handmer (2003) observed, “it is paradoxical, but quite possible, that the success of the fire and emergency services may have encouraged increased reliance on them, and decreased interest among those at risk in developing their own bushfire management capacity” (p.143).

The themes of “community responsibility and self-reliance” (Elsworth *et al.* 2009, p. 17) also ran through a number of high profile public inquiries that followed bushfire events from 2002 onwards (see also Ellis *et al.* 2004; Kanowski *et al.* 2005). Notably, a 2004 report on a Council of Australian Governments (COAG) inquiry into bushfire mitigation and management reiterated this emphasis under a principle of ‘Shared Responsibility’ (Ellis *et al.* 2004). It also stated that “there appears to have been some decline in the historical ‘shared responsibility’ that led to the formation of rural fire brigades and the experience associated with living in the bush and understanding fires. Some community members now appear to consider they have no responsibility in bushfire management” (p.40).

More recently, a reinvigorated and reinterpreted principle of Shared Responsibility has emerged in disaster policy discourse. This current iteration is in large part a legacy left by the 2009 Victorian Bushfires Royal Commission (VBRC) (Teague *et al.* 2010). The Royal Commission re-emphasized and also overtly reinterpreted the meaning of the term compared to its earlier use (McLennan and Handmer 2012b). According to the Royal Commission, this principle implies “increased responsibility for all concerned” (Teague *et al.* 2010, vol 2, p. 352), with the focus of responsibility being on “community safety during bushfires”, and the targeted parties being “the State, municipal councils, individuals, household members and the broader community” (p. 352). By contrast to the earlier emphasis on the need for greater community self-reliance, the VBRC interpretation placed greater emphasis on the need for government as well as communities to take greater responsibility in particular areas. It also stated that “shared responsibility does not mean equal responsibility: in the Commission’s view there are some areas in which the State should assume greater responsibility than the community” (Teague *et al.* 2010, vol2, p. 352)

COAG’s National Strategy for Disaster Resilience (NSDR), released in February 2011, has given the principle and vision of Shared Responsibility even greater policy traction by firmly placing it as a central pillar of a “whole-of-nation, resilience-based approach to disaster management” (COAG, 2011, p. ii). An important argument underpinning the vision of Shared Responsibility in the NSDR is that the context of disaster management has changed to such a degree that the balance of responsibilities expected by society between governments and communities needs to be fundamentally reorganised. The contextual changes listed in the NSDR include a changing climate as well as “work-life patterns, lifestyle expectations, demographic changes, domestic migration, and community fragmentation”, which it claims increase community susceptibility to disaster (p.2). Because of this, the argument continues, the level of protection of life and property that citizens have expected government to secure on their behalf in the recent past is no longer appropriate:

Potential escalation in the frequency and magnitude of hazards and our increasing vulnerability to disasters presents governments with unprecedented calls on their resources and expertise. Governments’ desire to help communities in need, and pressure to help those affected may be creating unrealistic expectations and unsustainable dependencies. Should this continue, it will undermine community capability and confidence. Therefore, communities need to be empowered to take shared responsibility for coping with disasters (COAG 2011, p. 2).

Importantly, however, the NSDR reiterates the Victorian 2009 Bushfires Royal Commission's (VBRC) call for *both* government and communities to take greater responsibility, rather than focusing only on increased community responsibility (McLennan and Handmer 2012b). It also considerably expands the scope of this shared responsibility compared to the VBRC, however. While the VBRC focused on responsibility for community safety, the NSDR is focused on responsibilities for the much broader, societal task of building disaster resilience. Thus it states that "[t]he fundamental change is that achieving increased disaster resilience is not solely the domain of emergency management agencies; rather, it is a **shared responsibility across the whole of society**" (p.3, emphasis added). In this way it places greater emphasis on the need for government and non-government parties from beyond the emergency services to take greater responsibility for contributing to this broader task.

As a result of the renewed focus and reinterpretation of the VBRC and the NSDR, the principle of Shared Responsibility has gained much attention – and stirred up considerable debate – in Australian disaster management in recent years. While few stakeholders would argue against the core ideas underpinning a general principle of Shared Responsibility, most would agree that putting the principle into practice is fraught with complications. Responsibilities in disaster management can be overlapping, interdependent, ambiguous and often conflicting. Different views exist in society on what disaster management should achieve and how, where capacity lies, and thus what roles should be expected of various parties. These different views come into sharp relief following disaster events when there is a strong tendency in society to seek parties to hold to account for losses and suffering incurred (Drabek and Quarantelli 1967; Whittaker and Mercer 2004; Bainbridge and Galloway 2010). This – often very public – blame game exposes differences in the way individuals and groups attribute responsibilities for managing disaster risk between government and non-government actors, as well as in their expectations for what disaster management can and should achieve.

Such challenges reveal a "wicked" (Rittel and Webber 1973) or "intractable" (Schön and Rein 1994) policy and management problem hidden within the seemingly simple principle of Shared Responsibility. Wicked problems are of a type that do not have easy, straightforward, win-win solutions (Rittel and Webber 1973; Australian Public Service Commission 2007; Head 2008). They commonly involve a high degree of uncertainty, conflicts between competing social values and high stakes. Classic examples of wicked problems include climate change (Hulme 2009), land-use change (Palmer 2011), public health management (Gibson 2003), natural resource management (Balint *et al.* 2011), as well as disaster management (Lodge 2009; O'Brien *et al.* 2010). Brown *et al.* (2010) sum up the dilemma of wicked problems thus:

A wicked problem is a complex issue that defies complete definition, for which there can be no final solution, since any resolution generates further issues, and where solutions are not true or false or good or bad, but the best that can be done at the times. Such problems are not morally wicked, but diabolical in that they resist all the usual attempts to resolve them (p. 4).

In light of the focus on Shared Responsibility in Australian disaster policy discourse at the moment, and the 'wickedness' of the problem it presents for disaster management practice, unpacking the meaning and significance of Shared Responsibility is a particularly timely research endeavour. The project reported here sought to open a door on critical and reflective examination of the meaning, significance and challenges of Shared Responsibility, and to generate opportunities for stakeholders to reflect on and evaluate the ideas and practice of responsibility-sharing in the Australian context.

The *Sharing Responsibility* project was undertaken between July 2010 and June 2013. It was one of three components of the 'Understanding Risk' research program of the Bushfire Cooperative Research Centre (CRC). It fell within the Bushfire CRC's '*Community Expectations (Mainstreaming fire and emergency management across policy sectors)*' research group (see <http://www.bushfirecrc.com/category/projectgroup/1-community-expectations>). Key research personnel were Prof John Handmer (Project Leader) and Dr Blythe McLennan (Research Fellow) from the Centre for Risk and Community Safety in the School of Mathematical and Geospatial Sciences at RMIT University. The Lead End User for the project was Mick Ayre, former Director of Bushfires NT and now State Rural Fire Hazard Planner for the South Australian Country Fire Service.

This final project report is a compilation of the six major staged reports produced under the *Sharing Responsibility* project (sections 3-8). The reports are preceded by a collated conceptual background for the overall project and an overview of the related project design (section 2), and followed by a concluding section outlining major substantive and research contributions from the project (section 9). An appendix listing project outputs and contacts (section 10), and a full list of cited references (section 11) are also included.

2 Conceptual background and project design

2.1 What is responsibility?

A good starting point for unpacking the ideas that underlie a principle of Shared Responsibility in Australian disaster management is to examine what the concept of responsibility itself means, particularly in the context of disaster and risk. Views about what is being shared will inevitably shape positions on who ought to share it and how it ought to be done.

Unfortunately, no field of research has a clear and unequivocal answer to the question of “what is responsibility?” Rather, the concept has “many faces” (Auhagen and Bierhoff 2001). It is ambiguous, multifaceted and prone to different interpretations (Giddens 1999). Economist Marc Fleurbaey (1995) points out that definitions of responsibility vary according to different philosophical approaches, making it a “difficult notion” to grasp (p. 684). After asking themselves questions such as “what exactly is responsibility?” social theorists Auhagen and Bierhoff (2001b) responded: “The answer to these questions is: It all depends on the perspective and on the goals pursued. This answer applies to everyday interactions as well as to academic discussions” (Auhagen and Bierhoff 2001, p.180-181). As a consequence, a number of authors lament the lack of conceptual clarity that accompanies analyses of responsibility across research fields that include social theory, philosophy and law (Auhagen and Bierhoff 2001; Cane 2002), governance (Pellizzoni 2004), and sociology (Strydom 1999).

‘Responsibility’ is therefore best thought of as a catch-all term that is used loosely to refer to a collection of interrelated but variably used concepts and ideas. What it involves in practice, however, will vary from case to case, and, importantly, from perspective to perspective. In order to tease out some of the different facets of responsibility, a summary of key concepts, notions and ideas that are associated with it in academic discourse is given below. Each of these concepts is emphasized somewhere in research literature as being particularly important for understanding the way responsibility is conceived, allocated, shared or shirked. Each is also contested on various fronts by alternative research approaches and in diverse contexts.

2.1.1 Four facets of responsibility

Four different but interrelated facets of responsibility are discernible in discussions across different disciplines, as well as in common usage of the term: obligation, accountability, causality and trustworthiness.

Obligation

In the context of risk, obligation refers to the duties and roles of different parties in society that are created by widely held expectations, rules and norms. Obligation is the *ex-ante* or forward-looking aspect of responsibility, because it exists prior to and irrespective of the event or conditions that give rise to it (Birnbacher 2001; Pulcini 2010). For example, the obligation on a parent to keep their children out of harm’s way exists whether or not the need to act on the obligation actually arises.

There are arguably three particularly important types of obligation: moral, legal and role-related or social (see also Offe 2011, p.16). Moral obligations stem from normative values of fairness, justice, equality, right/wrong and good/evil (Bierhoff and Auhagen 2001; Bickerstaff *et al.* 2008; Pulcini 2010). Moral obligations are usually other-regarding rather than self-regarding, meaning they are invoked to describe obligations that we have to others in society rather than to ourselves (Birnbacher 2001). They are also often connected to the notion of protecting rights (Pellizzoni

2004). For example, by virtue of being human, people have a right to oblige others to refrain from actions that impinge on their life, liberty and so forth.

Legal obligations are those set down in codified legal systems and subject to legal sanction if they are not met (Cane 2002). As Cane (2002) argues, the law is “just as, if not more, concerned with telling us what our responsibilities are, and with encouraging us to act responsibly, as with holding us accountable and sanctioning us in case we do not fulfil our responsibilities” (p. 30). Notably, there are contrasting views about the degree to which moral and legal obligations overlap (see also Section 3.3.2).

Whereas moral and legal obligations are more or less broadly applied in society, role-related, social obligations are more particular. They are created by the shared expectations in society about particular positions or roles, such as professional and parental roles. People, groups, organisations and agencies may all have particular role-related obligations. As Shaver and Schutte explain (2001, p. 41), “the demands of a work status or a social role place on the role occupant a set of behavioural expectations that would not apply to others”. Role-related obligations therefore highlight that the basis for many responsibilities is the relationships that a party has with others (Bierhoff and Auhagen 2001; Montada 2001). According to Shaver and Schutte (2001), “entering a relationship with another person is likely to expand the number of behaviours for which one might expect to be held accountable” (p. 38). Role-related obligations may be laid out formally (e.g. in professional job descriptions, workplace safety policies) or held informally (e.g. social norms and workplace culture). They may also be legally reinforced, such as when a duty of care arising from a ‘special relationship’ is found to exist in law (Eburn 2010, p. 59).

Accountability

Whereas obligation is the *ex-ante* facet of responsibility, accountability is *ex post*. It is determined retrospectively after an event or action has taken place (Birnbacher 2001; Pulcini 2010). To be held responsible in the sense of being accountable is to be held answerable, liable or to blame for undesired consequences (Pellizzoni 2004). However, accountability is closely connected to *ex ante* obligations. In general, people and organisations are deemed to be accountable when they fail to fulfil the obligations that others perceived them to have – whether moral, legal or role-related. As Witt (2001) points out: “Implying liability, accountability refers to individuals being subject to sanction when acting incongruently with formal guidelines, rules, or laws” (p. 139). Accountability therefore “emphasises the presence of moral or legal rules specifying rights and obligations” (Pellizzoni 2004, p. 547). It is when parties fall short of abiding by these rules (e.g. obligations) that we deem them to be accountable in a negative sense.

Being held accountable often gives rise to some type of sanction, which can be either formal or informal. Informally, parties may be subject to social sanctions, such as public shaming or exile (Shaver & Schutte, 2001; Witt, 2001). The media has an influential role in amplifying and imparting informal social sanctions towards public figures following a disaster event, for example. Formally, sanctions may also be imposed through legal liability. There are various grounds for being held liable that encompass both acts (e.g. the consequences of actions) and omissions (e.g. the failure to carry out a legal obligation). Liability can be criminal and subject to punishment by the State; or civil and requiring payment to the plaintiff for damages. Further, any legal person may be held liable, including people, organizations, companies and governments. In a ‘broad brush survey’, Cane (2002) lists eight general grounds for legal liability, which are “breach of promises and undertaking, interference with rights, uttering of untruths, breach of trust, doing harm, creating risks of harm, making gains and contemplating crimes” (p. 191). Each of these grounds corresponds to an interest or right that is protected under law.

Causality

Responsibility is also closely associated with judgements about cause (Shaver 1985; Giddens 1999; Pellizzoni 2004; Weiner 2006). In many contexts, being held accountable requires that consequences can be linked to a demonstrable cause through the act or decision of an identifiable agent (Bickerstaff et al. 2008). However, causal responsibility can become muddled when an undesirable outcome is attributable to multiple causes and agents (Shaver and Schutte 2001), as is the case for most, if not all, disaster scenarios.

There are also conditions under which a party can be held responsible for something that they did not directly cause, as in ‘vicarious responsibility’ (Tadros 2008). This happens, for example, when a parent is held responsible for something their child has done, such as breaking a window, even though the parent did not cause the break themselves (French 1992). A party may also be held responsible for something they did not directly bring about because of their particular role-related obligations. For example, a doctor may be held responsible for a person’s medical ailment not because they caused it but because they failed to treat the person in accordance with the moral, legal and role-related obligations associated with their position of authority. Similar role-related obligations exist for emergency services personnel in the context of natural hazards. Although these hazards can be said to have natural origins, when emergency services are found to have failed to act on their obligations at the appropriate time (e.g. by the courts, an inquiry, the media or the public), they may be held accountable – legally, politically, or socially – for the negative consequences of a hazard event despite not having caused it (e.g. Arceneaux and Stein 2006). This is akin to the legal notion of an ‘act of omission’.

Trustworthiness

A different meaning of the term ‘responsibility’ refers to the qualities of being trustworthy, reliable or dependable (Giddens 1999). This form of responsibility is a positive quality of a party rather than a judgement (usually negative) about the outcomes of an action (Bierhoff and Auhagen 2001). Parties are judged to be ‘responsible’ in this sense when they act in accordance with prevailing rules, expectations and norms regarding their various roles and obligations in society. Conversely, parties are judged irresponsible when their actions do not align with others’ expectations about their various (moral, legal, role-related) obligations.

2.1.2 Freedom, capacity and constraint

A common emphasis in discussions of responsibility is its fundamental relationship with freedom and constraint. Three aspects of this relationship are highlighted in research literature: freedom of choice, constraint in acting, and capacity to act.

Freedom of choice

Freedom of choice or agency is central to the concept of responsibility (Bierhoff and Auhagen 2001; Tadros 2008; Pellizzoni 2010). In order for a party to be held accountable for an outcome, the outcome must usually be seen as a consequence of the party’s decision, choice or “free will” (Weiner 2006, p. 32). Conversely, if the party that caused an undesirable outcome is not seen to have had any control or choice in the matter then they are less likely to be held responsible. For example, a student who fails an exam is usually held less personally responsible or accountable if the cause is judged to be a lack of aptitude than if it were due to a lack of effort. This is because how much effort the student puts into studying is seen to be more under the student’s control than how much ‘natural’ aptitude they have for learning (Weiner, 2006, p.33).

Constraint in acting

While responsibility is often associated with freedom of choice, it can also paradoxically be associated with constraint in behaviour or action (Bierhoff and Auhagen 2001, p. 1). One definition

given in the Oxford English Dictionary for the term obligation, for example, is “moral or legal constraint” (Oxford English Dictionary 2013). In everyday use, a person is often deemed to have acted responsibly when they refrain from doing something that, though it may benefit them personally, would harm someone else. This constraint might be self-imposed (e.g. at the individual, psychological level) or be compelled through rules and norms (e.g. at the societal level) (Bierhoff and Auhagen 2001, p. 1). This aspect of responsibility highlights a tension between personal freedom on one hand, and moral, legal and role-related obligations towards others on the other hand (see also ‘social dilemmas, section 3.3.1). For this reason, responsibility is often described as a burden (Bierhoff and Auhagen 2001; Birnbacher 2001; Bickerstaff and Walker 2002, p. 2177).

Capacity to act

Attributions of responsibility involve holding assumptions and making associated judgements about a party’s capacity to act. To be held accountable for the consequences of an action, a party must usually be judged as having not only control over a decision (freedom of choice or agency) but also the ability to carry out that decision in practice (capacity). Capacity therefore refers to “control in acting” (Bickerstaff and Walker 2002, p. 2177), which French (1992) calls being “response-able”. Even when agents have decisional freedom, they may be constrained in carrying out their decision because of a lack of resources, political power, legal authority, skills, knowledge, influence, or access to alternative courses of action (Birnbacher 2001). The importance of capacity to responsibility is highlighted by the fact that parties will often deny responsibility by arguing they had a lack of capacity to act in accordance with their obligations in one or more of the areas listed above (Montada 2001). Insufficient capacity may therefore create a problematic gap or tension between a party’s *ex ante* obligation and their *ex post* accountability.

2.1.3 The modern rise of risk and responsibility

A third important aspect of responsibility as an idea in the context of disaster management is its relationship with risk. These two concepts are connected through the common importance of agency to both. As with responsibility, concepts of risk are most often linked with the exercise of human choice through decision-making. In an interdisciplinary review of concepts of risk, Renn (2008) found that:

All concepts of risk have one precondition: the contingency of human actions. At any time, an individual, an organization or a society as a whole faces several options for taking action (including doing nothing), each of which is associated with potential positive or negative consequences. Thinking about risks helps people to select the one option that promises more benefit than harm compared to all other options (p.50).

Similarly, social and political theorist Anthony Giddens (1999) argues, “risks only exist when there are decisions to be taken ... The idea of responsibility also presumes decisions. What brings into play the notion of responsibility is that someone takes a decision having discernable consequences.” Expanding on this idea, Pellizoni (2010) argues:

The idea of a free, rational, autonomous agent is as necessary for the notion of risk as it is for the notion of responsibility: the cornerstone of the latter is imputability, that is, the possibility to trace an action back to an agent as its causal factor; and causality is understood as ‘free causality’ or free will .. that is, choice. Responsibility, therefore, is conceived of as a matter of forecasting and deciding, that is, of taking risks (p.465).

Sociologist Niklas Luhmann (1993) also emphasises this risk-agency-responsibility connection in his clear distinction between risk and danger. This distinction is based on whether or not the consequences arise as the result of a decision (for linguistic analyses of the difference in meaning of these terms, see Ingles 1991; Boholm 2011). He points out that “in the case of risk, losses that

may occur in the future are attributed to decisions made” (p. 101). This contrasts with danger, for which future losses are “attributed to an external factor” (p. 101-2). Consequently, risk is positioned as something that people have a choice about and therefore also a responsibility for. However, danger is imposed by outside forces and is uncontrollable. It therefore does not create the same responsibility as risks. In short, risks give rise to responsibilities.

Over the last decade or so, the connected concepts of risk, agency and responsibility have become particularly central to social and political thinking. Indeed, it has been argued for some time that responsibility has become a “new macro- or master frame of the late 20th-century discourse about risk” (Strydom 1999, p.66; see also Pellizzoni 2010). A large number of social and political analysts have highlighted the connected rise of risk and responsibility as core mobilising concepts in modern policy discourses. In particular, sharing responsibility between the State and citizens, or government and non-government actors, has emerged as a core dilemma across a wide range of risk-related policy sectors in a number of countries and settings internationally. These policy sectors include air pollution (Bickerstaff and Walker 2002), public health (Guttman and Ressler 2001), national security (Petersen and Tjalve 2013), workplace safety (Gray 2009), food safety (Henderson *et al.* 2010), transportation (Sanne 2008), policing (Hughes and Rowe 2007), new technologies (Black and Wishart 2008) as well as disaster management (Weissaupt *et al.* 2007), to name just a few.

This development is connected to a fundamental challenge faced by modern democratic political systems: the changing nature of relationships between government and citizens in the face of risk and of dynamic and complex social, economic, environmental, political and technological conditions. A range of trends have been highlighted as contributing to this challenge. They include the crisis of the welfare state (Giddens 1999) and the inability of public institutions to effectively deal with new and more complex technological and environmental risks (Beck 1992). They also include changes associated with economic and political globalisation such as the diffusion of political, social and economic responsibility and control away from the nation state and the public sector (Sevenhuijsen 2000), and changing cultural and social norms towards risk, regulation, and government (Douglas 1992; Bickerstaff *et al.* 2008; Ash 2010). Because of such trends, there is widespread agreement amongst political theorists and politicians that there is a need for a “new balancing of responsibilities between different actors and social spheres: government, industry, individual citizens, political organizations and the institutions of civil society” amounting to “a transformation of the concepts of citizenship and political agency” (Sevenhuijsen 2000, p. 7).

The influence of this thinking can be seen in recent developments in Europe, to give just one notable example. Because of major and unwelcome trends in European society such as rising social insecurity, climate change and growing mistrust of democratic institutions, the Council of Europe and the European Union have argued that there is “an urgent need to address the configuration of responsibility in Europe” (Farrell 2011, p. 7-8). They recently chose to initiate a major reflection in the concept of “shared social responsibility” with the ultimate aim of ensuring “a dignified life and well-being for all” (Farrell 2011, p. 7-8). Amongst a range of recommendations to member governments, a draft Charter of Shared Social Responsibilities developed by the Council of Europe includes the recommendation to:

...promote and legitimise new structures of governance involving stakeholders, the various levels of responsibility and the different sectors of society which will make it possible to engage in democratic deliberation regarding the direction to take and the policies that are lacking, including vis-à-vis future generations (Council of Europe 2011)

To give another example at a national level, in the UK a major government-driven reconsideration of the balance of responsibilities between citizens and government for dealing with risk has

recently occurred. The reasons given for why this was needed include shifting cultural attitudes to risk and ever-increasing government regulation as a result of growing risk aversion (Better Regulation Commission 2006; RRAC 2009). As the Better Regulation Commission in the UK has argued:

We want to challenge the easy assumption that governments can and should manage all risks. We want to see a new understanding between government, regulators, the media and the public that we all share a responsibility for managing risk and that, within the right circumstances, risk can be beneficial and should be encouraged (Better Regulation Commission 2006, p.5).

This large-scale trend towards emphasising the sharing of responsibility for risk between citizens and the State is one arm of a broad governance shift that has gained wide support in both political research and policy discourse since the 1980s and 1990s. The concept of governance is explored in more detail in Section 3.3.4. Briefly, it “refers to the development of governing styles in which boundaries between and within public and private sectors have become blurred” (Stoker 1998, p. 17). This “entails a shift in the dominant approach to responsibility” due to a “decline in the legitimacy and effectiveness of policy-making” in the face of the challenges presented by the complex conditions of modern day political systems (Pellizzoni 2004, p.542). In particular, “Responsibilities that were previously the near exclusive responsibility of government have been shared” (Stoker 1998, p. 19).

Notably, this shift has been connected with a rise in deliberative, participatory and partnership-based “good” governance models that are viewed primarily as normatively positive (e.g. Lewis and Mioch 2005; Head 2007; Cotton 2009; Brummel *et al.* 2010; Aguilar and Montiel 2011; Hartz-Karp and Meister 2011). However, it is perhaps more often viewed as a much critiqued off-loading of responsibility by public institutions to citizens under the influence of neoliberal ideologies, such as privatisation, individualisation and a reduction in the size of the State, undertaken in the guise of increasing citizen empowerment, engagement and resilience (Dean 2003; Hacker and O’Leary 2011; Hamilton 2012; Welsh 2013, see further in Section 3.3.4). Along a different line, Petersen and Tjalve (2013) argue that, at least in the context of US homeland security and resilience, the rise of responsibility discourse in relation to risk is connected not so much to neoliberal ideologies as it is to a form of assumed collectivism:

...the politics of shared responsibility does not signify a re-enactment of neo-liberal concepts of “privatization,” “individualization,” or “de-politicization.” Rather, “shared responsibility” is a politics of collectivism and obligation, of affect over interest, and virtue over rights (p. 3).

Significantly, the focus on community resilience and Shared Responsibility in Australian disaster policy needs to be recognised as a particular expression of these broader and more fundamental socio-political dynamics. Yet this larger context is largely overlooked in Australian disaster management discourse. The connection of governance thinking to the policy discourse on resilience, disasters and risk has not yet become prevalent in Australian disaster research. However, it is certainly emerging as a core and fundamental theme in international disaster and risk research (De Marchi 2003; Renn 2008b; Tierney 2012).

2.2 Why does framing matter?

The approach and design adopted for the *Sharing Responsibility* project rests on an important premise: that ‘framing matters’. In a broad sense, framing refers to the way that individuals or

groups may ‘see’ a complex issue in a particular way, for example by highlighting some aspects more prominently than others. Frames have been described as the “underlying structures of belief, perception, and appreciation” (Schön and Rein 1994, p. 23) that people use to interpret and understand complex issues. Importantly, differences in frames often stem from differences in ideology or world views. As Snow and Benford (2005) explain in the context of social movements, framing involves “the articulation and accenting or amplification of elements of existing beliefs and values, most of which are associated with existing ideologies” (p. 209). The particular way we frame complex issues therefore says much about what we value – as individuals, professions, disciplines, communities, societies and cultures.

Framing is an important process in public policy-making. Although policy-making is rarely simple or linear, agenda-setting is usually regarded as the first stage that fuels a policy-making cycle (Howlett *et al.* 2009, p.10-13). During this stage policy problems are initially recognised. Problem recognition needs to happen in some form before the later stages of the policy-making cycle can occur. Policy analysts Howlett *et al.* (2009, p. 12) describe these later stages as: formation of possible policy options to address the identified problem (stage 2), decision-making about courses of action (stage 3), implementation of selected programs (stage 4) and evaluation of impact (stage 5). These authors go on to explain that:

...agenda-setting, the first and perhaps the most critical stage of the policy cycle, is concerned with the way problems emerge, or not, as candidate for government’s attention. What happens at this early stage of the policy process has a decisive impact on the entire subsequent policy cycle and its outcomes. ***The manner and form in which problems are recognized***, if they are recognized at all, are important determinants of whether, and how, they will ultimately be addressed by policy-makers (p.92, emphasis added).

Agenda-setting therefore involves much more than simply recognising that an objective problem exists “out there” somewhere that needs addressing (Howlett *et al.* 2009, p. 93). By contrast, it is also very much a process of problem framing: “an important part of agenda setting is not merely attention to the problem but attention to particular aspects of a problem or indeed, the various different ways to define what the problem “really” is” (Birkland 2004a, p.343). The framing of policy problems therefore involves the creation of “causal” (Stone 1989; Fischer 2003, p.167-171) or “diagnostic-prescriptive” stories (Schön and Rein 1994, p.25-26). These are the stories that policy actors and networks tell about what initiated a policy problem to begin with, or “what is wrong and what needs fixing” (p.24). (*E.g. what is wrong with the way responsibility is shared in Australian disaster management today and what needs to change to fix this.*) Importantly, causal stories identify “causal agents” and thus “can assign responsibility to particular political actors so that someone will have to stop an activity, do it differently, compensate its victims, or possibly face punishment.” (*E.g. emergency service agencies, at-risk communities, community leaders and organisations, other government sectors, government more broadly, or all of society.*) By extension, they also “legitimate and empower particular actors as ‘fixers’ of the problem” (Stone 1989, p.295). Thus – crucially for the topic of this project – It is possible for different causal stories to be told about the same problem, each one highlighting diverse aspects of the problem and attributing responsibility in divergent ways because of differences in the “underlying structures of belief, perception, and appreciation” that shape how people and groups make sense of their world.

It is important to emphasise, however, that framing is both necessary as well as problematic to policy-making, particularly in the case of ‘wicked’ policy problems. The way decision makers, researchers and other stakeholders frame a policy problem through the selection of a particular ‘causal story’ shapes what solutions they see as most viable, which information they use to make decisions, and which arguments they deem legitimate (Vaughan and Seifert 1992, p. 121). This

framing is absolutely necessary for the resolution of policy problems simply because it would be impossible for policy-makers and other stakeholders to address all possible aspects of such a multi-faceted problem and to consider all possible alternative solutions (Birkland 2004b, p.180; Béland 2009, p.704). Framing is therefore a crucial part of setting policy agenda and direction, developing shared visions of policy goals and solutions amongst stakeholders, and guiding and legitimating decisions about where to focus government attention and resources.

However, framing is also problematic because wicked problems are highly prone to being framed too narrowly. All stakeholders—policy makers and researchers included—have a tendency to focus on the aspects of a problem they are most familiar with, or have the tools and training to address (Australian Public Service Commission 2007). Often, these familiar aspects encompass only a small fraction of the conditions and processes that feed wicked problems. This presents a key challenge for addressing wicked problems because the scope of the problem is beyond the expertise and influence of any single organisation or group to manage (Australian Public Service Commission 2007). The literature on the impact of policy framing is replete with examples of policy solutions that have failed to achieve their goals because the initial problem was framed too narrowly (see for e.g. Schön and Rein 1994). Narrow framing of wicked policy problems can also cause heightened controversy over new policies (e.g. when particular stakeholder interests and values are framed out of the picture), create unforeseen policy effects and make policy coordination and monitoring impossible (Head 2008).

Not surprisingly, the reframing of policy problems in new ways can be an important driver of policy change. Disasters are commonly positioned as windows of opportunity for policy actors to do exactly this (Baumgartner and Jones 1991; Birkland 1997; Birkland 2004b; Boin *et al.* 2008; Boin *et al.* 2009). For example, Boin, t'Hart and McConnell (2009) explain that:

Crises typically generate a contest between frames and counter-frames concerning the nature and severity of a crisis, its causes, the responsibility for its occurrence or escalation, and implications for the future. Contestants manipulate, strategize and fight to have their frame accepted as the dominant narrative (p.82).

If this exploitation is successful, the outcome of a frame contest is a redefinition of the 'disaster problem': or in other words, a new, dominant causal story that leads to a new allocation of responsibilities and legitimization of policy solutions. In Australia, it could be argued that the Black Saturday bushfires functioned as this type of "crisis-induced opportunity space" for a reframing of disaster management. While by no means the only development that spurred the move towards rethinking disaster management in terms of disaster resilience, the Secretary of the Attorney-General's Department in 2010 suggested that "what we are witnessing is a 'step change': a major shift in the way we need to think about and deal with catastrophes" (Wilkins 2010, p. 3). He went on to state that incremental shifts in the context of disaster management have created "the need for, what some would describe, as a 'paradigm shift' in policy and perspective" (p. 3) and that "the recent Victorian Bushfires are likely to be seen, in retrospect, as the 'hinge factor' in that shift" (p. 4).

This is the intention of the NSDR, with its reinterpretation of Shared Responsibility as a central pillar: to spur a paradigm shift the thinking and practice of disaster management. It is also worth noting that such a paradigm shift has been called for by commentators of Australian disaster management from as early as the mid-1980s (Britton 1986), and that this is not the first time that a new policy development has been labelled as a 'paradigm shift' (Salter 1997).

The meaning and significance of Shared Responsibility needs to be examined and understood within this dynamic policy framing context. As already outlined, the idea that disaster management

is a shared responsibility itself is not a new one. However, it appears that a “crisis-induced opportunity space” has opened up to rethink and reframe the problem of Shared Responsibility. This presents a potential challenge to the status quo – and particularly to the existing thinking within Australian emergency service agencies about the roles of agencies and other government actors, as well as that of communities and households.

An awareness of the importance of framing highlights the need to examine and understand the wicked problem of Shared Responsibility from multiple perspectives. Importantly, wicked problems are resistant to resolution through traditional methods of problem-solving (Head 2008; Brown 2010). Because the very nature of the problem itself is contested, these problems are ill-suited to rational-technical solutions and traditional linear models of policy making (Australian Public Service Commission 2007; Head 2008; Head and Alford 2013). Along this line, Handmer and Dovers (2007) have stressed that many of the problems facing the disaster management sector are initially best approached using multiple frames. Examining ways of framing these problems may reveal a wider range of potential solutions. However, they also acknowledge that it is extremely difficult to ‘see’ problems in different ways:

How we define and frame problems will circumscribe our search for solutions. Many specific ways of framing problems will constrain the search for solutions and may lead to important issues being ignored – for example, by focusing on what we know well or find easy to measure. As a result, it is useful to examine risk using multiple framings. Recognizing and applying different perspectives will highlight where important issues may lie and who stands to lose from different policies. But this may be difficult to do because some of the drivers of problem framing are fundamental to society and it can be difficult to step outside dominant institutions or disciplinary ways of thinking (p. 83).

Acknowledging and drawing on different frames to reflect on wicked problems is therefore comparable to using ‘fresh eyes’ to see an old problem in a new way. Head (2008) summarises the importance of acknowledging the multiple ways that wicked problems are framed in public policy thus:

The big and difficult issues should be seen as based on competing views and value frameworks. Addressing such problems requires deliberation and debate concerning the nature of the issues and exploring alternative ways forward. This deliberative process of solution-seeking, with its recognition of perspectives and values that ‘frame’ the definition of problems, is quite different from top-down imposition of technical solutions, or from expertise-based solutions arising from the growth in empirical knowledge (p. 102).

Similarly, policy analysts Schön and Rein (1994; 1996) argue that being “frame-reflective” offers a way to move past the ‘intractable policy controversies’ that wicked problems create. This idea encapsulates the belief that “human beings are capable of exploring how their own actions may exacerbate contention, contribute to stalemate, and trigger extreme pendulum swings, or, on the contrary, how their actions might help to resolve the frame conflicts that underlie stubborn policy disputes” (p. 37-8). Being frame-reflective therefore refers to the people, groups and organisations that are engaged in the policy-making process acknowledging and identifying different perspectives that exist, and purposefully querying the implications of the way they—and other stakeholders—frame problems. According to these authors, the goal of this process is to “contribute to a kind of reframing that resolves the controversies that arise in policy practice” (p. 38). Vaughan and Seifert (1992, p. 131) discuss policy framing in the context of risk. They see the goal of reflecting on frames a little differently. They argue that it is to acknowledge and accommodate differences in existing frames, which is a core part of the process of finding ways to move forward:

Social conflicts about the management of environmental risks are influenced to a large extent by varying belief and value systems that lead to fundamental differences in the way in which individuals approach or structure policy problems. A successful resolution of many controversies will necessitate strategies that acknowledge, reflect, and accommodate the variability within society in those beliefs and values that influence how risk problems are conceptualized (p. 131).

Whether the goal is reframing or acknowledging and addressing existing frames, consciously reflecting on the impact of frames is an important part of tackling wicked problems (Gibson 2003; Head 2008).

The approach taken in this project is acutely aware that framing the issues that complicate responsibility-sharing too narrowly can overly restrict what problems and solutions we envisage, and what learning we are able to take away from past experiences. At a substantive level, this project therefore sought to open up new ways to 'see' responsibility-sharing issues in order to identify a wider range of potential alternative solutions to address them. Reflecting in this way on the impact of frames on the way we pursue Shared Responsibility can open doors onto the "deliberation and debate concerning the nature of the issues" and the exploration of "alternative ways forward" that Head (2008) emphasises is needed for addressing "the big and difficult issues".

2.3 Project design

Researchers, research communities and disciplines frame research problems just as policy makers, policy communities and agencies frame policy problems. In line with the awareness that 'framing matters', the *Sharing Responsibility* project was explicitly designed to examine the meaning and significance of Shared Responsibility using multiple conceptual frameworks. In a guide to designing qualitative research, Maxwell (2005, p.33) describes conceptual frameworks as "the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research" (p.33). Choices about conceptual frameworks are shaped by the same types of factors that shape policy frames: epistemology or worldviews about how to do research, disciplinary backgrounds of researchers, goals of the research, the particular case being studied and its context (Oughton and Bracken 2009). Different disciplines, research communities and individual researchers draw on different sets of conceptual frameworks to model and explain "what is going on ... and why" (Maxwell 2005, p.33). Because of this, two different studies of the same substantive topic can present very different pictures of "what is going on ... and why". Thus research too can tell different causal stories about the same research problem.

The *Sharing Responsibility* project was therefore designed in a way that incorporated multiple conceptual frameworks to avoid an overly narrow and particular way of framing Shared Responsibility as a research problem. This enabled the project to examine the meaning, significance and challenges of Shared Responsibility from multiple research as well as stakeholder perspectives, and guided the project to consider a wider range of potential implications and solutions than would be possible from within a single disciplinary perspective.

Early in the project, the project title was changed from Shared Responsibility to Sharing Responsibility. Both these terms are used throughout this report; however, they constitute different aspects of the research problem. The initial project title was reflective of the dominant language used in Australian disaster policy discourse. However, it quickly became evident that the scope and focus of the project is more accurately reflected in its current working title. The term 'Shared

Responsibility' is used largely to refer to a normative vision for how things ought to be: an ideal future state of affairs (as in the NSDR's claim that we need a "new focus on shared responsibility: one where political leaders, governments, business and community leaders, and the not-for-profit sector all adopt increased or improved emergency management and advisory roles, and contribute to achieving integrated and coordinated disaster resilience" p. 3). By contrast, the term 'sharing responsibility' is active: it therefore refers to the process and practice of realising the normative vision. While a general vision of Shared Responsibility is widely-accepted and supported in Australian disaster management, the process and practice of sharing responsibility is far less understood, much more problematic, and – as the research in the *Sharing Responsibility* project shows – reveals hidden differences in the way the responsibility-sharing is understood in research and policy, and amongst stakeholders. The name change for the project therefore reflected that the scope of the project was broader than – and different to – the emphasis portrayed through the policy discourse. In particular, it reflected the project's focus on understanding the meaning, significance and challenges of the idea for the practice of disaster management, and in particular for the relationships between government and non-government actors involved in disaster management.

The project was initially designed with five key stages, summarised in Figure 2.1. Each stage was designed to focus on the way that the idea of Shared Responsibility has been framed at a different level, and in particular to examine the causal stories told at that level about "what is wrong and what needs fixing". As the project unfolded in a progressive and cumulative way, with the results of each stage informing the design and approach of following stages, interactions between these levels were also examined.

Stage 1 (the 'concept review') reviewed ways that underlying challenges for Sharing Responsibility in risk management are conceptually framed and understood in research literature. The underlying purpose of this first stage was to develop a broad conceptual framework to guide analysis in subsequent stages that was sensitive to the impact of the multiple ways that challenges of responsibility-sharing in risk management are understood in diverse research literatures. It used a structured, interpretive methodology for reviewing a wide range of risk management studies. The review focused on the ways the studies were conceptually framed rather than evaluating, summarising or aggregating the particular results they produced. It identified ten key 'master frames' used across research to understand 'what is wrong and what needs fixing'.

Stage 2 ('stakeholder engagement') was an on-going focus throughout the project to ensure that the research was directed towards policy learning needs and communicated to end users. Many of the engagement activities also sought to assist stakeholders to reconsider the problems and potential solutions for Shared Responsibility by hearing how others understand the problems, and thus 'seeing' them in new ways.

Stage 3 (the 'policy review') involved a review of substantive cases examined in diverse risk management studies in order to identify the widest range of mechanisms that have been used to shape responsibility-sharing across a range of risk contexts. The purpose of this stage was to draw lessons from experiences with sharing responsibility in other places and settings. Because the conceptual frameworks used in research impact what aspects of a problem are highlighted and what solutions are envisaged in a given study, Stage 3 included studies that reflected each of the master frames identified in Stage 1. This helped to maximise the range of mechanisms that were identified.

Stage 4 (the 'case studies') was designed to examine responsibility-sharing issues encountered in specific cases in Australian disaster management in a way that was sensitive to the impact of

framing for the way different stakeholders understood and represented these issues. The first case examined was the way challenges were reflected in public submissions to the VBRC. Two major stakeholder workshops conducted through the project were also documented as cases (particular examples) of the diversity of stakeholder perspectives on the meaning, significance and challenges of Shared Responsibility in Australian disaster management

Stage 5 (the ‘synthesis workshops’) was initially designed to identify and evaluate alternatives for sharing responsibility in Australian disaster management with stakeholders in an interactive workshop setting. During the research process, however, Stages 2 (stakeholder engagement), 4 (case studies) and 5 were partially combined.

As a research approach, case studies are used to examine a particular, illustrative example of an issue of interest in all its depth and complexity (Stake 1995; Flyvbjerg 2006; Thomas 2011). The purpose of a case study is to gain insight on the complex interactions that impact on the issue, refine or refute a theory, or to give readers greater depth of understanding about an issue. The issue of interest in Stage 4 was the diversity of stakeholder perspectives of the challenges for sharing responsibility encountered in Australian disaster management. However, during the course of the project it became evident that stakeholder perspectives were more diverse, dynamic and unfolding than the policy discourse on Shared Responsibility conveyed. This made the goal for Stage 5 of identifying and evaluating alternatives (e.g. solutions) with stakeholders problematic. Two major stakeholder engagement workshops were therefore held during the project (in years 2 and year 3) that engaged a wide range of stakeholders in public conversation about their perspectives. The underlying purpose of the workshops was to reveal diverse perspectives so that all participants, including researchers and end users, could get a better understanding of the different ways that “what is wrong and what needs fixing” with Shared Responsibility (e.g. the problem) is currently being framed. To enable these workshops to provide material for analysis to the project, each workshop was documented in detail.

In addition to the five main stages, two additional stages were also added to the original project design, shown with blue arrows in Figure 2.1. The first involved laying contextual, conceptual and methodological groundwork, and the second was connecting and integrating with the research conducted in the two sister projects in the ‘Mainstreaming’ research program.

Laying groundwork prior to implementing the main stages of the research was done in three parts:

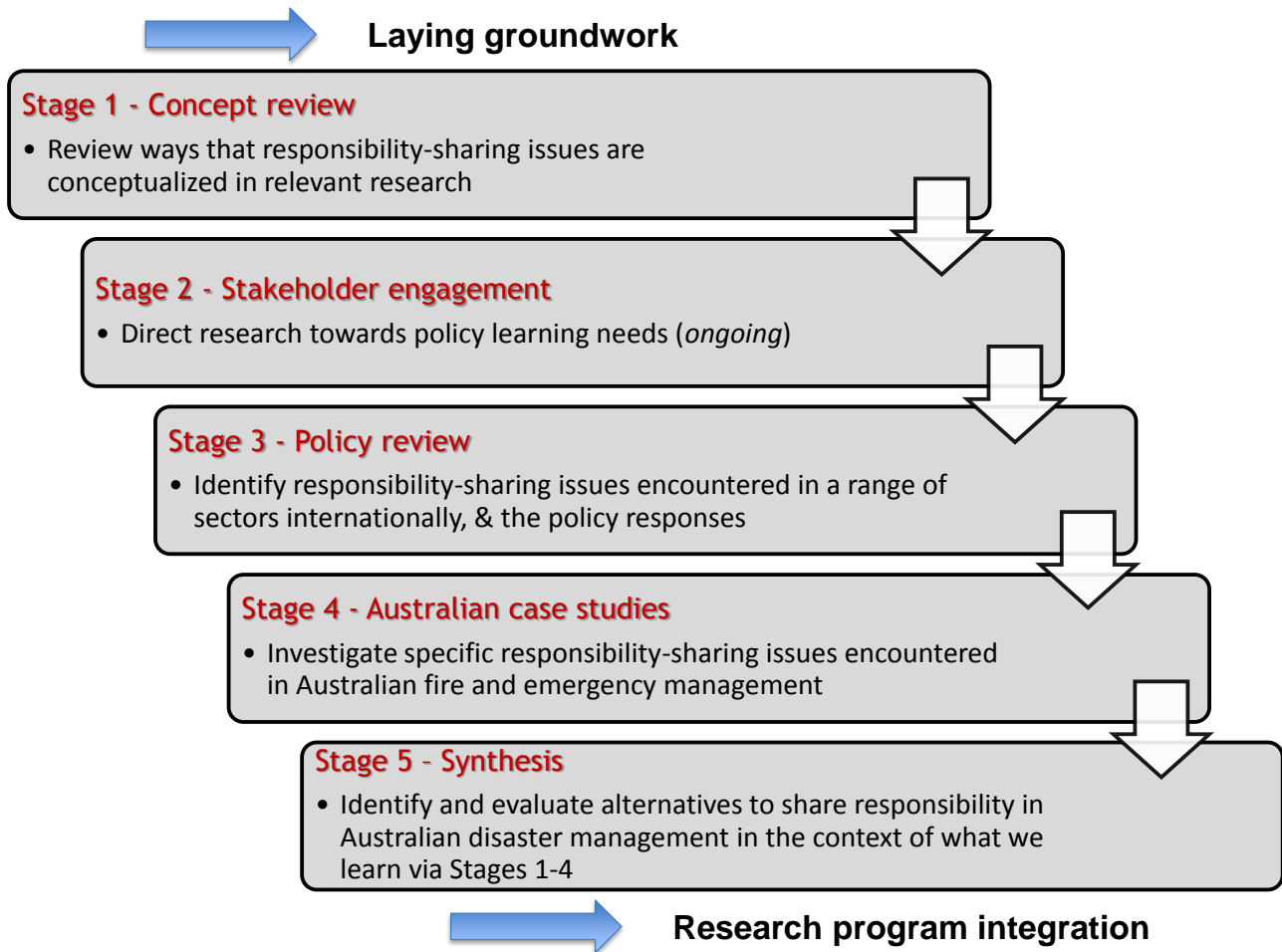
- *Australian context* – We explored the general context for sharing responsibility in Australian disaster management. A key focus was analysing the reframing of Shared Responsibility in the final report of the Victorian 2009 Bushfires Royal Commission, which was released shortly after the project began. A paper was also published from this contextual groundwork (McLennan and Handmer 2012b).
- *Conceptual foundations* – We investigated and unpacked core concepts underpinning this project, in particular the concepts of responsibility and framing. This work provided the conceptual background discussed above.
- *Methodologies for reviewing research* – We evaluated methodologies for reviewing research. Stage 1 and Stage 3 involved reviews of existing research studies, yet explicit methodologies for reviewing research are traditionally underdeveloped and underspecified. The project therefore needed to evaluate alternative methodologies before undertaking these reviews. This enabled clear, well-formulated and rigorous methodologies to be developed. An industry discussion paper on reviewing research for policy was also prepared from this methodological groundwork (McLennan and Handmer 2011a).

Integrating with sister projects – The *Sharing Responsibility* project was one of three projects in the Bushfire CRC's 'Community Expectations (Mainstreaming fire and emergency management across policy sectors)' research group. The other two projects were:

- Mainstreaming fire and emergency management across legal and policy sectors (Prof Stephen Dovers and Dr Michael Eburn, ANU)
- Urban and regional planning systems (Prof Barbara Norman, Dr Jessica Weir, University of Canberra)

A number of avenues were adopted to integrate research themes, findings and outputs across these projects. The four key ones being:

1. **Journal special edition:** Collaboration to contribute to a special legal edition of the Australian Journal of Emergency Management (vol 27, no. 2, 2012)
 - McLennan, B.J., & Handmer, J. (2012). Changing the rules of the game: Mechanisms that shape responsibility-sharing from beyond Australian fire and emergency management. *Australian Journal of Emergency Management*, 27(2), 7-13.
 - Eburn, M. & Dovers, S. (2012). Mainstreaming fire and emergency management across legal and policy sectors: Preliminary findings on measures of success. *Australian Journal of Emergency Management*, 27(2), 14-19.
2. **Joint conference panel presentation:** A joint panel on "Planning for Bushfires: Risk and Shared Responsibility" presented at the Planning Institute of Australia National Congress, 26th March, 2013
3. **Joint conference special session:** A joint special session on "Shared responsibility for community wildfire safety in Australia: What it is, how we do it and how we might do it better" delivered at the 3rd Annual Human Dimension Conference of the International Association of Wildland Fire, 17-19 April. (Seattle, USA)
4. **Co-authored papers:** Two forthcoming papers that examine themes cutting across the projects are currently in preparation:
 - McLennan, B.J., & Eburn, M. (In press). Exposing hidden value trade-offs; sharing wildfire management responsibility between government and citizens. *International journal of Wildland Fire*.
 - McLennan, B.J. Weir, J. Eburn, M. Handmer, J.H, Dovers, S., Norman, B. (forthcoming). Negotiating risk and responsibility through law, policy and planning. *In preparation for Australian Journal of Emergency Management*.

Figure 2.1: Overview of the *Sharing Responsibility* project

2.1 A note on terminology

Much of the terminology underpinning this project is used in both research and policy in vague, variable, and unspecified ways. Here, we clarify the use that the *Sharing Responsibility* project makes of terminology that is already familiar to the field of disaster management. In particular, we specify where and how usage and meaning in this project differs from common usage within Australian disaster management using the Emergency Management Australia glossary and concepts and principles manuals as our point of reference. Additional terminology central to the research but less familiar within the disaster management field is introduced and defined as appropriate throughout this report.

Disaster and disaster management

A **disaster** occurs when a disruption or surprise of some kind exceeds a society's capacity to cope with it, leading to adverse impacts for significant numbers of people (Quarantelli 1998; Wisner *et al.* 2004; Ahrens and Rudolph 2006; UNISDR 2009). Physical phenomena that have the potential to cause this type of disruption are **hazards** (EMA 1998, p. 59). Hazards can have natural originals (e.g. fire, flood and storm) or be human-induced (e.g. new technology, environmental degradation) (Ahrens and Rudolph 2006).

This view of disaster is roughly in line with understanding and usage of the term by Emergency Management Australia:

A serious disruption to community life which threatens or causes death or injury in that community and/or damage to property which is beyond the day-to-day capacity of the prescribed statutory authorities and which requires special mobilisation and organisation of resources other than those normally available to those authorities (EMA 1998, p. 32).¹

However, our definition is somewhat broader than the one provided by EMA, as it considers the coping capacity of all actors and parties in society, including non-government actors and civil society, while the EMA definition focuses more narrowly only the coping capacity of the "prescribed statutory authorities". Further and in contrast to the EMA (and NSDR) vocabulary (EMA 1998; COAG 2011), we do not see disasters as 'natural' but rather as "also the product of social, political and economic environments" (Wisner *et al.* 2004, p. 4). In this sense, our view of disaster is more in line with international disaster risk reduction discourse which more clearly acknowledges that "disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences" (UNISDR 2009, p. 9).

Our definition of **disaster management** is also therefore somewhat broader than the EMA definitions. By our definition, disaster management includes all the decisions and actions of all the various parties in society that are aimed at coping with disasters, including those aimed toward prevention, risk mitigation, preparation, planning, response and recovery in all the different guises these endeavours can take. Again, we include within this non-government and civil society actors, including those who are exposed to risk, as well as government actors. By contrast, the EMA, although not directly specifying a more narrow focus on government actors, again implies a narrower focus on the activities of the prescribed statutory authorities only:

¹ Although, more recently EMA defined a disaster as: "A condition or situation of significant destruction, disruption and/or distress to a Community" EMA (2004) Emergency management in Australia: Concepts and principles. Emergency Management Australia (EMA), Canberra..

The body of policy and administrative decisions and operational activities which pertain to the various stages of a disaster at all levels (EMA 1998, p. 33).

In Australia, the terms **emergency management** and **disaster management** are used almost interchangeably, with emergency management being more prevalent. However, one definition of emergency management provided by EMA includes some non-government actors, stating that emergency management involves:

the plans, structures and arrangements which are established to bring together the normal endeavours of government, voluntary and private agencies in a comprehensive and coordinated way to deal with the whole spectrum of emergency needs including prevention, response and recovery (EMA 1998, p. 39).

In this report, we use the term emergency management only when referring to formal, governmental arrangements. In line with EMA, we use **emergency service agency** to mean “an agency responsible for the protection and preservation of life and property from harm resulting from incidents and emergencies” (EMA 1998, p. 39). We use the term disaster management to refer to the decisions and activities of the broader range of actors in society. Correspondingly, we use the term **disaster management stakeholders** to mean the broader range of government and non-government actors that are involved in some way, professionally, voluntarily or personally, in managing disaster associated with natural hazards.

Risk

We adopt a definition of **risk** that aligns with that of EMA (1998):

The chance of something happening that will have an impact upon objectives, measured in terms of consequences and likelihood. In *emergency management*, it is more particularly described as ‘a concept used to describe the likelihood of harmful consequences arising from the interaction of hazards, the community and the environment (p. ix).

However, we further emphasise that, as with disaster, risk is an outcome of interactions between a physical hazard and a social system and is therefore **a function of interactions between a hazard, exposure and vulnerability, mediated by adaptive capacity**. **Exposure** here refers to the people, properties or other elements present in an area subject to a hazard (UNISDR 2009, p. 15). **Vulnerability** refers to qualities of a community, system or asset that make it susceptible to harm from a hazard (UNISDR 2009, p. 30), while **adaptive capacity** is the ability of people and organisations to moderate harm from a hazard by adjusting or responding to it in some way.

Resilience

The concept of resilience is a broad one that is used and defined in many different ways in different contexts and disciplines (Handmer and Dovers 1996; Walker and Cooper 2011). The idea of resilience has become increasingly important in natural hazards and disaster research and policy in particular, leading to the growing prevalence of the more particular term ‘disaster resilience’ (Manyena 2006).

Resilience is most commonly associated with the idea of an entity or system’s ability to ‘bounce back’ from an adversity or shock (Klein *et al.* 2003; Manyena 2006). It is therefore a dynamic, relational quality that is often contrasted to the idea of a more stable or static system that resists the impacts of a shock rather than responding to absorb its impacts (Handmer and Dovers 1996; Klein *et al.* 2003).

The ‘bounce back’ notion of resilience is prevalent in the disaster field. It is reflected in the UNISDR’s definition, for example:

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, p. 24).

A similar notion is also reflected in EMA’s 1998 glossary: “a measure of how quickly a system recovers from failures” (p. 94). However, others in the disaster community have more recently contended that bouncing back to a prior state is often not desirable, given prior levels of exposure and vulnerability, and that a more desirable goal is to ‘bounce forward’ into a new state of lower exposure and vulnerability (Manyena 2006). Another key definitional difference exists in the way that the terms ‘resilience’ and ‘disaster resilience’ are used to refer either to the characteristics of a desired outcome (e.g. of a more ‘resilient community’) or to the deliberate process of working towards a desired outcome (e.g. through community capacity building and preparedness programs for example) (Manyena 2006).

The NSDR’s view of disaster resilience reflects an outcome-oriented definition: one that is focused particularly on the goal of achieving greater *community* resilience. It avoids a generic definition of disaster resilience, instead describing a resilient community as one where “people understand the risks that may affect them,” “have taken steps to ... protect themselves,” “work together with local leaders ... to prepare for and deal with disasters,” “work in partnership with emergency services,” and “emergency management plans ... build disaster resilience within communities over time” (COAG 2011, p.5).

For the purposes of this project, we use the terms resilience, disaster resilience, and community resilience to refer to the ideas conveyed in Australian disaster policy discourse. However, we do this while acknowledging that more diverse uses of these terms exist in the wider disaster literature, that clear definition of these terms has remained elusive in Australian disaster management, and that their use in Australian policy discourse is open to criticism from within the disaster literature (e.g. Manyena 2006; O’Hare and White 2013; Welsh 2013).

Collective action

Generally speaking, responsibility is shared any time there is collective action. At a basic level, collective action involves a group, whether of individuals or organizations, working together to achieve a mutual goal (Ostrom and Ahn 2009). Collective action can take different forms. Examples include “the development of institutions (e.g., rules for resource management), resource mobilisation (e.g., to hire guards or invest in maintenance activities), coordination of activities (e.g., to avoid crowding), and information sharing (e.g., about techniques or the location of mobile resources)” (Poteete & Ostrom, 2004, p. 224). The notion of collective action is usually invoked when the goals in question are not achievable through individual actions alone but only when a group works together. Most risk management scenarios require a range of parties to work together for a common goal and hence involve some form of collective action.

Importantly, all collective action is guided by institutions that structure how this action unfolds. The use of the term “institution” here is broader than its common use to refer specifically to formal organisations, agencies and institutes. Ostrom and Ahn (2010) usefully define institutions in this broader sense as:

...prescriptions that specify what actions (or outcomes) are required, prohibited or permitted, and the sanctions authorized if the rules are not followed. Institutions are

thus the rules of a game that people devise ... Rules are the results of human beings' efforts to establish order and increase predictability of social outcomes (p. 28).

Institutions are thus the “rules of the game” that guide and structure collective action. Importantly, the institutions that structure this action provide the shared rules, norms, and expectations—or standards—through which responsibilities are attributed, actioned, assessed and ultimately shared (McLennan and Handmer 2012a). Complex collective action, like disaster management, is guided and structured by multiple institutions that range from more to less formal. Importantly, different institutions concerning the same field of collective action do not always align in mutually reinforcing ways.

The vision of Shared Responsibility in Australian disaster management is therefore ultimately a vision for how collective action to manage disaster risk should take place – particularly collective action involving government and non-government actors. Similarly, changing the way responsibility is shared to achieve this vision is a process of changing the institutions – “rules of the game” – that guide collective action in disaster management. While formal, written institutions such as laws, regulations and codes are important for structuring collective action and attributing responsibility in disaster management, it is important to recognise that so too are informal, unwritten institutions such as workplace cultures and social norms. Collective action institutions, the interactions between them and the way stakeholders seek to shape them, are therefore central to the way responsibility for disaster management is shared.

3 Framing challenges for sharing responsibility in research (Stage 1 concept review)

3.1 Introduction

This section presents key findings from a structured review of the ways that underlying challenges for sharing responsibility in risk management are conceptually framed and understood in research literature.

A wide range of theories and approaches have been used to guide research studies that examine responsibility-sharing issues in risk management. In order to capture the widest range of approaches used to frame responsibility-sharing challenges in research, the review included studies of risk management in a wide range of political systems, and across various sectors such as public health, transport, new technologies and policing.

The underlying purpose of Stage 1 was to develop an integrative conceptual framework to guide the *Sharing Responsibility* project that incorporated the multiple ways of understanding and framing the underlying challenges of responsibility-sharing in diverse research literatures. It identified ten core ‘master frames’ that have shaped the way research analyses, understands and explains the underlying challenges for sharing responsibility in risk management and what to do about them.

Master frames are abstract or generalised, and therefore simplified, frames that inform more complex, diverse and particular ways of seeing complex issues. Frame theory shows that frames are constructed at different levels. For example, in the context of policy-making, Schön and Rein (1994, p. 33) show that frames range from more specific (e.g. particular policy frames) to more generic (e.g. “institutional action” and “meta-cultural” frames). Similarly, Benford and Snow describe ‘master frames’ in the context of collective action and social movements as ‘functioning as a kind of master algorithm that colours and constrains the orientations and activities of other movements’ (p. 618). They state that more specific frames are “derivative from master frames” (p. 619). Drawing from these authors, Steinberg (1998, p. 847) refers to master frames as “a relatively stable configuration of ideational elements and symbols, [that] operates as a kind of grammar for the articulation of more specific collective action framing processes”. Thus more generic, simplified frames underpin and guide the more numerous, messy and specific frames that are used to construct particular problems in particular places, contexts and times. In the context of this section, the term ‘master frame’ is used to refer to common, shared ways of understanding the underlying challenges for sharing responsibility that are reflected by collections of conceptually-related theories in research.

3.2 Research approach

The Stage 1 concept review was carried out through a type of narrative literature review known as an interpretive, integrative review (Whittemore and Knafelz 2005). This is a form of review in which “the focus of analysis is on variations of approach, angle of vision, or interpretation between the authors of various research products and the critical analysis based on perspectival distinctions rather than methodological flaws” (Thorne et al. 2004, p. 1345). The Stage 1 concept review also differed to the traditional use of narrative reviews, which is as a means to generalise or aggregate the results of individual studies. In contrast to this, the review reported here examined the ways the studies were framed rather than evaluating or summarising the results they produced. In this

regard it is similar to sociological approaches known as ‘meta-theorizing’, which focus on the analysis of theory rather than results (Ritzer 1990; Zhao 1991; Paterson *et al.* 2001, p. 91-108).

3.2.1 Scope

Because the review was broad in scope, a number of choices needed to be made to focus the review process. Examples are choices about how to search for relevant studies, which studies to include or exclude, and how to interpret and integrate the findings from the review. Consequently, the findings in this section were unavoidably influenced by the authors’ own ways of framing and conducting the review. This is arguably the case in all forms of narrative literature review (McLennan and Handmer 2011a).

The Stage 1 concept review incorporated research studies that combined two broad but pivotal themes: risk management (Theme 1); and, responsibility-sharing issues (Theme 2).

For theme 1, ‘risk management’ was interpreted broadly and included some scenarios that are not explicitly analysed through the lens of ‘risk’. It included any activities undertaken to manage scenarios in which there is a possibility for loss of human life, or harm to people’s wellbeing, property or other things of value to occur as a result of future events or actions. These scenarios may unfold at a range of scales, from global to local, or they may involve multiple scales. They may also involve any one or more aspects of risk management such as risk identification, risk preparation, hazard mitigation, vulnerability reduction, response to events and recovery.

This theme also included the management of different types of risk. It included systematic or covariate risk where groups of people are exposed to the possibility of loss or harm at the same time. Examples include exposure to wildfire/bushfire, climate change, war, pollution and epidemics. It also included idiosyncratic risks where people are exposed to the possibility of loss or harm individually at different times and to different degrees. Examples include some health issues, personal violence, crime, transport accidents, and most workplace safety incidents. Additionally, it included management of both natural and ‘manufactured’ or human-made risks. While different types of risk may be managed in very different ways, this review found that the need to share responsibility amongst multiple parties is a common feature of the management of most types of risk.

Theme 2 included all types of responsibility-sharing issues, broadly conceived. Generally speaking, responsibility is shared any time there is collective action. Theme 2 therefore involved scenarios of *collective* risk management in which issues of how to share or distribute responsibility amongst the different parties involved were raised or addressed in some way. Responsibility-sharing issues may involve any one or more of the types of responsibility described in the Background to this report. The sets of stakeholders involved in sharing responsibility for risk management may also vary. For example, responsibility may be shared between government and communities or citizens, across portfolios and levels of government, within exposed populations, between public and private sectors, or within society more broadly. Further, responsibility-sharing may have voluntary or imposed, and formal or informal components. Variations in all of these aspects of responsibility-sharing were included in the Stage 1 concept review.

Two limitations of the approach taken to conduct the Stage 1 concept review have likely influenced the findings and therefore should be noted here. First, due to its broad scope the review was not exhaustive. Consequently, it is unlikely that every research theory used to frame responsibility-sharing in collective risk management scenarios were identified. However, the structured approach taken to conduct the review, outlined in the Appendix, ensured that major differences in framing were identified by including diverse theories from across a range of research disciplines.

Second, the review included only those theories that have been used in published studies of collective risk management scenarios, as defined in the Background section. However, there may be other theories that have not yet been used in these contexts that could also provide valuable ways of framing responsibility-sharing but were beyond the scope of the review.

3.2.2 Methodology

Studies included

Because of its broad scope, the Stage 1 concept review was selective rather than exhaustive: e.g. an illustrative sample of research studies was reviewed rather than every research study that fit within the scope of the review. As the aim of the review was to identify master frames rather than to aggregate or interpret research results, it was also not necessary to include all of these studies. Rather, a carefully selected sample of studies (also called ‘a purposive sample’, Patton 2002, p. 234-5) was sufficient to identify and illustrate the major framing differences in the body of research that was within the scope of the review.

As is common in integrative reviews (Whittemore and Knafelz 2005), the Stage 1 concept review included experimental and non-experimental research studies, as well as empirical and theoretical studies. No date restrictions were used to limit the scope of the review, however most of the studies reviewed were conducted between 1980 and 2010. This is likely influenced in part by the emergence of easily accessible, online indexing of academic journals in the 1980s. However, the temporal range of the studies was also likely affected by the significant rise in social theorising about risk from the 1970s onwards (Burgess 2006). Only peer reviewed articles and published books, as well as influential reports referenced by these, were included in the review. For logistical reasons, only English language studies were reviewed. Further, no restrictions were placed on the geographic regions or types of political systems being studied.

The quality of research studies was not evaluated in-depth due to the focus on analysing conceptual frameworks rather than synthesizing research results. Hence the only quality evaluation made was to assess coherence between the theory used on one hand and the methodology of empirical studies or conclusions drawn by theoretical studies on the other. Only a small number of studies were excluded based on this assessment. In addition, a small number were excluded because they did not draw – either overtly or implicitly – on an identifiable conceptual framework. For the most part, these studies had not engaged with existing research literature in depth.

Search strategies

Studies to include in the review were found using keyword searches conducted primarily in citation indexes (searching the titles, abstracts and keywords of journal articles only) and the Libraries Australia catalogue (<http://www.nla.gov.au/librariesaustralia/>, to locate books). Searches of GoogleScholar were used only to cross-check against these results in case of indexing problems or biases in the indexed databases. Given the broad nature of the review, four large, multidisciplinary citation indexes were used: Scopus, Science Direct, Web of Science and Wiley Online Library. These four indexed databases cover a broad range of research fields and disciplines. They also provide access to full-text articles. Where full-text articles were not available through RMIT subscriptions, they were requested from other libraries via the RMIT document delivery service. Books sourced via the Libraries Australia catalogue were sourced first from RMIT libraries, then other university libraries in Melbourne or via the RMIT document delivery service. Only articles and books for which full-text copies could be obtained in either hard or soft copy were included in the review.

Three different search strategies were used to locate sources. This protected the results from biases resulting from overly narrow or inconsistent search terms and indexing problems in citation indexes (2005). Accordingly, three search strategies were used: exploratory, targeted and ancestry searches (see also Conn et al. 2003).

Exploratory searches combined keywords associated with each of the two key themes of risk management (Theme 1) and responsibility-sharing issues (Theme 2) combined in search strings using Boolean operations of AND and OR. Synonyms were used to avoid biases in returned results from the use of overly narrow search terms (see Table 3.1). As these exploratory searches were broad, they returned large numbers of studies. Hence smaller samples of illustrative studies were subsequently selected using a form of *maximum variation sampling* that “aims at capturing and describing the central themes that cut across a great deal of variation” (Patton 2002, p. 234-5). In short, this involved selecting a sample of studies from within the results returned from key word searches that represented the most diverse range of research disciplines, substantive fields, and temporal and geographic coverage.

The full-texts of the studies that resulted from these searches were then manually scanned to identify the theories used.

Table 3.1: Broad key words used in exploratory searches

Theme 1 Risk management	Theme 2 Responsibility-sharing
Risk management	Responsibility
Emergency management	Accountability
Threat	(Moral) obligation
Danger	Duty/ Role
Security	Blame
Public safety	Trustworthy
Community safety	Collective action
Hazard	Liability
Crisis management	Attribute/ attribution
Disaster reduction	Distribution
Harm	Risk transfer
Loss	Risk pool
Protect	Share/ing responsibility
Accident	Collective/ mutual responsibility
	Coordination
	Collaboration
	Justice/ Fairness

Targeted searches combined broad keywords associated with Theme 1 with more specific keywords associated in the literature with theories that reflected each master frame (two examples are provided in Table 3.2). The abstracts and texts of these studies were then manually scanned to identify whether or not responsibility-sharing issues were addressed.

Ancestry searches involved the systematic review of citations listed in the studies reviewed as well as in review articles (Conn et al. 2003). On their own, ancestry searching can produce biased samples. However, in conjunction with searches of citation indexes and library catalogues they can expand the number of studies found. They are also useful for targeted, purposive searching because they return a higher proportion of relevant studies compared to broader citation index

searches. As abstracts and keywords are not available in this type of search, studies were selected by scanning the original article to identify relevant citations.

The results of the three types of searches were compiled into a bibliographic database using Endnote XI (see <http://www.endnote.com/enx1info.asp>). In total, approximately 618 studies were compiled in the final bibliographic database. However, many more studies than this were manually scanned and rejected after they were found not to fall within the scope of the review.

Table 3.2: Two examples of specific key words used in targeted searches

Master frame: Social dilemma	Master frame: Attribution
Collective action theory	Attribution theory
Collective action problem	Blame attribution
Free-ride/r/ing	Responsibility attribution
Public goods	Model of attribution
Common property resources	Situation Crisis Communication Theory
Burden-sharing	Locus of control
Tragedy of the commons	Controllability
Key authors: e.g. Ostrom, Olson, Hardin, Sandler	Key authors: e.g. Shaver, Weiner, Coombs

Analysis

According to Whitemore and Knafl (2005), while methods to address threats to research quality exist for data collection and extraction phases of integrative reviews, they are not yet well-formulated for analysis, synthesis and conclusion-drawing phases. To address this, these authors present a guide to the analysis process that was followed in the Stage 1 concept review.

The first step in the analysis process involved organizing individual studies in the review into initial subgroups. This was done using a constant comparison method (Whitemore and Knafl 2005, p. 550). Studies were compared one by one to group similar studies together. The key characteristics of each study were listed in a simple attribute table to facilitate comparison (e.g. year of publication, substantive field, geographic region, type of scenario, key conceptual terms used). The initial subgroups used to order the studies were a combination of: 1) category of conceptual framework (when clearly and directly identified, later evolved into the final list of master frames); 2) key conceptual theme (when present); or, 3) academic discipline when 1) and 2) were not easily identifiable (see Table 3.3, below). The studies were organized in the Endnote XI bibliography according to these subgroups.

Table 3.3: List of initial subgroups used to collate primary studies

Master frame	Key conceptual themes	Academic discipline
Attribution theory	Vulnerability	Economics
Social dilemma theories	Formal risk sharing	Sociology
Social capital theories	Informal risk pooling	Psychology
Cultural theory	Integrated/participatory disaster/risk management	Philosophy
Ethical and moral theories	Risk perception	Political science
	Resilience	Public policy analysis
	Governance/ neoliberalism	Human geography/ political ecology
	Equality/ welfare	Legal
	Risk/hazard research	Undetermined

In a second step, each subgroup was reviewed in turn. The text of each study was manually scanned to identify the main theory used and the key responsibility-sharing issues highlighted. Master frames and conceptual themes were identified using a range of conceptual and theoretical cues, including (Paterson et al. 2001, p. 91-108):

- Clear statement of the theory in the text (e.g. 'Rawl's theory of justice', 'attribution theory').
- References to seminal theoretical works (e.g. *Risk Society* by Ulrich Beck; *The Logic of Collective Action* by Mancur Olson)
- Key terms associated with particular theories used in text (see Table 3.2 for examples)
- Study report located in a book or journal that draws on particular theoretical foundations (e.g. "Personal and social responsibility for health" in the *Journal of Ethics & International Affairs*)
- The disciplinary backgrounds of the authors

When the theories used were not clearly identified using these techniques, the study was set aside and re-examined later once the reviewer was more familiar with the range of master frames. At this later stage, a number of studies were allocated to particular master frames based on their general coherence with the associated collection of theories. Responsibility-sharing issues were identified by manually scanning the texts of each study.

The subgroups were progressively re-organized and refined based on similarities and differences identified amongst the studies until the final set of master frames was determined.

3.3 Ten master frames

The review identified ten key ways that challenges for sharing responsibility in risk management are framed in research. Each of the ten frames represents a type of 'master frame' that is reflected by a collection of conceptually-related research theories and approaches.

As outlined in the introduction, the term 'master frame' is used here to refer to common, shared ways of understanding the underlying challenges for sharing responsibility that are reflected by collections of conceptually-related theories in research. The collections of theories that reflect each master frame are far more complex and diverse than is conveyed in the frame descriptions. However, once identified, the ten master frames were easily recognised beneath the detail and diversity of the various theories. Unsurprisingly, the theories and approaches that reflect the same master frame shared common theoretical lineage and philosophical foundations. The ten master frames therefore approximately align along major paradigmatic divides in research.

The ten master frames described here are not discrete and they do not have clear, defined boundaries between them. Rather, they overlap to varying degrees as some research theories reflect elements of more than one of the master frames. Because of this, there is more than one possible way of grouping the research theories. The approach taken in this r was to focus on underlying similarities in the way the problem for sharing responsibility was presented.

In the remainder of this section, the ten master frames are described in turn. The nature of the underlying problem that each 'sees' for sharing responsibility is outlined. Some of the key theories and approaches that reflect each master frame are also described. However, the particular theories associated with each frame are not assessed or critiqued in full or in depth. Rather, the way that key theories reflecting a given frame express the underlying ideas about sharing responsibility are highlighted, and how they may sometimes propose different solutions despite their shared problem-framing. Similarly, the descriptions below do not systematically describe the content or results of the reviewed studies, although some examples are provided for illustration.

1. Social dilemma

The first master frame focuses on a fundamental responsibility-sharing challenge that plagues much collective action, known broadly as a social dilemma. The term social dilemma refers to a situation where individuals (or groups, firms, organizations or states) make choices that lead to short term, private gains but which create long term social costs that leave everyone worse off in the end (Dawes 1980; Kollock 1998; Ostrom 1998). When social dilemmas occur, they are barriers to sharing responsibility for collective action. There are many examples of social dilemmas in the field of environmental management in particular, where the individual pursuit of private – primarily economic or lifestyle - gains ultimately creates shared environmental problems such as pollution, depletion of natural resources and also global climate change. In these types of scenario, everyone would be better off cooperating to make decisions collectively that avoid the long-term social costs and leave all parties better off. However, the type of collective action that would achieve the most good for everyone in these situations does not necessarily occur. The reasons why this is, and therefore also what to do about it, is understood and represented very differently by the many and diverse theories that reflect this master frame.

Social dilemmas can occur in a wide range of settings. As Ostrom (1998, p.2) observed, everyone faces a social dilemma of some kind “whenever we consider trusting others to cooperate with us on long-term joint endeavours”. Because of this, theories about these dilemmas are found across a wide range of fields and disciplines, including economics, international relations, environmental management, behavioural psychology, human and community development, and public policy. However, social dilemmas were first articulated formally in economics in the context of markets (see Samuelson 1954), and most theorising draws from economic principles in some way. Social dilemmas are also known by a range of names. Some of the most common are ‘collective action problems’ (Ostrom 1990), ‘public goods problems’ or ‘free-riding’ (Olson 1965), the ‘tragedy of the commons’ (Hardin 1968), ‘moral hazards’ (Holmstrom 1982), ‘social traps’ (Platt 1973), the ‘tyranny of small decisions’ (Kahn 1966) and ‘social loafing’ (Karau and Williams 1993).

Social dilemmas can take different forms, and some of the names listed above actually refer to particular forms. A key distinction is between situations that would require individuals to make *contributions to collective action* in order to provide beneficial public goods to the group (e.g. to build flood levies, pay for a public healthcare system), and those that would require individuals to *collectively constrain private actions* in order to avoid damaging or depleting common pool resources (e.g. constrain activities that pollute, emit greenhouse gases, or drain electricity systems during heat waves) (e.g. Lubell et al. 2006). ‘Public goods problems’, ‘free-riding’, ‘moral hazards’ and ‘social loafing’ are names used to refer to contribution type dilemmas whereas the ‘tragedy of the commons’, ‘social traps’, and the ‘tyranny of small decisions’ all refer to constraint type dilemmas. ‘Collective action problems’ is a more general term that refers to all types of social dilemmas, and ‘collective action theories’ are any theories that seek to explain some form of social dilemma.

The distinction between contribution and constraint type dilemmas mirrors the difference between the ideas of positive and negative externalities, which are foundational concepts in classic economic theory. Externalities exist “whenever the behaviour of a person affects the situation of other persons without the explicit agreement of that person or persons” (Buchanan 1971, p. 7 cited in Dawes 1980). Externalities are negative when the effect on others is detrimental and they are positive when the effect on others is beneficial. Contribution type dilemmas can arise when there are positive externalities associated with private actions. According to classic economic theory, people have little incentive to help contribute to, for example, building a flood levy to protect their town when they would benefit from it just the same if someone else did it. In this case, the protection provided by the levy is a positive externality that affects those in the town who are

protected by it without having contributed to its construction. Constraint type dilemmas arise when there are negative externalities associated with private actions. For example, owners of factories that pollute the air or waterways may create negative externalities in the form of health problems for people living nearby while pursuing private financial benefits.

The dominant tradition within social dilemma theories stems from rational choice theory in economics (Scott 2000; Renn 2008a). It includes the microeconomic approaches of decision theory and game theory as well as public and social choice theories that apply economic tools to analyse political and social issues. While approaches in this tradition vary considerably, they share a common, underlying assumption: that collective action can be understood by studying individuals (Scott 2000). Many of the approaches are normative (Baron 2008; Over 2008). They focus on modelling collective decision-making scenarios and devising rules to determine which of a range of alternative possible decisions would lead to the most rational outcome, meaning the outcome that is most able to maximise private benefits for the most number of individuals. This focus on weighing up and calculating the expected gain of different decision options is reflected in common economic concepts such as 'cost-benefit analysis' and 'willingness to pay' (Fried *et al.* 1999).

Social dilemmas pose a significant challenge to some of the fundamental assumptions underpinning the ideas of rational actors and rational choice (Ostrom 1998; Scott 2000). Individual actors are considered rational when they act in ways that maximise their private benefits. However, in social dilemma situations, a group of actors making choices that are rational in the short-term actually create suboptimal situations where benefits are not maximised in the long-term. Approaches in this tradition all assume – albeit to varying degrees - that individuals in collective action situations will tend to act rationally in the short-term if left to make their own decisions. They therefore propose that overcoming social dilemmas requires an externally-imposed solution. The most commonly-cited solutions have been privatisation or central government control through regulation (Berkes and Feeny 1989; Feeny *et al.* 1990; Ostrom 1990, p. 8-13).

In the context of bushfire/wildfire risk management, rational-choice based theories of social dilemmas have been used to frame studies of household risk reduction activities or lack thereof (Shafran 2008; Crowley *et al.* 2009; Busby and Albers 2010). For example, Busby and Albers (2010) claim that 'free-riding' (where individuals do not contribute to beneficial collective action) by neighbours acts as a disincentive to private landholders to share responsibility for reducing wildfire risk through fuel treatment on their properties. The benefit of risk reduction can only be realised if neighbouring landholders all engage in fuel treatment collectively. If only one makes the effort, he/she will bear a cost but will not gain the benefit of reduced risk. Busby and Albers (2010) argue that the only way to overcome this problem is to compel fuel treatment on private properties through regulation.

A second body of work applies rational-choice based approaches to examining a particular type of social dilemma that is significant in the context of risk management: the moral hazard problem. Moral hazards arise because rational actors who are insulated from risk have no incentive to contribute to collective action to reduce the risk. In particular, the provision of insurance (including disaster insurance) can lead to significant moral hazard problems because insured parties have effectively spread or transferred the risk (and hence the responsibility to deal with its outcomes) to the insurance industry (Cutter and Emrich 2006). A number of risk-related studies look at how moral hazards can be overcome in formal insurance systems through the use of incentives or monitoring arrangements (McKee *et al.* 2004; Talberth *et al.* 2006; Garrido and Gómez-Ramos 2009). A number of studies propose that governments and the insurance industry need to work together to develop such arrangements (Epple and Lave 1988; Dahlstrom *et al.* 2003; Barnett *et al.* 2008). Other studies examine institutional and policy arrangements that might overcome such

moral hazard problems related to other types of risk insulation created, for example, through government assistance programs or planning regulations (Deyle and Smith 2000; McKee *et al.* 2004; Talberth *et al.* 2006).

Traditional rational approaches to theorising social dilemmas are criticised for having an incomplete or poor understanding of the nature of collective action. Critics argued that they do not account for important social and psychological factors that influence people's decisions with regards to collective action (Ostrom 1990, p.21; Scott 2000; Gigerenzer 2008; Ostrom and Ahn 2009). More recent work has therefore extended rational approaches along a range of different lines to respond to these criticisms. One example is work in psychology on the related concepts of 'cognitive heuristics', 'bounded rationality' and 'satisficing' (Gigerenzer 2008), which examines how and why people may make suboptimal but still sufficiently beneficial decisions rather than making fully rational choices. Another example is work in social and development economics that draws from social network theory to examine how social norms regarding reciprocity and risk-sharing may overcome moral hazards and other challenges in informal insurance arrangements amongst families, friends and communities (Fafchamps and Lund 2003; McPeak 2006; Fafchamps and Gubert 2007; Shafran 2008; Mazzucato 2009; Bhattamishra and Barrett 2010).

A major development occurred in the 1990s when a 'second generation', behavioural approach to theorising social dilemmas emerged. Led by the work of political scientist Elinor Ostrom and colleagues (Berkes and Feeny 1989; Feeny *et al.* 1990; Ostrom 1990, 2000), this approach focuses on the collective management of common pool resources (e.g. forests, fisheries) by small groups. It draws on empirical case studies to expand on classic rational choice theories (Ostrom 1998). It challenges the assumptions that individuals are homogenous and selfish, and that collective action can be understood by studying individuals rather than groups. In contrast, it emphasizes the importance of informal institutions that shape social behaviours, historical relationships, norms of reciprocity, learning, and trust that underpin self-governed collective action (Ostrom and Ahn 2009). It claims that small groups in particular can self-govern without any externally-imposed solution such as privatisation or government regulation. This happens when members of the group are able to communicate with each other to agree on and change their own rules of engagement, and to monitor non-compliance. For example, a behavioural approach to understanding social dilemmas suggests a very different type of solution to the problem of fuel treatment on private properties outlined by Busby and Albers (2010) above. From this perspective, neighbouring landholders could overcome the social dilemma voluntarily by communicating to establish their own informal rules around fuel treatment and developing relationships of trust to support those rules. (for an empirical example in the context of wildfire fuel treatment see Brenkert-Smith 2010). However, this view of collective action has also been criticized for failing to take sufficient account of the 'external social, political-institutional, and physical environment' in which collective action take place (Agrawal 2003, p. 250).

A third tradition for examining social dilemmas comes from psychological studies of 'social loafing' (Karau and Williams 1993). Social loafing is the tendency for individuals to put less effort into collective action than into individual action. Psychological theories of social loafing have not yet been used widely to analyse social dilemmas in risk management. However, they provide insights that are salient in this context. They show that a range of psychological factors can cause social loafing. For example, social loafing may occur when people have low expectations about how much their individual action contributes to a goal, and when the potential for individual efforts to be evaluated is low (Karau and Williams 1993). When it is difficult to determine each individual's contribution to a collective outcome, people may lose their sense of personal responsibility or get "lost in the crowd" (Karau and Williams 1993). As West (2000) highlights, this creates a diffusion of responsibility. Potential ways to overcome social loafing include communication that increases

people's sense of social responsibility and reinforces perceptions of the importance of a task (Karau and Williams 1993).

In sum, the social dilemma master frame sees the underlying problem for sharing responsibility in risk management as one of overcoming tensions that can arise between pursuing short-term, private benefits and achieving long-term, collective benefits. However, theories to explain how such dilemmas can be overcome diverge significantly because of very different underlying assumptions about the nature of individual decision-making, collective action, and the roles of formal and informal institutions. In particular, they differ in the degree to which they emphasize individual decisions or social interaction, and formal rules and institutions imposed by third parties (e.g. the State, the market) or informal rules and norms devised and agreed upon by the participants themselves.

2. Normative standards

The second master frame sees establishing moral and legal standards that are clear and appropriate to risk management contexts as an underlying challenge for sharing responsibility. Moral and legal standards set out many of the fundamental rights and responsibilities in society. Moral, or ethical, standards set out what is deemed right and good, just and fair. Legal standards set out what actions are subject to sanction under the law. Importantly, these standards provide the rules that determine moral and legal obligations - and therefore also the moral blameworthiness and legal liabilities - of different parties in society. If these rules are unclear, contested, or somehow not appropriate or effective, then problems arise over how to judge where moral and legal responsibility should lie and how it should be distributed.

Research theories and approaches that reflect this master frame are found predominantly within moral philosophy, including normative and applied ethics (e.g. Dunfee and Strudler 2000; Zack 2006), religious thinking (e.g. Ratanakul 1999; Chester 2005; Solihu 2007) and jurisprudence or legal philosophy (e.g. Cane 2002).

While there is a relationship between moral and legal standards, the nature of this relationship is not straightforward or universally agreed. Most moral and legal thinkers would agree that "legal and moral responsibility overlap, but will diverge on some occasions" (Williams 2010). However, there are different schools of thought on the nature of the relationship. Two fundamentally different approaches are presented in jurisprudence, or legal philosophy, for example. Natural law theory states that "what is law must partly depend on moral criteria" while legal positivism contends that "what is law is determined only by the institutional facts internal to a legal system, facts that may or may not meet moral standards" (Sypnowich 2010). Alternative views also exist. For example, Cane (2002) asserts that:

... the relationship between law and morality is symbiotic. This is especially so in relation to complex concepts such as responsibility: moral ideas about responsibility are absorbed into the law, and the law influences the way people think about responsibility in the moral domain (p. 15-16).

A key problem found in studies that reflect this master frame is that mainstream foundations for determining moral and legal standards are not always appropriate for determining the obligations of different parties in the context of risk. According to some authors, mainstream thinking conceives responsibility too narrowly to be meaningful for more complex, uncertain, unpredictable and risky situations (Ladd 1991; Hansson 2009; Coeckelbergh 2010). For example, Coeckelbergh (2010) argues that traditional moral frameworks fail to account for the distributed, collective and partially uncontrollable nature of technological action and outcomes. Because of this, he claims

that “the traditional conception of responsibility ... is no longer adequate” (p. 3), and he calls for a “less harsh” conception of moral responsibilities that takes “lack of control, uncertainty, role conflicts, social dependence, and tragic choice” into account (p. 1, abstract). However, an alternative interpretation of this issue is that the unpredictable and complex nature of technological accidents creates an even greater moral obligation for corporations, governments and other stakeholders. This is reflected in calls to adopt a precautionary principle, or some variation of it, as “a significant way of reintroducing responsibility” (Giddens 1999: 9) to technological action (see also Myhr and Traavik 2002; Sandin 2006). It is also reflected through calls for greater emphasis on corporate social responsibility in risky industries (e.g. Shrivastava 1995).

Legal standards offered by existing legal systems are also far from straightforward in the context of risk management. Importantly, legal responsibilities may differ fundamentally in the same circumstances under different legal systems. One notable example of this is the different approaches to the issue of a ‘duty to rescue’ in common and civil law systems. In common law systems such as Australia and the United States, there is no general duty to rescue a stranger (Pardun 1997; Ashton 2009; Eburn 2010, p. 59), although there are often exceptions relating to specific professional roles such as doctors and ambulance personnel.² By contrast, in the civil law systems common in Europe ‘Good Samaritan’ statutes exist that impose a general duty to rescue or come to the aid of a stranger (Pardun 1997). Broadly speaking, the common law approach prioritises individual freedom and choice while the civil law approach prioritises humanitarian responsibilities. By contrast, Ashton (2009) provides a different perspective on the duty to rescue, claiming that the more narrow legal duties imposed under common law leaves “a large moral realm in which a citizen may choose to act heroically or simply to be an uninvolved bystander” (p. 71). He argues that “[h]eroic action loses its moral force when it is required by law” (p. 106) and that were an expanded duty to rescue to be introduced in common law systems it would mean “a lesser role for heroes as indicators of society’s nature and aspirations” (p. 96).

A number of studies highlight the limited ability of existing legal system to adequately deal with the distribution of legal responsibilities in scenarios that are dynamic, severe and/or complex in nature (e.g. Wells *et al.* 1999; Rothe *et al.* 2006; Kunreuther and Michel-Kerjan 2007; Mian and Bennett 2009; Low *et al.* 2010; Perry 2011). For example, Low *et al.* (2010) highlight potential legal liabilities for disaster response authorities in Australia arising from the use of Web 2.0. They stress that emerging liability issues will need to be addressed if this technology is to be used effectively in the future to enhance information-sharing for disaster response (and by extension responsibility-sharing also). Meanwhile, Kunreuther and Michel-Kerjan (2007) highlight potential liability issues for private insurers that provide protection to households and businesses against extreme hazard events. These issues stem from the high uncertainty surrounding the probability and consequences of loss under the influence of climate change.

In summary, according to the normative standards master frame existing mainstream, moral and legal standards can be unclear, contested or challenged by the uncertain, dynamic and complex conditions commonly encountered in risk management. This creates confusion and conflict over the moral and legal obligations of different parties and therefore about the foundations for guiding decisions about responsibility-sharing. The implied solution to this problem is to establish standards that are more appropriate to the conditions of risk management than existing systems. However, views on what these more appropriate standards would look like vary according to different positions regarding their philosophical foundations.

² The Northern Territory is an exception to this in Australia, where a general duty to assist is imposed under the criminal code Pardun, JT (1997) Good samaritan laws: A global perspective. *Loy. LA Int'l & Comp. LJ* **20**, 591..

3. Social contract

The third master frame focuses on the problem of determining an appropriate balance between the rights and responsibilities of citizens and the State. The State, through the authorities and activities of various departments and agencies, has traditionally had a significant role in risk management in most countries. Yet exactly what this role is, and to what degree the State may impose upon citizens' rights in the course of managing risk, are often contentious issues.

One notable example of this type of problem in Australia is the issue of determining people's right to live in extremely fire-prone areas *vis a vis* the responsibilities of governments to reduce people's exposure to bushfire risk. Does the Australian government have the right (and responsibility) to limit where people live in order to prevent them from being exposed to extreme bushfire risk? Or does this constitute undue interference by government with people's rights to take risks and choose where to live? Conversely, what are people's personal responsibilities with regard to reducing their own exposure to risk? According to this third master frame, a clear foundation for determining rights and responsibilities of citizens and the State needs to be established in order to make such decisions. However, a range of different foundations are proposed.

The division of rights and responsibilities between citizens and the State is one of the oldest and most fundamental concerns in political thinking, with roots in moral and political philosophy. Research theories and approaches that reflect this frame are normative, prescribing models of how these rights and responsibilities should be arranged from a moral standpoint.

The notion of a social contract is a fundamental one within this frame. There are different forms of social contract theory developed by key philosophers in the eighteenth century such as John Lock, Thomas Hobbes, Jean-Jacques Rousseau and, more recently, John Rawls. The core idea underpinning each of these social contract theories is that the justification for the State's authority to rule stems from the consent of the people it governs. In particular, people consent to give up some of their individual freedoms so that their lives may be better in an organized society than it would be in an unorganized ungoverned 'state of nature'. One of the key rationales for a social contract is that government can provide a greater degree of security (whether of life or property) than in a state of nature (Zack 2006; O'Brien *et al.* 2009; Pelling and Dill 2010). As O'Brien, Hayward and Berkes (2009) explain, "social contracts typically offer some form of mutual benefit and impose some mutual obligations or constraints. Citizens who are party to these agreements, for example, explicitly or implicitly accept obligations or responsibilities (paying taxes, voting, obeying rules and regulations, etc.) in return for benefits and protection by a state (e.g., maintaining order, fostering citizen wellbeing, and providing for education and health services)" (p. 2).

Problems arise when the mutual benefits and obligations that underpin the social contract are challenged or contested by groups in society. This often happens following disasters and crises – particularly extreme, catastrophic ones (Frankenfeld 1992; De Waal 1996; Bruce 2002; Pelling and Dill 2010). Experiences with disasters and crises can lead people to question the State's ability or willingness to provide security for its citizens and therefore the distribution of benefits and obligations that underpin the existing social contract. However, while this creates a crisis of legitimacy for governments, it may also present an opportunity to renegotiate values, structures and governance relationships in society (Pelling and Dill 2010). This issue is particularly pertinent today given that the incidence of extreme events is predicted to rise in many parts of the world under the influence of climate change. To what extent might this create crises of legitimacy for governments and contestation over political and social structures?

Political philosophers propose various foundations for determining the rights and responsibilities of citizens and the State and hence the foundations for a legitimate social contract. All of the different foundations have been drawn on in studies of risk management. For every position put forward, however, a counter-position also exists. For example, liberalism prioritises the liberties and rights of individual citizens and sees minimal leeway for government to curtail these in the pursuit of risk management (Lanre-Abass Bolatito 2010). However, communitarianism prioritises citizens' duties and responsibilities to society and accepts a greater degree of government involvement in encouraging or requiring citizens to fulfil these (Hughes 1996; Delanty 2002; Ruger 2006; Lanre-Abass Bolatito 2010). Meanwhile libertarianism holds that the State should minimize its infringement on individual liberties, emphasising people's rights to take risks (Dunfee and Strudler 2000; Ruger 2006), while paternalism argues that States may forcibly restrict individual liberties in order to protect people from harm (Weale 1978; New 1999). 'Soft' libertarian paternalism is also presented as something of a middle ground. Particularly influential in the UK and United States under the moniker of 'nudge theory', it suggests that States may seek to influence citizen's actions and choices for their own wellbeing and protection but not forcibly restrict their liberties (Sunstein and Thaler 2003; Mitchel 2005; Thaler and Sunstein 2008).

To sum up, according to the social contract master frame, sharing responsibility in risk management becomes problematic when the foundations for determining the rights and responsibilities of citizens and the State are contested or unclear. This can happen when the experience of a disaster or crisis challenges the foundations of the existing social contract. This frame therefore highlights the tension that is often inherent in conflicts over responsibility between freedom of individual choice and constraints or obligations that stem from being a part of a society and which are imposed or encouraged by the State. However, a range of political philosophical approaches provide different moral grounds for confronting this tension in risk management.

4. Governance

The fourth master frame also focuses on relationships between government and non-government sectors in society. However, unlike the third, social contract master frame, it is not normative. It does not lay out rules for how responsibilities should be arranged. Rather, it critiques the appropriateness and legitimacy of modern processes of governing, including the process of negotiating responsibilities. According to this master frame, a decline in the legitimacy of government has occurred under the social, political, economic, environmental and technological conditions found in modern, democratic societies. This has led to a fundamental restructuring of roles and responsibilities for governing that has created social conflict in many sectors, including risk management. In particular, this frame holds that responsibility is being inappropriately shifted (either in practice or in political discourse) away from government and towards the individuals and populations that are at-risk.

The concept of 'governance' has gained ground in political research since the 1980s and 1990s. Although many definitions abound, most views agree that "governance refers to the development of governing styles in which boundaries between and within public and private sectors have become blurred" (Stoker 1998, p. 17). According to one of its key theorists Rosenau (1995), governance "encompasses the activities of governments, but it also includes the many other channels through which "commands" flow in the form of goals framed, directives issued, and policies pursued" (p.14).

The governance concept signifies a qualitative shift in the way government and governing are ordered in modern democratic political systems (Rhodes 1996). Authors writing from a governance perspective claim that governing styles at many levels have moved away from a reliance on the formal processes of government towards an approach that involves greater interaction between

government and non-government stakeholders (Rosenau 1995). As Pellizoni (2004) emphasizes, this move has occurred in response to “the decline in the legitimacy and effectiveness of policy-making”, and it “entails a shift in the dominant approach to responsibility” (p. 542).

In the context of risk, the dominant shift in responsibility is most commonly portrayed as being away from government and towards the individuals and populations that are at-risk. Approaches that reflect this master frame criticise this, arguing that it overemphasises personal responsibilities and under-emphasises the responsibilities of parties, particularly government, which influence social structures that shape risk. This viewpoint is reflected, for example, in Handmer’s (2008) critique of assumptions that “flood problems are created by the location decisions of individuals” (e.g. people’s choices to live on a flood plain) (p. 531). He argues that “this approach ignores the whole land-use planning and building code system which tells people where they can and cannot build and under what conditions” (p. 531). By contrast, he claims that “the Australian urban, peri-urban and rural township landscape is the result of planning, land development and financiers, not individuals” (p. 532).

This master frame is reflected strongly in two theoretical approaches that attribute this shift in responsibility to different causes: the ‘risk society’ approach and governmentality theories.

According to the ‘risk society’ approach developed by Ulrich Beck (1992; 1999) and elaborated by Anthony Giddens (Giddens 1999; Ekberg 2007) this shift in responsibility is due to changes in conceptions of risks in modern societies. The risk society approach emphasizes increases in (perceived or measured) levels of human-made or technological risk and uncertainty in modern societies and a decline of public trust in the ability of science and government to deal with the consequences of this. In effect, new kinds of risks created by modernisation give rise to new forms of responsibility but existing institutional structures are unable to deal with this (Bulkeley 2001, p. 433). This has created an institutional crisis characterised by tension between society’s increasing dependence on scientific and technological experts and declining trust in abstract, expert systems (Giddens 1994). One outcome of these developments is “organized irresponsibility” (Beck 1999). New types of risk cannot be clearly attributed to the choices and actions of particular agents creating a crisis of accountability. Under these conditions, “responsibility for dangers is systematically offloaded by science and industry onto the lay public as their individual responsibility” (Bickerstaff and Walker 2002, p. 2177; Petts 2005). This process is termed “individualisation” (Beck 1992).

Governmentality theorists draw on the work of Michel Foucault (Rose *et al.* 2006; O’Malley 2008) to similarly argue that, at least rhetorically, responsibility is being shifted away from the State and towards people who are at-risk (which they call ‘responsibilization’) (Gilling 2001; Mythen and Walklate 2006; Kemshall and Wood 2007; Löwenheim 2007; Gray 2009; Ilcan 2009). In contrast to the risk society approach, governmentality theories attribute responsibilization to the rise of neoliberal political ideology in modern democratic political systems rather than society’s preoccupation with new types of risk (Garland 1997). Under neoliberal ideology, risk is framed as an outcome of private decisions made freely by rational individuals. Consequently, responsibility for citizen’s safety is viewed as resting with the individuals that are at-risk rather than the government agencies, private businesses or scientific organisations that contribute to identifying and managing risks. Governmentality theorists argue that under this influence an increasing number of policies and programs advocate for individuals to take on more personal responsibility for their own safety. However, they claim that this view overstates the degree of control that individuals have over their own risk and safety, and removes responsibility from the parties most able to influence the large-scale forces that also shape risk and safety in modern societies.

Both the risk society and governmentality approaches have been used in studies of risk management to critique processes of individualization or responsabilization across a range of sectors in countries including the UK, Canada, Australia, parts of Europe and the United States (see Ilcan 2009). Sectors include public health (Beck-Gernsheim 2000; Guttman and Ressler 2001), travel safety (Löwenheim 2007), nanotechnology (Fitzgerald and Rubin 2010), workplace safety (Gray 2009) and social policy (Kelly 2001; Kemshall 2008). However, critics argue that processes of individualization and responsabilization do not occur across all risk politics or risk management sectors, and hence the applicability of this frame must be assessed on a case by case basis (e.g. Bulkeley 2001).

In sum, the governance master frame holds that the responsibilities of government and non-government sectors are being fundamentally reconfigured in risk management under the shifting social, political, economic, environmental and technological conditions found in modern democratic societies. This has challenged the legitimacy and effectiveness of existing political institutions and created social conflict. A dominant trend associated with this has been the shifting of responsibility away from government and towards those at-risk—either rhetorically or in practice. This shift is criticized for overemphasising the responsibilities of those at-risk and under-emphasising the responsibilities of those parties able to influence social structures that shape risk. The solution to this problem would therefore involve a fundamental rethink about – and restructuring of - existing institutions and processes of governance.

5. Social capacity

The fifth master frame operates at the smaller scale of communities and social groups. It sees building social capacity amongst those at risk as a fundamental problem for sharing responsibility in risk management. Social groups and communities that have greater capacity to engage in social interaction are generally seen as better able to engage in collective action to reduce their own risk and to recover from risk events. Conversely, if social capacity is low, at-risk populations will be less able to coordinate and communicate to manage their own risk and will therefore tend to rely more heavily on external risk management agencies. This master frame therefore emphasises the need to build social capacity amongst those at-risk in order that communities can share responsibility for risk management with professional agencies, thus reducing people's susceptibility to harm. However, this master frame also draws attention to the fact that greater social capacity does not always translate into positive outcomes for risk management. It highlights the complex relationships between formal risk management institutions and informal social institutions that may either build or undermine social capacity.

Research theories and approaches that reflect this frame have their roots in social capital theories. The concept of social capital refers to the value of social interactions including “relations of trust, reciprocity, and exchange; the evolution of common rules; and the role of networks” (Adger 2003, p. 389). Social capital is widely regarded to be essential for enabling collective action (Adger 2003; Ostrom and Ahn 2009). According to Ostrom and Ahn (2009), it is “an attribute of individuals and of their relationships that enhance their ability to solve collective-action problems” (p. 20). Different types of social capital exist, which need to be mobilised at different times in order to support different types and stages of collective action. For example, Woolcock (2002) and others differentiate between bonding, bridging, and linking social capital. Bonding capital refers to “relations between family members, close friends and neighbours” (p. 23) while bridging capital refers to relations between “more distant associates and colleagues who have somewhat different demographic characteristics” (p. 23). Linking capital entails a “vertical dimension” (p. 23) that constitutes relations between parties with unequal power that include connections to formal political institutions (Szreter 2002). Each of these types of social capital fulfils particular functions that support collective action in different ways (Ostrom and Ahn 2009).

In the context of risk, greater levels of social capital are generally seen to enable communities and individuals to fare better in the face of risks and disasters by engaging in effective collective action (e.g. Murphy 2007). The concept of social capital also underpins more recent but increasingly influential concepts in risk and disaster studies such as social and community resilience, and adaptive capacity (Adger 2003; Pelling and High 2005; Berkes 2007; Norris *et al.* 2008). These concepts are associated with different research traditions but all share a focus on building the social capacity, variably conceived, that enables communities to fare better in the face of risks and disasters. However, while social capital is generally positioned as a crucial resource for resilience and adaptive capacity (Pelling and High 2005; Norris *et al.* 2008), greater social capital does not necessarily lead to greater adaptive capacity or community resilience (Minamoto 2010; Wolf *et al.* 2010). For example, Wolf *et al.* (2010) found that bonding social capital amongst the elderly in two UK cities contributed to their vulnerability (or low resilience) to heatwaves. Their social networks served to maintain shared perceptions that heatwaves were not a significant risk and to reinforce norms of independence and reluctance to ask for help. Because of this the authors argue that there is a “less than straightforward relationship between social capital, vulnerability reduction and increasing resilience” (p.51). They also suggest that greater bridging social capital may reduce vulnerability in this case by giving people access to counter-narratives and critiques of the prevailing perceptions.

This “less than straightforward relationship” identified by Wolf *et al.* (2010) reflects a recognized ‘dark side’ of social capital (Woolcock 1998). Increases in social capital do not always lead to positive outcomes. As in the above example, social capital may serve to perpetuate behaviours and attitudes that increase risk (see also Patterson *et al.* 2010). Alternatively, it may enable particular groups to capture the benefits of collective action at the expense of others, permit some group members to free-ride on the communal efforts of others, or maintain socially undesirable groups such as gangs (Carson 2004; Nakagawa and Shaw 2004; Mladovsky and Mossialos 2008; Ostrom and Ahn 2010). The concept of social capital may also be used by powerful elites to justify “social engineering” (Murphy 2007).

While studies that reflect this master frame do not always focus directly on responsibility-sharing issues, the importance of this sharing is nonetheless heavily implied. A goal that underlies much of this work is to increase the self-reliance of communities and reduce their dependence on external assistance (and hence their vulnerability to negative outcomes in the face of risks). As Nakagawa and Shaw (2004) explain “ultimately the community and/or individual should be responsible for their own safety... To mobilize each member of the community in this collective action (community development), social capital is a crucial need” (p. 12). Along a different line, social capital theorist Coleman (2002) explicitly includes “obligations and expectations and trustworthiness of structures” as important forms of social capital that are effectively held in credit, which a person can “call in if necessary” (p.111).

Given the important role of the State in risk management, interactions between formal disaster management institutions and communities are a key focus within studies reflecting this frame. Some, show how formal institutions can strengthen community capacity to manage risk (e.g. Kapucu 2006; Haptom and Ruys 2007; Stewart *et al.* 2009), and how greater attention to social capital can also strengthen formal disaster responses (Baker and Refsgaard 2007). Others reveal how formal risk management institutions can undermine community resilience that is built up through informal social interaction (Minamoto 2010; Patterson *et al.* 2010). Yet this is one area that social capital theory is open to criticism. As Mohan and Mohan (2002:195) emphasise, traditional social capital theory “neglects the ways in which social capital can be created (and destroyed) by structural forces and institutions” (see also Fine 2002; Murphy 2007). One position on this issue

asserts that government interventions in the form of welfare or aid may “crowd out” social capital by reducing the incentives people have for engaging in social networks that reduce risk (Heemskerk *et al.* 2004; Ostrom 2005). Some authors argue that this encourages increased dependence on State agencies. According to Deci *et al.* (1999:659) for example, “reward contingencies undermine people's taking responsibility for motivating or regulating themselves”. This suggests that withdrawal of government support may foster greater social capital and community resilience. However, other authors argue that the State has a critical role in establishing conditions that support the growth of social capital, and in supplementing social capital when disasters exceed coping thresholds (Heemskerk *et al.* 2004; Murphy 2007).

In sum, the social capacity master frame highlights the importance of community participation in risk management, and thus the sharing of responsibility between State risk management agencies and communities at-risk. However, in order that communities are able to share responsibility with the State, they must have social capacity to engage in collective action for risk management in the form of supportive social interactions. The underlying problem for sharing responsibility is therefore how to build up this social capacity. The solution to this problem is not straightforward. It may involve fostering self-reliance and discouraging overreliance on State risk management agencies. However, it is also likely to involve a key role for the State in establishing conditions in which social capital, adaptive capacity and community resilience can flourish.

6. Attribution

The sixth master frame is primarily concerned with the way individuals perceive and attribute cause and blame for the negative consequences of disasters after they occur. It highlights two sets of important factors that shape people's attributions: people's judgments about the degree of choice and control the involved parties had, and the influence of individual, social, and cultural styles and biases in the way cause and blame are attributed. This frame emphasizes how people's perceptions of a situation may strongly influence their judgements of other parties' responsibilities as well as their own in relation to risk management. These perceptions will in turn influence people's behaviour and attitudes in ways that can complicate responsibility-sharing and intensify social conflict after a risk event.

This master frame is most strongly reflected by attribution theory. Attribution theory is concerned with studying “perceived causation” (Kelley and Michela 1980, p. 458) or “the judgment of why a particular incident occurred” (Weiner 1972, p. 203). Most closely associated with social psychology, it essentially aims to understand how people find answers to ‘why’ questions (Weiner 1985, 2010), such as ‘why did I fail the exam?’ or ‘why did that car crash happen?’ All types of attribution theory, of which there are many, rest on a central principle: that human beings have a strong need to render the world understandable and controllable (Weiner 2010). This need is particularly compelling when events occur that are unexpected and negative (Weiner 2006, p.4). This inclination compels people to find ways to understand why the event occurred, and why people involved in the event behaved as they did. This in turn influences how people interpret human behaviour and react to the behaviour (Kelley and Michela 1980). Attribution theory and risk management therefore have a natural alignment, given that risk events are unexpected and have negative outcomes.

A key focus of attribution theory that concerns responsibility-sharing is examining how people assign causality between internal dispositional characteristics of the people involved (e.g. personal decisions, skills, values) and external forces (e.g. natural hazards, macroeconomic conditions, availability of information). One important factor found to influence these assignments is how observers judge what degree of control people (either others or themselves) had over both the internal and external causes of an event. In the context of wildfire/bushfire, for example, Kumagai

et al. (2004) found that property owners who 'lost their sense of control' (p. 122) were more likely to blame others, particularly fire authorities, for the damage incurred to properties compared to those owners who maintained a strong sense of personal control throughout the event.

One example of how attribution theory positions this issue is Weiner's (1995, 2006) extended model of attribution, which emphasizes relationships between perceptions of controllability and judgements of responsibility. Weiner highlights that "inferences of responsibility requires that the causal agent have freedom of choice, or free will" (Weiner 2006, p.32). According to his model, when actors are perceived to have a high degree of control over events as well as to intend them to happen, they are judged to be more responsible for the outcomes. Conversely, a lack of control and absence of intent attenuates judgements of responsibility. Mitigating factors that serve a higher moral goal may also intervene to absolve actors of blame even when they are deemed to have had control over the event. For example, a student who fails an exam because of a lack of effort would be held less responsible for the failure if the reason they did not study for it was that they had been busy caring for a sick parent (Weiner, 2006, p.33). Consequently, 'full responsibility inferences require internal and controllable causality, intention, and the absence of mitigating circumstances' (Weiner 2006, p.33).

A second set of factors highlighted in attribution theory as influences on perceptions and judgements of causality and blame is attributional styles and biases. The effect of these styles and biases is to sway or skew what might otherwise be 'rational' attributions (Crittenden 1983). Attributional styles are "individual and group differences in attributional tendencies" (Crittenden 1983:441). Studies show that attributional styles may vary in relatively predictable ways in accordance with group or individual traits. For example, in a view that reflects aspects of frame theory, Weiner (2006:71-9) argues that when it comes to assessments of the causes of poverty "ideology affects causal perceptions, or social reality, in the generally anticipated manner. Conservatives fault the poor for poverty (i.e., blame the victim), whereas liberals place the fault with society".

Attribution studies have also identified a range of perceptual biases in the way people make attributions. Two examples are biases stemming from the 'actor-observer (or self-other) effect' and 'belief in a just world'. The actor-observer effect refers to a tendency for people to attribute other people's behaviour to internal factors but to attribute their own behaviour to external factors (e.g. she failed the exam because she didn't work hard enough but I failed because I was too busy to study and the teacher was not very good). 'Belief in a just world' is a bias that stems from people's desire to believe that 'good things happen to good people' and 'bad things happen to bad people'.

Attribution theory has been critiqued for not adequately addressing the way perceived causation is influenced by social interaction (DeJoy 1994), organizational obligations (Bickerstaff and Walker 2002) and other contextual conditions. For this reason it has been labelled by some sociologists as being 'inadequately social' (Crittenden 1989), with some authors suggested that attribution theories may not be as universal as has been claimed in the past (Manusov and Spitzberg 2008). For example, exceptions have been found for most identified attributional biases (Graham 1991; Hogg and Vaughan 2005, p.93-99).

A final approach that reflects this master frame draws heavily on attribution theories to focus more particularly on assisting crisis managers to protect an organization's reputation following a crisis event. Called the situation crisis communication theory (SCCT) and devised by Coombs (2007a, 2007b), it helps managers to determine how stakeholders and consumers have perceived a crisis and how this will affect people's crisis responses and opinions of the organization. SCCT holds that three key factors shape 'reputational threat' following a crisis: 1) initial crisis responsibility - to what

extent it was seen to be caused by the organization; 2) crisis history – whether the organization has had similar crises in the past; 3) relationship history – how well/poorly the organization has treated stakeholders in other contexts in the past. For example, Jeong (2009) drew on SCCT to examine how information about the distinctiveness of an oil spill event in a corporation's history altered observers' judgements of the corporation's internal responsibility for the spill.

In sum, the attribution master frame sees the influence of individual perceptions of cause and blame on people's risk management behaviours and attitudes as a potential problem for sharing responsibility. It holds that these perceptions can complicate this sharing and create conflict over which parties are seen to have responsibility. It may also impact the extent to which people feel personally responsible for particular risk management activities. This frame highlights a range of factors that influence these perceptions, such as access to information, sense of personal control, organizational reputations, historical relationships, and judgments of others' intentions and degree of control. Studies that reflect this frame do not focus heavily on how to address the impacts of causal perceptions on risk management. However, some potential options are implied. One option may be for professional risk managers to shape people's perceptions through the use of information, although this approach could be charged with being manipulative. Another more transparent option might be for agencies to focus on relationship-building and empowering people to maintain a strong sense of personal control in the face of risks.

7. Sociocultural context

According to the seventh master frame, acknowledging and responding to the dynamic ways that societies make sense of risk and responsibility in particular sociocultural contexts is a challenge for sharing responsibility in risk management. Whereas the attribution master frame focuses primarily on how risk is conceived at the individual level, the sociocultural context master frame is explicitly concerned with how risk is conceived at the social level. However, both these approaches move the lens of analysis from the perspective of an external, objective observer to a view that is internal and situated, grounded in particular experiences and contexts. The sociocultural context master frame in particular holds that the context in which risk management takes place matters significantly for the way responsibility is understood as an idea and is shared in practice.

This seventh master frame is reflected strongly in sociocultural perspectives of risk. These are a collection of theories and approaches that are concerned with the way that "the causes and consequences of risks are mediated through social processes" (Renn 1998, p. 55). Although varied, all of these perspectives adopt, to greater or lesser degrees, a social constructivist position. For them, the way that people understand and experience risk is mediated by shared belief systems, norms and ethical frameworks (Lupton 1999a, p. 29; Taylor-Gooby and Zinn 2006). Because of its constructed nature, the meaning of risk is not stable, but changes across social and cultural contexts and over time. These studies highlight the roles of relationships, trust, power, agency, efficacy and processes of communication and deliberation in giving meaning to risk and responsibility.

While these perspectives focus centrally on the social construction of risk, the associated social construction of responsibility features strongly in many of them. Given their close connection (see background section) risk and responsibility may be conceived as being co-constructed. One of the theories that most directly considers the co-construction of risk and responsibility is the cultural theory (CT) of Mary Douglas (1983; 1992), and also Dake (1991) and Rayner (1987; 1992). According to CT, people's perceptions of risk vary according to a set of relatively predefined world views. Mary Douglas' work, in particular, highlights the way that different world views shape peoples' views on responsibility and blame. As Lupton (1999b) explains, Douglas "drew attention to the use of the concept of risk as a means in contemporary western societies of maintaining

cultural boundaries. She sees risk as acting primarily as a locus of blame, in which ‘risk’ groups or institutions are singled out as dangerous” (p. 3). Studies have used CT to examine how world views influence peoples’ judgements of where responsibility for risk management lies. For example, Pendergraft (1998) drew on CT to explain differences in US citizens’ judgements of what is “fair and right” with respect to climate change, while Murphy (2001) used CT to examine how competing policy factions framed tobacco advertising issues in different ways in the United States.

A second approach within this family is the social amplification of risk (SARF) framework (Kasperson *et al.* 1988; Renn *et al.* 1992; Kasperson and Kasperson 1996). It examines how social processes mediate peoples’ perceptions of risk and responsibility. It sees risk as *both* “objective and a social construction” (Renn 1998, p. 63). It focuses on risk communication, examining how psychological, social, cultural and political factors work to amplify or attenuate peoples’ perceptions of a risk that is being communicated. Studies that draw on SARF have highlighted how people’s perceptions of a risk may be attenuated and their acceptance of the risk increased when a sociocultural construction transfers or off-loads responsibility for the risk to others, such as to government authorities or scientists (e.g. Haynes *et al.* 2008). Alternatively, legal and regulatory systems that allow parties to evade responsibility for contributing to an event or outcome can amplify public risk perceptions (Leschine 2002).

A third set of approaches reflecting this frame adopt a social constructivist position to examine how citizens negotiate personal, social and governmental responsibilities for risk management in relation to changing citizen-state relationships (Gill 1994; Harrison *et al.* 1996; Bickerstaff and Walker 2002; Halpin and Guilfoyle 2004; Petts 2005; Bickerstaff *et al.* 2008; Bornat and Bytheway 2010). For example, Bickerstaff *et al.* (2008) found that, in regards to a range of different risks, people’s sense of personal responsibility and active engagement with risk issues is negotiated “in relation to perceptions of other responsible agents - most importantly, institutional actors - and of whether those agents are competent and trustworthy and can be expected to fulfil their duty of care” (p.1327). Along a similar line, Freudenberg (1993) examines people’s perceptions of government and professional responsibilities using the concept of recreancy. Recreancy refers to the “behaviors of persons and/or of institutions that hold positions of trust, agency, responsibility, or fiduciary or other forms of broadly expected obligations to the collectivity, but that behave in a manner that fails to fulfil the obligations or merit the trust” (p. 916-917).

This third set of approaches share some emphasis with the social contract and governance master frames. However, they also differ qualitatively from both of these. The social contract master frame is normative, prescribing rules rather than examining how rights and responsibilities are constructed in particular contexts. Meanwhile the governance master frame focuses primarily on the changing socio-structural conditions of responsibility relations and only secondarily on the social processes of perceiving and constructing risk and responsibility under these conditions in everyday life that is emphasized by social constructivist perspectives (see Lupton 1999a, p. 25-7).

Finally, two further examples of approaches that reflect this master frame are studies that examine social discourses of responsibility and blame (Lupton 1993; Bickerstaff and Walker 2002; Kerr 2003; Whittaker and Mercer 2004; Ockwell and Rydin 2006; Bainbridge and Galloway 2010), and those that examine the way these discourses are framed using frame analysis (Wakefield *et al.* 2003; Fitzgerald and Rubin 2010; Wilkinson *et al.* 2010; Feindt and Kleinschmit 2011). These studies show how multiple discourses and framings exist in society at the same time. This can create power struggles over the meanings of risk, perceptions of blame, and expectations of roles and obligations, some of which impact policy directions.

In sum, the sociocultural context master frame draws attention to the connection between risk and responsibility, and the way that these concepts are constructed, negotiated and mediated through social and cultural processes. It emphasises the importance of understanding what these concepts mean from the point of view of the people experiencing or conceiving them, and the way that belief systems, norms and values shape this meaning. Therefore, according to this perspective, sociocultural context shapes how people understand and make sense of the way responsibility for risk management is or should be shared. Unlike the attribution master frame, the influence of such factors are not seen as biases that need to be corrected, but as processes that are inherent to how people make sense of their worlds and of living with risk. Therefore, the influence of sociocultural context is not seen as a problem to be fixed. Rather, it is an important and inherent part of the process of sharing responsibility that needs to be understood and engaged with. This view therefore suggests that in order to share responsibility more effectively, an understanding of the social meaning of risk and responsibility in particular contexts, places and times needs to be developed. This would involve giving greater attention to processes of ongoing deliberation and dialogue, and relationship-building. Most importantly, it would involve explicitly recognising that multiple perspectives exist in society at the same time about sharing responsibility, and that these perspectives need to be sought out, understood, and engaged with actively.

8. Distribution

The eighth master frame emphasises how responsibility is to some extent contingent on the way that power and resource access are distributed within a society. It draws attention to the way that inequality in this distribution makes some people more vulnerable than others in the face of risks. It therefore reveals limits to sharing responsibility, showing how inequality and vulnerability may constrain the capacity of some people and social groups to engage in – and hence to share responsibility for – risk management. However, it also highlights how people may actively seek to work around such limits. Moreover, it holds that parties that do have the power and resources to influence structural conditions that create inequality and vulnerability have a moral obligation to do so.

The research theories and approaches that reflect this frame draw on a long tradition of social and cultural critique. Four key examples are distributive justice perspectives, critical studies of marginalization and social exclusion, vulnerability research and – along a different vein – Nicolas Luhmann’s distinction between risk and danger.

Distributive justice (also referred to as ‘social justice’) refers to principles for allocating benefits and burdens within society (Dunfee and Strudler 2000; Ikeme 2003; Zack 2006; Lamont and Favor 2008). It is therefore primarily concerned with moral obligations arising from inequality. According to Lamont and Favor (2008), principles of distributive justice “can vary in what is subject to distribution (income, wealth, opportunities, jobs, welfare, utility, etc.); in the nature of the subjects of the distribution (natural persons, groups of persons, reference classes, etc.); and on what basis distribution should be made (equality, maximization, according to individual characteristics, according to free transactions, etc.)” Moral theories of distributive justice are invoked to examine how the benefits and burdens of risk are distributed (or should be distributed) in a given scenario (Parks and Roberts 2006; Johnson *et al.* 2007; Ash 2010; Ferretti 2010; Hermansson 2010; Mackie 2010). For example, Johnson, Penning-Rowell and Parker (2007) drew on social justice models to examine the fairness of decision-making processes in flood risk management in England.

Critical studies of marginalisation and social exclusion provide a counterargument to the processes of individualization and responsabilization identified by governance theorists Beck, Giddens, Foucault and others (see section 4.5). These studies expose constraints on people’s actions that

suggest limits to personal responsibility, and warn against unfairly blaming marginalised people for plights over which they may have little control (Powell 2008; Schmidt 2009; Stuvøy 2010). However, some approaches also bring attention to the ways that people may act to work around their constraints (Hansen *et al.* 2002; Flint and Luloff 2005). Critical perspectives also emphasize that these constraints give rise to moral obligation for those in society who have the power to reduce structural conditions underlying marginalization and social exclusion. However, as Tierney (2007) notes, there is not a strong tradition of using critical social theories to examine risk, hazards and disasters, and there is much scope for further critical analysis.

Vulnerability research has emerged relatively recently and the most abundant research has been in the area of global environmental change. It has been influenced by some critical theories as well as risk/hazard analysis (Adger 2006). Different conceptions of vulnerability exist in research literature, but more critically-oriented research increasingly focuses on vulnerability as “a state that exists within a system before it encounters a hazard event” (Brooks 2003, p. 3). The concept of vulnerability also has strong connections to those of adaptation and resilience, although the relationships between them are conceived differently amongst various research communities and authors (see for example Brooks 2003; Gallopín 2006; Smit and Wandel 2006). In essence, vulnerability is seen to stem from the absence or erosion of resilience, including a lack of adaptive capacity (Adger 2006).

Vulnerability research that highlights the state of the system before it is impacted by a hazard brings attention to the structural factors that increase people’s susceptibility to harm and loss when a specific hazard occurs. In contrast to critical studies of marginalisation and social exclusion, vulnerability research focuses comparatively more attention on identifying specific causes of vulnerability in order to support actions to reduce it than on critiquing the underlying socio-structural determinants of vulnerability or marginalisation. However, some branches of vulnerability research emphasize social justice issues and the moral responsibility of those with power to influence social structures to reduce people’s vulnerability and remove obstacles to resilience and adaptation (Cutter and Emrich 2006; Dow *et al.* 2006; Donner and Rodríguez 2008; Paavola 2008; Tompkins *et al.* 2008; Mertz *et al.* 2009). For McEntire (2005), “perhaps the most significant reason why scholarship and emergency management policy are currently floundering is because we still fail to understand and accept responsibility for the impact of vulnerability in disasters.” Some vulnerability studies examine government agency responsibilities to prepare and protect people who are seen to be particularly vulnerable to harm or loss in collective risk scenarios (Wingate *et al.* 2007; Aldrich and Benson 2008; Eisenman *et al.* 2009). Others analyse the impacts of risk shifting and redistribution within communities and society (Lebel *et al.* 2007; Collins 2008). This occurs when parties that have access to more power and resources in society undertake actions to reduce their own risk in ways that result in increases in the risk of others that are more vulnerable. Often, this is done without the consent of those who experience increased risk. Again, this has implications for social responsibilities amongst members of society and risk management frameworks.

Luhmann’s (1993, 2000) distinction between risk (“attributed to decisions made”) and danger (“attributed to an external factor”) outlined on page 20 is another approach that reflects this master frame. He emphasizes that the distinction between risks and dangers is largely a social construction. Modern preoccupation with risk means that dangers are increasingly reframed as risks, which carry with them judgements of greater personal responsibility (Luhmann 2000). Expanding on Luhmann’s position, Sapountsaki (2010) argues that risks have the possibility of a beneficial outcome, whereas dangers do not. Hence people may seek to take risks but transfer dangers. He asks “How to halt danger diffusion and what conditions to impose on risk-takers to

make the decision of risk-undertaking and danger-transferring harder and socially responsible?" (p. 426)

To summarise, the distribution master frame is a critical perspective that exposes structural limitations and barriers to sharing responsibility which stem from inequality and vulnerability. In particular, it emphasises how resources and power are not equally distributed in society and the impact this may have on people's ability to make decisions about and respond to risk. It provides a critical and corrective counter narrative to some perspectives highlighted by the social capacity and governance master frames. First, it warns against uncritically emphasising the need for communities and individuals to take greater responsibility for their safety and to be more self-reliant (social capacity master frame) without also giving attention to the need to remove structural limitations and barriers that may prevent them from being able to do this. It also lends strong support to the critiques of individualisation and responsabilization by governance theorists (governance master frame) by exposing potential dangers of these trends. While this master frame is more concerned with critiquing than proposing solutions, it does suggest some ways forward for sharing responsibility. In particular, it indicates ways that people, groups and communities may actively seek to work around or reduce the impact of the barriers and limitations they face. More importantly, however, it argues that parties with the capacity to influence structural conditions that create inequality and vulnerability have a responsibility to actively engage in processes to reduce or remove the limitations and barriers these structures may impose.

9. Practice

The ninth master frame is concerned with how groups of parties can coordinate and collaborate to share responsibility in practice. It highlights the task of devising structures and processes to guide how groups work together as crucial for the way responsibility is shared in risk management. It shares a focus on collective action with the free-riding master frame. However, while the social dilemma master frame focuses on what is seen as an inherent problem underlying collective action, the practice master frame is more positive and enabling in outlook, being concerned with understanding and developing conditions that enable effective group interaction and coordination. Rather than theorizing about fundamental and generalised features of group interaction as social dilemma theories do, theories reflecting the practice master frame are more concerned with particular settings, and therefore are more substantive and contextualised in orientation.

Reflecting its substantive orientation, the theories and approaches that reflect this master frame are a somewhat wide-ranging and disparate group. They therefore approach this issue from a range of different directions. Three illustrative approaches that are prevalent in studies of risk management are: good governance mechanisms (including risk governance), sociological studies of crisis management, and theorising about policy mainstreaming. However, many other approaches also exist, particularly in the fields of organizational, management and public administration research.

Good governance approaches draw on the ideas underpinning governance theories to examine mechanisms for putting 'good governance' into practice (e.g. Weiss 2000; Lewis and Mioch 2005; Aguilar and Montiel 2011). These frameworks are not concerned with analysing changes in the structure of governing as are the theories of the governance master frame but with the policy, regulatory and management arrangements that can support 'good' governance practices and hence the sharing of responsibilities between governmental and non-governmental actors. In general, good governance principles emphasize participatory decision-making, accountability and transparency. According to Lewis (2005) "good governance is a vehicle for authorities, both state and local, private sector and media, together with civil society to participate, contribute, and

articulate their interests and priorities, reconcile their differences, and exercise their political rights and civil liberties, as well as their obligations and responsibilities” (p. 50).

These ideas have been picked up in a number of risk-related fields, such as crisis management and public administration. De Marchi (2003) argues that “changes in the conception of how to deal with risk issues” (p. 173) has led to the rise of “risk governance.” As Renn (2008b) explains, this “involves the ‘translation’ of the substance and core principles of governance to the context of risk and risk-related decision-making” (p. 8). The concept of risk governance is used to propose participatory approaches to the management of risks associated predominantly with new technologies (Renn and Roco 2006; Chilvers 2007; Kheifets *et al.* 2010).

Other studies draw on the broad concept of governance to examine - or make a case for - particular mechanisms for good governance in disaster management (Trim 2004; Ahrens and Rudolph 2006; Aldunce and León 2007; Abel *et al.* 2011). A different set of studies does not explicitly draw on good governance principles, but nonetheless focuses on examining management approaches that advance practices that are associated with good governance principles like participatory decision-making (Chen *et al.* 2006; Bajek *et al.* 2008).

Sociological studies of crisis management also reflect principles of good governance but focus on processes and people at the micro-level of actor networks rather than on structural and regulatory arrangements (Drabek 2007). These studies highlight the roles of leadership and networks as well as processes of negotiating, coordinating, collaborating and building consensus, all of which shape responsibility-sharing at small scales. They therefore also have strong conceptual linkages to social capital theories through their mutual concern with social interaction (see the social capacity master frame). One example is a study by Waugh and Streib (2006) that examined the case of Hurricane Katrina to explore “whether command and control systems are appropriate in dealing with catastrophic disasters in which authority is shared, responsibility is dispersed, resources are scattered, and collaborative processes are essential” (p. 131). While some studies examine collaboration within communities, including the roles of non-government organizations and local governments (e.g. Simo and Bies 2007), others focus on examining interagency collaboration and interoperability for disaster and crisis management (e.g. Palm and Ramsell 2007; McGuire and Silvia 2010; Horwath and Morrison 2011). These studies show how operational, technical and logistical issues shape the way agencies and agency personnel work together, including the influence of the crisis context, leadership styles, geography, and resource access.

The third approach directly considers the process of expanding responsibility for addressing complex issues across government agencies in multiple policy sectors. This is a key focus of recent theorizing about policy mainstreaming (also referred to as ‘joined-up government’, ‘whole-of-government approach’ or ‘integrated government’). Policy integration is increasingly studied as an important process for addressing complex responsibility-sharing issues in areas such as environmental management (Jacob and Volkery 2004; Ross and Dovers 2008; Nilsson *et al.* 2009), climate change (Urwin and Jordan 2008; Ahmad 2009), emergency/disaster management (Jarman and Kouzmin 1994; Schipper and Pelling 2006), food security (Barling *et al.* 2002), and public safety (McGhee 2003). Policy mainstreaming formally widens the responsibility to achieve policy outcomes to a greater number of parties in order to address cross-sectoral issues more effectively (Schipper and Pelling 2006). In theory and when done well, mainstreaming can improve governance arrangements, reduce conflict, resolve ambiguities in responsibilities, and foster partnerships to improve policy outcomes. Potential downsides of mainstreaming may include diluting the status of the mainstreamed issue (Ross and Dovers 2008), supplanting alternative (and possibly less difficult) strategies for achieving the same goals (Sainsbury and Bergqvist 2009), and deteriorating into symbolic rather than effective policy making (Bührs 2002). There are also considerable barriers to mainstreaming, such as developing strong leadership, cultural resistance

in organizations, complex communication requirements, resourcing and a lack of knowledge or models to guide mainstreaming (Ross and Dovers 2008).

The practice master frame therefore draws attention to the micro-level structures and processes that shape how groups of various kinds work together to manage risk. It is concerned with understanding and developing conditions that support groups to work effectively together to achieve common goals. Key themes in research reflecting this master frame are collaboration, coordination, cooperation, interoperability and mainstreaming. This master frame is focused on the 'nuts and bolts' level of sharing responsibility amongst parties in particular settings rather than on the more abstract level of 'grand' theorising. The approaches and solutions for sharing responsibility in practice revealed through this master frame are varied and numerous. However, most emphasise processes such as communication, learning, participatory decision-making, flexibility, accountability and transparency. They tend to call for intensive stakeholder engagement and to raise questions about the suitability of rigid, 'command-and-control' style management frameworks.

10. Complex systems

The tenth and final master frame highlights the emergent and dynamic nature of sharing responsibility within complex systems that are characterised by a high degree of uncertainty. It recognises that complex problems require complex solutions. It explicitly warns against framing wicked problems too narrowly, emphasising the need to consider the whole risk management system in order to address complex issues effectively. It has similarities with some theories that reflect the normative standards master frame that see existing moral and legal systems as inappropriate for scenarios of high risk and uncertainty. Along this line, the complex systems master frame holds that under conditions of uncertainty, complexity and change, management approaches need to be flexible rather than adhere to fixed, rigid rules.

Two examples of approaches that reflect the complex systems master frame are the study of high risk socio-technical systems and studies that draw directly on complexity theory. In socio-technical systems, "social, organisational, and technical processes interact in a dynamic manner" (Celik and Corbacioglu 2010, p. 139). Studies of socio-technical systems draw on a range of organizational theories such as theories of 'normal accidents' (Perrow 1999), 'man-made disasters' (Pidgeon and O'Leary 2000) and 'high reliability organizations' (LaPorte and Consolini 1991) to examine interactions between people and technology, particularly in high risk industries. Amongst other things, they draw attention to organizational contributions to system failures and their prevention in contexts such as aviation and nuclear power (see for example Hovden *et al.* 2010; Lofquist 2010). These studies also consider other organizational issues related to responsibility-sharing such as coordination to share knowledge and communicate, the impact of blame on organizational learning (see particularly Pidgeon and O'Leary 2000), and the benefits of redundancy of organizational roles and information sources (e.g. organizational resilience).

Complexity theory "focuses on multiple interactions and context rather than on single cause-effect mechanisms" (Litaker *et al.* 2006). According to Celik and Corbacioglu (2010), complexity theory highlights "the emergence, development, and evolution of new structures and patterns" and the "inter-relationships among and interconnectivity of elements within a system and between a system and its environment" (p. 138). For example, they draw on complexity theory to analyse the use of information and communications systems to respond to two earthquakes in Turkey. They show that the responsibilities of multiple agencies change over time to "create an emergent and complex system in response to disasters" and conclude that the "traditional, bureaucratic organisational structure based on linear assumptions is not capable of feeding backwards and forwards necessary information to critical actors" under complex crisis conditions (p. 151). Complexity theory

has also underpinned examinations of complex, multi-agency risk management in other complex contexts, including child protection (Stevens and Cox 2008), healthcare delivery (Litaker et al. 2006), crisis management (Farazmand 2007), and risk/hazards management (Amendola *et al.* 2005; Assmuth and Hildén 2008).

For the complex systems master frame, dealing with the complex, uncertain and dynamic nature of crises, emergencies and disasters is a fundamental challenge when it comes to sharing responsibility in risk management. Yet despite its explicit focus on complex, wicked problems, this master frame has only periodically been used in a direct way to examine responsibility-sharing for risk management and there is much scope to draw from it more heavily. It highlights the importance of learning-by-doing (e.g. trial and error) and adjusting policies and management approaches progressively in response to new learning. It also emphasises the importance of particular organizational qualities such as role redundancy, independence, responsiveness, and communication flow. In this respect, it shares some common themes with the practice master frame, which similarly questions overly rigid organizational and managerial structures.

3.4 Conclusions

The ten master frames identified in this review are summarised over page in Table 3.4. Importantly, none of these master frames can be considered the inherently 'best' way of understanding the challenges of sharing responsibility in Australian disaster management. Rather, as each of the master frames draw attention to potentially salient issues, each of them has merit as a way of approaching this area of research. As Handmer and Dovers (2007) suggested in the context of disaster management, "how we define and frame problems will circumscribe our search for solutions ... As a result, it is useful to examine risk using multiple framings" (p. 83). This view is supported by literature on wicked problems (Rittel and Webber 1973, see also section 1).

The ten master frames provide a pluralistic conceptual framework that encompasses multiple ways of understanding the problem and multiple ideas about solving it. They therefore present a guiding framework that will be used to orient subsequent stage of the *Sharing Responsibility* project. This is not to say that that all of the ten master frames described here are necessarily equally valuable for the project, nor that each will be drawn on by the end of it. However, beginning an analysis with each of these different perspectives in mind can help to avoid the persistent tendency—in both research and practice—to frame wicked problems too narrowly.

Table 3.4: Overview of the ten master frames

Master frame	The underlying challenge	Facets of responsibility emphasized	Theories and approaches reflecting this frame
1. Social dilemma	Overcoming tensions between private, short-term gains and collective, long-term benefits in collective action	Freedom and constraint, relationships	Collective action theories (rational choice-based and behavioural), public goods problems, free-riding, tragedy of the commons, social traps, tyranny of small decisions, social loafing, moral hazards, externalities, social network theory
2. Normative standards	Establishing clear and appropriate moral and legal standards for determining obligations and assessing accountability	Obligation; accountability; relationships	Normative ethics; applied ethics; religious thinking; jurisprudence; corporate social responsibility
3. Social contract	Determining an appropriate balance in the rights and responsibilities of citizens and the State	Obligations, freedom and constraint	Political philosophy, e.g. social contract theory, liberalism, communitarianism, libertarianism, paternalism, 'soft' paternalism/ 'nudge theory'
4. Governance	Forming appropriate and legitimate decision-making processes for negotiating responsibilities	Relationships, trustworthiness	Risk society, governmentality theories, global governance
5. Social capacity	Building social capacity and resilience amongst those at-risk	Capacity, trustworthiness, relationships	Social capital theories, resilience thinking
6. Attribution	Understanding and influencing styles and biases in the way people attribute cause and blame	Accountability, causality	Attribution theory, situation crisis communication theory (SCCT)
7. Sociocultural context	Acknowledging and responding to the ways risk and responsibility are understood and valued in particular sociocultural contexts	Obligations, relationships	Social constructivism, socio-cultural perspectives of risk e.g. cultural theory, social amplification of risk (SARF), Freudenberg's 'recreancy', discourse analysis, frame analysis
8. Distribution	Reducing inequality and vulnerability in the distribution of resources and power to manage risk	Freedom and constraint, capacity	Distributive justice perspectives, critical studies of marginalization and social exclusion, vulnerability research, Luhmann's social theory of risk and danger
9. Practice	Devising structures and processes to work together effectively in practice	Relationships, trustworthiness	Good governance, risk governance, sociological theories of group behaviour, coordination amongst actors in crisis management and public administration, policy mainstreaming
10. Complex systems	Confronting emergence and uncertainty in complex, dynamic risk management systems	Causality, relationships	'Normal accidents', 'manmade disasters', 'high reliability organizations', high risk socio-technical systems, complexity theory

4 Engaging stakeholders about sharing responsibility (Stage 2 stakeholder engagement)

Engagement with industry end users and the research community was an important ongoing component of the project. This ensured that the project remained relevant to industry learning needs and priorities. It also ensured that the project contributed to the objectives of the Bushfire CRC's research program.

Many of these engagement activities also sought to assist stakeholders to reconsider the problems and potential solutions for Shared Responsibility by 'seeing' them in new ways. Being able to 'see' from multiple perspectives, and indeed, being aware of one's own particular way of 'seeing' is known as being "frame reflective" (Schön and Rein 1994; Rein and Schön 1996). Frame-reflection is recognised as critical for moving past the "intractable policy controversies" that wicked problems create (Schön and Rein 1994; Rein and Schön 1996; Hoppe 1999)

Seven key engagement groups actively pursued by the researchers were with:

- The lead end user
- Research colleagues in the 'Community expectations' research group
- Disaster management industry
- The disaster research community
- Community groups and volunteering NGOs
- Broader research community
- University students
- Public

The two most significant engagement activities were the two major stakeholder workshops presented in detail separately in sections 7 and 8:

- Visions of sharing responsibility for disaster resilience. Melbourne March 2012
- Sharing responsibility for implementing the NSDR. Sydney, March 2013.

Error! Reference source not found., over page, provides a summary of the key engagement events and activities undertaken throughout the project. Many of the written project outputs have also been made widely available to stakeholders and partners on the Bushfire CRC website and the AFAC Knowledge Web.

Table 4.1: Key engagement events and activities undertaken

Year One		
	Event/ activity	Partnerships
July 2010	<ul style="list-style-type: none"> Bushfire CRC - Community projects research workshop. Adelaide, SA. 29th-30th July 2010 	Lead end user, research colleagues, research community
Nov 2010	<ul style="list-style-type: none"> Bushfire CRC Research Advisory Forum. Adelaide, SA. 25th November, 2010 	Lead end user, industry groups, research colleagues, research community
Nov 2010	<ul style="list-style-type: none"> 'Community Expectations' research group coordination meeting. November 2010 	Research colleagues
Sept 2010	<ul style="list-style-type: none"> AFAC/Bushfire CRC conference. Darwin, NT. 2-3 September 2010 	Lead end user, industry groups, research colleagues, disaster research community
March 2011	<ul style="list-style-type: none"> AFAC Community education subgroup meeting. Melbourne, VIC. 17th March 2011 	Disaster management industry
March 2011	<ul style="list-style-type: none"> Project team meeting, 21st March 2011 	Lead end user
April 2011	<ul style="list-style-type: none"> AFAC Community safety group meeting. Launceston, TAS. 14th April 2011 	Disaster management industry
Year Two		
	Event/ activity	Partnerships
Aug 2011	<ul style="list-style-type: none"> CFA community safety professional development day, August 2011 	Disaster management industry
Aug-Sept 2011	<ul style="list-style-type: none"> AFAC/Bushfire CRC annual conference in Sydney, Aug-Sept 2011 	Disaster research community; research colleagues; disaster management industry
Nov-Dec 2011	<ul style="list-style-type: none"> Australian Sociological Association Annual Conference, Nov-Dec 2011 	Broader research community; Disaster research community
Ongoing 2011	<ul style="list-style-type: none"> Bushfire social researcher's network (ongoing) 	Disaster research community
Ongoing 2011	<ul style="list-style-type: none"> Bushfire ECR group (ongoing) 	Disaster research community
March 2012	<ul style="list-style-type: none"> 'Mainstreaming' cross-project team meeting with lead end user, March 2012 	Lead end user; research colleagues
March 2012	<ul style="list-style-type: none"> Stakeholder workshop – "<i>Visions of sharing responsibility for disaster resilience</i>", RMIT University, Melbourne, March 2012 	Lead end user; research colleagues; disaster research community; disaster management industry; community and NGO groups
March 2012	<ul style="list-style-type: none"> Stakeholder roundtable on spontaneous volunteers and disaster management, March 2012 	Disaster research community; disaster management industry; community and NGO groups
April 2012	<ul style="list-style-type: none"> 3rd Annual Human Dimensions Conference of the International Association of Wildland Fire, Seattle, April 2012 	Disaster research community (international); disaster management industry
April 2012	<ul style="list-style-type: none"> Article about the 'visions of sharing responsibility' workshop included in the Autumn 2012 edition of <i>Fire Australia</i> 	Disaster management industry

Year Three		
	Event/ activity	Partnerships
Ongoing 2012	<ul style="list-style-type: none"> Attendance at a number of executive committee meeting for the Be Ready Warrandyte project in 2012 [McLennan] 	Community and NGO groups
July 2012	<ul style="list-style-type: none"> Australian Academy of Science's Theo Murphy Think Tank for early career researchers. Topic of "<i>Australia's Population: Shaping a vision for our future</i>". [McLennan] 	Public; broader research community
August 2012	<ul style="list-style-type: none"> Bushfire Social Researchers Network presentation to seminar: "<i>To tame or tackle the many headed beast? Back to 'Shared Responsibility in the Royal Commission'</i>", RMIT University [McLennan] 	Disaster research community
August 2012	<ul style="list-style-type: none"> 4th International Disaster and Risk Conference IDRC Davos 2012; Presentation by project leader - "<i>Making and unmaking human security: the limits of state power in reducing risk and creating resilience</i>" [Handmer] 	Disaster research community; broader research community
August 2012	<ul style="list-style-type: none"> AFAC/Bushfire CRC conference. Perth, WA. 28-31 August, 2012 [Handmer, McLennan] 	Disaster management industry; research colleagues; disaster research community
Sept 2012	<ul style="list-style-type: none"> 'Community Expectations' research group Research Fellow meeting. ANU, Canberra, 12 Sept 2012 [McLennan] 	Research colleagues
Sept 2012	<ul style="list-style-type: none"> Radio interview with ABC Gippsland [McLennan] 	Public
Sept/Oct 2012	<ul style="list-style-type: none"> Research trip to Montana, University of Montana, Missoula Fire Lab, and interface communities [Handmer] 	Disaster research community
Oct 2012	<ul style="list-style-type: none"> Guest lecture to first year course "Reshaping Environments" at University of Melbourne, 2 Oct 2012 [McLennan] 	University students
Oct 2012	<ul style="list-style-type: none"> Bushfire CRC Research Advisory Forum. Sydney, 23-24 Oct 2012 [McLennan] 	Lead end user; disaster management industry; research group; disaster research community
Nov 2012	<ul style="list-style-type: none"> Guest lecture via Skype to postgraduate class in disaster and emergency management at Royal Rhodes University, BC, Canada [McLennan] 	Disaster research community; university students; disaster management industry
Nov 2012	<ul style="list-style-type: none"> Victorian Parliamentary Science Briefing, 29th November 2012 [McLennan] 	Public
Dec 2012	<ul style="list-style-type: none"> RMIT Human Security and Disasters research program seminar, 13-14 December, 2012: "<i>Resilience matters in disaster management</i>" [McLennan]; "<i>Emergency management and the Australian military</i>" [Handmer] 	Disaster research community; broader research community
March 2013	<ul style="list-style-type: none"> Stakeholder workshop – "Sharing responsibility for implementing the NSDR", 13th March, 2012, UNSW, Sydney, NSW [Handmer, McLennan] 	Research colleagues; disaster research community; disaster management industry; community and NGO groups
March 2013	<ul style="list-style-type: none"> 'Community Expectations' research group roundtable at National Planning Conference, Canberra 26 March 2013 [McLennan] 	Research colleagues; public; disaster management industry
May 2013	<ul style="list-style-type: none"> Bushfire CRC Research Advisory Forum, Perth, WA, 14-15 May 2013 [Handmer, McLennan] 	Lead end user; disaster management industry; research group; research community
June 2013	<ul style="list-style-type: none"> AEMI Exploring New Frontiers: Risk-based land-use planning' workshop. [McLennan] 	Disaster management industry

5 Mechanisms for sharing responsibility (Stage 3 policy review)

5.1 Introduction

This section presents findings from Stage 3 of the *Sharing responsibility* project. The Stage involved a review of different types of mechanisms that have been used to influence the way responsibility for risk management is shared amongst different parties across a range of contexts.

Stage 3 was conducted in early to mid-2011. During initial project planning, it was envisaged that Stage 3 would focus on examining policy mechanisms only. However, as recognition of the importance of a wider range of mechanisms has grown amongst the project team, the scope of Stage 3 has broadened beyond policies to include others type of responsibility-sharing 'mechanisms'. The term 'mechanism' is used more broadly to refer to any process used to establish or alter institutions for responsibility-sharing amongst parties engaged in collective action to manage risks. This includes both formal and informal institutions. Examples are making a law, implementing a program, designing a policy, constructing a social norm, resisting or altering a cultural value. To maintain consistency with initial project planning documentation, this component of the project is referred to throughout the report as the 'Stage 3 policy review' despite its now broader scope.

The rationale for the Stage 3 policy review stems from an awareness that stakeholders of Australian disaster management can draw valuable lessons from reflecting on the way responsibility is shared in other places and in other sectors. Importantly, drawing on experiences and ideas from other places and sectors is a powerful way to stimulate frame-reflection. It helps people to see beyond the usual boundaries and discourses in which they operate to 'see' problems in new ways and consider solutions that might otherwise remain hidden.

The value of 'lesson-drawing' across political and administrative boundaries is widely recognised in comparative public policy analysis:

In a world in which money and people readily move across national borders, it is unrealistic to insist that nothing can be learned by looking abroad. Searching for lessons from foreign experience is possible because common problems do not produce identical responses. While all countries need to raise taxes, there are many different ways of doing so... Differences in the responses that national governments make to a common problem offer the opportunity to compare the strengths and weaknesses of your own programmes with what other countries are doing (Rose 2005, p. 4).

Comparative public policy analysis is concerned with lesson-drawing between nation states. However, the benefits of drawing lessons by comparing different approaches to resolving similar problems are just as great across other political and administrative boundaries, including across levels of government, amongst governments at the same level, and even across policy sectors in the same jurisdiction. Of course, policies and other interventions that work in one context may not work in others because of differences in social, economic, political, cultural, institutional or environmental conditions. Hence the aim of lesson-drawing—across whichever type of boundary—is not to uncritically copy something from another place. Rather, it is to stimulate new ideas and ways of thinking about how to address local problems under local conditions. This is done by

reflecting on the different experiences and challenges faced in addressing similar problems across a range of different contexts (Rose 2005, p. 1).

Of course, the sharing of policy experiences and ideas across political boundaries is by no means novel. Policy makers and other stakeholders in the policy process commonly seek to learn from experiences in other places. It is less common, however, for these parties to have the time, resources and research tools to compare and learn from a wide range of diverse experiences.

Reviews of existing policy research are a useful tool for facilitating this broader reflection on differences and options. Policy-oriented research reviews can help both researchers and end users see local problems from different perspectives, and potentially to identify innovative solutions (see McLennan and Handmer 2011a). Along this line, Lavis et al. (2005) found in a health policy study that:

Several [policy maker] interviewees suggested that the value of grappling with a systematic review and its local applicability was that it prompted a process of reflection. One argued that; it's really about idea generation and avoiding 'pitfalls' (p.40).

Learning about experiences with and actions for sharing responsibility in a range of other places and sectors can similarly motivate valuable reflection within Australian disaster management about how to tackle this wicked problem locally. This process has the potential to reveal a wider range of alternative solutions that may not otherwise be recognised. The aim of the Stage 3 policy review was to identify a wide range of mechanisms that have been used in other contexts to improve the way responsibility for managing risk was shared. It is hoped that some of the learning from this review may stimulate new ways of thinking about how to tackle this particular wicked problem in Australian disaster management. Later stages of the *Sharing Responsibility* project will explore and reflect on these learning opportunities further in conjunction with policy makers and other stakeholders.

5.2 Identifying the mechanisms

In the Stage 3 policy review, different types of mechanisms for sharing responsibility—or more precisely to alter institutions that shape responsibility-sharing in collective risk management—were identified through a review of relevant research studies. The studies either:

- 1) Examined a particular risk management case where mechanisms to improve the way responsibility was shared had been actioned, or;
- 2) Proposed a mechanism to improve responsibility-sharing as a result of having analysed problems encountered in a particular case or type of case.

Most of the source research studies were selected from a larger collection of studies collated during Stage 1 of the project. The methodology used during this stage is outlined in more detailed in the Stage 1 final report (McLennan and Handmer 2011b). Additional studies were also sought out from research journal databases in response to suggestions obtained from AFAC's Community Safety Group. Group members provided suggestions to the researchers about scenarios outside of Australian emergency management that might reveal insights about the responsibility-sharing issues faced within their sector.

The Stage 1 concept review identified ten underlying 'master frames' that inform the way research theories understand and explain responsibility-sharing issues in risk management (see Table 3.4). Because frames impact what aspects of a wicked problem are highlighted and what solutions are

envisaged, it was important to include studies in the policy review that reflected each of these master frames. This helped to maximise the range of mechanisms that were identified.

In total, 50 cases were reviewed, purposively selected from the larger collection of studies to represent the widest range of mechanisms possible. This is a type of sampling known as ‘maximum variation’ sampling (see Patton 2002, p. 234-5). A complete list of the cases and some of their characteristics, including the source studies, is provided in the Appendix to this report. Throughout the remainder of the report, a *Case ID* is used to refer to individual cases listed in the Appendix. Table 5.1, below, summarises key similarities and differences amongst the cases.

It is important to be aware of two limitations of the approach taken for the Stage 3 policy review. First, the review was not exhaustive. Due to its broad scope, it does not include every potential mechanism available to share responsibility for collective risk management. Hence it should not be seen as a “shopping list” of ways that stakeholders might seek to address responsibility-sharing challenges. Rather, it is an indicative review that identifies a wide range of different types of mechanisms for the purpose of analysing key differences in the way responsibility-sharing problems and processes are framed and the implications this has for the solutions pursued. The review is not intended to contribute to making specific decisions about responsibility-sharing. Instead, it was designed to contribute to thinking about responsibility-sharing in an explicitly reflective and – potentially – revelatory way. In other words: its contribution to policy makers and practitioners should be understood as more conceptual than instrumental (see also Lavis 2006).

Similarly, it is also important to recognize that this review is not evaluative. It does not assess the efficiency or effectiveness of specific mechanisms used to share responsibility. Although the review found that some mechanisms are more strongly advocated or critiqued in recent research literature, it does not make claims about which mechanisms—or combinations of mechanisms—are better than others. A key reason for this is that a similar mechanism can function very differently in different places and under different conditions. Hence, claims about the effectiveness of different mechanisms cannot be made without directly considering the influence of contextual conditions and dynamics of a particular place and time. Evaluating effectiveness of a policy, intervention, or process necessarily involves asking and answering the more complicated and in-depth question of ‘what works for whom, in what circumstances, in what respects and how?’ (Pawson et al. 2005, p.32).

Table 5.1: Key characteristics of cases reviewed

Characteristic	Similarities and differences
<i>Substantive field</i>	The majority of cases are from the fields of public health and disaster management. Other fields represented include environmental risk, public security, policing, human services, social welfare, workplace safety, new technologies, and transportation.
<i>Status</i>	Two-thirds of the mechanisms had been implemented or actioned. Another third were proposed by the authors of the source study but had not yet been implemented. In one case—the code of social and family responsibility in New Zealand (<i>Case ID: 1-3-4</i>)—the mechanism had been proposed by government and subsequently abandoned.
<i>Currency</i>	Of those mechanisms that were implemented, approximately a quarter were implemented before the 1990s (the earliest in the 1800s), a quarter in the 1990s, slightly less than a quarter in the early 2000s and just over a quarter in the late 2000s. Of those that had been proposed only, all except the code of social and family responsibility in New Zealand were proposed recently in the mid to late 2000s.
<i>Political system and geographic location</i>	The majority of the reviewed mechanisms (all but 11) were implemented in, or proposed for, Western democratic political systems. This likely reflects a bias in the published research studies on risk management, which in some sectors tend to focus on cases in developed countries (exceptions are social welfare, public health and disaster management).
<i>Goal</i>	In a broad sense the goals of the mechanisms fell into two categories. In roughly half the cases, changing or clarifying responsibilities was an explicit goal. In the remaining half, the primary goal was to achieve an improvement in safety or security, or to reduce risk. In these cases, changing the way responsibility was shared was a means to an end rather than a direct goal itself. Another distinction is the degree to which the mechanism altered ‘rules-in-form’ that set written standards and goals, ‘rules-in-use’ that shaped responsibility-sharing in practice, or the relationships that gave rise to responsibilities.
<i>Parties</i>	The key parties of responsibility-sharing, as they were represented in the source study, also varied across the mechanisms. Almost half primarily involved sharing between the public sector (government) and some element of civil society (e.g. communities, non-for-profit groups, the public). Most of the remaining cases were divided evenly across sharing between the public and private sectors, within civil society, and between all three sectors (public, private and civic). A few, isolated studies involved responsibility-sharing either within the public sector, within the private sector, or between the private sector and civil society.
<i>Administrative scale</i>	Most of the reviewed mechanisms were national in scale, although some of these were administered at state or provincial levels rather than centrally. A smaller number were implemented at a state or provincial scale. Fewer were implemented at the level of a community or organisation. (<u>Note</u> : the review intentionally excluded international scale cases).

5.3 Types of mechanisms

Seven general types of mechanisms were identified, all of which have been used or proposed to shape institutions for sharing responsibility in collective risk management. Table 5.2 lists these and provides a brief description of their intended influence on responsibility-sharing. They are approximately arranged according to the degree of formality of the institutions and processes involved, ranging from most to least formal. Many of the more formal mechanisms are types of policy instruments that are implemented by government (e.g. Vedung 1998). However, the types of mechanisms included also extend beyond formal approaches to include informal institutions, associations, and reciprocal agreements, which usually do not involve government actors directly.

There is inevitably some overlap among the seven types of mechanisms. For example, the goal of collective decision-making could be to create a voluntary contract or agreement. Alternatively, policies and programs might aim to influence social norms as in the case of persuasive/

informational campaigns that seek to facilitate risk-reducing social norms. Additionally, multiple mechanisms are often actioned together. For example, complex policy packages may involve a combination of legal, regulatory, organisational and program delivery mechanisms.

Table 5.2: Overview of mechanisms for sharing responsibility

Type	Examples	Intended influence
1. <i>Vision statements</i>	<ul style="list-style-type: none"> ▪ National strategies and policies ▪ Statements of principle ▪ Mission statements ▪ Social and ethical codes ▪ Non-binding declarations of rights 	Steer and mobilise responsibility-sharing by outlining what it should achieve or look like (not strongly enforced or formally agreed to by the parties involved).
2. <i>'Hard' laws and regulations</i>	<ul style="list-style-type: none"> ▪ Constitutions ▪ Charters ▪ New, amended or extended laws ▪ Traditional regulation ▪ Quasi-regulation (enforced) 	Prescribe and compel responsibility-sharing through the use of legal obligations and authorised sanctions/penalties.
3. <i>'Soft' interventions</i>	<ul style="list-style-type: none"> ▪ Financial incentives and disincentives ▪ Direct government delivery of public services ▪ Quasi-regulation (voluntary) ▪ Monitoring and evaluation systems ▪ Informational/persuasive campaigns 	Encourage responsibility-sharing by influencing decision-making, behaviour or access to services and resources.
4. <i>Contracts and agreements</i>	<ul style="list-style-type: none"> ▪ Treaties and conventions ▪ Legally-binding voluntary contracts ▪ Public-private partnerships ▪ Hybrid public/private administration ▪ Voluntary non-binding agreements ▪ Agreed declarations of intent ▪ Social relationships of reciprocity 	Establish relationships for responsibility-sharing and clarify what is expected of the parties involved (may be binding and subject to penalty or non-binding and without penalty).
5. <i>Collective inquiry & decision-making</i>	<ul style="list-style-type: none"> ▪ Votes ▪ Formal public inquiries - binding ▪ Formal public inquiries – non-binding ▪ Public consultation ▪ Deliberative/collaborative decision-making ▪ Participatory disaster/risk management 	Collectively query and/or decide where responsibility lies and/or how to share it.
6. <i>Organisations and associations</i>	<ul style="list-style-type: none"> ▪ New department, committee or overseeing body ▪ Restructure of existing agencies/ institutions ▪ Government-initiated community or industry associations ▪ Self-initiated civic or industry associations ▪ Multi-party partnerships and collaborations ▪ Policy networks ▪ Interagency coordination and collaboration 	Change or strengthen relationships amongst parties to facilitate responsibility-sharing, or create authority to influence responsibility-sharing.
7. <i>Social norms</i>	<ul style="list-style-type: none"> ▪ Workplace/ professional culture ▪ Traditional knowledge/ management regimes ▪ Emergent organisation and leaders ▪ Social movement/ protest 	Establish informal, shared rules of engagement to share responsibility and/or impose social incentives and sanctions.

5.3.1 Vision statements

Vision statements are goal or agenda-setting mechanisms that are non-binding. Examples are high level policy statements, statements of principle, non-binding social and ethical codes, and mission statements. They present a picture of either what responsibility-sharing should achieve (e.g. the standards by which to judge if it is effective or not) or what it should look like (e.g. the standards by which to judge if parties are being responsible or not). Vision statements are therefore very much normative, prescriptive mechanisms. They aim to steer or mobilise more procedural mechanisms

by clarifying or establishing standards for assessing responsibility, rather than outlining a specific process or plan for achieving those standards. Unlike the ‘hard’ laws and regulations described below, which are also normative, vision statements are not generally strongly enforced by formal sanctions or penalties. However, some may be linked to social sanctions, such as social exclusion. For example, failing to act in accordance with a professional code of conduct may be grounds for a person being removed from a professional position or having their membership in an association revoked.

The National Strategy for Disaster Resilience (COAG 2011) in Australia is one salient example of this type of mechanism, as is AFAC’s position on bushfires and community safety (AFAC 2010). Others are the Universal Declaration of Human Rights and the UNDP’s principle of ‘social co-responsibility’ (*Case ID: 1-2-8*). As these examples show, vision statements can operate at a wide range of levels.

5.3.2 ‘Hard’ laws and regulation

‘Hard’ laws and regulation are formal, normative mechanisms that set out obligations and are tightly tied to legal sanctions. In one sense they are similar to vision statements, as they also seek to establish the standards by which responsibility is assessed, and non-compliance sanctioned. However, unlike vision statements they aim to compel or enforce obligations. Examples are constitutions, charters, legislation, traditional government regulation and some ‘quasi’ regulation that involves enforcement, such as national accreditation schemes.

A more specific example of this type of mechanism is the *Chain of Responsibility* legislation in Victoria (*Case ID: 2-1-2*). This legislation spreads legal liability for heavy freight transport accidents along the transportation supply chain. It recognises that parties that pressure drivers into unsafe driving practices share responsibility for resulting road accidents. It therefore creates a legal obligation for these other parties to provide working conditions for drivers that support greater road safety.

5.3.3 ‘Soft’ interventions

‘Soft’ interventions are the policies and programs that are the bread and butter of government agencies involved in risk management, although they are also used in the private sector (see for example *Case ID: 3-3-6* and *3-5-7*). They were also the most common type of responsibility-sharing mechanism used in the reviewed studies. In contrast to ‘hard’ laws and regulations, soft interventions aim to encourage rather than compel people to make decisions or change their behaviour in a desired way. Consequently they are not tied to strong sanctions or enforcement. A range of approaches exist, with some being more interventionist than others. Three common types, ranging from most to least interventionist, are incentive or disincentive schemes, direct service delivery that alters people’s access to services or resources, and persuasive/informational campaigns.

When used as mechanisms for sharing responsibility, soft interventions often aim to influence people’s individual perceptions of their own or others’ obligations, to encourage social norms supporting particular obligations, or to motivate people to act in accordance with these obligations. One important example is the way that persuasive/informational programs may encourage people to take responsibility for risk preparation or reduction by giving them information that increases their sense of control or empowerment in the face of risks. As outlined in the Background, the assessment of responsibility—including an individual’s own personal responsibility—is mediated by perceptions or assumptions about degrees of control. This was recognised by McClure et al. (1999) who argued that informational campaigns in New Zealand about preparing for earthquakes that included distinctiveness information (e.g. that some buildings suffered more damage than others)

could encourage more people to voluntarily prepare for earthquakes than if more generalised information was given (e.g. about earthquake magnitude) (*Case ID: 3-7-6*). This is because awareness that not all buildings are damaged the same way was linked in their study to a higher perception that this damage is controllable and preventable under some conditions. This contributes to increasing people's sense of personal control and hence responsibility.

5.3.4 Contracts and agreements

Contracts and agreements were the second most common type of mechanism in the reviewed cases. Contracts and other, looser forms of agreements create and specify obligations. They aim to determine relationships for responsibility-sharing and to clarify what is expected of the parties involved. They provide working rules for the process of sharing responsibility that establish grounds for determining when one party or another has failed to meet their obligations. They may also specify the penalties and sanctions that will be imposed when parties do not act in accordance with the agreed terms. Unlike the first three types of mechanisms, contracts and agreements tend to be more particular: applying to specific relationships and parties rather than society as a whole. These types of mechanism can be more or less formal. They include treaties and conventions, legally-binding voluntary contracts, public-private partnerships, agreed declarations of intent and also informal social relationships of reciprocity or mutual obligation.

One example of a formal contract is the Treaty of Waitangi (*Case ID: 4-1-9*) which outlines the agreed constitutional obligations of the State towards the Māori population in New Zealand. A less formal example is the informal, reciprocal social insurance that can be provided through social networks, as was documented in Eritrea (*Case ID: 4-8-1*) and Burkina Faso (*Case ID: 4-9-1*).

5.3.5 Collective inquiry and decision-making

Mechanisms that involve collective inquiry or decision-making put heavier emphasis on the process of negotiating responsibilities than do the previous mechanisms. Determining appropriate standards—rules, norms and expectations—is therefore an outcome of these mechanisms. Hence, this type of mechanism often precedes the creation of a vision statement, new law, government program or agreement of some kind that establish standards for responsibility-sharing. They are often used when there is conflict amongst parties engaged in collective risk management or a crisis of legitimacy in risk governance. Examples are votes, public inquiries and consultations, collaborative decision-making processes and participatory risk management arrangements. A recent example from Australian disaster management is the Victorian 2009 Bushfires Royal Commission.

While there are significant differences between inquiries and decision-making processes, there are also important similarities. Collective inquiries involve some form of consultation with stakeholders to gather information about experiences and expectations regarding obligations for risk management, and particularly to expose where these expectations were not met in the past and why. The outcome of collective inquiries often includes recommendations to change or clarify roles and responsibilities in future risk management arrangements in order to improve on past outcomes. Collective decision-making processes may also include inquiries into past roles and responsibilities in order to learn from past experiences. However, in these types of processes there is greater emphasis on negotiating future responsibility-sharing arrangements relative to probing and critiquing past ones. The end goal tends to be similar to inquiries, however, which is to change or clarify future roles and responsibilities. One example of a collective decision-making process that did not involve a formal inquiry process is the UK government's 'Managing Radioactive Waste Safely' program (*Case ID: 5-1-9*). This program evaluated options for waste management through a "comprehensive programme of public and stakeholder engagement" that aimed to ensure a high degree of accountability and legitimacy throughout the process (Cotton 2009, p. 606).

5.3.6 Organisations, associations and networks

Changes in organisations and associations can also be used to shape responsibility-sharing. Examples of these types of mechanisms—ranging from more to less formal—are: creating or restructuring departments, committees and overseeing bodies; establishing community and industry associations; new partnerships and collaborations; and emergent networks. These mechanisms change or create relationships. In some cases, they create authority to influence responsibility-sharing. Importantly, new relationships give rise to new responsibilities. As Shaver and Schutte (2001) highlight, “entering a relationship with another person is likely to expand the number of behaviours for which one might expect to be held accountable” (p. 38). Therefore, changing the nature of relationships can be a very powerful mechanism for shaping responsibility-sharing. Because new relationships create new responsibilities, new organisations and associations are often accompanied by the creation of a new vision statement that outlines the nature of the new responsibilities.

Importantly, the response of existing organisations and associations to changing conditions and events can also shape the way responsibility is shared. This is most evident following a risk event, when existing community organisations with no formal risk management role may take on responsibility for coordinating community preparation and recovery. One striking example of this is the role of faith-based and cultural associations in New Orleans before, during and after Hurricane Katrina (*Case ID: 6-6-5*). Patterson et al. (2010) describe how many community organisations drew on their existing resources, relationships and capabilities to take leading roles in preparation, evacuation, relief and recovery within their communities.

5.3.7 Social norms

Social norms are a type of informal institution. According to Ostrom (2000) they are “shared understandings about actions that are obligatory, permitted or forbidden” (p. 143-4). Social norms are not directed mechanisms. Rather, as with all informal institutions, they emerge out of interactions and common understandings amongst groups of people. Social norms can be embedded in workplace culture, traditional management regimes, and social movements, for example. As a type of mechanism, they overlap to some extent with contracts and agreements as well as organisation and associations, as both these types of mechanisms include loose or self-forming agreements and associations that are reinforced by associated social norms.

Although they are not codified or linked to authorised sanctions, social norms can nevertheless be extremely powerful mechanism for shaping responsibility-sharing. Social norms can create strong obligations and be associated with strong social sanctions when people do not act in accordance with them. When social norms shift, they can therefore create changes in the way responsibilities are shared. One example from Canada is the Walkerton community response to an E. coli outbreak in the town’s main water supply in 2000 (*Case ID: 7-1-5*). Following the outbreak, donations of clean drinking water were delivered to the town but there was no government agency present in the small community to take charge of distribution. In response, an organised process for distributing the water emerged within the community (Murphy 2007). During this process, a new set of informal rules, relationships and authority for water distribution were created that did not exist prior to the event.

It is important to emphasize that the relationship between social norms and more formal mechanisms for sharing responsibility is complex and varied. In some cases, social norms for sharing responsibility may emerge to fill gaps left by more formal risk management arrangements. This was evident in the Walkerton case. In a different context (*Case ID: 7-2-7*), Swedish railway technicians developed a workplace culture that provided them with rules for how to balance their commitments to both workplace and public transportation safety, which were not addressed in

workplace safety regulations (Sanne 2008). In a different type of complex relationship, soft interventions directed by risk management agencies can seek to change social norms that structure responsibility-sharing. For example, this was an explicit goal of the 'Helping Each other Act Responsibly Together' or HEART campaign in Zambia (*Case ID: 3-2-2*). This program was instigated by a partnership of government, not-for-profit, development organisations and youth groups to encourage social norms amongst young people that were supportive of sexual practices that reduced HIV risk (Underwood et al. 2006).

5.4 Discussion

The concept of frames is obviously central to the analysis in this report. Importantly, frames exist at multiple levels, ranging from more generalised (e.g. "meta-cultural" and "institutional" frames) to more specific (e.g. particular policy frames) (Schön and Rein 1994, p. 33). More generalised frames will inform and shape more specific ones (McLennan and Handmer 2011b, p. 15). The master frames listed in Table 3.4 are an example of generalised frames, which inform more detailed and diverse research theories. Policies and program are also shaped by generalised frames that inform their more specific frames targeted to the particular issue and context at hand. The impact of these frames is recognised in theory-driven approaches to policy and program evaluation. This collection of approaches assesses the effectiveness of outcomes in the context of the underlying model, frame or theory that informed the initial policy or program design (Funnell and Rogers 2011, p. 3-35).

Schön and Rein (1994, p. 32) draw attention to two different types of specific frames that shape policy. The first type is rhetorical frames that shape policy discourses. These frames "underlie the persuasive use of story and argument in policy debate" (p. 32). The second type is action frames that "inform policy practice" (p. 32). Rhetorical and action frames do not always align very well in the messy world of policy-making. As a result, the way policy practice is framed at an operational level will not necessarily strongly reflect the way the related policy discourse has been framed.

Action frames in particular are often implicit rather than explicit in laws, regulations, and policies. One example of an implicit frame at work is in a government healthcare program in Sweden that provided assistance for older people in the home (*Case ID: 3-1-4*). According to analysis by Sundström and Johansson (2005), this program sought to restructure the balance of responsibility for elder care between families and the State. It aimed to encourage families to take on greater responsibility for elder care in the home in order to take pressure off Sweden's strained social welfare system in the face of a growing older population and declining resource base. The 'problem' was therefore framed as insufficient in-home support for elders. However, this problem-frame was not explicitly communicated as part of the program's rationale. An alternative way of framing this problem might have been as one of inadequate social welfare support for modern families caused by a rapid withdrawal of the State under the influence of neoliberal ideologies. Had this different frame dominated policy discourse in Sweden, it would likely have led to the development of a very different type of policy and program response. Which frame comes to dominate policy discourse and why has long been a central topic of research in public policy analysis, albeit under various monikers (Kingdon 1984; John 2003; Sabatier and Weible 2007; Béland 2009).

In all of the cases reviewed in the Stage 3 policy review, the mechanisms for sharing responsibility were underpinned by specific ways of framing the problem at hand within a local context. However, identifying the specific but implicit frames that underpinned the mechanisms in each case would require in-depth analysis that was beyond the scope of this review. Despite this, it was still possible to discern more generalised differences in framing between the different types of mechanisms and

amongst cases that used the same type of mechanism. Reflecting on these frames can reveal diverse ways of thinking about and understanding the problems and processes of sharing responsibility in collective risk management. Importantly, frames have implications for practice that would otherwise be hidden during the process of deciding on and designing mechanisms to share responsibility.

5.4.1 Framing the problem

As the seven types of mechanisms aim to influence responsibility-sharing in different ways, they reflect some fundamental differences also in the way the underlying problem is understood. An outline of these fundamental differences that is based on findings from the Stage 3 policy review is summarised in Table 5.3.

The generalised problem-frame of the first three types of mechanisms all share a focus on shaping the responsibility-sharing process to adhere to pre-established or prescribed standards. For example, vision statements aim to shape responsibility-sharing by declaring what it should achieve or look like, and hence steering or motivating action at a more operational level. The problem implied in this type of mechanism is that existing standards for determining obligations are unclear or inappropriate, or there is a lack of commitment to them. The solution is therefore to set new, more appropriate standards to steer and mobilise more effective action.

Table 5.3: Distinctions in generalised problem-framing across the mechanism types

	Intended influence on responsibility-sharing	Generalised problem frame
1. <i>Vision statements</i>	Steer and mobilise responsibility-sharing by outlining what it should achieve or look like (not strongly enforced or formally agreed to by the parties involved).	Shared standards for determining obligations are unclear or inappropriate; or there is a lack of commitment to them.
2. <i>'Hard' laws and regulations</i>	Prescribe and compel responsibility-sharing through the use of legal obligations and authorised sanctions/penalties.	Parties will not share responsibility effectively by choice (or the outcomes are too important to risk should they choose not to).
3. <i>'Soft' interventions</i>	Encourage responsibility-sharing by influencing decision-making, behaviour or access to services and resources.	Some parties (usually in civil society) do not have sufficient information, awareness, resources or motivation required to make decisions or behave in accordance with their obligations.
4. <i>Contracts and agreements</i>	Establish relationships for responsibility-sharing and clarify what is expected of the parties involved (may be binding and subject to penalty or non-binding and without penalty).	Some of the parties that influence risk management outcomes do not acknowledge or perceive themselves to have an obligation to do so; or they lack commitment to their obligations.
5. <i>Collective inquiry & decision-making</i>	Collectively query and/or decide where responsibility lies and/or how to share it.	There is conflict, disagreement or dissatisfaction regarding current responsibility-sharing arrangements.
6. <i>Organisations and associations</i>	Change or strengthen relationships amongst parties to facilitate responsibility-sharing, or create authority to influence responsibility-sharing.	The parties that influence risk management outcomes do not have the relationships that can support responsibility-sharing.
7. <i>Social norms</i>	Establish informal, shared rules of engagement to share responsibility and/or impose social incentives and sanctions.	The risk environment or social conditions have changed in ways that challenge existing norms; or there is a gap in formal risk management arrangements for sharing responsibility

Hard laws and regulations similarly set standards for responsibility-sharing, however they respond to a different type of problem. They prescribe or compel responsibility-sharing by linking obligations to authorised sanctions or penalties. The problem this type of mechanism implies is either that parties will not share responsibility effectively by choice or, alternatively, that the consequences if they do not (or the rights of others that would be infringed) are too important to leave these consequences without some type of formal accountability or liability. The solution is therefore to compel parties to abide by the determined legal obligations and to impose sanctions when they do not so that 'irresponsible' parties can be held to account.

Meanwhile, soft interventions aim to encourage responsibility-sharing through the power of persuasion, information, incentives or resource allocation. They seek to change parties' decisions or behaviour to align with a predetermined set of standards for responsibility-sharing. The problem frame underlying these mechanisms is likely to be that some parties (which are usually from civil society) do not have sufficient information, awareness, resources or motivation to make decisions or behave in accordance with these pre-determined obligations. Soft interventions therefore aim to support or encourage whichever of these elements is found lacking.

The remaining types of mechanisms also intend to shape the process of responsibility-sharing. However, they are less likely to start with a pre-established idea of which standards parties involved in this process should adhere to. Instead, they are more likely to include a process for determining, agreeing on or negotiating standards amongst the parties involved. For example, the creation of contracts and agreements aims to establish relationships for responsibility-sharing and foster agreement (and commitment) from all parties regarding what is expected of them. The implied problem underlying this type of mechanism is that some of the parties that influence risk management outcomes do not acknowledge or perceive an obligation to do so; or they lack commitment to their obligations. The solution is therefore to establish a set of terms to which parties can agree and commit.

Collective inquiry and decision-making explicitly seeks to query and/or decide where responsibility lies and/or how to share it. The problem-frame underlying this approach is likely to be that there is conflict, disagreement or dissatisfaction regarding current responsibility-sharing arrangements. The solution is therefore to develop new arrangements that address parties' different perspectives, values, interests and priorities in order to foster legitimacy and acceptability of the way responsibility is shared. Organisations and associations also involve a process for determining responsibilities through the formation of new relationships. Implicit in this is an assumption that the parties that influence risk management outcomes do not have the relationships that can support responsibility-sharing. The solution is therefore to alter these relationships in ways that form new responsibilities, or strengthen existing ones. Finally, social norms establish informal, shared 'rules of engagement' to share responsibility. A shift in norms implies that something has changed in the risk environment or in social conditions that challenges the existing 'rules of engagement', or alternatively that there is a gap in responsibility-sharing in formal risk management arrangements that needs to be filled.

In sum, the different ways that the seven types of mechanisms intend to influence responsibility-sharing imply and reflect differences in the way the problem for sharing responsibility is framed. A key distinction amongst them is the emphasis they place on shaping responsibility-sharing practices to adhere to pre-established or prescribed standards, or alternatively including a process for determining, agreeing on or negotiating standards amongst the parties involved. This difference reflects a similar distinction made in broader collective action theory between mechanisms that are imposed or brought to collective action by external forces or authorities, and those that are

developed by the parties engaged in collective action, referred to as ‘self-governed’ collective action (see for example Ostrom 1990, p. 1-28).

5.4.2 Framing the process

Significant differences were also found in the ways the process of sharing responsibility was framed amongst cases that used the same broad type of mechanism. This is a second layer of framing. It reveals that even when the same or similar general problem-frame exists; the process of sharing responsibility can still be framed very differently. Four key areas of difference were: the way that the parties exposed to risk were involved, the components of risk that were emphasised, the basis for responsibility, and responses to situational drivers and local contexts.

Involvement of parties exposed to risk

The way that parties exposed to risk are involved in responsibility-sharing is an important distinction in the way the process of sharing responsibility is framed.

A key distinction concerns the degree to which the involvement of parties exposed to risk is seen to be on an individual or collective basis. A comparison of two cases of soft interventions in public health - ‘nudging’ (*Case ID: 3-4-3*) and the HEART campaign (*Case ID: 3-2-2*) - provides an example. ‘Nudging’ is a form of policy approach in public health in the USA aimed at encouraging people to make certain preferred health choices while avoiding the restriction of individual choice (Ménard 2010). The HEART or “Helping Each other Act Responsibly Together” campaign was an education-entertainment media campaign that sought to change sexual practices amongst youth to reduce HIV risk (Underwood et al. 2006). Hence both these mechanisms aimed to voluntarily encourage people to take greater responsibility for reducing their own health risks. However, ‘nudging’ is very firmly focused on decision-making by individuals, whereas the HEART campaign sought to influence social norms amongst youths collectively. Importantly, ‘nudging’ is strongly associated ideologically with liberalism, which emphasises individualism in political and social processes (Ménard 2010).

The above example also illustrates a second key distinction in the way that parties exposed to risk are involved. For ‘nudging’, individuals in civil society are the targets of government-led initiatives but they are not involved in either deciding what the outcome of the initiative should be (goals) or how it should be implemented (process). In the case of the HEART campaign, groups in civil society was also targets of the initiative but representatives of these groups (NGOs and youth groups) were also strongly involved in deciding how the campaign should be designed and implemented (process). They were only partially involved in deciding what the outcomes should be (goals), however. This reveals three key ways that parties exposed to risk may be involved in mechanisms to share responsibility: as a target (e.g. whose degree of responsibility is targeted for change), as a goal-setter (e.g. that influences what responsibilities parties should have) and as an implementer (e.g. actively participating in the process to establish or alter how responsibility is shared).

Components of risk

A third feature of the way the process of sharing responsibility was framed that varied across the mechanisms was in the components of risk that were emphasized. As highlighted in the Background to this report, risk has multiple components, any of which may give rise to responsibility-sharing issues.

Exactly which components of risk and which conception of risk (objective or subjective) were the main target of responsibility-sharing varied across the cases and types of mechanisms. This shaped which risk management activities and outcomes were prioritised. For example, community

disaster reduction associations established in Japan (*Case ID: 6-1-9*) focused on reducing risk primarily by reducing each community's vulnerability and increasing its adaptive capacity in the face of – predominantly natural - hazards. The Natural Catastrophe Insurance System in France (*Case ID: 4-3-1*) was also concerned with reducing risk from natural hazards. However it focused on transferring some of the economic risk away from exposed households and sharing it across government, the private insurance sector and communities by creating a public reinsurer. Both approaches aimed to reduce risks from natural hazards, but they focused on very different components of that risk: vulnerability in the first case and risk transfer in the second. Hence they prioritised responsibility-sharing in different types of risk management activities.

Basis for responsibility

Similarly, mechanisms to share responsibility can emphasise a particular basis for being held responsible over others. For example, enacting or extending laws creates new legal obligations. Yet the basis for these obligations can be very different. A recent proposal to extend existing legislation in Canada for cattle trespassing to cover GMO wandering (*Case ID: 2-4-2*), is concerned with imposing legal obligations on biotechnology companies to constrain their activities in ways that protect rights of conventional and organic farmers to have GMO-free crops (Black and Wishart 2008). Hence it focuses on constraining the activities of parties that increase the risk of others. Chain of Responsibility legislation in Victoria, Australia (*Case ID: 2-1-2*) also imposes legal obligations. However, rather than seeking to constrain one party's activities, this law was enacted to increase the obligations of many parties to contribute to creating transport safety risks (NTC 2006). Specifically, this law makes people in positions right along the supply chain that put pressure on drivers to break road laws legally liable when those drivers commit a traffic offence in order to – meet imposed deadlines. Whereas in the GMO case the basis of the new responsibility was to constrain actions that increased risk for others, in the Chain of Responsibility case it was to oblige actions that contributed to reducing the risk for others.

Situational drivers and contexts

The fourth area that influenced the way the process of sharing responsibility was framed was through the way they responded to situational drivers and contexts. All of the mechanisms were implemented in particular places and times in response to particular drivers. A wide range of drivers may shape the need for and characteristics of a particular mechanism. They could include a recent disaster event, the failure of a previous policy or program to meet its objectives, growing awareness of an issue through research, the pressure of public debate, the results of an inquiry or evaluation, a change in government, or the adoption of new international commitments. Further, every mechanism was implemented or proposed in the context of particular social, political, economic and environmental conditions.

A comparison of two mechanisms involving public security illustrates the significance of particular drivers and contextual conditions. The first mechanism is Business Improvement Districts (BIDs) in the USA (*Case ID: 4-6-1*). BIDs are a hybrid public/private system of public administration for commercial districts that are established to provide public services such as security and street cleaning as well as to undertake urban revitalisation. BIDs contractually spread responsibility for the provision of public services—formally a responsibility of local government—to the local business community. A rapid increase in the number of BIDs in the USA in recent years has been linked to particular socioeconomic conditions in North America. These include the decline of city centres, growth of urban sprawl, and the declining tax base of local governments (Hoyt and Gopal-Agge 2007). Some commentators also link the rise of BIDs to a dominant neoliberal worldview that sees the individual accumulation of wealth as a key goal of cities, and hence positions business leaders as being best-placed to guide policy towards that end (Hoyt and Gopal-Agge 2007). By contrast, community policing in the UK (*Case ID: 6-2-2*) tackles responsibility-sharing for public

security in quite a different way, largely because of the very different drivers and contextual conditions that were at play at the time it was devised (Hughes and Rowe 2007; Tilley 2008). Community policing aims to reduce rising perceptions of risk amongst the public despite declining rates of crime and violence by, amongst other initiatives, involving communities in setting policing priorities in local areas and improving police visibility and accessibility. This mechanism involves establishing new collaborative partnerships between local governments, police and local communities. It was motivated growing awareness that the remoteness of the police from the public that was exacerbated by the past “zero-tolerance” policing model had contributed to a growing perception of public insecurity (Loader, 2006). It was also influenced by the emergence of new ways of modelling risk perception in criminology research (Hughes and Rowe 2007).

5.5 Conclusions

As outlined in the Background, common problems do not produce identical responses. The problem of sharing responsibility in collective risk management is a common problem experienced across a range of settings. The cases reviewed in the Stage 3 policy reflect this. They cover a wide spectrum of political and administrative settings, as well as a range of different policy sectors that deal with risk and uncertainty. Across these cases, the mechanisms used or proposed as responses to the common problem of sharing responsibility vary significantly. There are many reasons for this, but one central factor is the impact of frames.

Two important layers of frames were found to shape the mechanisms identified at a general, comparative level. The first is the problem-frame that concerns the way the underlying problem for sharing responsibility was understood. As the review showed, different types of mechanisms reflect some fundamental differences in their associated problem-frame. The second layer is the way the process of sharing responsibility is framed. Amongst cases that have similar problem-frames, there were significant differences in the framing of the responsibility-sharing process. Key areas of difference related to the way that parties exposed to risk were involved, the components of risk that were emphasised, the basis for assessing and attributing responsibility, and the situational drivers and contexts to which the mechanisms responded.

The significance and relevance of this analysis in the context of Australian disaster management stems from the three positions put forward at the beginning of the report: first, that the wicked problem of sharing responsibility is an important dilemma in Australian disaster management that needs to be addressed; second, that reflecting on frames is necessary for dealing with wicked problems, and; third, that there is much to be learned from reflecting on the way this problem has been responded to in other contexts. The aim of the Stage 3 policy review was to stimulate new ways of thinking about how to tackle this particular wicked problem in Australian disaster management. This report contributes to an ongoing endeavour. In the next stage the *Sharing Responsibility* project will examine responsibility-sharing in the local, Australian context. Case studies will be analysed by drawing from the frame-reflective thinking reported here.

5.6 Appendix – Cases and sources reviewed

(Note: case ID denotes ‘Mechanism type’-‘item number’-‘master frame’)

Case ID	Type	Case	Mechanism	Sector	Location	Parties	Purpose (as stated in main source)	Status	Sources (Main; secondary)	Master frame (Main source)
1-1-3	1) Vision statements	post-1901 Famine Codes	Social/ ethical code	Food security	India	Public-civic (State-citizens)	Establish a nation-wide famine relief system	Implemented (1870s); Revised (1901)	De Waal (1996), <i>Hall-Matthews (1996)</i>	3. Social contract
1-2-8	1) Vision statements	Social co-responsibility	Statement of principle	Social welfare	Caribbean and Latin America	Public-civic (family, men/women, State, market, society)	Encourage policy change to reconcile spheres of work and family by redistributing care responsibilities between men and women, as well as among the family, the State, the market and society as a whole.	Proposed	UNDP (2009)	8. Distribution
1-3-4	1) Vision statements	Code of social and family responsibility	Social code of conduct (“Beneficiary contract”)	Human services	New Zealand	Public-civic (Government-citizens-society-families)	Promote public debate on the responsibilities of individuals and families and explore the possibility of having a Code of Social and Family Responsibility for New Zealand (Response analysis team, 1998); Clarify relationships between the State and citizens in relation to the welfare system (Larner, 2000)	Proposed (1998) <i>Note: code was abandoned</i>	Larner (2000); <i>Response analysis team (1998)</i>	4. Governance
2-1-2	2) ‘Hard’ laws and regulations	Chain of Responsibility legislation, Victoria	New legislation	Transport safety	Australia	Public-private (Government, transport industry [whole supply chain])	Share responsibility for transport accidents along the supply chain (legal liability)	Implemented (2003)	Jones (2003); <i>NTC (2006)</i>	2. Normative standards
2-2-9	2) ‘Hard’ laws and regulations	Mexico City’s Emergency Building Code	Traditional regulation	Disaster management	Mexico	Public-private (Government, property owners)	Strengthen buildings in high earthquake risk areas following major quake	Implemented (1985)	Spence (2004)	9. Practice
2-3-2	2) ‘Hard’ laws and regulations	Charter of human rights and responsibilities, Victoria	Act of parliament (new legislation)	Human rights	Australia	Public-civic (Government-society)	Ensure that human rights are taken into account in early stages of developing law and policy; foster dialogue within & between government arms re consistency of existing laws and government actions re enacted rights.	Implemented (2006)	Williams (2006); <i>Government of Victoria (2006)</i>	2. Normative standards

2-4-2	2) 'Hard' laws and regulations	GMO gene-wandering	Expansion of existing legislation to new context	Environmental risk	Canada	Public-private-civic (Biotechnology companies – farmers – federal government)	Improve balance of legal rights and obligations of biotechnology companies	Proposed (2008)	Black and Wishart (2008)	2. Normative standards
2-5-1	2) 'Hard' laws and regulations	Performance-based public health regulation	Quasi-regulation	Public health	USA	Public-private (Governments-businesses)	Secure business contribution to reduce public health problems arising from hazardous consumer products (e.g. junk food, guns)	Proposed (2009)	Sugarman (2009)	1. Social dilemma
3-1-4	3) 'Soft' interventions	Home Help	Direct service delivery (needs assessed)	Human services	Sweden	Public-civic (Government-individuals-families)	Fee-based and needs-assessed public service to assist elders in the home with household tasks and personal care	Implemented (1950s)	Sundström and Johansson (2005)	4. Governance
3-2-2	3) 'Soft' interventions	The Helping Each other Act Responsibly Together (HEART) campaign	Informational/persuasive (entertainment-education)	Public health	Zambia	Public-civic (Government- NGOs-youth groups-society)	Encourage social norms supportive of sexual practices that reduce HIV risk amongst young people (Underwood, HEART); encourage dialogue to support social change (Papa, entertainment-education).	Implemented (1998)	Underwood, Hachonda, et al. (2006); <i>Guttman and Ressler (2001); Papa and Singhal (2009)</i> .	2. Normative standards (Guttman and Ressler 2001)
3-3-6	3) 'Soft' interventions	Oil spill, South Korea	Persuasive/informational campaign regarding company social responsibility history	Disaster management	South Korea	Private-civic (Oil company-public)	Provide specific information about company's positive social responsibility history to alter people's attributions of responsibility for oil spill	Implemented (2007)	Jeong (2009)	6. Attribution
3-4-3	3) 'Soft' interventions	'Nudging'	Informational/persuasive policy instrument	Public health	USA	Public-civic (Government agencies-individuals)	Alter people's decisions and behaviours to promote better health outcomes without restricting individual choice	Proposed (2003) implemented (various)	Ménard (2010); <i>Thaler and Sunstein (2008)</i>	3. Social contract
3-5-7	3) 'Soft' interventions	Siting hazardous facilities	Informational/persuasive campaigns	Hazardous waste management	USA	Public-civic	Enable risk communication under conditions of broad social distrust	Proposed (1992)	Kasperson (1992)	7. Socio-cultural context

3-6-6	3) 'Soft' interventions	Workplace safety management	Management performance appraisal system	Workplace safety	USA	Private-private (Employers-employees)	Include safety performance in management performance appraisal to increase management commitment to leading development of a positive workplace 'safety climate' ("a coherent set of perceptions and expectations that employees have regarding safety in their organization", p.12)	Proposed (1994)	DeJoy (1994)	6. Attribution
3-7-6	3) 'Soft' interventions	Earthquake damage reduction	Persuasive/informational campaign about range of causes of building damage during earthquakes	Disaster management	New Zealand	Public-civic (Government regulators-public)	Teach people about range of causes that contribute to building damage in order to increase perceptions that damage is preventable (e.g. controllable)	Proposed (1999)	McClure (1999)	6. Attribution
3-8-6	3) 'Soft' interventions	Food risk perceptions of consumers	Persuasive/informational campaign regarding controllability of food risks	Food security	Finland	Public-private-civic (Government-food producers/ distributors-public)	Build people's sense of personal controllability and hence personal responsibility for food risks; reduce avoidance coping (e.g. denial)	Proposed (2009)	Leikas et al. (2009)	6. Attribution
3-9-10	3) 'Soft' interventions	Accident investigation manuals	Systematic accident models	Workplace safety	Sweden	Private-private (Accident investigators-employers-employees)	Expand scope of models underlying accident investigations to focus on whole safety system (e.g. social, economic, technical, human & organisational components)	Proposed (2009)	Lundberg (2009)	10. Complex systems
3-10-7	3) 'Soft' interventions	Communication of health risks – immunisation and air pollution	Informational/persuasive campaigns	Public health	UK	Public-civic (Health agencies-public)	Engage with social equity issues and existing social norms; empower freedom of choice; recognise stress created by personal responsibilities in light of scientific uncertainty	Proposed (2005)	Petts (2005)	7. Socio-cultural context
3-11-9	3) 'Soft' interventions	Flexible disaster planning policy in housing	Complex policy/planning package	Disaster management (recover)	Australia	Public-civic (State housing authorities-tenants/householders)	Assist tenants and householders, and assess and repair properties following cyclones, storms, floods	Implemented	Jacobs (2011)	9. Practice
3-12-9	3) 'Soft' interventions	Flood prevention action programs	Complex policy package	Disaster management	France	Public-public-civic (Federal government-local government-households)	Reduce overall flood risk at river basin scale	Implemented (2002/ 2006)	Erdlenbruch, Thoyer, et al. (2009)	9. Practice

3-13-8	3) 'Soft' interventions	Vulnerability management	Complex policy package	Disaster management	USA	Public-public (emergency management agencies and other government agencies; all levels of government)	"Decrease the variables that lead to disasters while concurrently increasing the ability of individuals, organisations, jurisdictions and nations to prevent, prepare for, or react to them effectively... liability reduction and capacity building" (p. 308)	Proposed (2008)	McEntire (2008)	8. Distribution
3-14-8	3) 'Soft' interventions	Social vulnerability index (SoVI)	Direct government delivery of public services	Disaster management	USA	Public-civic (State-public)	Enable agencies to take greater responsibility for protecting most vulnerable by identifying geographic discrepancies in social vulnerability	Proposed (2003)	Cutter (2006)	8. Distribution
4-1-9	4) Contracts and agreements	Treaty of Waitangi	Constitution/treaty	Social security	New Zealand	Public-civic (State- Māori population)	Outlines constitutional obligations of the State towards Māori population	Implemented (1840)	Jacobs (2000)	9. Practice
4-2-9	4) Contracts and agreements	Responsibility deal pledges	Voluntary non-binding (?) agreements	Public health/ business waste	UK	Public-private (Health department, private industry and business; some NGOs)	Supplement government public health policies and increase contribution from private sector	Implemented (2010)	Buttriss (2011); <i>UK Department of Health (2011)</i>	9. Practice
4-3-1	4) Contracts and agreements	Cat Nat (Natural Catastrophe Insurance System)	Public-private partnership (contract)	Disaster management	France	Public-private (Government, insurers)	Increase efficiency of natural catastrophe insurance and overcome "Samaritan's dilemma"	Implemented (1982)	Michel-Kerja and de Marcellis-Warin (2006); <i>Vallet (2004)</i> .	1. Social dilemma
4-4-9	4) Contracts and agreements	Indigenous Shared Responsibility agreements	Public-civic voluntary agreement	Education/ public health	Australia	Public-civic (State agencies-community organisations)	Delineate contributions to long-term improvements in indigenous communities	Implemented (2004)	Anderson (2006)	9. Practice
4-5-4	4) Contracts and agreements	Community Care Network	Public-private partnership (non-binding)	Public health care	USA	Public-private-civic (State agencies – private health providers – community organisations)	Local collaboration for human and health service delivery	Implemented (Late 1990s)	Weiner and Alexander (1998)	4. Governance
4-6-1	4) Contracts and agreements	Business improvement districts	Hybrid public/private administration/contract	Urban renewal & public security	USA	Public-private (Local government-business community)	Overcome local government limitations in providing public services	Implemented (various times, beginning 1970s)	Brooks (2008); <i>Hoyt and Gopal-Agge (2007)</i>	1. Social dilemma

4-7-3	4) Contracts and agreements	Technological constitution and citizenship	Constitution/declaration of rights	Technology	N/A	Public-civic (State-citizens)	Reconcile potential benefits and injuries of technology to humans	Proposed (1992)	Frankenfeld (1992)	3. Social contract
4-8-1	4) Contracts and agreements	Social relationships of reciprocity	Informal social insurance	Social welfare	Eritrea	Civic-civic (Community)	Uses local social capital to alleviate unexpected social costs	Implemented (not given)	Habtom and Ruys (2007)	1. Social dilemma
4-9-1	4) Contracts and agreements	Social relationships of reciprocity	Informal risk-sharing arrangements	Public health	Burkina Faso	Civic-civic (Community)	Local traditions of solidarity and reciprocity that provide informal health insurance	Implemented (not given)	Johannes et al. (2002)	1. Social dilemma
5-1-9	5) Collective inquiry & decision-making	Radioactive waste management	Deliberative decision-making process	New technology	UK	Public- private-civic-science (Government-public-industry-science)	Establish 'a legitimate, technically sound and publicly supportable long-term management strategy'	Implemented (2008)	Cotton (2009)	9. Practice
5-2-9	5) Collective inquiry & decision-making	Shared decision-making for personal health care	Client-practitioner voluntary collaboration	Public health	USA	Private-civic (Health practitioner-client)	Achieve better health outcomes by client's active participation in shared decision-making about treatment	Implemented (date not given)	Adams and Drake (2006)	9. Practice
5-3-7	5) Collective inquiry & decision-making	Communication of volcanic risk	Community-authority dialogue	Disaster management	Montserrat	Public-civic-scientific (Government-scientific community-public)	Develop a mutual understanding of an acceptable or tolerable risk	Proposed (2008)	Haynes (2008)	7. Socio-cultural context
5-4-6	5) Collective inquiry & decision-making	Wildland-urban wildfire risk management	Public participation in wildfire risk assessment and management	Disaster management	USA	Public-civic (Risk management agencies-communities)	Maintain and restore trust between experts and communities	Proposed (2008)	Cohn et al. (2008)	6. Attribution
5-5-8	5) Collective inquiry & decision-making	New technology regulation	Design institutional mechanisms for decision-making	New technologies	N/A	Public-civic (Regulatory institutions-public)	"Ensure an equitable distribution of risk between various groups such as rich and poor, and present and future generations" (p. 501, abstract).	Proposed (2010)	Ferretti (2010)	8. Distribution
6-1-9	6) Organisations and associations	Community disaster reduction associations	Community association	Disaster management	Japan	Public-civic (Community-local government)	Increase community self-reliance during disasters	Implemented (1995)	Bajek, Matsuda, et al. (2008)	9. Practice

6-2-2	6) Organisations and associations	National Reassurance Policing Project / Community policing	Public-civic partnership (non-binding)	Public security	UK	Public-civic (Police-local government-community)	Change risk perception (increase public sense of security)	Implemented (2003)	Hughes and Roe (2007); <i>Quinton and Tuffin (2007)</i>	2. Normative standards
6-3-7	6) Organisations and associations	Voluntary emissions control action programme	Collective voluntary action	Environmental risk/ public health	UK	Private-private (Private industry [whole supply chain])	To monitor and reduce emissions of controversial chemical 'Deca' along textiles supply chain (to avoid potential legislation to ban Deca)	Implemented (2004)	Busby, Alcock, et al. (2009)	7. Socio-cultural context
6-4-5	6) Organisations and associations	Post-tsunami recovery	Formal community networks	Disaster management (recovery)	Sri Lanka	Civic-civic (Community)	Increase people's perceptions of livelihood recovery	Implemented (2004)	Minamoto (2010)	5. Social capacity
6-5-8	6) Organisations and associations	Women's non-State crisis centres	Civic assistance organisation	Personal violence	Russia	Civic-civic (Individuals-NGOs)	"Institutionalization of assistance to victims of domestic violence" to fill gap in public provision of assistance	Implemented (early 1990s)	Stuvøy (2010)	8. Distribution
6-6-5	6) Organisations and associations	Community association response to disaster	Community associations	Disaster management (recovery)	USA	Civic-civic (community associations-community)	Use existing trust and moral authority to urge cooperative behaviour and teamwork	Implemented (2005)	Patterson (2010)	5. Social capacity
6-7-7	6) Organisations and associations	Citizen engagement to manage range of technological risks	Trust-building	New technology	UK	Public-civic (Government-public)	Encourage greater active citizen engagement in risk management by demonstrating institutional capacity to operate responsibly (trust-building) through institutional restructuring to increase transparency	Proposed (2008)	Bickerstaff (2008)	7. Socio-cultural context
6-8-4	6) Organisations and associations	Climate change policy	Policy networks	Climate change	Australia	Public-private-civic (State-industry-society)	Address accountability conflicts regarding climate change through involvement of new actors in existing policy networks	Implemented (1990s)	Bulkeley (2001)	4. Governance
6-9-10	6) Organisations and associations	Hurricane Katrina crisis management	"Surprise management" model for interagency coordination and collaboration	Disaster management	USA	Public-public (emergency management agencies across levels of government)	Increase the ability of the system to avoid breakdown through a model that is "adaptive, collaborative, and citizen engaging and draws on chaos and complexity theories to cope with hyper-uncertainties and unknowns" (p. 149, abstract)	Proposed (2007)	Farazmand (2007)	10. Complex systems

7-1-5	7) Social norms	Community response to Walkerton E. Coli disaster	Emergent organisation & leadership	Disaster management (recovery)	Canada	Civic-civic (Community-donors)	Distribute donated bottled water in absence of formal municipal emergency response organisation	Implemented (2000)	Murphy (2007)	5. Social capacity
7-2-7	7) Social norms	Railway maintenance safety	Social norms	Public safety/OH&S	Sweden	Public-private-civic (Employees-employers-public)	Compensate for inadequate planning/regulation in order that railway technicians can negotiate trade-offs in public & workplace safety	Implemented (no date)	Sanne (2008)	7. Socio-cultural context
7-3-5	7) Social norms	Hurricane Katrina recovery	Trust and moral authority	Disaster management (recovery)	USA	Civic-civic (Community)	Enable community organisations to urge cooperative behaviour and teamwork	Implemented (2005)	Patterson (2010)	5. Social capacity
7-4-3	7) Social norms	Climate change adaptation by Saami reindeer herders	Traditional ecological knowledge	Climate change	Norway	Civic-civic (Community)	Sustain mode of subsistence and flexibility to adapt to climate change impacts	Implemented (no date)	Reinert et al. (2008); (O'Brien et al. 2009)	3. Social contract
7-5-5	7) Social norms	Post-earthquake rehabilitation and reconstruction programs	Trust, social norms, participation, and network	Disaster management (recovery)	Japan/India	Civic-civic (Community)	Foster pro-active participation in the reconstruction program and speedier recovery	Implemented (1995 Kobe; 2001, Gujarat)	Nakagawa and Shaw (2004)	5. Social capacity

6 Windows on responsibility-sharing challenges (Stage 4 case study, VBRC public submissions)

6.1 Introduction

It is clear that Shared Responsibility is a powerful policy and normative idea in Australian emergency management and now also in disaster resilience discourse. Yet working through the significance of this idea for the messier and more complex world of management practice requires us to seek answers to some of these more problematic questions. Thus, it is important that the significance of the principle of Shared Responsibility is explored with respect to particular management contexts.

In pursuit of this goal and with this complexity in mind, we sought to analyse the way that challenges for sharing responsibility for bushfire risk management are portrayed in public submissions to the 2009 Victorian Bushfires Royal Commission ('the Royal Commission'). Further, we sought to do this using multiple conceptual 'windows' or perspectives that, together, give a more layered and complete picture of the many faces of responsibility and responsibility-sharing.

We chose to examine the public submissions because they provide a rich, readily accessible source of material on responsibility-sharing challenges in the context of a major bushfire event. Public inquiries can be an illuminating vehicle for examining the notion and challenges of responsibility and responsibility-sharing. This is explained, for example, in a report for the UK's Risk and Regulation Advisory Council:

"So what does a focus on public inquiries allow us to do? There are several ways in which examining public inquiries can be seen as a particularly useful lens through which to better understand the dynamics, forms and contradictions of public risk... inquiries cut to the heart of our very different sense of the accidental and how far we should go to guard against it. Through inquiries we can keenly focus on society's changing attitude towards misfortune, responsibility, blame, and even our basic sense of how to view what has occurred in the past."

(Burgess 2009, p. 9)

The results of our analysis of the public submissions form the basis of this report. We focused on the dimension of responsibility-sharing that looms most large in Australian disaster management and in formulations of the principle of Shared Responsibility: that is the sharing of responsibility between *those in authority* (e.g. the State, governments, fire agencies) and *those at risk* (e.g. households and communities living with bushfire risk) (see also McLennan and Handmer 2012b). However, we also recognise that this is not the only dimension of importance in bushfire risk management. Others include sharing between public and private sectors, across sectors and levels of government, within communities, and within society more broadly. Many of the challenges discussed in this report also concern sharing along these other dimensions, to greater or lesser degrees. Further, we also recognise that, like so many others, we use the terms 'government' and 'communities' loosely in this report for expediency. While doing this, we also acknowledge that neither government nor communities are homogenous or one-dimensional entities, and it is people that will ultimately share responsibility in practice.

6.2 Analysing responsibility-sharing challenges

Two related themes underpinned our analysis of responsibility-sharing challenges reflected in the public submissions, as they have underpinned earlier stages in this project (McLennan and Handmer 2011b, 2011c). They are: that framing matters and that, because of this, complex and multifaceted issues like responsibility-sharing are best approached using multiple perspectives.

To reiterate on our earlier work, the idea of ‘frames’ refers to the ways that an individual or group may ‘see’ an issue in a particular way, for example by highlighting some aspects more prominently than others (Entman 1993). The impact of frames on ideas about risk management matter a great deal. The way decision makers, researchers and other stakeholders frame a risk management problem shapes what solutions they see as most viable, which information they use to make decisions, and which arguments they deem legitimate (Vaughan and Seifert 1992, P. 121). Moreover, when more than one frame exists in society at the same time, this can exacerbate social conflict over the goals and practice of risk management.

As the way an issue is framed impacts how it is managed, there is a strong argument for using multiple perspectives – or frames – to approach issues, particularly those that are more complex and multifaceted. Handmer and Dovers (2007) make this point in the context of emergency and disaster policy-making:

How we define and frame problems will circumscribe our search for solutions. Many specific ways of framing problems will constrain the search for solutions and may lead to important issues being ignored – for example, by focusing on what we know well or find easy to measure. As a result, it is useful to examine risk using multiple framings. Recognizing and applying different perspectives will highlight where important issues may lie and who stands to lose from different policies. But this may be difficult to do because some of the drivers of problem framing are fundamental to society and it can be difficult to step outside dominant institutions or disciplinary ways of thinking (p. 83).

Research is similarly shaped by particular ways of framing their object of inquiry. Researchers, research communities and disciplines frame research problems just as policy makers, policy communities and agencies frame policy problems. In a guide to designing qualitative research, Maxwell (2005, p.33) describes conceptual frameworks as “the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research” (p.33). Choices about conceptual frameworks are shaped by epistemological differences in research, disciplinary backgrounds of researchers, the goal of the research, the particular case being studied and its context (Oughton and Bracken 2009). Different disciplines, research communities and individual researchers draw on different sets of conceptual frameworks to model and explain “what is going on ... and why” (Maxwell 2005, p.33).

A wide range of conceptual frameworks have been used to guide research studies that examine responsibility-sharing issues in risk management. In the first stage of the *Sharing Responsibility* project, we reviewed the key conceptual frameworks used to study and analyse responsibility-sharing issues in a wide range of risk management scenarios (McLennan and Handmer 2011b). The review focused on the dimension of sharing between *those in authority* and *those at risk*.

Each of the reviewed frameworks presented a way of understanding responsibility-sharing challenges in risk management. Through this review, we identified ten core theoretical types of responsibility-sharing challenges, summarised in Table 3.4. None of the conceptual frameworks

included in the review provided a single 'best' way to frame responsibility-sharing challenges. Together, the ten types of challenges identified in this earlier review provide a guiding framework for examining responsibility-sharing that encompasses multiple perspectives.

We used this framework to analyse the challenges for sharing responsibility in bushfire risk management between *those in authority* and *those at risk* that were reflected in public submissions to the 2009 Victorian Bushfires Royal Commission. The analysis sought answers to three core questions:

1. Which of the ten theoretical responsibility-sharing challenges were reflected in the public submissions?
2. In which areas of bushfire risk management and community safety, and at what scales, was each type of challenge most strongly reflected?
3. What do the ten conceptual windows reveal overall about the responsibility-sharing challenges reflected in the public submissions?

The Commission received almost 1,700 public submissions. It used these to: isolate topics for further investigation; identify people with expertise of interest; identify witnesses; illustrate the breadth of opinion on certain topics; and alert the Commission to available research and technology (Teague *et al.* 2010, vol 3, p. 5). However, the Commission did not directly examine responsibility-sharing issues raised in these submissions. Furthermore, as Holmes (2010) notes, "the balance of responsibility between citizens and government was a question the Commission failed to address overtly" (p. 388). This may at first seem counter intuitive, given that the Royal Commission dedicated an entire chapter of its report to the theme of Shared Responsibility. However, likely due to its particular terms of reference and the large scope of activities that it considered, the Royal Commission did not consider in great depth the more problematic questions outlined above of 'how responsibility is to be shared in practice, for what purpose, by whom, under what conditions, at which point in time, or according to what rules or institutions.' It is these types of questions that we sought to explore through our examination of the public submissions.

All the public submissions to the Royal Commission are publicly available online at <http://www.royalcommission.vic.gov.au/Submissions/View-Submissions>. Every submission includes a cover page listing the main topics addressed which are selected from a list of eight options. Two of the options are most relevant, in a broad sense, to the topic of responsibility-sharing between *those in authority* and *those at risk*: "Policy, preparation and planning of governments" and "Preparation and planning by communities and households". We therefore used the search engine provided in the Royal Commission's webpage to search for all submissions that addressed both these topics, and which included one of a number of responsibility-sharing related keywords.

The search string was:

("Responsibility" OR "responsible" OR "obligation" OR "obliged" OR "duty" OR "blame" OR "accountability" OR "accountable" OR "reliable" OR "reliability" OR "trustworthy") AND ("Policy, preparation and planning of governments" OR "Preparation and planning by communities and households")

This returned 289 hits.

The submissions were arranged in alphabetical order by name (surname or organisation name). Every fifth submission was then manually checked for relevance, and was excluded from the final sample if one of the following was found:

- the use of the key word was not relevant to the topic of responsibility-sharing
- the reference to responsibility-sharing was superficial
- the reference was included in an attachment that was not written by the author of the submission (e.g. a media report, academic paper, community newsletter)
- the submission had a primarily business or commercial focus.

When a submission was rejected, the next one in the list was checked, so that at least one in every five submissions was included in the final sample. This gave a full sample of 62 randomly selected but relevant records.

Each record was given a unique identifier and coded for two basic sets of attributes (see also Table 6.1):

- **Submission type:** Individual, household or group/organisation
- **Involvement type:**
 - household/community was directly affected by Black Saturday bushfires
 - not directly affected but exposed to bushfire risk
 - subject matter expert
 - a support, advocacy or interest group
 - experience with public bushfire management but not involved with the response to the Black Saturday bushfires, e.g. former CFA volunteers
 - member of the public who did not identify themselves as fitting into one of the above categories

Table 6.1: Break down of the reviewed public submissions by basic attributes

	Individual	Household	Group/ organisation	Total
<i>Household/ community directly affected</i>	11	1	2	14
<i>Exposed to bushfire risk</i>	16	1	5	22
<i>Subject matter expert</i>	8	0	3	11
<i>Support/advocacy group</i>	0	0	5	5
<i>Member of the public</i>	8	0	2	10
Total	44	2	16	62

The most relevant sections of text in each public submission were extracted into a word document and coded for which of the ten theoretical types of responsibility-sharing challenges they reflected. Many segments reflected more than one of these challenges and were coded multiple times. The most illustrative quotes were then selected to use in this report. While many of the quotes reflect more than one theoretical challenge, each quote has been used only once to avoid repetition. Note that any spelling and grammatical errors in the original text have not been corrected in the quotes.

6.3 Challenges reflected in the public submissions

Using different conceptual frameworks as ‘windows’ to examine the responsibility-sharing challenges reflected in the public submissions shows that – when it comes to practice – sharing responsibility between *those in authority* and *those at risk* involves many types of challenges that can take different forms.

All ten of the theoretical responsibility-sharing challenges included in our conceptual framework were reflected in some way in the public submissions. Some were far more prevalent and polemic than others. Some featured across the spectrum of bushfire management activities while others were more particular to specific activities and goals. While some stemmed from the need to clarify specific roles and responsibilities of different parties (and how to determine when they have not been fulfilled), others exposed more complicated differences in the underlying grounds for people's judgements of responsibility.

In the following sections, each of the ten responsibility-sharing challenges are described and the way they were reflected in the public submissions are illustrated with quotes. The theoretical grounding underpinning the conceptual framework is not revisited as it is provided elsewhere (McLennan and Handmer 2011b). Quotes from the public submissions are provided in colour-coded boxes:

- Green - people who were directly affected by the Black Saturday bushfires
- Blue – people who are exposed to bushfire risk but were not directly affected
- Orange – subject matter experts, those with public bushfire risk management experience and members of the public.

1. Overcoming social dilemmas

The term 'social dilemma' comes from economic and political theory and describes a scenario where individuals in a group make independent, reasonable choices that, while better for themselves in the short term, ultimately create a long-term problem that leaves everyone in the group worse off in the end (e.g. Kollock 1998). A common version of the scenario is known as "free-riding". This happens when people choose not to contribute to the cost or effort of providing a shared good or service (e.g. a health service, environmental protection, security, fire protection service) even though they benefit from it. This leaves others to pay the cost (financially or otherwise), and can result in the good or service being withdrawn or underprovided overall (see Reddy 2000 for an example in a risk-hazard context). Thus, a social dilemma situation is by its very definition one in which responsibility for contributing to a mutual goal or benefit is not being shared optimally.

The public submissions that we reviewed revealed a number of different examples of social dilemmas or potential social dilemmas. The first concerns a type of dilemma called a 'moral hazard' (Holmstrom 1982). This occurs when people are insulated from risk or its consequences and therefore have no personal incentive to contribute to reducing the risk. Insurance can be connected to a moral hazard problem in various ways. For example, being insured against a risk (e.g. house damage from a bushfire) protects a person from the risk and hence may reduce their incentive to mitigate it. Alternatively, if people feel they are already insulated from the risk because they expect financial aid or compensation to be freely available, they may have less incentive to pay for insurance, leaving the risk underinsured overall.

The two quotes immediately below describe potential moral hazard problems in relation to property insurance. The first explains why the current property insurance system might leave insured property holders with little incentive to invest in expensive property protection measures that reduce or mitigate bushfire risk. The second argues that people's expectations of government assistance following a bushfire might lead them to give a lower priority to taking out property insurance in relation to other costs. (Note however, that the majority of households affected by Black Saturday did have some form of home or contents insurance, see Whittaker et al. 2010, p. 4). Both of these are examples of perceived or potential moral hazard problems.

“There needs to be a decent rebate for those who have proper fire protection setups. We get some discount from RACV insurance, which is good, but it will never cover the cost of the protection setup we have. Someone who has no fire protection would get the same payout if their house burns down. So there is little incentive to spend the large sums needed on fire protection.”

- Individual, exposed to bushfire risk (EXP004P)

“Young families struggling to raise children and pay school fees etc place a low priority on insurance. In this disaster we have seen over \$100M raised for support of communities, this is a terrific community response but reinforces that the risk can be taken, “insurance can wait this year as if it all turns bad we’ll get help”. Insurance cover in high risk regions needs to be mandatory and collected as part of the taxation system in those regions”

- Retired CFA volunteer (SME030P)

The next three quotes suggest solutions to overcome each of these moral hazard problems. The first two call for the use of financial incentives to encourage property holders to invest in property protection measures, while the second asks for regulations that legally require all households in high-risk areas to insure properties against bushfire:

“Insurance companies could recognize fully accredited and commercially prepared individual fire plans, with a discount given on the insurance of the property. Staying to defend your home is hard work and insurance companies benefit the most by the owners saving their own homes.”

- Individual, member of the public (PUB006P)

Insurance premiums should be reduced as the degree of preparation increases. It is unfair for people who have taken the trouble to prepare their houses should subsidise people whose houses are subject to much greater bushfire risk.”

-Individual, household affected (DH60P)

“There should be compulsory fire insurance on houses, perhaps associated with rate payments ... The community needs to accept that there is a cost associated with safety in fire-prone areas.”

- Individual, household directly affected (DHC015P)

Other public submissions described another type of social dilemma known as a public good problem. This problem occurs when people do not contribute to the cost or effort of providing something that everyone benefits from (the ‘public good’), resulting in the public good being underprovided.

This type of problem arose primarily in relation to property holders’ contributions to reducing community bushfire risk and supporting fire-fighting efforts in their neighbourhood. According to the quote below, for example, people who do not invest in preparing their own properties against

bushfire increase risk for everyone in their local area and reduce the effectiveness of local fire-fighting efforts:

“Lack of preparation by all 6 neighboring properties including boundary neighbours and across the road contributed to the fuelling of this particular fire.”

“if you are not willing to protect your own personal property, then how can you expect someone else to do so, in a wildfire situation the emergency services are pushed to their limits and these people have family and properties also. In a lot of situations they are defending the areas in which they live, leaving their own properties unattended. People need to take responsibility for their own property and their properties immediate impact on surrounding areas.”

- Household, directly affected (DH012H)

A third and quite different type of social dilemma identified in a small number of public submissions concerned vested interests in the status quo. Some people argued that vested interests worked as a disincentive against reducing risk through more fuel reduction burning (FRB), which they felt would reduce everybody’s bushfire risk. The first quote below emphasises commercial or financial interests of private businesses and employees in fire-fighting, the second emphasises the professional and organisational interests of fire agencies, while the third suggests that politically powerful social groups have a vested interest (unidentified in this submission but presumably related to environmental conservation) in prohibiting fuel reduction burning:

“It must also be realised that fire fighting is big business to many, who wants to kill the goose that lay's the golden egg? Contractors, supplier's, right down to the lowly employee who looks forward to the overtime that fire-fighting gets him are happy with the status quo.

It is clear that the existing systems are well entrenched and will be very difficult to change, but if we value our country we must. There must be a concerted effort to educate the public to accept F.R.B and its consequences of smoke and occasional inconveniences for the greater good.”

- Landholder group, exposed to bushfire risk (EXP031G)

“Worse still, a culture of self-interest may develop. It can be questioned therefore, whether it is advisable to empower those whose employment is mainly in fire suppression to carry out fuel reduction burning for fuel reduction burning is the only means by which fire may be prevented.”

- Individual, exposed to bushfire risk (EXP023P)

“Research shows that the flora diversity was reduced and became predominately eucalyptus after the introduction of fire stick farming by the aboriginals. Since then human intervention has often been necessary to control fuel accumulation. The greatest difficulty to this control is the political influence of the petite intelligencia who do not research, except to 'confirm' their beliefs, and campaign for their personal interests without regard for reality, leaving the resultant chaos for others to deal with.”

- Individual, member of the public (P021P)

Hence social dilemma situations of various kinds were a type of responsibility-sharing challenge that was seen to present a barrier to risk reduction, predominantly by property-holders (through taking up insurance or preparing and protecting properties) but also by fire agencies and their contractors (through fuel reduction burning).

2. Inappropriate normative standards

Inappropriate normative standards present a very different kind of challenge for sharing responsibility. In the context of risk, normative standards are the rules – whether moral (ethical), legal, or role-related – that prescribe what obligations different parties have for managing risk and what sanctions they should face if they do not fulfil their obligations. They therefore provide the standards against which we judge whether people and organisations have fulfilled their responsibilities, and what penalties are faced when responsibilities are not fulfilled. Laws, charters and local government regulations are examples of legal normative standards. Human rights such as the right to life or free speech are examples of moral standards that may or may not also be protected by law, while codes of conduct and employment position descriptions are examples of role-related standards that lay out what is expected (but not necessarily legally or morally required) of people or organisations with respect to particular roles or positions.

When disasters and emergencies occur, they often create dissatisfaction with existing normative standards, or alternatively put existing dissatisfaction into sharper relief. This is particularly likely when the outcomes and consequences are unexpected and shocking (Weiner 2006, p. 4). However, as was shown in the public submissions, which normative standards are judged to be inappropriate depends very strongly on people’s particular perceptions of the causes of the disaster.

Moral standards

Relatively few people overtly referred to the need for moral standards concerning bushfire risk and safety to change in society. However, quite a few used the term “duty of care” in various contexts without clarifying whether they were referring to a moral or legal duty or both. The three quotes below are examples that more directly called for greater attention in bushfire management to standards concerning moral obligations towards human rights (first two quotes) and the rights of the environment (third quote):

“All interventions should be implemented using a rights-based approach and the needs of people with disabilities have to be considered before, during, and after emergency.”

“There is now a wealth of international material about principles and strategies to ensure emergency planning is inclusive of all people ... There is limited awareness of these principles in Australian emergency planning and response agencies... Many of these resources are not widely known in Australia and there is little Australian material that focuses on the responsibilities of emergency services to ensure that their planning and operations are inclusive of all people”

– Disability advocacy group (SA001G)

“The right to life is enshrined in both the United Nations Universal Declaration of Human Rights (Article 3) and the International Covenant on Civil and Political Rights (Article 3); it is the most fundamental of all human rights. A review of the documents that have been abridged in this report, leads us to question whether and to what extent the right to life has been upheld by recent public policy activity pertaining to the Victorian Bushfires.”

-Group, subject matter experts (community policing and management) and household directly affected (first author) (SME/DH53G)

“In 2009 the Australian National Human Rights Consultation Committee released its recommendations on human rights protection in Australia. It did not recommend that environmental rights be included. While I respect the work of the Consultation Committee, it seems to me that a strong case can be made after the devastation of 7 February that we have the right and responsibility to provide broad systemic public opportunity finally to understand the ecologies in which we live, and which we visit.”

– Individual, community directly affected (DC007P)

Legal and regulatory standards

Many more of the public submissions expressed criticism of existing legal and regulatory standards concerning bushfire risk management. A strong target for people’s dissatisfaction was standards relating to fuel reduction on private and public lands. This was also one of the most polemic responsibility-sharing issues raised in the public submissions, setting bushfire safety goals against biodiversity protection goals. As was recognised in the findings of the Royal Commission, people’s assessments of where legal and regulatory standards were inappropriate in this area varied considerably. It depended in part on the degree to which they felt that clearing vegetation led to a reduction in fire risk, and how they understood the connection between fire and biodiversity protection/ecosystem function.

Many people expressed the view that ‘green’ legislation or regulations have restricted fuel reduction burning which they believed was important for reducing bushfire risk. Some people felt that the problem was with State legislation while others felt it lay with local government regulations:

“Property owners must have control over their property(s) in making land safe and not have to hide and/or battle with green legislation, worrying that they will be prosecuted doing something that might save their family members lives from irresponsible regulations.”

– Individual, household directly affected (DH002P)

“Some local shire councils prohibit clearing activity on roadsides and on properties that are in the vicinity of State Forests. Burning off activity is strictly regulated by permit. There are limited unrealistic time frames for burning off in the context of safe bushfire management practice. Land owners incur large fines in the event that prohibited clearing is undertaken. That policy directly and indirectly contributed to the fuel load that had accumulated over decades in some parts of the State Forest.”

- Church group, support/advocacy for parishioners directly affected (SA005G)

Others felt that fuel reduction burning was important for both bushfire safety and biodiversity protection, and argued that existing regulations were generally inappropriate for land management under Australian conditions:

“We welcome the opportunity to once more try to bring sensible and relevant changes to the Government and its DSE policies and the Native Vegetation regulations. From our experience and observations - the bush has been locked up for at least thirty years. The policies and regulations developed over this period of time have proven to be unsuitable to the Australian conditions in relation to bushfire management and protection of the environment and public.”

- Landholder group, exposed to bushfire risk (EXP014G)

In addition to fuel reduction, a second area in which legal and regulatory standards were judged as being inappropriate with respect to bushfire risk was land use planning:

“A major failure of the planning scheme is the lack of provisions that encourage a responsible authority or the Victorian Civil Appeals Tribunal to say no to development in certain wildfire risk circumstances. Where the risk from wildfire cannot be adequately mitigated to protect life or property, or where such mitigation will cause unacceptable environmental impacts on habitat, soil stability or water quality, the provisions should clearly state that this constitutes grounds for refusal of a permit or a planning scheme amendment. There is no such guidance at present. There are too many weak weasel words in the planning scheme such as “the responsible authority should have regard to” or “should consider” or “the extent to which...” This is not satisfactory. What is required is stronger direction as to when a proposal should not succeed.”

- Individual, subject matter expert (urban planning) (SME024P)

The issue of legal liability compounds the challenges of setting legal standards for bushfire risk management obligations and this was also reflected in the public submissions. For example, the

quote below argues that government agencies were criminally negligent for failing to make adequate safety provisions and therefore that they should face legal sanctions:

“The lack of provision for people to escape and/or have some slight chance of saving their lives boards on criminal negligence and should be dealt with at law”

- Individual, member of the public (PUB010P)

However, others indicated that fear of litigation prevented public agencies and other stakeholders from taking on clear and direct responsibilities in various areas of activity:

“CFA brigades and individual members are fearful of being sued if they give advice. DSE is fearful of being sued if they burn off, or if they don't burn off. Councils are fearful of being sued for having refuges, as mentioned above. Authorities are fearful of being sued if they do give warnings, and if they don't. There needs to be some common sense injected into this litigation business, as it is stopping a lot of good things happening.”

– Individual, exposed to bushfire risk (EXP004P)

“As we moved through the 20th century we have seen a major shift in the way the community and individuals respond to accidents and fatalities. We now see immediate litigation. As I type I am hearing of a class action against the electricity distribution company associated with accusations of starting the Kinglake fire. Are we destined to waste money on lawyers as we move forward or are we trying to rebuild a community? Litigation is out of control, more importantly though, the CFA policy is being driven by the impact of litigation rather than the need to protect the community to the best of our combined ability.”

– Individual, retired CFA volunteer (SME030P)

Thus, the views in the public submissions show that establishing normative standards can be both a help and a hindrance when it comes to facilitating responsibility-sharing. Importantly, judgements of the appropriateness of normative standards reflected people's values and perceptions of causes and levels of risk. In particular, judgements of legal and regulatory standards concerning fuel reduction activities reflect differing opinions about the importance of fuel reduction burning for reducing risk. It also reflects a significant trade-off between two important goals in landscape management in Australian rural and peri-urban areas: community bushfire safety and environmental protection and amenity. Finally, assessments of legal obligations of public agencies also reflect people's opinions on the appropriate balance of rights and responsibilities between government and citizens. This issue lies at the centre of the next type of responsibility-sharing challenge: the contested social contract.

3. Contested social contract

The term 'social contract' is a metaphor that describes the balance between the rights and responsibilities of a government and its citizens that is socially accepted in a society. It comes from an idea that is fundamental to many branches of political philosophy: which is that the justification for government existing is that people consent to give up some of their individual freedoms in order to gain benefits from living in an organised, governed society. So, for example, we consent to be taxed, subjected to laws and imprisonment, to having our private activities curtailed, so that we can

benefit from the government's roles in maintaining order, increasing our safety, and providing services such as education and health (see for example O'Brien *et al.* 2009; Pelling and Dill 2010).

Very different views exist in any society about the set of benefits and duties that citizens should expect in order to be part of an organised society; and by corollary, about how much a government should be able to intervene into the life and choices of its citizens. This is evident, for example, in people's choice of political affiliations that reflect more or less liberal or conservative views and values. Like the preceding responsibility-sharing challenge, the contested social contract concerns disagreement and conflict over normative standards that determine obligations for bushfire risk management. However, it is also very different because it involves a fundamental, systemic critique of the way society is organised and the freedoms and duties citizens and government agencies ought to have rather than being restricted to a critique of particular laws or regulations.

Disagreement over the basic rights and responsibilities of citizens and government with respect to bushfire risk management was quite strongly evident in the public submissions. In some submissions, government agencies were clearly seen to have failed in their fundamental duties to protect citizens from bushfire:

"The circumstances surrounding the bushfires of 7 September 2009 ("Black Saturday Bushfire") are characterized by -

- a. A systemic failure in respect of bushfire warnings provided by the Department of Sustainability and Environment ("DSE) and the Country Fire Authority ("CFA").*
- b. Policy failure in respect of bushfire land management by DSE and municipal councils.*
- c. Policy failure in respect of public education in relation to bushfire threats.*
- d. Policy failure in respect of planned emergency responses to a major bushfire disaster."*

- Church group, support/advocacy for parishioners directly affected (DC005G)

"The factual evidence documented herewith presents a case of irresponsibility, incompetence, failures in duty of care, and evasive manoeuvres on the part of the Shire of Yarra Ranges and the CFA. The Yarra Ranges Shire, CFA and MLA Monbulk were given specific written warnings of the existence of a dangerous fire hazard at [NAME OMITTED] as early as [DATE OMITTED]. These unheeded warnings, preceding the 2009 bushfires, brought negative response from the Shire and no response from the CFA."

- Household, exposed to bushfire risk (EXP028H)

However, in other submissions governments were seen to have clearly interfered too much with citizens' choices and constrained citizen's rights in ways that had increased people's risk. In the following three quotes, this view was reflected with respect to risk reduction (vegetation-clearing, land-use planning) and bushfire response (fire refuges):

"The withholding of approvals to cut back trees around houses and indeed the prosecution of people who do makes the councils responsible for much of the loss of life and property, but of course none of them will be taken to court over this failure in responsibility. The courts themselves can take some responsibility due to its prosecution of people trying to protect themselves. Also the fact that these councils only have one road into these fire prone areas shows lack of care. By allowing councils to dictate control over trees on owners properties they remove owners' rights but then when there is a cost, the cost is imposed back onto the owners. Where is the legal right of the owners. If councils impose rules they should bare the responsibility!"

- Individual, member of the public (PUB017P)

"It is my opinion that any research by the commission should do more than consider the obvious facts i.e. the deaths, the destruction etc. Investigations should study fundamental causes which must include excessive state government controls and directives, especially those programed to control and simplify local authority planning departments."

- Individual, exposed to bushfire risk (EXP013P)

"When presented with the "stay or go" we were advised there was no longer the option of using the refuge due to insurance. I was quite flabbergasted with this "no option" as what did insurance have to do with the saving of lives (if ever presented with the choice)? What I mean is that adults can make a responsible choice in the matter of life or death and I would challenge the councils that the lack of having use of our community refuge is also a legal issue i.e. they are taking our right to make our own decision in a catastrophe. Who are they to tell us what decisions to make? Ordinary people are not thinking in regards to the legality of a refuge, ordinary people are thinking of having safe haven in the case of emergency."

- Individual, household directly affected (DH029P)

However, others supported a greater degree of intervention by governments to reduce bushfire risk. The following quotes call for greater intervention to reduce risks associated with unprepared residents and arson:

"I believe all residences in fire prone areas should be assessed for degree of preparation. Ideally residents should also be tested for preparedness (such as knowledge of fire behaviour and the quality of their fire plan). Residents subject to high risk or above should be advised to leave early on days of total fire ban."

- Individual, household directly affected (DH60P)

“Authorities need to clamp down on arsonists and when convicted, they should be on a police register for life, similar to child sex offenders. When high fire danger days are predicted, these 'registered people' need to be directly monitored by the police. It would also help if psychological profiles were carried out on emergency service volunteers.”

- 'Friends of' bush interest group (SAI35G)

“An adult will need to register and apply for a plastic card (similar to a drivers license) every five years for a small fee of around \$25 before the consumer will be able to make a purchase of any of the above mentioned fire lighting devices. [...] In future an individual will not have easy access to fire lighting devices so minimizing the use of all fire lighting devices in the community which will reduce the risk of irresponsible behaviour of firebugs and careless smokers.”

- Group, private technology business (PUB58G)

A different view of government's responsibilities was that either the extreme conditions of the Black Saturday fires or a lack of adequate resources meant that people could not reasonably expect governments to fully protect them. Hence the responsibility fell to citizens and not to governments, at least in some conditions, out of necessity:

“Many of the community had been to CFA fire preparation sessions in the previous few months. It is possible that some householders are given the impression that the fire services (CFA. Etc) are there to protect them. However, the bottom line is that the ultimate responsibility for fire protection lies with the occupant. Under the conditions of 7 Feb no fire service could cope with the conditions or attend individual houses. Having a fire plan and implementing it was like following a script of a play. We each new our role and, although we were dangerously late in partial evacuation (largely because of the speed and fury of the fire) we knew as individuals what to do and what the others were doing.”

- Individual, household directly affected (DHC015P)

“the existing system of bushfire fuel management close to residential areas is not adequate, even with best practice in current fire management, to offer significant protection to properties in vulnerable locations. This is not the fault of councils or government authorities who are doing their best within the limited resources the community provides to carry out their responsibilities. The community must seek other means of mitigation of bushfire hazard apart from hazard reduction burning by council staff and volunteer bushfire brigade crews. Such means could include: ... Better acceptance by householders contemplating purchase of, or already living in, existing properties in very vulnerable locations, as described in point 7 above, that the holding of, or living in those properties involves obligations of awareness and action to mitigate fire risk which are not normally part of the responsibilities of property holders or residents of property in less fire-vulnerable locations.”

- Individual, subject matter expert (urban planning) (SME027P)

“residents everywhere must be responsible for their own welfare: - CFA cannot protect every house, Victoria Police cannot advise every individual Household - hugely adequate warnings were provided in radio, TV, print media about the very bad conditions of the week preceding 7 Feb; and nobody living in Victoria can say they were not aware that 7 Feb was a very, very bad day. - given that everyone knew it was a bad day, EVERYONE had a self-survival obligation to remain alert all day, and all night.”

-Individual, household directly affected (DH64P)

Hence a key challenge to responsibility-sharing in bushfire risk management is contestation over the nature of the social contract that underlies it, particularly with respect to risk reduction and response. The basis of the social contract affects people’s expectations of the rights and responsibilities of people who live with bushfire risk and of the roles and duties of state emergency management agencies and local governments.

This is a particularly thorny challenge that is likely to be resistant to resolution through traditional policy-making processes. When the nature of the social contract is itself questioned, wide-spread agreement over responsibility-sharing is unlikely to occur because the social foundation on which such agreements are based is itself contested.

4. Contested legitimacy of governance arrangements

The next type of responsibility-sharing challenge examined in the public submissions concerned the legitimacy of governance arrangements that affect bushfire risk management. In political theory the term ‘governance’ is used to refer to a shift in governing styles away from a reliance on the formal processes of government towards an approach that involves greater regard for interactions between government and non-government stakeholders (Renn *et al.* 2011). A key reason given for this shift is a general decline in modern democratic societies in the degree to which citizens feel that government decision-making arrangements are legitimate and trustworthy. This decline has been linked to changes in social, political, economic, and technological conditions that make risk management, as well as other areas of modern governance, more complex. In particular, the rise of new forms of technological risk (Beck 1992) and neoliberal political ideologies are highlighted as drivers for this change (O'Malley 2008). It has left formal political institutions struggling to govern complex risks effectively, creating a crisis of legitimacy. This crisis is further compounded when the decisions that are being made involve high stakes or unclear and incomplete scientific knowledge (De Marchi 2003). Examples of governance arrangements that might be contested include the arrangements for designing, authorising or implementing new laws, policies or programs.

Responsibility-sharing challenges in this category are similar to social contract type challenges to the extent that both concern relationships between government and citizens. However, the two sets of challenges are also very different. Whereas social contract challenges concern disagreement over the substance of the rights and responsibilities of governments and citizens with respect to bushfire risk management, governance challenges concern disagreement over the arrangements for how these roles and responsibilities are determined. The substance of these roles and responsibilities are unlikely to be agreed upon or widely accepted if the arrangements for determining them in the first place are seen by key stakeholders to be illegitimate. According to some theories, one outcome of governance challenges is that responsibility for risk management is being inappropriately shifted (either in practice or in political discourse) away from government and towards the individuals and populations that are at-risk (Beck 1992; Bickerstaff and Walker 2002; Gray 2009).

Responsibility-sharing challenges related to the legitimacy of governance arrangements were reflected in the public submission through statements that indicated low levels of trust in: formal decision-making processes; the scientific and policy bases for some of those decisions; and policy-makers and government actors themselves. They were also reflected in calls for increases in the extent to which citizens and civil society are involved in and can influence decision-making about bushfire risk and safety, and in critiques of undue government bureaucracy that prevented governments from exercising responsibility for risk management.

A small number of public submissions directly critiqued the legitimacy and accountability of governance arrangements related to the Black Saturday bushfires, or more broadly to living with bushfire risk in Australia:

“Over the past year, all of us involved in the bushfire and the aftermath have, in a profound way, been living many of the questions of our time. We have been struggling with understanding: ... the governance challenges we face as we move from forms of representative government to forms of participatory government in the context of unprecedented civil society expansion, courtesy of the ongoing technological revolution.”

– Individual, community directly affected (DC007P)

“Along with the growth of the large and powerful bureaucracy which is charged with the management of forest and parks, the notion of accountability to the public has been to some extent lost. This may be because of a lack of interaction and decision making at a local level, for where the problem or work is faced at close quarters and the decision maker cannot 'move on', they must own the results of decisions. In other words, the bureaucracy breeds a lack of engagement through its processes of promotion and advancement.”

- Individual, exposed to bushfire risk (EXP023P)

Other submissions more specifically criticised the lack of involvement of non-governmental stakeholders from civil society in decision-making about roles and responsibilities in bushfire risk management during both bushfire planning and recovery:

“Community engagement strategies such as an interactive education program allow vulnerable communities to inform agencies of their needs, and agencies have to be honest in responding to community needs. This includes clearly stating identified risks, roles and capacities of emergency services and expectations of Shared Responsibility in emergency management.”

- Disability advocacy group (SA001G)

“During the disaster recovery process, such organisational competence and local knowledge has been sidelined and ignored again and again. As both witness to, and being subjected to this process, I can attest it has been on occasion quite confronting and even shocking. This is especially the case with agency workers who are obviously well-intentioned. It became clear over time that something quite deep is going on.”

– Individual, community directly affected (DC007P)

Other aspects of governance arrangements critiqued in public submissions were: undue bureaucracy that was seen to prevent necessary action by government agencies, undue political influence of environmental groups, and the politicisation of what should be technical/scientific risk assessment decisions:

“This bureaucratic red tape is the responsible Council Officer's "security blanket" for not taking any initiative to modify the bush fire problem. It has been initiated by Government but what is incredible is that the recent bush fire experiences have not been sufficient evidence for the Council to shoulder responsibility and take appropriate action on behalf of its ratepayers.”

- Individual, exposed to bushfire risk (EXP025P)

“It is of great concern that we learn from a number of highly reliable sources within Victoria, that efforts to bring the bush fire situation under at least a measure of control by some local and state wide authorities have been frustrated by various well meaning, but totally misguided environmental groups and individual activists who are opposed to the practice of any system of hazard reduction by controlled burning, and have applied heavy political pressure to prevent such well proven operations.”

- Individual, bushfire management experience (BFM46P)

Weather, staff, resources and ecological requirements dictate how much will be burnt in any given year, not some Spring Street guesstimate based on the level of public hysteria.

-Individual, member of the public (PUB51P)

The use and legitimacy of science in risk management was also questioned. The first two quotes below suggest that decision-makers have disregarded scientific knowledge and evidence, while the third questions the legitimacy of the fire science on which management practices are based:

“Unfortunately in the past the 'powers that be' have not acted on such recommendations or taken too long to be of any value. E. G. Fire experts like David Packham from the CSIRO give their advice and the so-called 'responsible parties' Choose to ignore relevant sound advice and predictions, which has now been proven to be accurate.”

- Individual, bushfire management experience (BFM32P)

“There has been little scientific rigour to verify claims that the wide use of fuel reduction burns is an effective fire management tool. In the absence of evidence showing whether or not the general use of prescribed burns has a serious role in mitigating risk, the observation can be made that the burns are just a matter of being 'seen to be doing something!' Anecdotal evidence demonstrates very clearly that in February there was no difference in fire behaviour.”

-‘Friends of’ bush interest group (SAI35G)

“The single greatest flaw in Australia's response to wildfire has been the isolation of fire science and fire management from public view. The entire structure is dysfunctional precisely because it has been ignored. Fire policy and science has evolved without scrutiny. Fire history has been forgotten. Dubious concepts and irrational practices have flourished uncontested. Vested interests have had a malign and distorting influence.”

- Individual, subject matter expert (wildfire) (SME016P)

Such governance challenges were not the most prevalent type of theoretical responsibility-sharing challenge reflected in the public submissions. However, this may be due to the ‘big’ scale of the issue. Not many of the public submissions were from people with inside knowledge or experience of governance processes. However, many submissions did question more micro-scale governance issues of how government and non-government actors and parties work together on a day to day scale. These issues fall into the related category of implementing ‘good governance’ principles, which are a responsibility-sharing challenge related to the practices of working together discussed later in this report.

5. Social capacity

A very salient responsibility-sharing challenge in bushfire risk management at the moment is that of recognising, supporting and building social capacity, or the capacity to engage in social interaction. Social groups and communities that have greater capacity to engage in social interaction are generally seen as better able to engage in collective action to reduce their own risk and to recover from risk events (e.g. Nakagawa and Shaw 2004; Murphy 2007; Norris *et al.* 2008). Conversely, if social capacity is low, at-risk populations may be less able to coordinate and communicate to manage their own risk and may therefore tend to rely more heavily on external risk management agencies.

In sociology this type of social capacity is known as social capital. Social capital is described as the value of social interactions including “relations of trust, reciprocity, and exchange; the evolution of common rules; and the role of networks” (Adger 2003, p. 389). Social capital is widely regarded as essential for enabling all forms of collective action (Adger 2003; Ostrom and Ahn 2009). Another closely related concept is that of community resilience, which is central to the National Strategy of Disaster Resilience. The Strategy lists four common characteristics of resilient individuals, communities and organisations, which are: “functioning well while under stress; successful adaptation; self-reliance; and social capacity” (COAG 2011, p. 5, emphasis added). According to the Strategy resilient communities also “share the importance of social support systems, such as neighbourhoods, family and kinship networks, social cohesion, mutual interest groups, and mutual self-help groups” (p. 5).

An example of social capacity in action is the way that knowledge of local conditions that impact fire behaviour and risk, and social norms (informal social rules) about bushfire safety are conveyed and made meaningful through social interaction (e.g. Brenkert-Smith 2010). This interaction can occur in very diverse ways, from casual conversations over neighbour's fences to organised working bees arranged through community fireguard groups. On the other hand, misconceptions about bushfire behaviour, risk and safety might also be conveyed through social interaction, particularly when social networks are not connected to people or groups that have good knowledge of bushfire that is relevant to local conditions. This reflects what some social capital theorists refer to as the "dark side" of social capital (Woolcock 1998).

The responsibility-sharing challenge related to social capacity stems largely from the way formal risk management processes, actors, and decisions impact on this social capacity and vice versa. Experience has shown that formal risk management arrangements can overlook or undermine the social capacity of communities. There is a tension in bushfire risk management between the need to draw on specialist knowledge, skills and resources that are held by emergency service agencies and accessed through formal processes, and the concurrent need to draw on local knowledge, skills and resources that are held within communities and accessed through informal social networks. In order that people and communities at risk of bushfire can share responsibility for bushfire risk and safety with emergency service agencies, their social capacity to collectively manage risk must to be recognised and supported. However, this is complicated by the fact that social capacity takes many different forms and is difficult for agencies to identify. Further, different communities have different levels of social capacity, not everyone in a community is connected to supportive networks, and existing social capacity will be stressed and stretched during times of crisis. Additionally, the way that social capacity is mobilised and the degree and type of support that communities need varies for different aspects and stages of bushfire risk management.

A number of the public submission that we reviewed clearly showed that people felt government agencies had not adequately recognised or supported existing social capacity in communities affected by the Black Saturday bushfires:

“Community empowerment” should mean every resident safely accounted for in a crisis. You are not empowered by a mop or by being told to "leave early", whatever that means.”

- Individual, subject matter expert (wildfire) (SME16P)

“A person should not be identified by her/his disability; interventions should focus on people with disabilities’ ability and potential to participate in society. In emergency management, by incorporating disability implications in all phases of intervention, awareness within the community, local organisations and key stakeholders is increased, thereby promoting the rights of people with disabilities. In addition, working through a rights-based approach considering specific needs of people with disabilities will benefit the entire population and improve the situation of other vulnerable groups such as the elderly, children, and pregnant women.”

- Disability advocacy group (SAI01G)

“The DHS community recovery model shows little acknowledgement of or insight into the particular role of local community groups within rural and regional areas, including those that, with urban sprawl, are now in the “interface” or peri-urban bushfire prone arc around Melbourne... Nowhere in the diagram however, are the various active local community organizations explicitly identified and included.”

– Individual, community directly affected (DC07P)

One aspect of social capacity that was given direct attention in some public submissions was regard for and use of local knowledge. Some people indicated that local knowledge has been disregarded by government agencies and the scientific community in a way that has increased people’s exposure to bushfire risk:

“As farmers and long term residents of this district (particularly reflecting on Whittlesea district as a broad acre farming region in the past) we have grown up understanding the need during days of high fire danger, to be ever vigilant, spending much time outdoors observing the weather and watching for fires.”

- Landholder group, directly affected (DHC18G)

“There is much debate about how often bush should be burnt, the scientists want to establish scientific rules but we are dealing with nature which is so unreliable and unpredictable and with different types of forests, wet years, dry years, and periods of drought or alternatively floods, so, periods that a certain forest will burn vary considerably. A bushman's 'Rule of Thumb' is that if the fuel levels have built up and it wants to burn - let it. This is the way nature herself does it. If there is no fuel it won't burn, there is little to be achieved by more scientific studies.”

- Landholder group, exposed to bushfire risk (EXP31G)

A few public submissions also acknowledged that social capacity is stressed at times of crisis, and that levels of capacity differ from community to community. They explained how community support networks could be overwhelmed in extreme situations, and called for government agencies to reinforce and back up these networks rather than relying too heavily on them:

“Community social networks are often assumed to be the ‘backbone’ of rural communities in Australia. Many assume that all rural communities are ‘close knit’ and look out for each other. Whilst this is often the case, there are exceptions, due to cultural differences, personality clashes and transient nature of some communities. Many rural communities ‘all pitch in together’, but in times of emergency resources may be thinly stretched. In many rural communities, those who are responsible for or ‘look out for’ seniors and people with disabilities are also the emergency services volunteers or are defending their own properties.”

- Disability advocacy group (SAI01G)

One submission directly expressed concern about the ‘dark side’ of social capital. It highlighted how social networks may convey ideas and information that increase people’s risk rather than reducing it, particularly when these networks are not informed by specialist risk knowledge conveyed through formal communication channels:

“Word of mouth communication is famous for its lack of accuracy and balance. Where formal communication is unclear, ambiguous or contradictory, or assumes knowledge that the recipient does not have, informal or word-of-mouth communication takes its place.”

- Local business interest group, exposed to bushfire risk (SAI11G)

Another submission from a subject matter expert in urban planning directly argued that members of communities needed to work to build up their social capacity for collective risk management rather than relying too heavily on formal risk management arrangements:

“The community must seek other means of mitigation of bushfire hazard apart from hazard reduction burning by council staff and volunteer bushfire brigade crews. Such means could include: ... Street-level organisations in vulnerable areas to ensure that fire plans and evacuation drills are in place and regularly rehearsed ... Co-operative efforts by householders to remove fine fuels within 300 metres of their properties, preferably on an annual basis and at least on a biennial basis.”

- Individual, subject matter expert (urban planning) (SME27P)

Another individual who was involved in community recovery efforts following the Black Saturday bushfires expressed support for a focus on resilience and volunteering in emergency management policy and practice:

“I was pleased to see recently that two of the four pillars of policy development into the future for Emergency Management Australia are “resilience” and “volunteering”. These are key values for civil society, the government and economic sectors, and their inter-relationships, above and beyond the extreme and traumatic experience of disaster. Indeed the terrible cost of this disaster tells us important information about the many interacting and evolving systems in which we have been living.”

– Individual, community directly affected (DC07P)

Thus recognising, supporting and building social capacity in communities for collective risk management is a core responsibility-sharing challenge. Thus looking through this window highlights the importance of: finding ways for formal risk management to better recognise and support existing social capacity; increasing community-based efforts to build social capacity for collective risk management; and connecting specialist knowledge and skills located in public agencies with local knowledge and skills. This is likely to be important for all aspects of risk management, but particularly for bushfire preparation and recovery.

6. Divergent attributions of cause and blame

A prominent challenge for sharing responsibility that looms large during inquiries after natural hazard events is the way that individuals attribute cause and blame for the negative consequences of an event to particular parties. In order to attribute blame, an agent must be identified, that is a party which had some control over events and the freedom to choose to do something about them (Bickerstaff and Walker 2002). Psychological research highlights two particularly important sets of factors that shape how people identify agents and attribute cause and blame: judgments about the degree of choice and control the involved parties had, and the influence of individual, social, and cultural styles and biases in the way cause and blame are attributed (e.g. Weiner 2006, p. 32). Differences in the way people attribute cause and blame will in turn influence their behaviour and attitudes (Kelley and Michela 1980) and can create sharp disagreement over where responsibilities lie and how they should be shared.

This set of challenges is closely related to those created by inappropriate normative standards, which have already been described. Parties are held to account or blamed when they are judged as having failed to adhere to the normative standards that determine their legal, moral and social obligations. However, even when the appropriateness of existing standards for determining accountability are not contested, conflicts can still arise due to differences in people's assumptions and assessments of: 1) how much choice and control different parties had in exercising their responsibilities, and 2) which particular activities and decisions caused, or most influenced, the outcomes of a hazard event.

Many of the public submissions sought to identify particular agents that could be held accountable for the consequences of the Black Saturday bushfires. This is clearly illustrated in the following quote:

“As the Commission continues I am increasingly frustrated with all individuals from organizations who are testifying in this commission ... Either people or organizations are at fault or they are not. I honestly cannot see any resolving of the delegating of guilt in this commission as everyone being questioned appears to being groomed by their lawyers. Since when did Australia become a society of wimps who cannot take responsibility for lack of action or lack of duty of care? People who have been affected just want closure and responsibility and I think it is a reasonable request.”

- Individual, household directly affected (DH29P)

Given that the source of material for this case study was public submissions to a post-bushfire inquiry, it is no surprise that attribution of cause, blame and responsibility to particular parties or groups featured in them strongly. One prominent theme was the attribution of responsibility for different aspects of bushfire preparation, response, and recovery to households/property owners on the one hand, and government agencies on the other. The agencies most commonly identified were the Country Fire Authority (CFA), local governments, and the Department of Sustainability and Environment (DSE) as a public land manager. Differences in how responsibility was attributed between these two groups shows that people made different assessments of how much control or choice each of these groups had in making decisions that affected community safety. Interestingly, while the Royal Commission proceedings and the media arguably focused primarily on attributions directed towards government agencies, responsibility attributions in the public submissions appear to be more evenly split between agencies and households/property owners:

Views emphasising household/property owner responsibility (and choice and control):

“A lot of the reporting of the enquiry seems to be focussed on finding someone to blame. I hope this is not what is actually happening in the enquiry. My feeling is that there was little that any of the ‘authorities’ could have done on that particular day, and that in the end it came down to the individual’s state of preparedness. This is not to imply a lack of sympathy for those who suffered.”

- Individual, exposed to bushfire risk (EXP004P)

“People are going crook at the DSE and large plantation groups and crown land for not controlling the undergrowth etc. Private property owners need to take responsibility for their own properties and the Government has to allow them to do so. Though in a lot of cases it is not the Government it is just sheer ignorance on the part of the landowner, it is all well and good to live in the bush, but the bush burns it is an Australian fact of life.”

- Household, directly affected (DH012H)

*“People make the choice of living in fire prone areas. With that choice there are responsibilities that include:
Informing themselves and their families regarding fire prevention, fire protection and fire behaviour.
Accepting responsibility of protecting themselves, their families and their property.
Being aware that the CFA cannot be responsible for protecting every property.”*

-Individual, exposed to bushfire risk (EXP57P)

Views emphasising government agency or government personnel responsibility (and choice and control):

“The view has been expressed that land management practices of the Department of Sustainability and Environment (DSE) and local municipal councils are one of the factors that contributed to the death toll and property damage arising from the 7 September 2009 bushfires.”

- Church group, support/advocacy for parishioners directly affected (SA005G)

“And the people that were trusted with looking after the community, all 3 levels of government failed in building fire protection, providing equipment, trained persons to fight the fire, and educating the people how to defend themselves from bush fire, they done nothing, nothing, can you believe it, nothing.”

- Individual, member of the public (PUB010P)

“With regard to the recent 09 fires, all those people who have lived in and have known the bush and the past mismanagement of Fuel Reduction Burning by the relevant authorities, are of the opinion that the fires were inevitable and that the deaths were directly attributed to lack of Fuel Reduction Burning and in particular to the “dirty” roadsides. If the fires were started by the hand of man or any other reason then this was only the pulling of the trigger. The gun was well and truly loaded by the relevant department’s lack of Fire Reduction Burning and roadside maintenance.”

- Landholder group, exposed to bushfire risk (EXP031G)

Another direction in the attribution of responsibility was towards environmental groups for influencing regulations and policies in state government agencies and local governments regarding land clearing to reduce bushfire fuel. These attributions were associated with views that a failure to reduce fuel adequately had been a major factor contributing to the loss of life and property. They also reflected the view that environmental groups and environmentally-minded landholders have had undue influence on government policies and procedures:

“I’ve attached just a few photos of our now nicely landscaped backyard thanks mainly to the greenies in the area, but that is yet another long story which I won’t go into in this email. Let’s just say that many of our friends here are finally making what is left of their land ‘safe’ and not worrying about getting a permit to mow the grass – I’m only kidding but it is almost that bad believe me.”

- Individual, household directly affected (DH002P)

“A true environmentalist would understand why the bush must be kept free of fuel build up- but the vociferous greenies have no understanding and continue to be involved in the law-making and regulations through local and State government which in turn inhibits good fire management policies”

- Landholder group, exposed to bushfire risk (EXP014G)

Surely if it is well proven that in fact environmental activists did apply political pressure to prevent hazard reduction they should be condemned by the highest authority in the strongest possible terms.”

- Individual, bushfire management experience (BFM46P)

However, some people directly countered the way cause and blame were being attributed by others in society, particularly with respect to environmental groups. Presumably this was garnered through media reports:

“When you describe a firestorm to the uninitiated you see that they have not thought of or found out what could happen to them in a wildfire. Even after being in a wildfire some want to blame others and not themselves.”

- Individual, member of the public (PUB006P)

"I'm just a disability pensioner, which may, in the eyes of some, devalue my views. It should not, however, detract from the validity of my arguments. My major concern is that, as usual, the 'greenie bashers' have been out in force since 7 February and I wish, at least in part, to counterbalance the cacophony generated by the opportunistic and the nescient. Science, not merely those with the loudest voices, should prevail."

- Individual, member of the public (PUB51P)

"As with the Canberra fires and indeed any fire that has caused dislocation and damage the "blame game" quickly becomes a media circus. The February 7th fires are no different. The environmentalists, conservationists and the "greenies" are once again the media's sacrificial lambs. It is disappointing that elements of the community seek to be divisive rather than constructive. This is a time requiring great care for, and healing of, our shattered communities. There will be many lessons to be learnt from these fires based on credible and factual information. To this end, my submission revolves around the resultant information that I would like to see."

- Individual, bushfire management experience (BFM34P)

Others argued against blame being laid too heavily at the feet of particular public agencies because they felt the capacity of these agencies to do more was restricted by operational, technical and logistical constraints. In particular, some people felt that state governments and state laws had undermined the strength and capacity of DSE and volunteer CFA brigades by constraining their economic and human resources:

"some misinformed people are blaming the extent of the fires on the inadequacy of DSE cyclic bumoffs. What nonsense! Successive state governments have strangled DSE (and its predecessors) to such an extent that they can hardly perform a useful service. Given their very limited budget (=personnel and equipment) they burn off as much as they can."

- Individual, household directly affected (DH64P)

"The Forest Act gives D.S.E. the total responsibility to control fire in State Forests and National Parks. Somehow this was changed dramatically to the detriment of fire control. It was very obvious the fires of 2003, with inexperienced National Park Officers and OH & S enforced to a ridiculous extent, putting the fires out were a secondary concern."

-Individual, bushfire management experience (BFM56P)

A number of people also questioned how much agency (choice and control) government agencies and personnel had given the extreme conditions. They therefore argued against blaming particular parties at all, arguing that the conditions were uncontrollable:

“Please DO NOT start the blame game. Everyone I heard on radio that night and subsequently were as one, that they had never seen anything like it. Even the warnings prior to the fires indicated what was to come would be unprecedented. There is no dispute either way. So what was learned should be the base as to how we could be better prepared. You cannot tell nature what to do, you must understand it and its processes and work within those confines.”

- Individual, member of the public (PUB09P)

“Since the fires there has been considerable comment and speculation in the media as to the reason for the intensity of and the rapid spread of the fires. Attempts have been made to blame the "Greenies", local government, insufficient fuel reduction and roadside vegetation for the severity of the fires and the extensive loss of life. These accusations have done nothing to address the real problems and certainly do nothing for the mental well being of those victims of the fires who lost relatives, friends and their homes. Many of these critics have ignored the effects of climate change on the intensity of bushfires.”

- Individual, exposed to bushfire risk (EXP57P)

“Fire service professionals and volunteers carried out a magnificent job in the most extreme situation, but the extent of the damage, loss of life and the anguish caused demonstrated that the combination of conditions on that day were totally uncontrollable.”

-Friends of bush interest group (SAI35G)

Thus, while attribution of responsibility and blame was a strong theme running through many of the public submissions, the degree and the direction of this attribution was more diverse and complicated than might first be expected. This presents obvious challenges for sharing responsibility. As psychological research suggests, differences in people’s attributions were affected by their assessments of not only the obligations and duties of different parties, but also of which activities and decisions could most reduce risk, and how much control and capacity different agents had to be able to carry out their duties.

Yet, while many people sought to identify particular parties that could be held to account for the loss and suffering caused by the Black Saturday bushfires a considerable number of people also argued against it. For some, this was because the conditions on the day were felt to be uncontrollable, while for others it was due to constraints seen to limit capacity to carry out responsibilities.

In the scope of this study we were unable to determine whether the individual, social or cultural attributional biases and styles identified in psychological research also influenced people’s attributions in the public submissions. Identifying these types of population patterns would require the use of a controlled, experimental sampling design.

7. Understanding sociocultural contexts of risk and responsibility

Another 'window' on responsibility-sharing challenges in bushfire risk management is relatively new to bushfire research in Australia but increasingly influential. It is provided by sociocultural perspectives of risk and responsibility brought to the field through social research approaches. These perspectives highlight how the sociocultural contexts in which risk management takes place matter significantly for the way responsibility is understood as an idea and is shared in practice.

Sociocultural perspectives offer a rather different way of understanding risk and responsibility in bushfire risk management compared to more established approaches. Perspectives that understand risk in probabilistic terms and focus on technical and physical aspects of risk management have been most prevalent in Australian bushfire research and management in the past (Pyne 2007). In contrast to these approaches, sociocultural perspectives see risk as something that is not just probabilistic and technical but which is also socially and culturally constructed. They highlight how the ways that people understand, experience, and act to manage risk are mediated by factors such as shared belief systems, norms and ethical frameworks (Renn 1998, p. 55; Lupton 1999a, p. 29; 1999b; Taylor-Gooby and Zinn 2006). Therefore, people's risk management decisions and behaviours are not based solely on technical assessments of risk but are also made in relation to sociocultural processes, values and beliefs.

Sociocultural perspectives also differ markedly from existing psychological approaches that focus on understanding and influencing people's perceptions. This perceptions-oriented research has generally compared people's perceptions of risk to technical risk assessments and positioned differences between the two as a result of perceptions that are coloured, skewed or biased in some way (see for example McCaffrey 2004). This research therefore focuses on understanding how these perceptions might be influenced or corrected to align more closely with the 'real' or probabilistic view of risk. In stark contrast, sociocultural perspectives emphasize that social and cultural processes are important and inherent factors in the way that people understand, experience and make sense of living with risk. This suggests that, rather than seeking to shape people's understanding of risk to align with technical understandings, managing risk requires that sociocultural contexts and social meaning and value are understood and addressed.

There are many ways that risk and responsibility are mediated by sociocultural contexts. For example, a given risk is less likely to be acceptable to people who do not trust the institutions and processes in place to manage it (Handmer and James 2007; Horlick-Jones and Prades 2009). Further, people's judgements of responsibility, including acceptance of personal responsibility, are formed in relation to political and social conditions, norms and dynamics (Bickerstaff et al. 2008). Meanwhile, the meaning of risk and responsibility can also change over time and vary across different social and cultural contexts. It is also important to realise that sociocultural contexts mediate what risk means to managers, professionals and policy-makers just as much as they mediate what it means to communities and social groups.

The challenge for responsibility-sharing highlighted through this 'window' lies in understanding and responding to the ways that societies and social groups make sense of risk and responsibility within particular sociocultural contexts. As these contexts are not stable, this challenge is likely to be ongoing and resistant to resolution.

The public submissions provided examples of the way that sociocultural contexts shape the way people understand and think about risk and responsibility. One important theme within them was the way that cultural understandings of bushfire in Australian society have shaped risk management attitudes and practices in this country. The quotes below, for example, suggest that

the cultural understanding of bushfire in Australia needs to change so that Australian society is better able to live with bushfire risk. The value of ecological knowledge, the myth of the 'heroic fire-fighter' and the positioning of 'fire as a destroyer' are all aspects of Australian culture that people felt needed to change in some way:

"I strongly believe that all Australians should know much more about their environment and how it functions. Only then can we manage our daily activities planned for long term survival through disasters and in the (near?) future, on the planet."

- Individual, member of the public (PUB009P)

Black Thursday was the first, but as long as there is a Victoria with its wonderful, unique, volatile flora, there will never be a 'last'. As long as people choose to live in Victoria, fire will be a part of our heritage, good for its regenerative powers, bad for the property damage and loss of life it can cause. It may be viewed with ambivalence, but we must stop facing it with ignorance. After almost every major bushfire event during the past century, there has been some sort of inquiry. Now, surely, to revisit Judge Leonard Stretton's refrain, we have lived long enough (in this State, with its climate, among its myriad vegetation types, to have gained an understanding of fires in our environment- if only we had bothered.)

- Individual, member of the public (PUB51P)

"The media's great success was to inflate the myth of the heroic fire-fighter. The common belief that CFA warriors will charge over the hill like the Light Brigade and stop the fire is truly dangerous."

- Individual, subject matter expert (wildfire) (SME016P)

"It is this commonly held perception of fire as a destroyer only which has caused the current emphasis by public and government alike on fire suppression. This has been to the detriment of sufficient allocation of money and work to fire prevention. Fire prevention begins with fuel reduction. A long history of neglect has led to fuel loads which are excessive and which have created the intensity of the fires state wide."

- Individual, exposed to bushfire risk (EXP023P)

"Excluding fire for 'Ecological reasons' makes no sense and the reality is that we must learn to live with fire in our forests. Part of that lesson must be that unplanned fires in all but summer only be controlled when and wherever they have potential to damage bio-diversity and/or lives or community or private assets. The current culture of 'fight every fire' must change to one that utilizes everywhere possible natural fire to reduce fuel and this coupled with man-lit fuel reduction burns achieve the ultimate aim of a mosaic of different age burns across the country."

- Landholder group, exposed to bushfire risk (EXP031G)

A second, albeit less prevalent, theme in the submissions was the need for formal bushfire management procedures to take into account the social nature of how people manage and live with risk:

“The current warning system is based on sound fire science and risk management, but does not take into account the variety in populations within each fire region – their knowledge and experience of fire, or the way they have their homes and support networks set up.

The system supposes that it is talking to individuals, that individuals need to make decisions that they are comfortable with, and that each individual is not responsible for another. Yet the reality is that during fire threat, people act in groups to support one another or as a mob. It is not only individuals who are making decisions to stay or go, or to leave early, but communities generating their plans together; it is communities who are responsible for clear communication. These communities are local and specific, and inseparable from their “fire environment”. A grass fire in the Mallee is just not the same as a forest fire in the Alpine area.”

- Local business interest group, exposed to bushfire risk (SA011G)

Another theme was the way that people’s decisions in response to the bushfires were mediated by the demands, conditions and responsibilities in their everyday life. In the example below, a woman’s concerns about her daughter’s safety had to be negotiated in relation to her daughter’s everyday concerns – in this case a friend’s twenty-first birthday party:

“Twenty minutes later the fireguard representative called to warn me about the mill fire and its movements. My 21 year old daughter was planning to go to a 21st in Warburton and we argued about it for some time as there was a fire in Old Gembrook Road, Bunyip State Forest and around Koo-wee-rup so I was incredibly nervous... My daughter turned on the radio 774 ABC and around 3.30pm heard that the Kilmore fire was moving towards Whittlesea which worried me as it is not far from Kinglake. My daughter realized that things weren't looking good but she still went to the party but allowed me to pack her some water, fire resistant clothes, insulation etc.”

- Individual, household directly affected (DH029P)

A number of the public submissions also recognised that changing social conditions have led to increased risk for some people, which may also shift risk management responsibilities. For example, the quotes below emphasize the increased risk for holiday makers and ‘newcomers’ who are likely to have a lower understanding of local bushfire risk than more permanent and long-standing residents:

If a fire started it would be all too late. One would hope that residents would leave the night before. However many will be holiday makers renting a property and they will not be alerted to the threats of the area. Of course, another group will not accept the facts of the situation, which is often the case.”

- Individual, exposed to bushfire risk (EXP65P)

“In parts of the Dandenongs, for example, properties change hands fairly regularly and consideration must be given to the new comers. When these people move into fire prone areas they need to be advised of the dangers in such areas and be shown if necessary, how to interoperate the weather and fire conditions on bad risk days as well as how evacuate safely at the right before it is too late.”

-Individual, bushfire management experience (BFM32P)

A few people also commented on sociocultural factors that impacted on formal bushfire management arrangements, such as volunteer retention in the CFA and media criticism of agency staff that influenced decisions about fuel reduction burning:

“A workforce of similar size and experience to prescribe burn large areas of public land and control unwanted fires immediately they start is not available today. The reduction in numbers of trained field operatives across departments and agencies, loss of “bushies” through changes in forest management, change of machine types (plantation harvesting machines are no longer bulldozers etc), loss of CFA volunteers due to decline in rural population and higher accreditation requirements have all contributed to the inability to mount fast and vigorous attack when many fires start more or less simultaneously.”

- Group, subject matter experts/bushfire management experience (SME33G)

“In the political climate prevailing through the 1990's any outcome that made news was unacceptable regardless of whether or not the objective of burning was met. Staff were exposed to criticism and naturally felt that their professional reputation was on the line every time they made a decision to burn. Many doubted the support they would receive if “their burn” became newsworthy.”

- Group, subject matter experts/bushfire management experience (SME33G)

The above quotes show how sociocultural contexts shape – and often complicate – responsibility-sharing. They show how managing risk and negotiating responsibilities involves much more than just making or heeding technical risk assessments. At a large, societal scale, responsibilities for different aspects of risk management (e.g. for warnings, fuel reduction burning etc) are shaped by cultural understandings of bushfire. If all fire is culturally positioned as being ‘bad’, then society may expect risk management to focus on eliminating or mitigating it in all circumstances. However, if fire is accepted as an important dynamic in some Australian landscapes, then management practices might shift towards a focus on managing fire in accordance with ecological dynamics, protecting people and infrastructure rather than fighting fires, or implementing building and planning regulations that reduce the human impact of bushfires when they do occur. Of course, when both these understandings are present in society, social conflict over appropriate roles and responsibilities will erupt. Alternatively, the cultural icon of the heroic fire-fighter may influence who volunteers with fire and emergency service agencies, or create the expectation that fire-fighters can be relied on to protect homes and lives in all bushfire threats.

At the smaller scale of individuals and households, people’s decision-making with respect to fire will be mediated by everyday demands and experiences, such as what is happening in people’s lives on the particular day that a bushfire threatens. Through the window of sociocultural perspectives, the examples above are not just perceptual biases in people’s judgements of the

degree or type of risk posed by bushfire that need to be corrected. Instead, they are examples of the way that living with bushfire risk is understood by all of us *in relation to* our social and cultural processes, values, norms and everyday lives.

8. Uneven distribution of control and capacity

The next conceptual ‘window’ for examining responsibility-sharing challenges focuses our attention on the way that responsibility is contingent on the way that control and capacity for bushfire risk management are distributed within a society. In particular, it highlights challenges associated with limits and inequality in people’s access to power and resources, and factors that make some people more vulnerable than others.

As a focus on the way that individuals attribute cause and blame also reveals, for agents to be capable of taking on responsibility for risk management decisions, actions and outcomes, they need to have the freedom of choice to make decisions and the capacity to act. Further, where people’s choices and capacities are restricted by inequalities and structural constraints (and hence their vulnerability to risk is potentially increased), this may create responsibilities for other parties, particularly governments, that have greater power to change social structures and influence people’s access to valuable resources. For example, critical studies of marginalisation and social exclusion expose constraints on people’s actions that suggest limits to personal responsibility. These studies warn against unfairly blaming marginalised people for plights over which they may have little control (Powell 2008; Schmidt 2009; Stuvøy 2010). However, some approaches also bring attention to the ways that people may act to work around their constraints (Hansen *et al.* 2002; Flint and Luloff 2005). Importantly, many of these constraints exist in society prior to a disaster or crisis occurring but are compounded under crisis conditions.

This type of responsibility-sharing challenge was reflected primarily through people’s criticism of government (and scientific) policy and discourse for a lack of attention to factors that limit people’s capacity to respond to bushfire and take responsibility for their own safety:

“So the victims are to blame. They fled too late, or exposed themselves to radiant heat while fire fighting outside “defendable” refuge-buildings, or neglected to emerge to deal with embers after the fire front passed. This absurd conclusion is derived from a single false assumption: that houses are “defendable”.”

- Individual, subject matter expert (wildfire) (SME016P)

Thus some people called for greater efforts by government agencies to reduce or counter the effects of inequalities and vulnerabilities in society that increase some people’s levels of risk unfairly. In the examples below, this is expressed through a call for government agencies to make information and resources available in formats that better meet different groups’ particular accessibility needs, and a request for regulation to increase fairness in the way planning decisions impact people’s risk exposure:

“Resources need to be available in multiple formats for people with sensory impairments, low literacy and cognitive processing difficulties.”

“Emergency warning systems need to also reach people with visual or hearing impairments, are illiterate and who do not understand English.”

- Disability advocacy group (SA001G)

“The changes wrought by the council decision on my life style have been considerable. However I do not really blame the individual entrepreneur who was merely exploiting the capitalist System for material benefit. It is this exploitation that demands the planning provision. Society does not need anarchy, progress and development must be tempered with fairness, and justice must be seen to be done. It is so easy to destroy whilst it is far more difficult and costly to create.”

- Individual, exposed to bushfire risk (EXP013P)

In some respects, the challenge of addressing the existence and the impacts of unequal power, access to resources and vulnerability runs counter to that of recognising and supporting social capacity. Attention to inequality highlights that there are limits to social as well as individual capacity, and that people’s ability to take on responsibility is not evenly distributed in society. Hence, some people and groups will require particular, tailored support, while others will need greater levels of support to reduce their vulnerability. Thus, there is a warning within this challenge of uncritically assuming too much of communities without also working to remove barriers to social capacity across society as a whole as well as for particular social groups.

9. Improving the practice of working together

At a very practical and human level, sharing responsibility is about people, groups and organisations working together in a coordinated and collaborative way to manage bushfire risk collectively. A key set of challenges for doing this is related to group dynamics and group factors such as leadership, decision-making processes, relationships of trust, networks and social norms, and group culture that shapes how people work together (Vaugh and Streib 2006; Drabek 2007; Boin and t Hart 2010). While some of the processes shaping group dynamics are formalized, such as organisational policies and codes of conduct, much of it is informal, and emerges out of the relationships and interactions amongst groups. The responsibly-sharing challenges seen through this conceptual window overlap with challenges associated with supporting social capacity.

Through this window, two themes stood out in the public submissions. The first was that levels of coordination and collaboration amongst people working in different government agencies were insufficient. The four quotes below, for example, comment on the need for greater coordination and teamwork amongst personnel working in a range of different fields and government agencies, particularly at the management level:

It seemed that the various government agencies responsible for the maintenance of the roadsides, either had insufficient funds to clean up or lacked the will to do so. Dealing with DSE, Vicroads, Council and an array of other agencies with an interest in not doing anything proved an impossible challenge for locals. From the 'outside' it appeared that these agencies just would/could not work together.”

-Individual, household directly affected (DH66P)

All these departments should work as a team, not a fragmented group of individuals with no idea of what's going on in the 'real world' this lack of teamwork and leadership the State of Victoria to its knees in February or Black Saturday as it is known.”

- Individual, bushfire management experience (BFM67P)

“There has been some suggestion that CFA and DSE compete for resources and compete for dominance; communication between the two agencies is inadequate. If this is so then the community should demand that fire danger is too important to tolerate bureaucratic egos.”

- Individual, household directly affected (DHC015P)

“I believe that the CFA volunteers did all they could to look after and defend in whatever capacity they could. Also the DSE employees did some amazing things to help people. I am shocked at the top levels of both of these organizations considering Saturday was earmarked to be a possible disaster. I am shocked to think they were not organized as a team in communication (I mean isn't that what the CFA is about?) and the lack of leadership. We saw local police take charge and save lives without the help of the echelon.”

- Individual, household directly affected (DH029P)

The second theme was a critique of – or suggestions about how to improve– the way government agency personnel work with community members and groups, and a call for practices that support what are known as ‘good governance’ principles. At the small-scale level of people working together, good governance principles emphasize participatory decision-making, accountability, inclusiveness, engagement and transparency (Renn et al. 2011). According to Lewis and Mioch (2005) “good governance is a vehicle for authorities, both state and local, private sector and media, together with civil society to participate, contribute, and articulate their interests and priorities, reconcile their differences, and exercise their political rights and civil liberties, as well as their obligations and responsibilities” (p. 50).

As the quote below show, such principles of good governance were advocated in some of the public submissions:

“Partnerships between agencies and community members and extant community groups is key.”

- Individual, community directly affected (DC007P)

“We often hear the D.S.E. saying that fire plans were prepared after community consultation but in this case a meeting between Parks Victoria and Black Mountain residents, Parks refused to budge, so the residents walked out of the meeting. Community consultation?”

- Landholder group, exposed to bushfire risk (EXP031G)

“People with disabilities and seniors need to be consulted as part of the community recovery plans and active community inclusion.”

- Disability advocacy group (SA001G)

“The police abused its powers by stopping people effected by brushfires who having fought and saved their house and went into town to buy groceries being refused permission to return home. Others refused permission to inspect their property for a week. The police could have escorted them there but the higher authorities didn't do anything until the public outcry caused them to! Locals should have the authority.”

- Individual, member of the public (PUB17P)

While this ‘window’ on responsibility-sharing challenges shares a focus on coordination and collective action with the window that highlights social dilemmas in collective risk management, it adopts a more positive and enabling outlook that is less focused on theorising fundamental problems and more on improving on-the-ground practice. It is concerned with understanding and developing conditions and processes that enable effective group interaction and coordination. Further, while a focus on social dilemmas draws on basic assumptions about the fundamental and generalised features of group interactions, a focus on the practice of people, groups and organisations working together is more concerned with particular settings and is therefore more substantive, pragmatic and contextualised in orientation.

10. Confronting complexity, unpredictability and uncertainty

The final theoretical challenge for sharing responsibility is confronting the complexity, unpredictability and uncertainty of dynamic risk management scenarios. This ‘window’ on responsibility-sharing draws our attention to the difficulty of establishing clear, well-defined responsibilities for bushfire risk management, as well as the related difficulty of being able to carry out those responsibilities, given the multifaceted nature of managing this risk and the changeable and often unpredictable conditions in which it is done.

When considered in its entirety, bushfire risk management exhibits many of the qualities of a complex dynamic system. In a complex dynamic system it is difficult to link cause and effect because a multitude of interacting elements influence how the system functions and how it reacts to change (Amendola *et al.* 2005; Celik and Corbacioglu 2010). As a result, complex systems have emergent properties and relationships. These can’t be predicted or identified ahead of time but rather appear out of the interactions of many different factors. This means that it is difficult or impossible to predict the likely outcomes of a particular decision or action. It also means that different stakeholders are likely to have different views of how risk management should proceed. As Amendola *et al.* (2005) have noted, ‘catastrophe risk management’ has many characteristics of a complex system including “multiple conflicting objectives and strategies, a diverse range of views on fair-ness, multiple stakeholders and interests, and many different policy variables” (p. 390). This statement applies very well to bushfire risk management.

This complexity presents a significant challenge for sharing responsibility. How can stakeholders share responsibility for managing and reducing bushfire risk when the factors that contribute to the risk are potentially numerous, changeable and connected in complicated ways that makes it difficult to predict the outcomes of their decisions and actions? As has been discussed earlier, the concept of responsibility is closely linked to that of agency, control and capacity (Giddens 1999; Bickerstaff and Walker 2002). How can any particular party be held accountable for the outcomes of a bushfire when changeable, complex and unpredictable conditions mean that the outcomes of pursuing one course of action versus another are difficult to determine and can change over time and space? How do all the parties that might influence bushfire risk, including fire brigade captains, incident controllers, householders, local government town planners, and families, to name just a

few, make decisions about what their responsibilities are and how to carry them out when faced with conflicting objectives, diverse views and interests, and many policy variables?

Research on complex dynamic systems emphasizes that under conditions of uncertainty, complexity and change, management approaches need to be flexible rather than adhere to fixed, rigid rules. In particular, they highlight the importance of learning-by-doing (e.g. trial and error) and adjusting policies and management approaches progressively in response to new learning (McDaniels and Gregory 2004; Baker and Refsgaard 2007). They also emphasize the importance of particular organizational qualities such as role redundancy, independence (e.g. decentralisation), responsiveness, and free communication flow (Farazmand 2007; Leonard and Howitt 2010). Good governance principles such as inclusiveness, engagement and collaboration are also emphasised (McGuire and Silvia 2010; Renn *et al.* 2011).

There were three themes in the public submissions that most reflected the challenge of confronting complexity, unpredictability and uncertainty in the way responsibility is shared. The first theme was the need for a systems perspective in risk management, one that does not focus too narrowly on particular decisions, activities or parties but recognises that risk management involves complex interactions within a larger system:

“I state clearly and emphasise from the outset: My concern is with systems design problems in the recovery process. We are all of us caught up in various overlapping and inter-related systems that are both performing in and struggling under the demands of the great changes of our era. My belief is that individuals involved in the recovery process have in the main acted in good faith, and to the best of their capacity.”

– Individual, community directly affected (DC007P)

“There is no single solution to the management of fires in Victoria. Some claim that if only fuel reduction burns were more frequent and extensive, then the community would be safer. No doubt, fuel reduction burning does reduce fuel loads and therefore the local intensity of a fire, but there are many other factors to consider. Climatic conditions such as wind, humidity, time since recent rains, topography and so on influence fire behaviour. Land management and proximity to dwellings are other characters. I believe it would be wrong for the Commission to conclude that increased fuel reduction burning alone would be the solution to the forest fire danger in Victoria”

- Individual, household directly affected (DHC015P)

“My great concern is that decisions can be taken without acknowledging or understanding the processes all around us and which sustain humanity. It is these processes which were operating up until early February. I would have thought that this would be a paramount body of knowledge; if more short term decisions are made to the detriment of the natural chemical, hydrological cycles by throwing them out of balance, humanity just travels further down the path to a very difficult and constrained future with greater frequency of disasters.”

-Individual, member of the public (PUB09P)

The second theme was recognition of the complexity of ecological systems and the need to understand these systems better in order to make sound decisions about risk mitigation, particularly with respect to fuel reduction burning or clearing roadside vegetation. Interestingly, for some, this awareness of the complexity of ecological systems meant that these mitigation activities ought to be reduced or stopped, while for others it meant they should be increased or supported. This difference depends on people's understanding of the place of fire in the landscape:

"All bushland requires those different canopy levels from the highest tree to the lowliest herb or groundcover. Different fauna exist at different levels, even underground, while some birds will nest high in trees but feed on the ground and others just the reverse. All those other small animals down to insects are critical in the food chain for the fauna we see and are familiar with and each and every one requires its own specific habitat in the bushland structure. Thus, I cannot endorse removal of narrow bushland corridors along roadsides which are threatened in any case by roadworks, widening, drainage, etc."

-Individual, member of the public (PUB09P)

"Controlled burns must maintain ecosystem function, but it should be remembered that ecosystems are not fixed. Fire is imposed on a dynamic background."

- Individual, member of the public (PUB51P)

"As a surveyor does with a transit line, to look forward you must first look back! The forests generally are very different today to those of 100 years ago. The explorer Howitt first described Victoria's forests in the Omeo region as open and park like. Later about 1900 he was surprised at how scrubby these forests had become with the settlement of Europeans. He blamed this on settlers back burning to extinguish the natural fires that would damage their property. The interference with the natural order i.e. natural and continual fire, to longer periods between fires created more heat thus promoting scrub growth, which in turn creates more heat and so on."

-Group, exposed to bushfire risk (EXP31G)

The third theme reflecting this challenge was more particularly concerned with management approaches. Some of the public submissions argued that bushfire risk management should incorporate the characteristics discussed above, such as adaptation, flexibility, learning, independence and decentralisation:

"This new system under the heading of emergency service is too top heavy and remote from the actual problem that arises and will never work until an experienced work force is developed and situations that occur are managed locally."

- Individual, bushfire management experience (BFM56P)

“I have no wish to enter the blame game as to the lack of warning, just hope we can all learn. I know everyone did their utmost on that day. Perhaps it is not new and more rigid systems that we need, protocol might well have been a major factor in the delay. Perhaps we simply need people who can act when the systems cannot and who feel that they would be supported in doing so. Freeing up the systems should definitely be worth consideration.”

-Individual, household/community directly affected (DHC50P)

“To bring balance and reasonability to regulation, many regulations could be replaced by minimum standards, allowing flexibility provided the objectives are met.”

- Individual, household directly affected (DH03P)

“It is of major concern that no review or assessment has been carried out following all fuel reduction burning to identify areas where improvement is required, and where practices need to be adapted to suit the local environmental conditions. The continuing lack of adaptive management has resulted in considerable environmental damage, and is inconsistent with required standards for natural resource management, codes of conduct, and statutory obligations.”

– Environmental advocacy group (SAI022G)

The view of responsibility-sharing through this ‘window’ overlaps to some degree with the views seen through the windows that highlight inappropriate normative standards and divergence in the way people attribute cause and blame. Moral and legal systems that establish normative standards for sharing responsibility are challenged by the complex, dynamic and uncertain nature of risk and risk management. Divergence in the way people attribute cause and blame is due at least in part to the way the way they try to make sense of complex risks and risk factors. In order to attribute responsibility in the face of such complex scenarios, people tend to focus more heavily on particular aspects of the scenario, depending on their experience, knowledge and values (e.g. framing it in particular ways).

The challenge of confronting complexity, uncertainty and unpredictability in the way responsibility is shared to some extent conflicts with the challenge of setting appropriate normative standards. For even where it is possible to clarify, define and agree upon standards, conditions change and properties emerge such that these standards may no longer be workable in some conditions or situations. Thus, when viewed through this window, some flexibility may be needed in the way responsibility is shared so that responsibilities can adapt and respond to change.

6.4 Summary of key findings

The key findings associated with each of the ten theoretical responsibility-sharing challenges presented in the preceding sections are summarised for the reader in tables below.

The label ‘relative prevalence’ refers to how common each type of challenge was across the public submissions reviewed for this study (on a scale of low-medium-high). ‘Strong findings’ include dominant patterns that were either raised in a large number of public submissions or were given particularly strong emphasis. ‘Weak findings’ include issues that were less prevalent across the public submissions, and therefore these findings should be taken as indicative only.

1. Overcoming social dilemmas

The challenge	<ul style="list-style-type: none"> Overcoming tensions between private, short-term gains and collective, long-term risk reduction benefits
Relative prevalence	<ul style="list-style-type: none"> Medium
Strong findings	<ul style="list-style-type: none"> A number of public submissions gave examples of different types of social dilemmas that were perceived as presenting barriers to risk reduction. <i>Moral hazard</i> type dilemmas (where people who are insulated from bushfire risk or its consequences have no personal incentive to contribute to reducing the risk) were indicated in relation to property insurance: <ul style="list-style-type: none"> E.g. The current property insurance system gives insured property holders with little incentive to invest in expensive property protection measures. E.g. People who expect government assistance following a bushfire may give a lower priority to taking out property insurance in relation to other living costs. <i>Public goods</i> type dilemmas (where a shared or public good is underprovided for everyone because some people do not contribute to providing it) were also indicated in relation to property preparation: <ul style="list-style-type: none"> E.g. people who choose not to prepare their own properties against bushfire risk increase risk for their neighbours and reduce the effectiveness of local fire-fighting efforts. <i>Vested interests in the status quo</i> were also seen by some as a barrier to fuel reduction burning: <ul style="list-style-type: none"> E.g. vested interests in fire suppression (commercial and financial interests in the case of private businesses and employees and professional and organisational interests in the case of fire agencies) restricted fuel reduction burning that would have reduced everyone's bushfire risk.
Weak findings	<ul style="list-style-type: none"> N/A

2. Inappropriate normative standards

The challenge	<ul style="list-style-type: none"> Establishing clear and appropriate moral and legal standards for determining obligations and assessing accountability
Relative prevalence	<ul style="list-style-type: none"> High
Strong findings	<ul style="list-style-type: none"> Many of the public submissions expressed dissatisfaction with legal and regulatory standards for bushfire risk management. Which standards were judged to be inappropriate depended on people's particular perceptions of what caused the human disaster: <ul style="list-style-type: none"> Many submissions expressed dissatisfaction with 'green' state laws and local government regulations/processes that were seen to prevent adequate vegetation clearing on private properties and along roadways to reduce risk. This dissatisfaction appeared to be pre-existing, and was thrown into sharper relief by the Black Saturday bushfires.
Weak findings	<ul style="list-style-type: none"> A small number of public submissions called for greater attention to human and environmental rights in bushfire risk management (e.g. moral standards). There was some indication that <i>those in authority</i> are seen to have a strong moral duty of care towards <i>those at risk</i>. However, this was unclearly differentiated from a legal duty of care. A small number of submissions indicated that fear of litigation prevented public agencies and other stakeholders from taking on clear and direct responsibilities.

3. Contested social contract

The challenge	<ul style="list-style-type: none"> Determining an appropriate and widely accepted balance in the rights and responsibilities of citizens and the State.
Relative prevalence	<ul style="list-style-type: none"> High
Strong findings	<ul style="list-style-type: none"> Disagreement over the basic rights and responsibilities of citizens and government with respect to bushfire risk management was quite strongly evident in the public submissions. <ul style="list-style-type: none"> In some submissions, government agencies were clearly seen to have failed in their fundamental duties to protect citizens from bushfire (e.g. through warning, mitigation and education). However, others indicated that the extreme conditions of the Black Saturday fires or a lack of adequate resources meant that people could not reasonably expect governments to fully protect them and hence responsibility fell to citizens, at least in some conditions, out of necessity. In other submissions governments were seen to have interfered too much and constrained people's rights in ways that increased people's risk (e.g. with respect to vegetation-clearing and choices to use fire refuges).
Weak findings	<ul style="list-style-type: none"> A small number of submissions indicated support for greater intervention by governments to reduce risks associated with unprepared residents and arson.

4. Contested legitimacy of governance arrangements

The challenge	<ul style="list-style-type: none"> Forming legitimate, trusted and accountable arrangements for decision-making
Relative prevalence	<ul style="list-style-type: none"> Medium
Strong findings	<ul style="list-style-type: none"> A number of public submissions made statements that indicated low levels of trust in: formal decision-making processes; the scientific and policy bases for some of those decisions; and policy-makers and government actors themselves. <ul style="list-style-type: none"> Some critiqued: undue government bureaucracy that prevented governments from exercising responsibility for risk management, undue political influence of environmental groups, or the politicisation of what should be technical/scientific risk assessment decisions. Others argued that decision-makers had disregarded scientific knowledge and evidence, or critiqued the legitimacy of the fire science on which fire management practices are based. Others called for increased involvement of citizens and civil society in decision-making about bushfire risk and safety during planning and recovery.
Weak findings	<ul style="list-style-type: none"> N/A

5. Social capacity

The challenge	<ul style="list-style-type: none"> Recognising, supporting and building social capacity to engage in collective action for risk reduction and recovery
Relative prevalence	<ul style="list-style-type: none"> Medium
Strong findings	<ul style="list-style-type: none"> A number of the public submission showed that people felt government agencies had not adequately recognised or supported existing social capacity in communities affected by the Black Saturday bushfires, either during preparation or recovery phases. Some people indicated that local knowledge, particularly about local environmental and fire conditions, is disregarded by government agencies and the scientific community in ways that increase people's exposure to bushfire risk.
Weak findings	<ul style="list-style-type: none"> A few public submissions explained that community support networks could be overwhelmed in times of crisis and called for government agencies to reinforce and back up these networks rather than relying too heavily on them. A small number of submissions also indicated that when communities do not receive accurate, specialist risk knowledge through formal communication channels, local social networks may spread misinformation that increases people's risk.

6. Divergent attributions of cause and blame

The challenge	<ul style="list-style-type: none"> Understanding and influencing differences in how people attribute cause and blame
Relative prevalence	<ul style="list-style-type: none"> High
Strong findings	<ul style="list-style-type: none"> Many public submissions attributed some degree of blame for the consequences of the Black Saturday bushfires to particular parties. <ul style="list-style-type: none"> Three sets of parties were most commonly identified: <i>those at risk</i> (households/ property owners) <i>those in authority</i> (state government agencies/ local governments/ government officials), and perceived <i>third-party risk creators</i> (environmental groups/ environmental policies). As attribution theory predicts, two sets of factors that shaped people's attributions were assessments and perceptions of: 1) the degree of choice, control and capacity that different parties had, and 2) which particular activities and decisions were seen to have caused, or most influenced, the human impact of the bushfires. However, a significant number of submissions either countered how others attributed blame (particularly blame directed towards environmental groups/ policies) or denied that blame should be attributed to any particular parties at all. <ul style="list-style-type: none"> Reasons included: the event was uncontrollable; the parties being blamed by others did not have sufficient control or capacity to prevent the outcomes; particular decisions or actions were incorrectly being assessed by others as having caused the outcomes, particularly in relation to environmental protection.
Weak findings	<ul style="list-style-type: none"> There was some indication that public submissions from people who were not directly affected by the Black Saturday bushfires but who identified themselves as being exposed to bushfire risk were more likely to strongly attribute blame to <i>those in authority</i> than submissions received from people who <u>were</u> directly affected. While the Royal Commission seemed to focus primarily on examining the blame-worthiness/accountability of <i>those in authority</i>, collectively the public submissions appeared to focus relatively greater attention on the blame-worthiness/accountability of <i>those at risk</i> <u>in addition to</u> <i>those in authority</i>.

7. Understanding sociocultural contexts of risk and responsibility

The challenge	<ul style="list-style-type: none"> Acknowledging and responding to the ways risk and responsibility are understood and valued in particular sociocultural contexts
Relative prevalence	<ul style="list-style-type: none"> Medium-low
Strong findings	<ul style="list-style-type: none"> A number of public submissions argued that cultural understandings of bushfire in Australia need to change so that Australian society is better able to live with bushfire and share responsibility for bushfire risk management effectively: <ul style="list-style-type: none"> E.g. we need to put greater value on ecological knowledge and the place of fire in Australian ecological systems; we need to overcome the myth of the 'heroic fire-fighter', and the cultural positioning of 'fire as a destroyer'
Weak findings	<ul style="list-style-type: none"> A number of additional but less prevalent themes concerning sociocultural contexts were also evident: <ul style="list-style-type: none"> Formal bushfire management procedures need to take into account the social nature of how people manage and live with risk: <ul style="list-style-type: none"> E.g. that communities generate plans together, not just through individual decision-making People's decisions in response to the bushfires were mediated by the demands, conditions and responsibilities in their everyday life Changing social conditions have led to increased risk for some people, which may also shift risk management responsibilities: <ul style="list-style-type: none"> E.g. Increased risk for holiday makers and 'newcomers' who are likely to have a lower understanding of local bushfire risk than more permanent and long-standing residents Sociocultural factors may decrease the effectiveness of formal management arrangements: <ul style="list-style-type: none"> E.g. volunteer retention in the CFA, media criticism of agency staff influencing decisions about fuel reduction burning

8. Uneven distribution of control and capacity

The challenge	<ul style="list-style-type: none"> Reducing inequality in the distribution of resources and power to manage risk, and vulnerability to risk
Relative prevalence	<ul style="list-style-type: none"> Low
Strong findings	<ul style="list-style-type: none"> N/A There were no strong findings for this type of theoretical challenge, which may be in part because social equity and vulnerability issues are society-wide issues that are too large in scope to be clearly visible to most individuals/groups that made submissions.
Weak findings	<ul style="list-style-type: none"> There was criticism of government (and scientific) policy and discourse for a lack of attention to addressing factors that limit people's capacity to respond to bushfire and take responsibility for their own safety: <ul style="list-style-type: none"> E.g. failure to acknowledge that houses may not be defensible, risk information and warnings not made available in multiple formats, unfair planning regulations that increase some people's exposure to risk

9. Improving the practice of working together

The challenge	<ul style="list-style-type: none"> Devising structures and processes that support people to work together effectively in practice at a grass roots level
Relative prevalence	<ul style="list-style-type: none"> High-medium
Strong findings	<ul style="list-style-type: none"> Levels of coordination and collaboration amongst people working in different government agencies were felt to be insufficient: <ul style="list-style-type: none"> E.g. with respect to emergency communication, land management for risk reduction, resource allocation. A number of public submissions called for changes to the way government agency personnel work with community members and groups. These calls reflected support for 'good governance' principles such as participatory decision-making, accountability, inclusiveness, engagement and transparency.
Weak findings	<ul style="list-style-type: none"> N/A

10. Confronting complexity, unpredictability and uncertainty

The challenge	<ul style="list-style-type: none"> Determining and carrying out responsibilities in the face of a complex, dynamic risk management system
Relative prevalence	<ul style="list-style-type: none"> Low
Strong findings	<ul style="list-style-type: none"> N/A
Weak findings	<ul style="list-style-type: none"> Arguments were made by a small number of people about the need for more systems-based perspectives in risk management that do not focus too narrowly on particular decisions, activities or parties but recognise complex interactions within a larger risk management system: <ul style="list-style-type: none"> E.g. interaction of multiple systems, there is no single solution to fire management, moving beyond short-term decision-making A second argument revolved around the need to better understand complex ecological systems in order to make sound decisions about risk mitigation, particularly with respect to fuel reduction burning or clearing roadside vegetation.

6.5 Discussion

The public submissions to the Royal Commission into the February 2009 bushfires in Victoria have much to say about responsibility in relation to these tragic fires. They present a rich source of data

for investigating a diverse range of perspectives of the multi-faceted nature of the challenges for sharing responsibility for risk management between *those in authority* and *those at risk*. However, exactly what the public submissions reveal about the nature of responsibility-sharing challenges is difficult to unpack. This is because the public submissions reflect a wide range of points of view, experiences, and values. They also deal with different areas of bushfire risk management and of responsibility. Yet, if we wish to learn what we can from the public submissions about what sharing responsibility might entail, then we need to delve into this rich data and to find some way of teasing apart and consolidating what it has to teach us.

In this study we sought to do this by drawing on an earlier review of the conceptual frameworks used in research studies to analyse responsibility in the context of risk and public safety (McLennan and Handmer 2011b). This review identified ten core theoretical types of responsibility-sharing challenges. Each of the theoretical types of challenges provides a particular conceptual ‘window’ for examining responsibility-sharing in the context of the Victorian 2009 bushfires. Examining responsibility-sharing challenges through a particular conceptual window draws attention to particular elements of what is really a set of interrelated and multifaceted challenges. By using multiple ‘windows’, we were able to develop a more layered and holistic yet also structured picture of the responsibility-sharing challenges reflected in a sample of public submissions to the 2009 Victorian Bushfires Royal Commission than would be possible using just one conceptual framework.

We posed three questions earlier in this report, which this study sought to answer:

1. *Which of the ten theoretical responsibility-sharing challenges were reflected in the public submissions?*
2. *In which areas of bushfire risk management and community safety, and at what scales, was each type of challenge most strongly reflected?*
3. *What do the ten conceptual windows reveal about the responsibility-sharing challenges reflected in the public submissions?*

The initial answer to the first of these questions is quite straightforward: every one of the ten theoretical types of challenges was reflected somewhere within the sample of public submissions used in this study. However, some were far more prevalent than others. Although this study did not aim to measure which types of challenges appeared in the most number of submissions, it was still clearly apparent that two were most common. These were: challenges associated with inappropriate normative standards, and those stemming from divergent attributions of cause and blame. This is unsurprising, given that the source of data was submissions to a public inquiry following a major and tragic bushfire event, and given the particular terms of reference of this Royal Commission. The first matter the Royal Commission was asked to inquire into and report on was “the causes and circumstances of the bushfires” (Teague et al. 2010, vol 3, p. 68). The second item included “current laws, policies, practices, resources and strategies” for managing bushfire risk (p. 68). The Royal Commission only accepted public submissions that responded to its particular terms of reference.

The less prevalent types of theoretical challenges nonetheless still highlight important elements of responsibility-sharing in relation to these bushfires. Some of these challenges may be less prevalent in the reviewed submissions not because they are less important but because they concern issues that were less visible to the people who made submissions to the Royal Commission. The majority of the submissions were made by individuals and by people with little ‘inside’ knowledge of high-level formal risk management arrangements and processes. Therefore,

it is likely that elements of responsibility-sharing challenges that involve more complex social organisation, process and structures (e.g. sociocultural contexts, and particularly uneven distribution of control and capacity) and formal risk management processes and decision-making (e.g. governance issues) are less prevalent because they are less familiar or too large in scale to be overtly visible to the majority of people that made submissions.

In answer to the second question, most of the challenges for sharing responsibility that were reflected in the public submissions concerned risk reduction, and particularly the preparation and planning for bushfire events. Again, this focus is likely to be due to the terms of reference of the Royal Commission as well as its timing in relation to the bushfire event. At the time that people were making submissions to the Royal Commission, recovery activities were in their early days. It is noteworthy that decision-making during the immediate response to the bushfires did not emerge as a key area for responsibility-sharing challenges. This may reflect the fact that a large number of the public submissions were made by people who were not directly affected by the bushfires or who were unfamiliar with response arrangements and processes. It may also reflect an unwillingness to critique first responders. This runs somewhat counter to the focus that emerged during the Royal Commission proceedings on criticising the response decisions and actions of key public agency leaders.

It was also evident in this study that challenges for sharing responsibility occurred at a range of organisational or social scales. As Table 6.2 summarises below, the ten types of theoretical responsibility-sharing challenges involved a range of scales. This included the 'micro' scales of individuals and social groups and networks, the 'meso' or mid-range scales of community and management, and the 'macro' scales of State and society. Many challenges occurred at more than one scale or, particularly when seen through the 'window' of complex systems, involved interactions across micro, meso and macro scales. This indicates that efforts to share responsibility will need to occur across a range of different scales concurrently.

Table 6.2: The multiple scales of responsibility-sharing challenges

Theoretical responsibility-sharing challenge	Scale/ level
1. <i>Social dilemma</i>	Meso → Macro - <i>Community, society</i>
2. <i>Normative standards</i>	Meso → Macro - <i>Management, State, society</i>
3. <i>Social contract</i>	Macro - <i>State, society</i>
4. <i>Governance</i>	Macro - <i>Society</i>
5. <i>Social capacity</i>	Micro → Meso - <i>Social groups/networks, communities, management</i>
6. <i>Attribution</i>	Micro - <i>Individuals</i>
7. <i>Sociocultural context</i>	All - <i>Individuals, community, society</i>
8. <i>Uneven distribution</i>	Meso → Macro - <i>Community, society</i>
9. <i>Practice</i>	Micro → Meso - <i>Social groups/ networks, management</i>
10. <i>Complex systems</i>	All - <i>Systems interact across scales</i>

The final question posed for this study was: What do the ten conceptual windows reveal overall about the responsibility-sharing challenges reflected in the public submissions? While many elements of sharing responsibility challenges were revealed, two warrant particular emphasis. The first is that **while the idea of 'Shared Responsibility' is a singular, overarching principle in Australian fire and emergency management, when it comes to sharing responsibility in practice, stakeholders face a multitude of diverse yet overlapping and interacting challenges.**

In Australian fire and emergency management, there are many different responsibilities, and many different ways these responsibilities are shared. There are also many different ways of assessing how responsibilities should be shared. Importantly, these assessments reveal a lot about what people value, how they attribute cause, who they think has the control, choice and capacity to influence risk and safety, who they trust (or don't trust), and what they think emergency management should be trying to achieve. They also reflect underlying ideas about the appropriate relationships between Australian governments on one hand, and Australian citizens and communities on the other.

A key implication of this is that responsibility-sharing between *those in authority* and *those at risk* involves a more diverse range of issues than just clarifying or prescribing (and then communicating) whose role it is to do what. It also involves confronting differences amongst people's expectations, assumptions, knowledge, hopes, fears and values about living with bushfire risk. This is highlighted in Table 6.3, which outlines four main aspects involved in the responsibility-sharing challenges reflected in our sample of the public submissions. 'Standards' refers to aspects that relate to clarifying, setting or prescribing standards for determining responsibilities, including both formal (e.g. regulations) and informal (e.g. social norms) standards. 'Values' refers to aspects that concern differences in the foundations and beliefs that shape how people determine what matters and what risk management should be trying to achieve. 'Process' related aspects are not concerned so much with what responsibilities ought to be or with what risk management ought to achieve but with how parties should work together to share responsibility for bushfire risk management. It is thus concerned with decision-making processes, collective preparatory activities, stakeholder relationships, procedural rules and norms, and social interactions. 'Event framing' aspects of responsibility-sharing challenges relate to the way that people (or media, social groups, organisations or policy networks, etcetera) frame or make sense of bushfire events, including the key causes of the human impacts of a bushfire, perceived management failures, and assumptions about bushfire controllability and preventability. Event framing shapes people's assessments of and attitudes towards responsibility-sharing.

Table 6.3: Four main aspects of responsibility-sharing challenges

Theoretical responsibility-sharing challenge	Main aspects involved			
	Standards	Values	Process	Event framing
1. <i>Overcoming social dilemmas</i>			✓	
2. <i>Inappropriate normative standards</i>	✓			✓
3. <i>Contested social contract</i>	✓	✓		✓
4. <i>Contested legitimacy of governance arrangements</i>		✓	✓	✓
5. <i>Social capacity</i>			✓	
6. <i>Divergent attributions of cause and blame</i>	✓	✓		✓
7. <i>Understanding sociocultural contexts of risk and responsibility</i>		✓	✓	✓
8. <i>Uneven distribution of control and capacity</i>	✓	✓	✓	✓
9. <i>Improving the practice of working together</i>			✓	
10. <i>Confronting complexity, unpredictability and uncertainty</i>			✓	✓

The second overall element of responsibility-sharing revealed in this study that warrants particular emphasis is this: ***responsibility-sharing is not a problem to be fixed but an inherent and ongoing part of managing bushfire risk.***

The many faces of responsibility-sharing challenges reflected in the public submissions shows that these challenges are inherent in the practice of living with and managing risk collectively. Clarifying standards, role and duties; building supportive working relationships and shaping formal and informal rules for collective risk management may all contribute to sharing responsibility more effectively and more fairly. However, two characteristics of the contexts of risk management in Australia mean that confronting responsibility-sharing challenges will always be a part of fire and emergency management practice in Australia.

First, the sociocultural, environmental, institutional and political contexts within which responsibility is shared are not fixed. Rather, they are dynamic and will continue to shift and change in ways that impact on the appropriateness of formal and informal standards for determining responsibility, as well as on the choices and capacities of the various parties involved.

Second, and relatedly, it is very likely that there will always be contention and disagreement over the way responsibility is shared between *those in authority* and *those at risk* for bushfire risk management and community safety. Thorny issues related to contestation of the social contract, the legitimacy of governance arrangements, and the sociocultural meanings of risk and responsibility all stem from complicated differences in the underlying grounds for people's judgements of responsibilities. This includes judgements by managers and policy-makers as well as those made by people living with bushfire risk. These types of dynamic and complex issues are particularly resistant to final resolution through traditional policy-making processes.

Because of this, there is a need to avoid a *problem-solving orientation* towards the practice of sharing responsibility (in which the clear resolution of an identifiable problem is sought) and adopt what we term a *process orientation*. A process orientation would be characterised by an acceptance that addressing responsibility-sharing issues (including conflicts and disagreements) is an ongoing and inherent feature of emergency management practice. From this perspective, applying the principle of 'Shared Responsibility' is an ongoing process that involves negotiation amongst stakeholders over specific and varied issues in the context of changeable and diverse conditions, contexts, activities and perspectives.

Given this context, a focus on incorporating principles of good governance is warranted. To reiterate, good governance principles emphasize qualities such as participatory decision-making, accountability, inclusiveness, engagement and transparency (Renn et al. 2011). It is notable that the language of 'risk governance' and 'good governance' have not featured strongly in Australian fire and emergency management discourse despite being an important direction in disaster risk research (e.g. De Marchi 2003; Rothstein 2006; Chilvers 2007; Renn 2008b; Kheifets *et al.* 2010; Walker *et al.* 2010; Djalante *et al.* 2011; Hom *et al.* 2011; Renn *et al.* 2011). To repeat the statement by Lewis and Mioch (2005) referred to earlier in this report:

Good governance is a vehicle for authorities, both state and local, private sector and media, together with civil society to participate, contribute, and articulate their interests and priorities, reconcile their differences, and exercise their political rights and civil liberties, as well as their obligations and responsibilities (p. 50).

A key conclusion of the present study is therefore that engaging with good governance ideas and practice as they are applied to risk management will be important for formulating processes to negotiate responsibility-sharing in Australian disaster management into the future.

7 Visions of sharing responsibility for disaster resilience (Stage 4/5 workshop, Melbourne)

7.1 Introduction

This one-day workshop examined the idea and practice of sharing responsibility for disaster resilience. The idea of 'Shared Responsibility' is shaping emergency management thinking in Australia. It has gained significant policy traction following the Victorian 2009 Bushfires Royal Commission and the release of the National Strategy for Disaster Resilience. Similar ideas have been circulating in other sectors for some time. Yet it is not clear what the idea really means or what its implications are for policy and practice.

The workshop, held on Thursday 29th March 2012, aimed to address two general questions:

- First, the idea: what does the idea of 'Shared Responsibility' mean, and what are its implications?
- Second, the practice: is it a useful policy concept, and if yes what needs to be done to implement it, and what could undermine it?

The workshop was hosted by RMIT's Centre for Risk and Community Safety (CRaCS) in the School of Mathematical and Geospatial Sciences. It was organised on behalf of the Bushfire CRC and the National Climate Change Adaptation Research Facility's (NCCARF) Emergency Management Network. Carbon credits were purchased to offset the greenhouse gas emissions associated with the event.

This public account of the workshop has been prepared so that others who were unable to attend the workshop can also see the range of issues and perspectives that were voiced at the workshop.

7.1.1 Workshop outline

Time	Session
9.00-9.10am	Welcome
9.10-9.30am	Expectations and perspectives
9.30-10.30am	Perspectives from current research
10.30-11.00am	<i>Morning tea</i>
11.00-12.30pm	Panel 1 - Community/local perspectives
12.30-1.30pm	<i>Lunch</i>
1.30-3.00pm	Panel 2 - Government perspectives
3.00-3.30pm	Afternoon tea
3.30-5.00pm	Open discussion and final Panel - <i>reflecting on Shared Responsibility</i>
5.00-6.30pm	Drinks
7.00pm - Late	Dinner

7.1.2 Attendance

The workshop was attended by over 80 people that are involved in some way – professionally, voluntarily or personally – in managing disaster risk, preparation, response and/or recovery. A decision was made to host the workshop as a free event so that cost was not a barrier to people being able to attend.

Many of the attendees wore a number of different 'hats', e.g. researcher and community member, volunteer and government official etc.

- Almost half of the attendees were affiliated with universities or other research institutions in Australia, including 7 postgraduate students
- 4 people were affiliated with universities outside Australia
- Over a quarter were affiliated with a state or territory fire and emergency service agency or land management agency – including agencies from Victoria, Tasmania, New South Wales, Queensland, and the Northern Territory
- Approximately five people were affiliated with other State government agencies from Victoria (e.g. Department of Transport, Department of Human Services)
- Approximately 10 people were affiliated with local governments or local government organisations
- About 10 people were members of community groups or centres, or were members of communities that have been affected by bushfire or flood
- About 6 people were affiliated with volunteer and other non-government organisations
- Three people were affiliated with Federal government agencies or departments (Attorney-General's Department, Bureau of Meteorology)
- One person was affiliated with the media (ABC)

A complete list of the agencies, organisations, groups and communities to which attendees were affiliated is provided at the end of this document.

7.1.3 Schedule of speakers

Twenty-seven people participated in the workshop as speakers.

Welcome

- John Handmer (Director - Centre for Risk and Community Safety, RMIT University)
- Daine Alcorn (DVC Research & Innovation & Vice-President, RMIT University)
- Richard Thornton (Deputy CEO & Research Director, Bushfire CRC)

Expectations and perspectives

Chair: John Handmer, Centre for Risk and Community Safety, RMIT University

- Richard Thornton (Deputy CEO & Research Director, Bushfire CRC)
- Craig Lapsley (Fire Services Commissioner, Victoria)
- Anne Leadbeater (Kinglake community & Murrindindi Shire Council)

Perspectives from current research

Chair: Mick Ayre, Assistant Director - Northern Territory Fire and Rescue Service

- Blythe McLennan (Centre for Risk and Community Safety, RMIT University)
- Michael Eburn (Fenner School of Environment and Society, ANU)
- Barbara Norman (Urban and Regional Planning, University of Canberra)
- Leo Dobes (Crawford School of Economics and Government, ANU)

Panel – Community/local perspectives

Chair: Ian Mannix, Manager of Emergency Broadcasting and Community Development, Australian Broadcasting Corporation

- Julie Molloy (Director of Social Engagement Initiatives, Volunteering Queensland)
- Vanessa Fabre (Manager - Inclusive Communities, Brisbane City Council)
- Sam Johnson (Founder of the Student Volunteer Army, Christchurch)
- Kate Lawrence (Macedon community & National Rural Women's Coalition)
- John Richardson (National Coordinator of Strategic Development - Emergency Services, Australian Red Cross)
- Briony Towers (Research Fellow, Centre for Risk and Community Safety, RMIT University)
- Malcolm and Jane Calder (Steels Creek community)

Panel – Government perspectives

Chair: Blythe McLennan, Centre for Risk and Community Safety, RMIT University

- Chris Collett (Assistant Secretary of the Emergency Management Policy Branch, Commonwealth Attorney-General's Department)
- Mark Duckworth (Executive Director of Citizenship and Resilience, Department of Premier and Cabinet, Victoria)
- Terry Hayes (Executive Manager Community Capability, Country Fire Authority, Victoria)
- Jeanette Pope (Manager of Strategic Research and Coordination, Department of Planning and Community Development, Victoria)
- Steve Opper (Director of Community Safety, NSW SES)
- Russell Rees (Risk Advisor, Municipal Association of Victoria)

Panel – Key issues for the future

Chair: John Handmer, Centre for Risk and Community Safety, RMIT University

- Noreen Krusel (Research Utilisation Manager, Bushfire CRC)
- John Schauble (Manager Policy & Planning, Office of the Fire Services Commissioner)
- Chris Collett (Assistant Secretary of the Emergency Management Policy Branch, Commonwealth Attorney-General's Department)
- Kate Lawrence (Macedon community & National Rural Women's Coalition and Network)
- Anne Leadbeater (Kingleake community & Murrindindi Shire Council)
- Barbara Norman (Head of Discipline - Urban and Regional Planning, University of Canberra)
- Peter Stanley (Head - Centre for Historical Research, National Museum of Australia)



**Workshop attendees listen to a speaker reflect on key issues for moving forward with sharing responsibility for disaster resilience.
(Source: Nathan Maddock, Bushfire CRC)**

7.2 Workshop summary

All the speakers in the workshop were asked to respond in any way they chose to one or both of the key questions:

1. What does the idea of 'Shared Responsibility' mean, and what are its implications?
2. Is it a useful policy concept, and if yes what needs to be done to implement it, and what could undermine it?

Each speaker was given 5-10 minutes to present their views. The workshop also prioritised time for group discussion with time allocated for discussion at the end of most sessions. In addition, there was 45 minutes for open discussion in the final session.

The summary of the workshop below highlights some of the key themes emphasised by speakers during the day. It was a difficult task to pick just a few key points out of the many important issues raised. More detailed 'raw' notes of these sessions are also included in the following section.

Only the people listed in the schedule of speakers are referred to individually by name below as they had agreed to speak publicly. All the speakers were invited to review and suggest changes to the notes included in this account to ensure that the notes reflect what each person said and meant as closely as possible.

Expectations and perspectives

The first session of the day set the scene and got us thinking about the idea of sharing responsibility with perspectives from three people who are involved in disaster management in different ways: Richard Thornton is the Deputy CEO and Research Director at the Bushfire CRC, Craig Lapsley is the Victorian Fire Services Commissioner, and Anne Leadbeater is a member of the Kinglake community, which was one of the communities tragically impacted by the bushfires in Victoria in 2009. The session was chaired by John Handmer from the Centre for Risk and Community Safety at RMIT University.

Key themes in this session were:

- **An "all-hazards" focus** – Both Craig and Richard emphasised the importance of shared learning across different hazards and the need to move away from a fire-dominated discourse.
- **Shared values and meaning** – Richard Thornton asked us to think about and understand the historical legacy of the Shared Responsibility idea, and to work through what it means now that it has been linked to the concept of disaster resilience. He argued that it is about developing shared values, and that we need to consider how to start conversations about these. Issues of equity need to come into this conversation, which is about the sharing of outcomes – costs and benefits.
- **Need and opportunity for change** – Referring to the Victorian Bushfires Royal Commission, Craig in particular stressed that "we can't do more of the same" and that "the community expects change" from agencies. He argued for more agile structures and processes that can respond to change. Craig and Anne both referred to the opportunity that exists to create such change. Craig spoke of the current "authorising environment" for change, while Anne argued that change is achievable because communities are inherently resilient.
- **Less (state) government control, more trust in local communities** – Anne argued that communities are engaged where they feel they can affect change. Hence a key to sharing responsibility lies in the freeing up of control, and in governments and agencies trusting in

communities. Shared Responsibility begins with an acceptance of risk. Similarly, Craig spoke of the need for state and territory fire agencies to support local empowerment and local government. Anne emphasised that sharing responsibility requires locally-designed and owned solutions. It needs local knowledge and respect for this knowledge by others. Richard emphasised the need for collaboration to set new agendas.

- **Mainstreaming** – Craig and Richard emphasised that disaster resilience is affected by government decisions made outside of the field of emergency management. Richard identified land use planning as one area where changes particularly needed to be made. Craig acknowledged that we are really talking about public safety, which is a broadly shared concern across many sectors of government. He suggested that we need to develop a peer group across government, and make emergency management a core part of all government agency business.
- **Honest communication and understanding of existing capacity**– Anne called for honest, accurate language, arguing that current communication from agencies is not resonating with people. This includes being honest about limits, acknowledging that people may be on their own for a time when disaster strikes and that people need to prepare for that. It also means understanding and respecting community points of view and community capacity. Craig acknowledged that agencies won't be able to reach or communicate with everyone, and hence will need to tap into existing community networks.

Perspectives from current research

In this session researchers from different backgrounds commented on the idea of Shared Responsibility in the light of their research across social, policy, legal, economic and planning spheres. The session was chaired by Mick Ayre of the Northern Territory Fire and Rescue Service, who is the lead end user for a program of relevant research in the Bushfire CRC on 'mainstreaming fire and emergency management across policy sectors'. The first three presenters in this session work on three related themes within this program: Blythe McLennan (RMIT University) on the construct of 'sharing responsibility', Michael Eburn (ANU) on legal and policy aspects of mainstreaming, and Barbara Norman (Uni of Canberra) on planning dimensions. The final presentation by Leo Dobes (ANU) provided an economics-based perspective on people's willingness to pay for disaster management.

A core theme across these presentations was that the meaning of Shared Responsibility for disaster management is closely tied up with how we understand what we are trying to achieve with disaster management and how we are trying to achieve it. Working through what Shared Responsibility means requires that we revisit these questions.

- **Clarifying objectives** - Michael found that Chief Officers of fire and emergency service agencies did not have a clear, shared view of what the idea of Shared Responsibility means. He argued that in order to unpack it we need to ask: what are the objectives for disaster management and the means of knowing when we've achieved them? He argued that we need to work out what it is we are sharing and with whom and, further, that we need to identify the objectives of disaster management, pointing out that a resilient community is not one to which nothing bad ever happens, and raised the question: are we already resilient? Leo argued that we need to understand what people actually want when it comes to disaster management to avoid misallocating resources for a negative cost-benefit outcome. His research revealed that what people want may not be what we expect. He also found that people's expectations fell into two classes (those who believed individuals should be responsible for themselves and those who were more expecting of assistance). Differences in socioeconomic data could not fully explain this difference.
- **Coordinating and crossing boundaries** - By contrast, Blythe argued that the idea of sharing responsibility is less about determining what the end goals should be and more about developing relationships for greater coordination and collaboration so that we can collectively work out these end goals as well as develop more coordinated ways to achieve

them. She held that it means moving towards a greater degree of coordinated, collective action and developing relationships that cross some of the traditional boundaries in emergency management and Australian society.

- **Balancing individual rights and public interest** - Barbara argued that Shared Responsibility is about finding ways to balance individual rights and the public interest/public safety. This plays out particularly strongly in the area of land use planning. Land use planning is widely recognised as a core element that we need to wrestle with, and yet our planning systems have not been changed substantially - yet.
- **A challenge to the status quo** – A final theme in this session was that the idea of Shared Responsibility presents a challenge to current disaster management thinking, structures and processes. Blythe argued that the idea will only be a useful policy concept if it is applied where it is most difficult: where it challenges the status quo. Barbara claimed that it means changing our planning system to be much more adaptive and risk-based, and to involve communities more directly.

Panel – Community/local perspectives

This panel brought together people involved in different aspects of community-based disaster management. Julie Molloy from Volunteering Queensland described how her organisation supports and enables community disaster resilience through tailored, community-based programs. Vanessa Fabre from Brisbane City Council described her experience of coordinating the huge volunteer response to the Brisbane floods. Sam Johnson explained how the Student Volunteer Army in Christchurch used social media to coordinate thousands of young volunteers to assist in post-earthquake clean up. Kate Lawrence spoke from a background in community-based disaster preparedness about sharing power and the need for mutual respect in community-government partnerships. John Richardson from the Australian Red Cross spoke about emergency management that is local and personal in scale. Briony Towers from RMIT University spoke about learning from her research on children's understanding of disaster and risk. Malcolm and Jane Calder described the social basis of healing and recovery in their community of Steels Creek following the bushfires in Victoria in 2009. The session was chaired by Ian Mannix, who is the Manager of ABC Emergency Broadcasting and Community Development.

Some of the threads that ran through this session are given below.

- **We already share responsibility when disaster strikes** – The speakers in this session in various ways countered the idea that communities do not already share responsibility for disaster resilience with governments. Vanessa Fabre emphasised that it was impossible not to share responsibility following the Brisbane floods due to their scale and size. Sam's account of setting up the Student Volunteer Army highlighted that it is not only trained 'experts' who respond to disasters but that everyone who is affected directly and indirectly responds in some way. In Christchurch, the SVA provided an outlet for young people to engage with and in the response: this outlet was not available elsewhere. Briony made the point that, while some suggest children shouldn't be present when bushfire threatens a home, people will get caught out and so it is better for children to be included in discussions about coping before it happens. Yet children are largely excluded: they were not considered in the Victorian Bushfires Royal Commission. Kate emphasised that when disaster hits "the baton of responsibility" is passed to communities, which are told to be engaged, self-reliant and responsible. Along a different line, John described how there seems to be a greater sense of Shared Responsibility across society when the event is larger in scale but not as much when it is smaller. In smaller-scale but still personally disastrous events, people who are directly affected can be left largely on their own.
- **Communities are inherently resilient: Shared Responsibility is therefore about empowering and enabling communities** - This was a strong theme across the session: Julie emphasised that people are survivors and not victims. For her the starting premise is

that communities are inherently resilient and that the goal for agencies and NGOs is to enable and support this resilience. Sam described how community groups are more adaptive and less tied to formal processes and red tape than government agencies. Briony spoke of the agency that children can have if they are included in debates around disaster preparedness. However, Kate also argued that community resilience is being undermined by systemic and institutional factors that breed an expectation amongst people that someone else has control. This means they are not well-prepared for taking up the baton and dealing with disasters when they occur. To move past this we need to empower communities to participate and build ownership of the problem. John spoke during the discussion about the significant skills that already exist for community-led recovery. He suggested that we need to ask who is already a leader in the community: these people may not always be in high profile positions. Malcolm and Jane told stories that revealed their community's resilience following the devastation of the Black Saturday fires. Jane emphasised that resilience comes from self-reliance and that it is inherently social. She and Malcolm described the many and varied ways that community members came together to support each other. Malcolm emphasised that Shared Responsibility should be about empowering the community.

- ***Overcoming tensions between formal and community-based approaches*** – A number of speakers spoke of tensions between formal and community-based disaster preparation, response and recovery, and the need to overcome them. Julie described how Volunteering Queensland provides a conduit between communities and government, for example through its volunteer referral service (CREW). Vanessa spoke of the dilemma of working out when and how community can participate in disaster management when response and recovery is geared around a command and control model. She said that the experience in Brisbane showed that while there were risks and problems, the benefits of coordinating with community volunteers in the flood response far outweighed the costs. Sam described how no outlets existed for him or other young people to be involved in responding to the earthquakes. While the council was initially very wary of the Student Volunteer Army, they have since come to work more closely and cooperatively with them. Kate described how governments seek answers in the prolific research that is conducted on disasters and emergencies because it is easier to look there, but that the real answers lie in working directly with communities, which is more difficult to do. John spoke of a simplistic disaster narrative and the need to shift away from a focus on loss and disruption. For him, sharing responsibility requires trust and he directly linked the idea to overcoming tensions between community and government. Malcolm gave an example of government processes hindering a community-initiated development project. During discussion he acknowledged the difficulty for governments of engaging with communities that do not have hierarchical structures.
- ***Building community-government partnerships*** – The idea of 'partnership' as the appropriate way to formulate community-government relationships was a strong theme in this session. In particular, Kate argued that Shared Responsibility is about shared power, mutual respect, trust and partnership. It requires a leap of faith. We need good communication, creative participation, and to create avenues for activism and agitation. She argued that noisy, active and outspoken disaster activists are a KPI of community resilience and Shared Responsibility. Malcolm also directly linked the idea of Shared Responsibility to that of partnership.

Panel – Government perspectives

In the second panel it was time for people with roles in government agencies to present perspectives on sharing responsibility for disaster resilience. Chris Collett from the Attorney-General's Department and Mark Duckworth from the Victorian Department of Premier and Cabinet talked about the ideas behind the National Strategy for Disaster Resilience (NSDR) and the challenges for bringing about change. Terry Hayes from the Victorian Country Fire Authority described some of the changes in thinking and approach that have started happening

in the CFA. Janet Pope from the Victorian Department of Planning and Community Development talked about government's role in supporting community networks that underpin resilience. Steve Opper from the NSW State Emergency Service spoke of the types of changes that are needed (but are not yet happening) in emergency management if the idea of Shared Responsibility is to be more than just empty words. Russell Rees is Risk Advisor for the Municipal Association of Victoria, and he talked about the significance of the core ideas of resilience and responsibility, and challenges they pose in practice.

- **NSDR is a real stimulant for change in governments** – Chris, Mark and Russell all emphasized that the linked ideas of disaster resilience and Shared Responsibility are very important ideas in government. For Russell resilience is not just a buzz word but is the centre of emergency management. He argued that the idea is important because our systems, processes and communities have lost resilience compared to the past. The ideas of resilience and Shared Responsibility also present significant challenges to the way that governments currently work. Mark argued that the challenge of the NSDR is to change the paradigm in which governments work: It is not enough to continue with more of the same approaches. He stated that we don't have all the answers but the issues faced are now being discussed directly in governments. Terry Hayes described examples of new initiatives that are opportunities for bringing about change in emergency management practice. He stressed that the CFA is committed to change despite the challenges. However, Steve questioned whether the idea is empty in practice: the words used without meaning. He used the issue of evacuation to highlight tensions between what is expected of emergency service agencies and what communities want to do. He asked some difficult questions about making choices and whether we are more concerned about inconveniencing people than about killing them. He implied more doubt that the ideas in the NSDR will lead to change, citing the small budgets for community engagement in emergency service agencies.
- **Learning and adapting** – Mark emphasised that we can learn from what is already happening. People learn best from each other: from the example of successful groups. Chris argued that when larger groups of players come together a synergy develops and the results are bigger. In response to a question from the floor on learning, Mark stated that we need research on what works and what doesn't, and that communities learning from each other is better than governments producing a manual.
- **Recognising and acknowledging challenges** – All of the speakers recognised challenges that need to be faced by governments to put ideas into practice. These include: The involvement of lots of players (Chris); The shorter timelines of political cycles compared to the much longer timelines of behavioural change (Chris and Mark); The need to work through many small projects and move beyond a one-size-fits-all model (Chris; Mark; Janet); How governments balance their responsibilities to be accountable with their responsibilities to support resilience-building and reduce red tape (Mark; Janet); Connecting with a large variety of communities without clear representatives that do not have hierarchies (Chris); Working out what it is that we are sharing and what we can expect from communities in emergency situations (Terry; Steve); Engaging better with communities before events (Terry; Steve); Connecting with the faster, social, and unpredictable ways that communities act and respond (Janet); Getting the provisions of warnings and information to communities 'right' so people understand risks (Steve).
- **Government support, not control** – Chris acknowledged a tension in government about how to contribute to resilience-building without taking over. How do we encourage Shared Responsibility while ensuring government maintains appropriate roles? Mark emphasised

that it is not about government telling people what to do but supporting what they already do. It is less about convincing people than it is about changing the way governments work. Terry talked about the need for authentic engagement before a bushfire happens. He stressed that fire brigades are well-placed to understand their communities and self-determine how best to address the challenges of sharing responsibility. The CFA is completely changing its approach to supporting communities from a top-down focus to one that focuses more on bottom-up approaches. Janet stated that government has a role in enhancing community resilience by supporting community networks, encouraging participation in local governance, and helping to overcome vulnerabilities. Government's role is more as an enabler than a provider. Steve argued that we need a leap of faith to move from a top-down to bottom-up distributed funding approach. Russell also suggested that the language we are using may not be right: that the idea of responsibility does not speak of partnership but of who "gets it" when things go wrong. Local government often ends up the meat in the sandwich between state/territory governments and communities. He argued that we need to move away from looking through the "play school" window of litigation, accountability, responsibility, and find different windows to look through. Russell also argued that one of the first pathways towards Shared Responsibility is to harden critical infrastructure. If we had more resilient, easily repaired infrastructure in place, we could then focus more heavily on social aspects.

Open discussion and panel – reflecting on Shared Responsibility

Some of the key points raised in the *open discussion* were:

- We keep talking about "government" and "community", but these are overly abstract concepts.
- The risk appetites that governments and communities have are different.
- We often talk about resilience in recovery but not in preparedness – preparation is part of resilience
- Good things are happening in a lot of places with local government-community initiatives.
- There is a conflict between rhetoric/theory and what happens on the ground and between policy and action.
- Emergency service volunteers are a link through to community. A challenge is that volunteers join for the excitement of response and not for community engagement.
- It is difficult to turn an organisation around from top-down to bottom-up. It takes time and requires a genuine desire for change.
- Community engagement is a complex picture. Approaches by agencies are transitioning out of an education focus and away from a lack of genuine engagement skills. The majority of engagement has to happen outside of crises – this would build the trust needed for when the crises happen.
- Language can be alienating, e.g. "bushfire prone": prone = happens regularly, which bushfires do not.
- Shared Responsibility is about collaboration, about shared understanding. Need to focus on how we can bring about peer-to-peer relationships.
- To encourage Shared Responsibility we also need to share resources. There is an issue of how government would account for expenditure. Also who is 'the community' the funds would go to? There was discussion about what types of community institutions were best to manage resources.

- “Solutions to the problem” is an old mind set: This is an ongoing thing - enabling people to find their own way to deal with situations.
- Are we preparing to survive rather than preparing to recover?
- Do communities need legal protection if they have their own plan but it fails and people die? Chances of anyone successfully suing are very slim. The reality of the threat of litigation is not as big as we think it is.

Speakers in the **final panel** reflected on the views presented during the day and commented on key issues for moving into the future. The panellists were: Noreen Krusel (Bushfire CRC), John Schauble (Office of the Fire Services Commissioner), Chris Collett (Commonwealth Attorney-General’s Department), Kate Lawrence (Macedon community & National Rural Women’s Coalition and Network), Anne Leadbeater (Kinglake community & Murrindindi Shire Council), Barbara Norman (University of Canberra) and Peter Stanley (National Museum of Australia).

- **The idea of Shared Responsibility for disaster resilience:** While we all think of Shared Responsibility as a good idea, we don’t really know what it means (Noreen). We need to think about the roles of government, collectives and individuals to help us tease out the idea further (Noreen). The idea resonates strongly (Chris). It is about shared understanding and knowledge/collaboration (Barbara)
- **Risk acceptance:** Emergencies are not problems that can be solved. They are not avoidable (John S). We measure them by counting so a good outcome becomes synonymous with a small number but this is deeply risk averse. Need to accept that some loss is inevitable (John S)
- **The practice of sharing responsibility:** How does it vary in time? How helpful is fixing and codifying it given dynamic environments (Noreen)? Examples of sharing responsibility in practice include brigades in small communities, the *gotong royong* concept of mutual aid in Indonesia (John S). A national level policy statement on cities and metropolitan plans in the context of climate change and disaster risk reduction is an example of positive action. So is Canberra Urban Rural Futures (CURF) (Barbara). We want it simple but it isn’t (Anne).
- **Change within government:** We can’t let government return to business as usual (John S). The National Strategy is an opportunity for change (Chris).
- **Community-government relationship:** Communities still define what government does: it’s about process and enabling involvement (John S). We need to work on communication across communities, government, businesses etc. (Chris). Communities are diverse: who speaks for them? Who are the leaders? (John S; Peter). Can we shift to peer-to-peer models that include government, universities, businesses and then move further beyond this? (Chris). We need more sophisticated processes. This workshop format perpetuates the division between government and community in the way it separates the issues (Kate). It isn’t about behaviour change: it is about enabling. It’s about democracy but not just ticking the boxes (Kate). We need to make money available but not make it too onerous to access (Kate). People have rights to make decisions (Anne); Qualities of mateship, trust, respect, support and participation are important (Peter).
- **Communication:** Governments can’t lecture people (Kate): need to say “we won’t always be there”/ you’ll be on your own (Kate; Anne). Language matters: some messages don’t resonate with lived experience (Anne). Language used in the workshop today was not always understandable: we need to use plain English (Peter)

- **Resilience in communities:** Communities are diverse: if they are strong before an event they will deal with it better (Peter). People often risk their lives to help others (Peter)
- **Research:** Do we need a different model for research: one that facilitates and motivates story-telling and peer-to-peer discussions? (Noreen). We need to get a handle on the cost of not planning (Barbara).
- **Culture:** How does Shared Responsibility fit into prevailing cultural norms and expectations; what narrative will we allow to be told about it? (John S). Taking care of ourselves is rooted in our culture, especially in rural Australia (Peter)
- **Mainstreaming:** The same people should not be having same conversations in a few years: more people and more sectors should be involved (Chris). We need to ensure future policy does not have counter resilience effect (Chris).
- **Measuring resilience:** How do we? Can we? E.g. work of Torrens Resilience Institute and University of Queensland (Chris).
[Note: see <http://www.torrensresilience.org/measuring-resilience>]
- **Learning:** How do we learn lessons? (Chris) We can learn from Asia and developing countries (Kate) There are examples of Shared Responsibility in other places (John S). There are shared learning opportunities between climate change adaptation and disaster risk reduction about communicating the risks (Barbara).
- **Review of planning system:** It needs to be reviewed across regions, coasts, cities, Murray-Darling Basin (Barbara).
- **Policy-action gap:** Is widening and of real concern, e.g. growth boundaries (Barbara).



Sam Johnson, founder of the Student Volunteer Army in Christchurch, joins in the open discussion. (Source: Nathan Maddock, Bushfire CRC)

7.3 'Raw' session notes

More detailed, 'raw' notes are provided below. The workshop summary given above is taken from these notes.

7.3.1 Expectations and perspectives

Richard Thornton

Deputy CEO & Research Director, Bushfire CRC

- There are differences and similarities between hazards that we need to confront and learn about. Are similarities between government, NGO etc roles in managing different hazards.
- Need to work through the meaning of Shared Responsibility. It has a particular historical basis in Australia – we need to understand what that is.
- There are key legal, policy and practical issues to confront.
- Land use planning is central – stop inappropriate building, particularly where areas are already allocated to development.
- Is about shared values – requires conversations. How do we start that?
- Is also about sharing the outcomes – benefits and costs, equity considerations
- Many other policy decisions beyond emergency management that are related – e.g. in land use planning, health, infrastructure.
- The idea of Shared Responsibility has become linked to that of community resilience. But what is this? We haven't really worked through this yet.
- Need to come out with a new agenda for where we want to head. We can't do this without collaboration.

Craig Lapsley

Fire Services Commissioner, Victoria

- The Victorian 2009 Bushfires Royal Commission made it very clear that we need to ensure that change happens.
 - The community expects change. We can't do more of the same.
 - This provides an authorising environment for change
- Our structures and processes need to be more agile.
- Fire tends to dominate the discourse, but we can learn a lot from other hazard areas – from flood.
- It is all about the same thing - public safety
- Fire agencies won't be able to reach/communicate with everyone but they can tap into existing community networks. Need to support local empowerment and local government.
- We talk about interoperability between agencies, but we need interoperability with communities.
- Shared Responsibility is about government and communities. It is about all government agencies having emergency management as part of its business. We need a peer group to be there.

Anne Leadbeater

Kinglake community & Murrindindi Shire Council

- Today Anne has been asked to talk from a community perspective – is not wearing the local government hat.
- This idea is achievable. Communities are inherently resilient.
- Shared Responsibility needs to be accompanied by a freeing up of control.
- Analogy of a newly licensed P-plate driver – at some point we have to let go and let them get out there on their own even though there are risks. It starts with risk acceptance.
- It is also about agencies and government trusting communities in order to give up control. Communities are engaged where they think they have influence and can affect change.
- We need honest, accurate language.
- Shared Responsibility is undermined by top-down, command-and-control approaches. It needs locally-designed and owned solutions. Needs local knowledge and respect for local knowledge.
- Don't silo the events/hazards
- Need to think about the end game and work back.
- In New Zealand – have a strong message that you might be on your own for 72 hours, we can help you prepare for that.
- Understand the strength and capacity from a community point of view. Respect what they are capable of, and resilience in all its manifestations.
- Current messages being put out by agencies are not resonating with people.

7.3.2 Perspectives from current research

Blythe McLennan

Research Fellow, Centre for Risk and Community Safety, RMIT University

- Shared Responsibility entails recognition that coping better, increasing resilience can't be done through uncoordinated action or with a small number of players.
- It is about increasing the degree of coordination, greater collective action, and wider range of actors being legitimately involved.
- In particular, it means coordinating and building relationships that cross some of the traditional boundaries in emergency management and in Australian society more broadly: boundaries between agencies and communities, public and private sectors, professional and volunteer activities, local and global levels, policy sectors and levels of government.
- It could be a very useful policy concept, but not if it is only applied where it fits comfortably. It is most useful where it challenges the status quo, changes thinking.
- There isn't a single answer for how to do it – disaster management is diverse and multifaceted and it involves processes with many elements, and different groups of parties working together towards a range of end goals.
- There will be different end points. We need to focus less on what the end goal ought to be and more on the process for sharing responsibility – the relationships that can support it.

Michael Eburn

Senior Fellow, Fenner School of Environment and Society/ LAW, ANU

- Asked Chief Officers of fire and emergency service agencies about their understanding of Shared Responsibility – what they think it means. Responses showed that as a group they

don't really know. Most thought that in general it is a good idea and we are working towards it, but there were different ideas about what it means.

- If it is not to be a policy statement without meaning we need to ask “sharing responsibility for what and with whom?”
- Chief Officers' answers tended to focus on response phase.
- Some thought that it is meaningless because at the end of the day, it is ultimately their agency's responsibility – “we're the experts”.
- Some thought it was clear: it's our responsibility to tell people what to do and their responsibility to do it.
- Legislation identified many responsibilities of governments and agencies, but not often of individuals.
- The idea of mutual obligation made them feel more comfortable.
- We need to ask: what are the objectives and means of knowing when we've achieved them? This is not clear. What are we sharing and with whom?
- A resilient community is not one to which nothing bad ever happens.
- Maybe we are already resilient?

Barbara Norman

Head of Discipline, Urban and Regional Planning, University of Canberra

- We need to be planning for risk and uncertainty; planning to minimise risk.
- In theory there are firm boundaries in urban planning. It is a challenge to adopt those boundaries – e.g. urban growth boundaries.
- We need to think about individual property rights vs the public interest and safety. The balance between these is the space of shared – or collective – responsibility.
- What does this mean in practice? Reviewing land use planning to have a much more adaptive, risk-based approach.
- Land use planning as a response – is a strong theme in inquiries.
- The relationship between urban and “scrub” is not black and white.
- We haven't yet been able to get a land use planning system that involves communities.

Leo Dobes

Crawford School of Economics and Government, ANU

- Works in area of economics and climate change adaptation. A lot more needs to be done in the area of measuring benefits in a conceptually rigorous way, including Stated Preference techniques.
- Financial costs alone are not a rigorous basis for social policy formulation, despite the current fashion for measuring benefits as damage costs avoided. Willingness to pay provides a more encompassing measure of people's preferences.
- If we don't understand what people want, resources are likely to be misallocated. There may even be a negative cost-benefit outcome. E.g., in the case of Hurricane Katrina more resources were used against looting than for recovery.
- Conducted a study in Cairns, Queensland, using Choice Modelling to estimate what people are willing to pay for a range of emergency services after a cyclone. 80 per cent response rate because Lions Club distributed and collected paper-based survey forms.
- One of the more surprising findings was that people don't want to pay for accommodating pets; don't care about pets as much as we thought?

- They did want to pay for faster resupply of fresh food and even more for reconnection of utilities such as sewerage.
- Results showed that many people had no trust in government. But there seem to have been two classes of respondents in the survey - those who stocked up on food and other measures supplies, and believe that individuals should be responsible for themselves; and others who seemed to expect provision of more assistance. Socioeconomic data (including household income) collected as part of the survey has not been able to explain this difference entirely.

Discussion/ questions

- These presentations haven't clarified what Shared Responsibility means.
- What are the different contributions that the different groups can make?
- How do we shift the mindset of people from response to preparation and planning?
- Finding out what communities want is crucial; one size does not fit all.



David Johnston, Director of the Joint Centre for Disaster Research (GNS Science/Massey University) shares some insights from New Zealand.

(Source: Nathan Maddock, Bushfire CRC)

7.3.3 Panel 1 – Community/local perspectives

Julie Molloy

Director of Social Engagement Initiatives, Volunteering Queensland

- Volunteering Queensland (VQ) 'Step Up' programme = building resilience. The premise is that community is resilient, and how can we identify the key players and create links.
- Disaster Readiness Index – on-line interactive tool for preparedness
- The 'Step up' programme has 6 projects for example for business, Aboriginal/Torres St, Elderly etc

- Agencies/Government need to stop asking and begin listening
- In setting up 'Step up', we looked internationally and did a lot of research. We asked how Volunteering Queensland can act as a conduit between community and government. The premise is to be well prepared, planned, mitigate, talk to your neighbours, share what assets are in the local community.
- Disaster Resilience Leadership Project – 2 days, talking about all hazards, fire, flood, oil spills etc.
- Volunteering Queensland maintains an emergency volunteering register called Community Response to Extreme Weather (CREW). This system enables them to provide a referral service between volunteers and natural disaster response agencies.
- People are survivors not victims
- We need to create a shared agenda in emergency management.

Vanessa Fabre

Manager - Inclusive Communities, Brisbane City Council

- Shared Responsibility – the size and scale of Brisbane floods 2011, it was impossible not to share
- Called on business, community and government – 22,000 residential properties, 7,600 business affected
- We are documenting our i) Volunteer management plan, and ii) Donation management plan – these provide a framework for governance
- Dilemma - response and recovery geared around 'Command and Control' so when and how can community participate?
- Overwhelming response volunteer to assist in clean-up of mud/debris. 24,000 registered and deployed. Benefits of being involved with coordinating community volunteer responses far outweigh the costs. There were only a handful of injuries. Expect attrition of volunteers after first week, to second and third.
- People are often concerned about liability with managing volunteers. However, Brisbane City Council received only 10 insurance claims out of approximately 24,000 volunteers. The cost to Council was not high.
- Brisbane has 19 Community Resource Centres, these worked well in organisational process of recovery.
- Worked with Habitat for Humanity. This organisation is not very large in Queensland, and so it did not have the same success as overseas, but there is potential to advance this type of relationship.
- How do Local Government and communities act in recovery and deal with traumas? We needed to do this much earlier than it occurred – we are learning.

Sam Johnson

Founder of the Student Volunteer Army, Christchurch

- SVA have responded to 5 different events in Christchurch since first quake in September 2010, on-going tremors
- Sam was keen to respond and first registered with Local Council – who wanted to know what skills he had and was told in no uncertain terms he should not undertake response work – leave it to the experts
- Sam really keen, and not taking no for an answer – Face book and Twitter – Self Journalism calling on others to turn up at 'X' location – 150 young people 17-20 yrs old on the first day

- February 2011, managing the major quake, 9,000 different volunteers 1800/day Process - scan licence, given food/gum boots and assigned a job/location to suit, in small teams
- ‘The skill of being unskilled’ great desire to help, but authorities did not have a process to include spontaneous volunteers. Gen Y uses Face book, Twitter, but the people who need help don’t necessarily use these. So they still needed to establish on-ground where the assistance was required.
- A bunch of students is not bound by the regulations, red tape, and insurance issues of Local Government
- Now in Christchurch there are some communities really well organised, strong leadership, but then in the next neighbourhood this may not be the case
- Big challenge now is to keep the volunteers involved – important that volunteering is relevant, cool and easy. A big Rock concert planned for October 2012, and to obtain a ticket requires 5-6 hours volunteering...so exploring ways to continue involving young people, keep them engaged.

Kate Lawrence

Macedon community & National Rural Women’s Coalition

- Preparedness and Shared Responsibility is about shared power, mutual respect and partnership. It is about transparency. Is about a partnership between citizen/community and government.
- Is not about seeing the community as a problem or a risk, nor seeing government as a thing to take pot shots at. It is about developing mutual respect and trust. Requires a “seismic shift in the mindset of all of us”
- There are systematic and institutional factors that influence where we are at. Government has an overarching presence /control in our lives.
 - Is a consequence of hierarchical, adversarial, consuming systems – governments are defensive
 - Sheer size of society means there has to be rules, but comes at a price.
 - We think we can control our environment – we tend to technological fixes and forget to invest in people, to empower them.
- This situation has led to mistrust. Government is overly risk adverse.
- One source – one message is government catch cry in emergency management, which doesn’t allow for difference – there is not one truth.
- There is a proliferation of research, lots of information is gathered, but it languishes because of political paralysis. There are few new initiatives actually delivered.
- Like Nasrudin in story from the Middle East, government is looking for answers to understanding and working with communities where there is light – where it is easier to look - in research. But the community is over here.
- Communities and citizens have become dependent and disconnected from own determinism/responsibility. Are overly regulated and so we expect that someone else is always in charge.
- Yet when disaster hits “the baton of responsibility is suddenly thrust at us”. We are told to be engaged, responsible, self-reliant. Then the baton cannot be handed back neatly – we want to keep holding it.
- Shared Responsibility policy would be useful. What would undermine it is if it is only paid lip service, could make people even more dependent or more fiercely independent and mistrustful of government.

- Few communities are well-prepared for disaster. Government needs to let go and enable communities to think for themselves. Communities are locked out of developing own projects. Is no avenue for activism and agitation – democracy.
- Is a fear that communities will get it wrong: that misinformation will spread. But this is only worse when there is a gap between citizen and government.
- Must empower communities to participate, build ownership of the problem. It needs to be said by Government “We don’t know how to protect you all the time”. Requires a leap of faith. It happens in other area, e.g. Landcare groups etc. but not with a focus on disaster.
- We need really good processes for communication and creative participation. Noisy, active outspoken community is a good sign – a KPI – of community resilience and Shared Responsibility.

John Richardson

National Coordinator of Strategic Development - Emergency Services, Australian Red Cross

- In response to Michael Eburn’s question – Does it really matter, have we got a problem? Yes at a personal level, the loss or impact experienced is a big problem – events can be personally disastrous even if not large in scale.
- The neighbourhood scale is very important. Local Government is best placed as is in the community and can pick up at a neighbourhood scale. The scale is an issue. With major disaster, there are appeals/fund raising to assist communities. For example, \$400 mil was the largest ever donated for the bushfires in Victoria in 2009 – an example of Shared Responsibility. However, for a small scale disaster you might be on your own.
- The disaster narrative is pretty simplistic. It is typically about the bungling government official, the survivor as depicted by the media. But the reality is much more complex. How do we understand the true essence of disaster? We need to shift from a focus on loss to disruption and what this means for individuals, community. Yet government and media like this focus because it can be measured.
- Disaster management shouldn’t be event-based. It should be part of the on-going community approach. “Prepare for Life” - prepare to recover, prepare to be resilient. How can we achieve this on an on-going basis, everyday of the week?
- Shared Responsibility – requires trust, investing in social capital and overcoming the tension between community and government.

Briony Towers

Research Fellow, Centre for Risk and Community Safety, RMIT University

- Children understand disaster – interviewed 131 children living in areas at risk of bushfire to examine how they participate in bushfire planning; what they know about the risks; what would undermine their preparedness.
- Emergency Managers are always amazed how much children know
- It is important to honour children’s right to participate in disaster risk protection
- There are dilemmas about how much parents share with young children. Key things – children do have agency if they learn about risk. They are able to know how to protect against radiant heat, can describe the process of house protection – extinguish embers, retreat to house as fire passes etc.
- Some suggest children should not be present during bushfire but this may not always be possible. Can get caught out. So it would be better to have discussions with children about coping before the event.

- Children continue to be kept out. They were not considered in the Victorian 2009 Bushfires Royal Commission. They do not have any say in School Closure policy on Code Red Days, which might leave some kids at home whilst parents have to work.
- Shared Responsibility - Children need to be part of the debate, rather than being excluded.

Malcolm and Jane Calder

Steels Creek community

Malcolm Calder

- Black Saturday 130 residents in Steels Creek – 10 lost their lives
- The Saturday after at community market where usually 10-20 people, 100 turned up. One month later at a community BBQ, there were 200 people
- Things change: fire creates change. Some people find it difficult to accept that things are not going back to the way it was before.
- Shared Responsibility implies partnership.
- Community Centre at the old school – run by 10 people 60% community comes to events, whilst the other 40% not interested in participating. On the face of it a coherent community
- In September 2009 there was a meeting to decide on how to use fire donation funds. 30 people turned up, proposed a walking track between Yarra Glen and Steels Creek. Local government took time (about 3 yrs) to plan and then get back to community. When they finally did, some in the community were not happy. They felt the plan was imposed. It has now gone to VCAT.
- Shared Responsibility – should be about empowering the community.

Jane Calder

- Comment on Briony's research – if there is more information for children, they may be less inclined to fear fire, be good to establish an embedded understanding
- Steels Creek community after the fire – 'Humans are sociable' and needed to come together e.g. community market. Women tend to be much more sociable, and things like the Men's Shed are really good.
- There are new opportunities to get together, may not have previously considered e.g. singing group
- The counselling services, groups have been great. For example Dr Rob Gordon, able to explain "bushfire brain" and the whole group relieved that they are normal!
- Can work toward everything being OK, the social aspect creates resilience. Resilience comes from self reliance - such things as growing vegetables. Gardening is strong in our community. There was a great response from gardening groups all around Australia – donating supplies for revegetating.
- It is challenging when people ask what you want – decision-making after a disaster is a tough one. Some people turned up and just pitched in, which was great.
- Steels Creek stitchers group created a quilt that involved 17 people that depicted recovery. This was a healing process. [Jane displayed the quilt at the workshop]
- The Community Centre was saved from the fire and this provided much heart in the recovery.
- Not everyone chooses to be involved in the community and that is OK too.

Discussion/ questions

- **Mark Duckworth:** I don't know anyone in government who would disagree with Kate's points. The media seeks to find blame.
- **Kate Lawrence:** challenge is the systematic nature of the problem. I don't have an answer to the issues of the media. Part of me thinks we need a revolution. We need to be creating our own conversations.
- **Ian Mannix:** One issue is that ABC is not able to participate in pre-season planning. Emergency management does not let the ABC in, even though they are a part of all disasters/events.
- **Malcom Calder:** In Australia there is a prevailing mentality that "they should have done more".
- **From the floor:** Consultation for the new community centre in Marysville did not amount to much – was lip service. The architects and bureaucrats have their own ideas that are imposed on the community and the community is not getting what it thought it was.
- **Malcolm Calder:** There is a problem regarding what is community because there is no single community authority. In Steels Creek it is more of a social group. So the structure is not clear for government and this is difficult in the recovery process.
- **Vanessa Fabre:** We need flexible funding arrangements around recovery. Do the communities know what they need? In the response phase, government is good with the command-and-control part. During the recovery it needs a community-based approach on a by-needs basis.
- **Sam Johnson:** People should communicate what they can get out and do. It doesn't have to be led from the top.
- **John Richardson:** People have significant skills for community-led recovery. Others have a lot of good will and being able to support this is important. Funding for community-led endeavours always requires accountability. Most often community groups just need someone to help with administration/organising/book-keeping.
- **Anne Leadbeater:** One of the challenges is that what communities look like is so varied. The place to begin is with what was happening before the disaster and understand where people were coming from before the event. There is a danger of community-led recovery being coopted. Community recovery should be hard. It takes time and if it is easy it is probably not going right.
- **Jane Calder:** A lot of this reminds me of how we treat Aboriginal communities – we can impose on them. Community leaders can get burnt out.
- **John Richardson:** Need to ask who in the community is leading already and is well-connected. These people are not always in high profile positions, could be people on the school council etc.
- **Julie Molloy:** Longer-term planning is required to bounce back and then some.



Malcolm and Jane Calder show the quilt made by the Steels Creek stitchers group
(Source: Peter Stanley)

7.3.4 Panel 2 – Government perspectives

Chris Collett

Assistant Secretary of the Emergency Management Policy Branch, Commonwealth Attorney-General's Department

- The case for resilience is well-established. The National Strategy for Disaster Resilience is a framework for sharing responsibility within and amongst governments and the broader community. It is changing the way we think about disasters. Change takes time.
- Resilience/ Shared Responsibility constitute a new policy space for the Federal Government and is dominating a lot of discussions in other sectors besides disaster management, e.g. countering violent extremism and critical infrastructure. We can learn from these discussions and the ideas generated in these other sectors.
- The context of disaster management is changing, as the way in which we are living in this country is changing e.g. tree-changers bring urban expectations of government to rural areas, rising costs. Governments need to ask where they need to change.
- Long-term behaviour change as a policy goal is difficult because it can take decades, e.g. drink-driving, smoking.
- Shared Responsibility is about increasing honesty about disasters and disaster risk reduction. It is not about governments avoiding responsibility. It is about governments being honest about what they can and cannot do.

- The National Strategy is unique and challenging because it aims to bring together so many different players. When these players come together and share, a synergy develops and the results are bigger. An example of this that is underway is TISN (the Trusted Information Sharing Networks for Critical Infrastructure).
- There is a tension in government about how to contribute to Shared Responsibility without taking over. How do we encourage Shared Responsibility from the position of big government?
- Tackling the hard stuff is very important. Going beyond one-size-fits-all is a real challenge, as is dealing with communities and groups that do not have clear hierarchies/representatives that governments can link into. This is challenging but it is critically important for governments to confront.

Mark Duckworth

Executive Director of Citizenship and Resilience, Victorian Department of Premier and Cabinet (DPC)

- Shared Responsibility is really taking off as a central idea in government. It is not about government telling people what to do; it's about harnessing and supporting what's already happening, and people learning from each other. We can use successful groups as examples for all of us.
- Agrees with Chris Collett that a key challenge is the shorter timeframes of political cycles versus the longer timeframes needed for sustained behavioural change. Behavioural change is less about convincing communities and more about changing how governments engage with communities on these issues.
- The work that emergency service volunteers do is fantastic. That dedication needs to be joined up with other groups and government can contribute to the same aim.
- There is no silver bullet: the only way forward is through lots of small projects. Each community is different and this diversity is a challenge for government.
- Another big issue that governments need to face in doing this is accountability. How can governments be both enablers of what other groups do as well as being accountable for spending government funds? We don't have the answer to this, but it is an issue that is being talked about in government.

Terry Hayes

Executive Manager, Community Capability at the Victorian Country Fire Authority (CFA)

- New Victorian Planning provisions that came into effect in November require that local governments take account of bushfire risk when making planning decisions and take advice from local fire services. This is a new and big challenge for the CFA - and an opportunity for fire services to design out some bushfire risk.
- The CFA is working to build the idea of fire into school curriculum – this is an opportunity for stimulating behavioural change.
- Authentic engagement before bushfire happens enables good response and quick recovery.
- Shared Responsibility is a concept that exists in fire policy. It is not new: we have had it in other areas for years, such as roads. With fire it is difficult because we are not clear about what we are sharing. What happens when people have differing capabilities etc.? These are questions we are confronting now.
- There is no legislation that says people have to share responsibility. When did we agree with the community to share responsibility? When did we test their capacity to meet their responsibilities? Decision-making under stress is often poor: we are placing a lot on people in emergency situations.

- Fire brigades are ideally placed to understand communities. We can invest in training and enable them to self-determine how they want to address this challenge.
- The CFA is completely changing the way it does things in order to support communities rather than to do things to them from the top down. It is difficult but we are committed to this change.

Janet Pope

Manager of Strategic Research and Coordination - Victorian Department of Planning and Community Development (DPCD)

- DPCD already measures community resilience but not in relation to disasters.
- Community resilience is related to networks within communities and networks that extend outside the community. Networks are built through participation. Government has a role in encouraging participation. We want to foster general participation but especially participation in local governance.
- Community issues are complex and can only be addressed by bringing together technical knowledge, local knowledge and government resources.
- One size does not fit all – different communities have different strengths and weaknesses. Vulnerabilities are a big issue. Work to improve networks on this front is exciting.
- The role of government is more as an enabler than as a provider.
- All community planning helps people to be more prepared for disasters and to make them more resilient. Government can fund activities like sport. It can fund assets like community centres. It can also fund programs that build the capacity of local government and that provide information and research.
- Communities are pro-social and move faster than governments. They are very able to respond. You cannot really predict community networks, which is a challenge for government.
- Community networks draw people back after a disaster, which helps with rebuilding. Government should reduce the red tape but the need for government accountability is a challenging issue.

Steve Opper

Director of Community Safety - NSW State Emergency Service (SES)

- While understanding the theory behind the concept of Shared Responsibility – it has become a policy mantra. Some people use the words but the meaning is empty.
- Is it possible that the concept could be used to excuse government failure? Distributing responsibility can dilute accountability.
- Prior to Black Saturday Shared Responsibility was not on the radar. The Royal Commission said that in emergencies the safest place to be is not there. This is in conflict with the community that wants to stay and fight. There will be a decision point – but how do choose what to do?
- Is evacuating 100% risk aversion? Where do we evacuate to? Are we more concerned about inconveniencing people than about killing them? What do we do when people do not want to evacuate? This happened to the NSW SES recently with the town of Hay. The issue is not unique to recent events and a NSW North coast survey in 2009 showed that 30% of the residents in Grafton and Kempsey had no intention of ever evacuating. Yet evacuation is the most effective option that the SES has: when people don't do it, does this mean that the SES has failed?

- Key to resilience is warnings and information. It is reasonable for people to expect warnings. Warnings include: what is coming? How might it affect you? What do you need to do?
- For the SES the challenge is engagement to ensure that people understand and accept the risk. Yet only 1.5% of the NSW SES budget is committed to community education. For the NSW Rural Fire Service the percentage may be less given that their budget is larger than that of the NSW SES but the RFS community engagement resource does not appear to be proportionally bigger.
- Shift from a top-down to bottom-up (distributed funding) approach needs a leap of faith.

Russell Rees

Risk Advisor, Municipal Association of Victoria

- Resilience is not just a buzz word: it's the centre of emergency management. An important concept.
- Why do we even have to do this? Because our communities have lost resilience compared to the past. Our systems and processes have moved away from being resilient.
- We only ever look through the play school window of litigation, accountability, responsibility. We need to look through a different window.
- "Responsibility" speaks of a concept not of partnership but of who "gets it" when things go wrong. Local government is the meat in the sandwich.
- We always talk about resilience post event. The biggest impediment to recovery is essential things that have been damaged. Things change but you need hard assets that are more resilience and easier to repair. One of the first pathways to moving towards Shared Responsibility is to harden critical infrastructure so then social stuff can come from there.

Discussion/questions

- **From the floor:** Can governments accept what community says even when it doesn't work?
 - **Response - Mark Duckworth:** it isn't about anybody doing less, it's about everyone doing more. Government putting in more money isn't the answer. Shared Responsibility isn't equal responsibility. So what happens when emergency management services tell people to evacuate and they don't and then are badly impacted? This is a fundamental issue. Resilience isn't about being stupid.
- **From the floor:** During post-Black Saturday rebuilding VBRRRA (Victorian Bushfire Reconstruction and Recovery Authority) said it would give \$1.7 million for tourism recovery in the area but it wanted to deal with a single community organisation. There were two organisations in Marysville that did not want to amalgamate and the process caused conflict in the community.
- **From the floor:** Learning is important: how do we implement it?
 - **Response - Mark Duckworth:** We get research on what works and what doesn't. Governments and communities can learn from each other. While governments can produce materials, communities learning from each other is just as important.
- **From the floor:** Information and warnings are designed to elicit behaviours but they are not well targeted. What do you think about general information and specific warnings?
 - **Response – Steve Opper:** Information processes need a strategy around specific group needs but you shouldn't get too clever. We need good information about relationships between hazards and outcomes to provide people with warnings about what is coming.

- **From the floor to Steve Opper:** Legal consequences of forcibly evacuating town of Hay?
 - **Response – Steve Opper:** Unclear, but would be messy
 - **Response from the floor –** Perhaps perceived as better media-wise to rescue with helicopters later rather than drag people from their homes.
- **From the floor:** Context is very important when giving warnings/information. Not only information about what will happen.
- **From the floor:** Is subsidiarity considered?
 - **Response – Janet Pope:** We need community institutions and to equip them.
 - **Response - Mark Duckworth:** Localism/ subsidiarity is central to the whole thing. Underpins much of what is in the National Strategy for Disaster Resilience and subsidiarity was discussed in depth during the drafting.

Note: What is subsidiarity?

“It is a key principle in discussions about federalism that decision making should be devolved to the most local level possible; or, conversely, decision making should only be centralised where it is necessary to do so. This is known as the Principle of Subsidiarity” (p. 4)

(**Source:** Wilkins, R. (2010). Federalism and the emergency services: paper developed from a speech presented at the AFAC/Bushfire CRC 2009 conference. Australian Journal of Emergency Management, 25(1), 3-6.)



Julie Molloy from Volunteering Queensland responds to issues raised by speakers in the final panel.

(Source: Nathan Maddock, Bushfire CRC)

7.3.5 Open discussion and Panel – Reflecting on Shared Responsibility

Open discussion

Key points raised in the open discussion:

- **Government/community as abstract concepts:** We keep talking about government and community as abstract concepts – it disguises the importance of the thinking, decisions and relationships of individuals involved. Are there really such things as “government” and “community”?
- **Risk appetites:** The risk appetites that governments and communities have are different. May get greater risk aversion in government.
- **Preparation and resilience:** We often talk about resilience in recovery but not in preparedness – the fabric that makes community before and after an emergency. Preparation is part of resilience
- **Local government-community actions:** Good things are happening in a lot of places. Local government programs are working with communities E.g. community groups that sought \$ and now are involved in community planning for emergencies
- **Rhetoric vs action:** There is a conflict between rhetoric/theory and what happens on the ground – there’s an assumption of trickle-down effect to street-level, practitioners that does not always play out.
- **Emergency service volunteers:** There are benefits of small teams with few layers of hierarchy in emergency management structures. This allows communication to volunteers through to community. A challenge is that volunteers join for the excitement of response and not for community engagement.
- **Organisational change takes time:** It is difficult to turn an organisation around from top-down to bottom-up. It takes time. Some work is happening in this direction already in fire agencies. We need to step back from the process and let community do the planning. Organisations can provide expertise when required. This requires a genuine desire for change.
- **Genuine vs token change:** Communities can tell the difference between genuine or token attempts. We have to take what genuine steps we can - even if small.
- **Policy-action disconnect:** Is there a disconnect between policymakers and those on the ground? They’re not aware of the tools and it’s extremely difficult to mix ‘spontaneous volunteers’ and management into policy.
- **Community engagement:** It’s a complex picture...engagement has been transitioning. Before it was community education and there was a lack of genuine engagement skills. The majority of engagement has to happen outside of crises – this would build the trust needed for when the crises happen.
- **Virtual communities:** What about virtual communities – lots of people are connected into these. How can we communicate with them?
- **Living in “bushfire-prone” areas:** Language can be alienating. Bushfire-prone means different things to the public. Prone means happens regularly, which bushfires do not. Seems to be an assumption that people choose to live in bushfire-prone areas, which may not be the case.
- **Types of government-community relationships:** Shared Responsibility is about collaboration, about shared understanding. Need to focus on how we can bring about peer-to-peer relationships.
- Preparation exercises often only include ‘expert’ groups; when will whole communities be able to participate? – But cost can be a huge barrier to participation (thanks to the organisers of this event for making it free).

- **Sharing resources with communities:** To encourage Shared Responsibility we also need to share resources. Idea was raised of part of tax base going directly to local community disaster management funds without need for application – would government be willing to allow this?
 - Landcare is an example where resources are being shared for self-directed community planning – but they still apply for funding
 - But how would government account for expenditure? Who is ‘the community’ the funds would go to?
 - Could communities establish institutions to manage expenditure of such resources? In rural and remote Victoria local governments are not necessarily local/ community-based since amalgamation – geographic areas are too large. They are also under-resourced. So might not be best place to place resources?
 - Why not work with existing institutions? E.g. Steels Creek: community works as a committee of management for the Shire. It can get money from local government, CFA, etc
 - We can incorporate groups, so why not incorporate a local disaster management group? – A group that has its own policy with local government?
 - Do we really need to create another layer of institutions for managing the situation?
- **Change takes time:** Radical, quick changes often lead to bad “solutions” imposed on us. Cultural change takes time.
- **“Solutions to the problem” is an old mind set:** This is ongoing. Enable people to find their own way to deal with situations by building existing networks, having good facilitators, developing a different skill set. One of the small steps we could take is to consult, create and facilitate those skills in NGOs, govt and communities
- **Education and children:** New Zealand has a children’s awareness program - “What’s the plan Stan”? Need resources for curriculum. There were only minor injuries for kids in schools during the Christchurch earthquakes (building structures also played a part in that)
- **Emergency management in government agencies:** Many government departments beyond fire and SES are bringing emergency management into the core of their business.
- **Community spontaneous responses:** Keep it organic and flexible by using existing institutions such as local government, the school, local tennis club etc. Liability is a concern for community groups organising spontaneous volunteers – experience has been to muddle through.
- **Surviving vs recovering:** Are we preparing to survive, not preparing to recover?
- **Community group liability:** What happens if we assume the community can be identified and has their own plan but the plan fails, people die? What legal protection do people have?
 - Chances of anyone successfully suing are very slim. The reality of the threat of litigation is that it is not as serious as it is often portrayed.

Panel 3 – Key issues for the future

Noreen Krusel

Research Utilisation Manager, Bushfire CRC

- We all kind of think Shared Responsibility a good idea but aren’t really clear on what it is: responsibility for what, with whom?
- We need to understand better, communicate more
- People, neighbourhoods, communities respond differently

- Has not been much mention of time: that Shared Responsibility will vary in time
- Fixed policy positions are difficult in a dynamic environment: Shared Responsibility between whom and for what? Will codifying it help or hinder?
- With responsibility comes the notion of obligation and responsibility for others
- Thinking about roles of governments, collectives and the individual – might help to tease out who has responsibility for what
- Research – there is a gulf between research nuts and policy idealists. We may need a different model of research - more of these types of events facilitated or motivated by researchers and research projects, case studies, stories and peer to peer discussions.

John Schauble

Manager Policy & Planning, Office of the Fire Services Commissioner

- The question of culture wasn't really tackled today - A lot is tied up in culture and behaviour – how does Shared Responsibility fit into the prevailing cultural norms?
- Whose responsibility, how much is shared?
- Are people expecting to be rescued (cultural)? Are we building this expectation?
- How will we allow the narrative to be told? How allow others to tell it for us? The media, governments, etc
- There is a tendency to define emergency as a problem with a solution but emergencies are not avoidable.
- We measure them by counting - trucks, deaths, money at the end, so that a good outcome becomes synonymous with a small number. This is deeply risk averse and is not accepting that some loss is inevitable.
- Communities are diverse. Some people assume to speak for a community when they may not be able to.
- There are some examples of sharing responsibility in practice.
 - Brigades are small communities in and of themselves
 - Indonesian example of the *gotong royong* concept of 'mutual aid' - working together for a shared objective - was a principle for the establishment of the nation
 - In China, volunteering has a totally different interpretation
 - E.g. of the culture - What we need to do is take spontaneity out of spontaneous volunteering.
- Communities still define what government does. It's about process and enabling involvement.
- It is a challenge to include something to support this in curriculums with 7 different jurisdictions - this is no excuse.
- We can't allow government to return to business as usual

Chris Collett

Assistant Secretary of the Emergency Management Policy Branch, Commonwealth Attorney-General's Department

- This issue resonates – oversubscription to this workshop is a good indicator of this
- The National Strategy for Disaster Resilience is an opportunity

- Work needs to be done around understanding risk and how we live with Australian events. It has to be built into our technology. Work needs to be done around how we communicate across communities, government, businesses, etc
- We are saturated by information. How do we maintain effective messages years after a disaster?
- The question of mainstreaming – if in a few years, the same people are having the same conversation we're in trouble
- We need to ensure that future policy doesn't have a counter resilience effect. E.g. how do we swing from recovery into preparedness? Insurance is complicated and this can reduce people's incentives for preparedness – government has a role in influencing this
- How do we measure disaster resilience?
 - Is it longitudinal change?
 - How do we measure if we're successful?
 - Are there objective measures? (E.g. work by the Torrens Institute and University of Queensland)
- How do we learn lessons?
- What opportunities do we have to preach to the unconverted?
- Can we shift to peer to peer models that include government, universities, businesses and then move beyond this?

Kate Lawrence

Macedon community & National Rural Women's Coalition and Network

- We need more sophisticated processes. This workshop format perpetuates the division between government and community in the way it separates the issues. We need to mix it up. It's messy and hard.
- Process input – democracy, but can be too easy to tick the box
- More complex, there are bigger problems than the solutions suggest
- There is some change but it's not about behaviour change but about enabling
- Preparedness is central
- Bushfire resources – we have lots to stop them (but not earthquakes), maybe that's why we don't spend the money on people's preparedness?
- Not everyone is going to do something. There may be smart people who are willing to take on things and learn
- Make money is available through programs etc but do not make it too onerous to access, not too many checks and balances
- Government needs to say "we can't always be there"
- Don't lecture people about what to do
- Look to Asia to learn - to developing countries because they don't have the bureaucracy (or resources) and so they focus on community

Anne Leadbeater

Kinglake community & Murrindindi Shire Council

- There is so much to take from this conversation today

- Prepare to be on your own for 3 days in NZ, 2 weeks in Japan, yet we had 8000 attempted calls to 000 on Black Saturday that trickled into Sunday – there is still much to do in reinforcing a message of self-reliance
- “Don’t risk your life on last minute decisions” – doesn’t resonate with the lived experience as some people’s lives were saved by their ability to make last minute decisions, to think on their feet and respond to a dynamic and evolving situation
- Language matters
- Government and agencies say “The community want it simple” Well, of course, but it’s not simple and there is little to be gained by trying to make it so.
- Anne quoted a survivor from Mt Macedon talking about recovery after Ash Wednesday:
...no-one can take away our right to make our own decisions or to interfere with those we have made...we don’t need everything done for us, as we are neither useless nor helpless. We want to help ourselves and play a part in helping the community. All we need is a bit of a hand to kick us off and some support along the way...A chance to tell you our problems before you come up with your solutions.

Kenworthy, M. *Aftermath of Fire: a people’s triumph*, 2007, p. 59

Barbara Norman

Head of Discipline - Urban and Regional Planning, University of Canberra

- Today was a good learning exercise
- Shared Responsibility = shared understanding and knowledge/ collaboration
- Cost-benefit needs to include everything – this is a really long list that will identify the value of planning beforehand. Is a need for planning before the fact – looking forward/future focussed
- Better communicating the risks – there are shared learnings from climate change adaptation. E.g. IPCC thought the science would be enough to instil change. We can share communication ideas between disaster risk reduction and climate change adaptation.
- Coasts, cities, Murray-Darling Basin – we need to review the planning system of the country
- National level policy statement of cities/ metro plans in the context of climate change adaptation and disaster risk reduction – this is positive action – may lead to changes in the planning system
- Of real concern is the widening gap between policy and what’s happening on the ground – an example is the abolition of the urban growth boundaries
- Research should get a handle on the cost of no planning – life, impact on cities etc
- CURF – Canberra Urban Rural Futures – is an example of efforts to start to get to grips with some of this.

Peter Stanley

Head - Centre for Historical Research, National Museum of Australia

- Many times today I didn’t know what people were talking about - language is important. Please use English.
- Peter has an upcoming book called [Black Saturday at Steels Creek: Fire and an Australian Community](#). There are many good books about the bushfires in Victoria in Feb 2009 already but this one was written in close collaboration with the community: “it’s my book but it’s their story”. The draft was checked with them and amended as they suggested.

- The subtitle of the book is “fire and an Australian community” – it looks at before, during and after the fire; the lived experience of the Steels Creek community as a microcosm of the Australian experience
- Malcolm spoke of several qualities – mateship, trust, respect, support and participation
- Leadership was largely left out today – who is the community and who should speak for it?
- There are different neighbourhoods within Steels Creek – one of them is a single street. It had an informal phone tree from neighbourhood watch that grew into a sophisticated fireguard group. Communities like this that are strong before an event deal with disasters better.
- People often risked their lives to help neighbours, family and friends
- More research? “Taking care of ourselves is rooted in the culture of this country...especially rural Australia”.

7.4 Attendee responses

We invited those who attended the workshop to respond to the two key questions posed to the speakers on the day:

- 1) What does the idea of ‘Shared Responsibility’ mean, and what are its implications?
- 2) Is it a useful policy concept, and if yes what needs to be done to implement it, and what could undermine it?

The responses we received are included in full below. Please be aware that, just as is the case with the speakers in the workshop itself, these responses reflect personal views. They should not be interpreted as representing the official stances of any organisation or agency.

- “For me, Shared Responsibility means something similar to that expressed by some of your panellists on the day. I think that communities, government and agencies, must collaborate for disaster prevention, preparation and response to be effective. The possibility of a successful top down 1950s approach, has long since passed. The hazard centred 50s paradigm was a hierarchical and highly militarised approach to disaster management and recovery which privileged linear and singular processes determined by “dominant masculine culture” As a country that is likely to continue to be battered by the effects of climate change, we need to resist the natural desire to attempt to eliminate risk and instead work to understand and support individual and community need. As one presenter so eloquently elucidated on the day...‘when disaster hits the baton is handed to the community’. The community are the respondents to disaster, and those of us working with disaster need to keep that knowledge front and centre in considering the way we work. We need to embed ourselves within communities and find what each individual and community needs to plan effectively for disaster, and provide that support. Indeed, following that path will likely allow for a dialogue with communities about risk reduction and best practice response, allowing them to consider their best options.”

- *Connie Kellett, PhD Candidate, University of Melbourne*

- “1) I was fascinated to hear the different ideas that people had about the concept of sharing responsibility – I had always thought it was sharing the responsibility (and hence accountability) for my safety and that of my family and friends and community BEFORE, AFTER and DURING and event – in effect not being dependent upon others. As a result of the workshop I can see that others may understand this as transferring responsibility at different stages – interesting and equally relevant way of understand this, just not the way I had done so.

So as a result of the workshop I see this idea of sharing responsibility as less tightly constructed than I had previously considered.

2) It is a supremely important and useful policy construct ... but the different interpretations are likely to undermine it – and are something that will need a lot of thought.”

- Lyndsey Wright, Research Manager, Bushfire Cooperative Research Centre

- “1) Shared Responsibility should actually be mutual obligation and acceptance that, if you choose to live in the shark pool, at some stage you may get bitten and that no-one else should be at fault because of it.

2) It would be useful if it was part of a package of social policy. Shared Responsibility / mutual obligation is only as good as its supporting mechanism, which at this stage of community development is disjointed. Litigious society, conflicting environmental and land use planning objectives and the expectation that ‘someone else’ (government?) will always fix somebody’s problem does not help. Given a relative lack of major emergencies that threaten or impact our communities as a whole, people prefer the day to day rules that govern their life rather than ‘draconian’ ones that suit only when a rare event occurs.”

- Graeme Armstrong, Regional Commander, Country Fire Authority - Eastern Metropolitan Region

- “1) In an EM context, Shared Responsibility means the acceptance that the outcomes of an event will be dependent on the actions taken by individuals, communities, governments and other agencies. These groups have interdependencies. Each can influence the actions of another but cannot control them.

2) Yes, it is important that policy recognise the limitations of the contribution that each group makes in determining outcomes. This could be undermined by the fear that this may be perceived as government avoiding its responsibility. Also, politics usually means the presentation of policy in a way that says to the community “this is what we are doing for you”. The message “this is what you need to do....we can’t do it for you” may be seen as too unpalatable for the electorate.”

- Justin Murray, Executive Officer Emergency Management, Nillumbik Shire Council

- “The only point or question that I'd reinforce is about the opaque-ness that arises from the shorthand of framing shared as being about 'the community' and 'the government'. A framing is a choice and tends to reveal/highlight some aspects of a situation or question, while disguising others.

The naming of community and government as 'things' can imply that each is a distinctly-defined entity with a single mind. They aren't. Neither is distinctly defined, and both involve multiple individuals each of whom thinks differently. Indeed many individuals are part of both 'groups'. Indeed is a CFA volunteer agency or community? Is anyone not part of community in some way?

What does 'the community' think? It thinks many different things simultaneously, and often those things are contradictory. How does it engage in an agreement to share responsibility? It can't. Only some further construction of it can.

At face value government and authorities have more semblance of central control, but they too involve multiple individuals who make daily and hourly choices. Even within (or despite) a government policy, individuals (who are knowledge workers) must make many choices such as who to appoint, whether to attend a workshop, whether to send an email, and how to allocate resources.

We are probably stuck with using the shorthand, but I think we should keep stating and reminding ourselves that we make that choice, and that it has implications. While one may assume that people will always realise that one is intended to mean the other, I seriously doubt in practice that that is wise.

At a practical level, a powerful design-principle of the Fire Learning Network is that each person comes to the conversation as themselves rather than as a representative. FLN is able to see it that way because it does consciously think and act past the label.”

“The idea of 'shared' is meaningless except in relation to the two or more parties who do the sharing. Thus the question of who the parties are is fundamental. If we are to make something useful of 'Shared Responsibility' then the 'who' question can't be dismissed and the answer can't be trite.”

- Andrew Wilson, Manager Fire Knowledge and Learning, Fire Division, Victorian Department of Sustainability and Environment

- “1) The idea is about the sharing of responsibility for decisions, costs and accountability for the bushfire prevention, response and recovery, where the purpose is the protection of things we value – e.g. human life and health, private property, public infrastructure, landscape amenity, ecosystem condition.

What it actually means in practical terms, that is, who has responsibility for what and how do we know when responsibility has been met, seems to be inherently social and political and will be very much influenced by social values such as social welfare, equity and expectations and acceptance of risk.

Who holds responsibility, and is thus accountable, definitely seems to be an idea that is only given meaning through dialogue, reflection and agreement and acceptance between all parties concerned – all levels of government, individuals/households, private landowners, community groups, and the private sector. In this sense, the meaning of Shared Responsibility seems very fluid and inherently social and political, and in this way the idea seems to be analogous to the idea of ‘duty of care’, which can be partially expressed and implemented through legislation but the legislation will evolve and reflect values that are defined within a socio-political context.

I think part of the idea might also really be just about achieving better clarity and transparency around where existing responsibilities lie between government and individuals, and if these need to be changed to achieve outcomes we care about in terms of community safety and wellbeing, economic wealth, environmental quality etc.

2) I think it could be a very useful policy concept on a pragmatic level if clarification of responsibilities and capabilities for managing bushfire risk leads to more effective and efficient bushfire management and improved community safety.

I think the clarification of where government responsibility around bushfire risk mitigation and recovery starts and ends could be very useful in allowing individuals and community groups to make more informed choices about how much they are willing to invest in their own safety and wellbeing in the context of bushfire risk.

I think it is important that any social and political processes for establishing and clarifying Shared Responsibility (in practical terms) are supported by the integration of technical and scientific (biophysical, social and economic) understanding – I think this is needed as part of the process of identifying who is best positioned to take responsibility for different aspects of bushfire risk management and recovery, and what institutional/policy arrangements are needed to support this.”

- Helena Clayton, Research Fellow, The Fenner School of Environment and Society, The Australian National University

7.5 Attendee affiliations

- Australasian Fire and Emergency Services Council (AFAC)
- Australian Broadcasting Corporation
- Australian Government Attorney-General's Department
- Australian National University
- Australian Red Cross
- Brisbane City Council
- Australian Bureau of Meteorology
- Bushfire Cooperative Research Centre
- Country Fire Authority, Victoria
- CSIRO
- Department of Human Services (Victoria)
- Department of Planning and Community Development (Victoria)
- Department of Premier and Cabinet (Victoria)
- Department of Sustainability and Environment (Victoria)
- Department of Transport (Victoria)
- Fire and Rescue NSW
- Fire Services Commissioner (Victoria)
- GNS Science (New Zealand)
- Greater Warrandyte community
- James Cook University
- Karalee Community Association
- Kinglake Ranges community
- Latrobe University
- Leadership Plus - Disability and Social Change
- Marysville community
- Mount Macedon community
- Macquarie University
- Massey University (New Zealand)
- Monash University
- Municipal Association of Victoria
- Murrindindi Shire Council
- National Museum of Australia
- National Rural Women's Coalition
- Nillumbik Shire Council
- Northern Territory Police, Fire and Emergency Services
- NSW Rural Fire Service
- NSW State Emergency Service
- Office of the Emergency Services Commissioner
- Queensland Fire and Rescue Service
- RMIT University
- Roberts Evaluation Pty Ltd
- State Fire Management Planning Support, Victoria
- Steels Creek community
- Surf Lifesaving Australia
- Tasmania Fire Service
- University of British Columbia (Canada)
- University of Canberra
- University of Erlangen-Nürnberg (Germany)
- University of Melbourne
- University of Southern Queensland
- University of Western Australia
- Victorian Centre for Climate Change Adaptation Research (VCCCAR)
- Victorian State Emergency Service
- Volunteer Army Foundation (Christchurch, New Zealand)
- Volunteering Queensland
- Yarra Ranges Shire Council



Photo supplied by Malcolm Calder

8 Sharing responsibility for implementing the NSDR (Stage 4/5 workshop, Sydney)

8.1 Introduction

This one-day stakeholder workshop on 'sharing responsibility for implementing the NSDR' was held at the University of NSW in Sydney on 13th March 2013. Throughout the workshop, three panels of speakers representing a wide range of perspectives from "governments, businesses, not-for-profit, communities and individuals" as well as from research were asked to address one or more of the following questions:

1. What would 'disaster resilience' look like and will we know it when we see it?
2. What has been learned about sharing responsibility for disaster resilience from experiences so far?
3. What aspects of current practices and relationships most need to change in order that responsibilities for disaster resilience can be shared effectively and fairly?

Each speaker had 5-10 minutes to present their views. The workshop used an interactive format, prioritising time for group discussion following each panel sessions. Attendees were able to submit questions at any time during the day by SMS that were then read out and responded to in a one-hour open discussion session at the end of the day.

This event built on the work of the Bushfire CRC research project *Sharing Responsibility* undertaken by the Centre for Risk and Community Safety at RMIT University and is a follow-up to a successful workshop conducted as part of this project in Melbourne in March 2012 (<http://www.bushfirecrc.com/publications/citation/bf-3336>).

The Sydney workshop was sponsored by RMIT University, the Bushfire Cooperative Research Centre, University of New South Wales, NSW Office of Environment and Heritage, the National Climate Change Adaptation Research Facility's (NCCARF) Emergency Management and Settlements & Infrastructure (ACCARNSI) networks. Workshop organisation was a team effort by Blythe McLennan and John Handmer from RMIT/Bushfire CRC/NCCARF-EM, Tamara Rouse and Ron Cox from UNSW/ACCARNSI, and Jennifer Hearne and Chris Lee from the OEH. Tanyia Tuckey (NSW RFS) also provided valuable assistance. The workshop was hosted as a free event so that cost was not a barrier to people being able to attend. Carbon credits were purchased through Climate Friendly to offset the greenhouse gas emissions associated with the event (<http://www.climatefriendly.com/>).

This public account of the workshop has been prepared so that others who were unable to attend the workshop can also see the range of issues and perspectives that were voiced at the workshop. Only the people listed in the schedule of speakers are referred to individually by name as they had agreed to speak publicly. Additionally, all the speakers were invited to review and suggest changes to the session notes included in this account to ensure that the notes reflect what they said and meant as closely as possible.

8.1.1 Workshop outline and schedule of speakers

Welcome

- **John Handmer** – Director, Centre for Risk & Community Safety, RMIT University/ Convenor - NCCARF Emergency Management network
- **Richard Thornton** – Deputy CEO & Research Director, Bushfire CRC
- **Ron Cox** – School of Civil & Environmental Engineering, UNSW/ Convenor - ACCARNSI
- **Christopher Lee** – Manager Impacts & Adaptation, Office of Environment & Heritage NSW

Panel 1 – Research perspectives

Chair: Christopher Lee, OEH

- **Blythe McLennan** – Research Fellow, Centre for Risk & Community Safety, RMIT University
- **Peter Rogers** – Co-director, Climate Futures, Macquarie University
- **Emma Calgaro** – Research Fellow, School of Biological, Earth & Environmental Sciences, UNSW

Morning tea

Panel 2 – Enabling community resilience

Chair: Blythe McLennan, RMIT University

- **Julie Molloy** – Director of Social Engagement Initiatives, Volunteering Queensland
- **Alison Turner** – Community Relations Manager, ParaQuad
- **John Richardson** – National Coordinator-Strategic Development, Emergency Services, Australian Red Cross
- **Lesley Wood & Jan Gluski** – Mandemar brigade / Mandemar district community
- **Erin Jackson** – President, University of Canterbury Students Association, NZ

Lunch

Panel 3 – Changing government practice

Chair: Ron Cox, UNSW/ACCARNSI

- **Wendy Graham** – Director of Resilience & Planning, MPES NSW
- **Tanyia Tuckey** – Manager, Community Engagement, NSW RFS
- **Fiona Dunstan** – Manager Community Education and Public Warnings, SA Country Fire Service
- **Chris Collett** – Assistant Secretary, National Disaster Recovery Programs Branch, Commonwealth Attorney-General's Department
- **Ian Armstrong** – Project officer, Climate Change Adaptation, Sydney Coastal Councils Group

Afternoon tea

Open discussion

Chair: John Handmer, RMIT University/NCCARF-EM

- Questions/comments/statements from the floor

Reflections and wrap up

Chair: John Handmer, RMIT University/NCCARF-EM

- Final reflections on the day

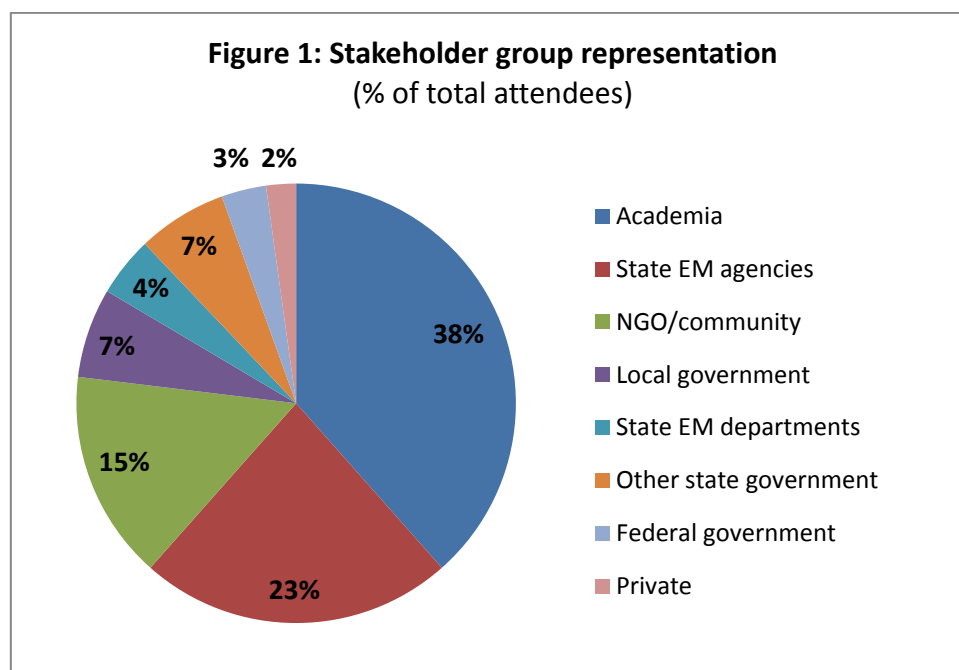
Informal drinks and dinner

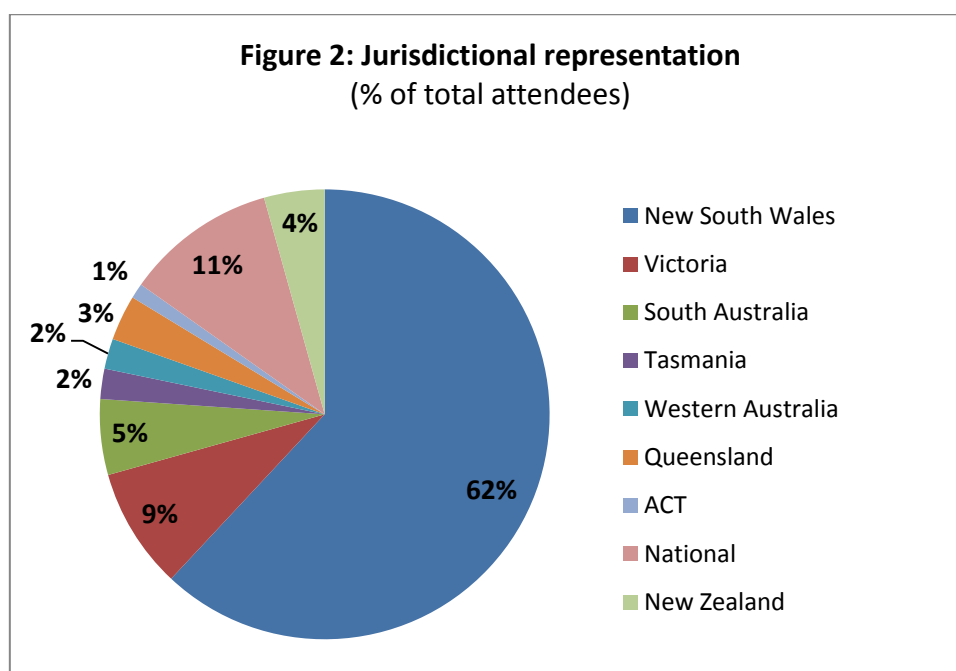
8.1.2 Attendance

The workshop was fully booked, with attendance capped at ninety people to enable group discussion to occur. A complete list of the agencies, organisations, groups and communities with which attendees were affiliated is provided at the end of this document.

Figure 1, over page, shows the representation of key stakeholder groups amongst the attendees, including speakers. The main groups represented were academia (38%), state emergency management (EM) agencies (23%), and NGOs and communities (15%). Other stakeholder groups present included local government (7%), state emergency management (EM) departments (4%), other state government departments and agencies (7%), federal government (3%), and the private sector (2%).

Figure 2 shows the jurisdictional representation at the workshop. Almost two-thirds of attendees were affiliated with organisations or groups from New South Wales (62%). 22% were from other state- and territory-based organisations (Victoria 9%, South Australia 5%, Queensland 3%, Tasmania 2%, Western Australia 2%, and Australian Capital Territory 1%). Australian national organisations were represented by 11% of attendees, and New Zealand organisations by 4%.





8.2 Summary of key themes

A review of the full session notes (including speaker presentations, group discussion, and wrap-up/ reflections) revealed a number of key themes outlined below. As the points made are distilled from multiple sources, they represent multiple perspectives rather than a single, consensus view.

These themes were put together by Blythe McLennan. Alternative perspectives on the key themes that stood out in the workshop were also shared by a number of people in the 'Wrap up and reflection' session (outlined briefly in section 3.6).

1. What would 'disaster resilience' look like and will we know it when we see it?

What is disaster resilience?

- Resilience is hard to define and community resilience is more nebulous than organisational or technological resilience.
- Disaster resilience is complex: not something to reach out and grab, it changes and depends. There is not one size that fits all. Because of this, we need to be more specific when we talk about resilience, e.g. who are we talking about?
- Resilience is not an end goal: it is an ongoing process of change and improvement.
- Perhaps it is not productive to engage in debate over agreed definitions? A uniform approach, which is narrowly defined, cannot work in every circumstance. We need a slightly messier approach... We need a multi-faceted approach, which hopefully won't miss anything completely.
- It is a lot easier to say what resilience is not.

- Resilience looks pretty messy. It develops organically. E.g. experience of the Christchurch Student Volunteer Army.
- Resilience is an emergent property – a function of the broader social context. Perhaps the best approach is to remove barriers and let it emerge rather than seeking something specific?
- People are both resilient and vulnerable. E.g. those who are well-off are not necessarily more resilient. Conversely, it should not be assumed “that just because a community is vulnerable, that it also lacks resilience”.
- Resilience looks like five different capacities: security (e.g. funds to recover); connections, health & wellbeing; access (e.g. proximity to services); and knowledge. Enhancing those 5 things can help people be resilient to disasters.
- To understand what disaster resilience will look like we need to go back to basics: what is a community?
- Disaster resilience looks like a woman... women will network and get things done. Women taking ownership of their own risk through engagement and communication is what resilience looks like. E.g. Fired Up Females program.
- To some extent resiliency depends on money and on the infrastructure we start with.
- Resilience might just be the new black. I’m not sure that we’ve learnt a lot. We still have HUGE amounts to learn.

We do not yet know how to measure and value resilience and resilience-building

- What we need to grapple with is how are we going to measure resiliency? How can we track it? How to determine if communities are resilient or not?
- In a disaster event, the things that are reported and measured are numerical: they are good grabs in press releases because it looks like the government is doing something. But we should be looking at the community enablers that make people less reliant on government services. How can we shift our own thinking to measure and notice the real indicators?
- What is it that government requires agencies to report on? That’s what the resources are going to be directed at... There will be no funds to allocate to community engagement until we are required to report on engagement to central government.
- We need to think about measurement. We have to get beyond measuring government activity and more toward measuring community resilience. If it is about intergenerational change then how do we know that it’s working?
- Government funding and how government measures success is an issue. How do we start to demonstrate the value of capacity building?

2. What has been learned about sharing responsibility for disaster resilience from experiences so far?

Sharing responsibility is not about shifting responsibility onto others

- Careful of bystander syndrome – the idea could lead to diffusion of responsibility when the individual passes or handballs the blame.

- Shared responsibility is not about shifting blame but enabling local groups to have a part in management. What does government need to do to enable these community groups?
- The legal view prefers not to give any responsibility back to the community. There is concern around the legal implications of devolving responsibility.
- Is the push for shared responsibility the government's way of shifting errors, e.g. errors in previous land use planning etc?
- We make assumptions about where agreement on shared responsibility exists. Some things aren't shared, e.g. legislation and frameworks that the community expect government to make a call on.
- Other levels of government "share" the responsibility but not the resources.

Link with existing networks, knowledge, experience, and diversity

- Working with existing community organisations can give you an inroad into the community.
- Hillary Clinton said "use the tools in your pocket". E.g. Student Volunteer Army using Facebook to engage across a different group of people through a medium they are comfortable with.
- Volunteering Queensland programs are aimed at the ability to share knowledge gained from experience.
- We need to keep the stories alive from people who have lived experience: to learn from the past, learn from the traditional owners, engage the migrants and the non-native English speakers and communicate the stories to them to help them understand the risks.
- NGOS that focus on grassroots engagement and working at the strategic level allowing communication and work across different groups allows for a unique standing in the two communities filling a communication role and allowing the different levels to work together? E.g. the work of Volunteering Queensland.
- Online resources and social media are powerful tools for linking and engaging with communities: can make virtual communities into real ones.
- Things are already happening at the grassroots level and we need to access that from an organisational viewpoint.
- Each person is going to be different; each plan is going to be different. So response plans need to be person-centred. E.g. for people with a physical disability.
- We're talking about behaviour change, so engagement has to be multi-pronged.
- Technocrats feel like they always have the answer. But it's different when the translation occurs to what this means locally and practically. People who come in from the city don't know how to handle the local setting and often think they can buy themselves out of trouble, but it's about interacting.

Community engagement and supporting local capacity-building are key

- Focus on building capacity (e.g. for organisations to take on volunteers)
- Aim for healthy resilient communities, whether or not there is a disaster.
- Focus on supporting communities where everyone can make a difference (empowerment).

- The Red Cross Redi-plan program was initially about information. But then we had to think about engaging with communities to make sure it is actually used.
- We need fewer publications and more conversations. Lots of brochures have been distributed but the uptake of these is not really high. What we are finding more is that the local relationships are what make a difference.
- Volunteering Queensland approach emphasises local networks, engaging, informing and helping people to take ownership and responsibility for their actions.

Structure/ coordination is both enabling and constraining

- We need to continue to move toward a space where we are enabling and supporting local initiatives rather than constraining them.
- Community volunteering is messy but having a central location and good organisational structure is invaluable. E.g. Student Volunteer Army.
- OH&S, liability are difficult issues for spontaneous volunteering. However, that changes over time. In the case of SVA authorities realised that they wouldn't go away and then worked with them. However, getting push-back made the communication channels all the more difficult.
- In urban settings everything has to be run through the right channels and done through policy and insurance etc. We used to just have the attitude of if there is an event you grab your broom and bucket and go down and help.
- Following Black Saturday and despite all the best efforts of people, there was intense frustration in the recovery phase. As soon as people got going to do something the government came in and said 'you haven't followed the process: you must stop'. The recovery phase is when the community is most focused, but there are lots of barriers still in this stage.
- Volunteering Queensland's EV CREW works to harness the strength of spontaneous and preregistered potential volunteers, who are often negatively regarded as an issue by disaster management agencies, rather than a legitimate asset and a sign of self-reliance and resilience... EV CREW service has evolved over the last five years to provide safer, more coordinated referral pathways for volunteers in disaster affected communities and where there is most need of assistance. ... In doing so, more effective use of skill sets and locally sourced support is thoughtfully harnessed, whilst at the same time the capacity of volunteer involving organisations is further enhanced and supported to take advantage of a surge of assistance from members of the community.
- Government strategies have long sought to encourage community groups but government's tendency is to work with well-established NGOs that have existing connections with government already. We know though, that communities will self-mobilise and will look to government with the full expectation that it will be resourced and facilitated. How can we assist by providing advice so that each of the new emergent leaders / groups doesn't have to make all the same mistakes that previous leaders & groups have made?

3. What aspects of current practices and relationships most need to change in order that responsibilities for disaster resilience can be shared effectively and fairly?

Improving engagement and trust between government and communities

- The traditional approach of government is to tell communities what to do and the job of communities is to do what they're told. The disaster resilience doctrine tells

us that communities are vital but we've only just started moving into linking community and government.

- Building trust between the public and government is important. At present this is a goal in a number of strategies but it requires a change in how the public are involved.
- Trust is important. It's about public information not public relations. Every day of the week we see agencies telling the public how awesome agencies are, however in an event those expectations aren't met. We need to work on that: be careful of building up people's expectations.
- Unless we have more rigour in addressing other community awareness factors, our resilience will be reliant on response groups and their associated infrastructure. Yet the community often knows a lot more than the fire service. We need acknowledgement of those channels.
- The most informed messages are the ones shared locally. We need to tap into that and be a voice amongst the many as well.
- We talk about connections and social capital, but how do we connect with people who are marginal?

Understanding, accommodating and harnessing diversity in communities

- Because disaster resilience is not one-size-fits-all, diversity matters. E.g. current approach is not suitable for people with a physical disability.
- We need to develop a model in which volunteers don't need to be in front of the fire. We have to look at our own structures and reporting structures to welcome people as a resource to use other than as operational fire-fighters.
- Gender has been downplayed and marginalised... gender affects how we communicate to communities and how we engage... Gender is one aspect of diversity in the community. We have ignored other diverse aspects of the community too, e.g. children, ethnicity.

Ability to build relationships and work holistically across boundaries/silos

- Implementing emergency management within an integrated planning and reporting framework (e.g. for LGAs) can assist in breaking down the silos that often exist.
- The role of the private sector is crucial and underrepresented here. There are lots of examples of the private sector doing things we could never achieve otherwise.
- The challenge is more that we need to get out of our silos. We should also bring the public themselves along so that we can learn from them.
- We struggle with the inertia within established organisational practices and our narrow focus on specific hazards.
- We need to take out strict hierarchies and make the way we consider resilience more real and reflective of day to day life. (e.g. cross-scale interactions).
- Preparedness work has focused on helping people to survive the hazard physically. However, we need to think more holistically about preparing to recover.
- There is a gap between the specifics of local government and the policies of state government. We need to integrate horizontally.
- We're not working enough with each other. One of my colleagues said that "emergency management is like a dysfunctional family". The more we can build the

trust and respect between the organisations beforehand, build capability and a resilient “family”, the better will be the situation when a crisis hits.

Develop more appropriate legal, procedural, funding frameworks

- There is a real opportunity to review and clarify the roles of sectors. Where does the role for government sit? What do we want the role of government to be? These are fascinating and difficult questions that we need to face as a community and as a nation.
- A national emergency management act may be required to set the statutory obligations in place. Resilience also means greater local autonomy though. Is that in conflict with a national emergency act?
- As our capability increases then there are often new challenges raised, such as issues with liability, that need to be dealt with. Another example relates to our improved warning capabilities: what does the new messaging capability mean?
- This is long-term and this scope needs to be facilitated through planning horizons and funding. Yet our funding cycle is annual.
- Local Government colleagues’ participation in national space is very different. They do have representatives on some committees, but the capacity to use the roles is constrained by time and money as well.
- A cultural shift is needed to fund and enable community groups to act. As a collective group maybe we need to influence funding structures to enable community groups more? The reality is that this is a very scarce resource sector that we are in. Maybe we can capture grant funding to direct it down to local community groups.
- These conversations and engagement processes need to be maintained and supported and funded.
- We need to consider our investment in mitigation versus recovery. There is a lot of money put into mitigation, but a lot more into recovery. Do we need to reassess?
- If we continue to treat our learning of lessons post-events through judicial and adversarial processes, this will shape the recommendations and outcomes. Negligence and misconduct is not to be excused but we need to consider whether adversarial legal processes are the best way to learn and improve.

Greater dialogue, conversation, exchange is needed

- Shared knowledge spaces where we share the things that we have learnt through experience are important. How can we share the things that we learn with others?
- Behaviour change is not something that can be done overnight: it happens one conversation at a time.
- Workshops like this one are sometimes criticized as being “talkfests”.... However dialogue allows us to identify and understand intersections between different spheres of activity or responsibility.
- We tend to think that everyone disagreeing about shared responsibility is a big problem, and that we should try to get everyone to agree. But maybe this isn’t the case? Interaction between different points of views can potentially increase innovation, help to identify risks before they emerge, and lead to a more meaningful understanding of what shared responsibility means in practice.

- In terms of what needs to change for government: we need to develop relationships and have conversations: engage with the experience and wealth of knowledge that is already there.
- These kinds of workshops are important to get people out of their silos and interacting. It helps avoid 'groupthink'.
- Disaster resilience is complex because we're talking about relationships, culture change and behaviour change. The way to do this is through conversations. So is this type of event a talkfest? No, this is about process. We have to have these conversations at all levels.

8.3 Session notes

8.3.1 Welcome

John Handmer

Director, Centre for Risk & Community Safety, RMIT University/ Convenor - NCCARF Emergency Management network

- Introduced the National Strategy for Disaster Resilience
- Gave a brief overview of the concept of sharing responsibility, and how there is uncertainty about what it actually means, what it would look like in practice.

Richard Thornton

Deputy CEO & Research Director, Bushfire CRC

- There is still a need to clarify what is meant by sharing responsibility
- The community needs to understand that some responsibility rests with them
- The legal view prefers not to give any responsibility back to the community. There is concern around the legal implications of devolving responsibility.

Ron Cox

Associate Professor, School of Civil & Environmental Engineering, UNSW/ Convenor - ACCARNSI

- There are important points of intersection between the built environment and emergency management. Where urban planners fail we expect emergency managers to pick up the pieces. (Gave examples of seaside developments in Narrabeen-Collaroy completely undercut by storm surge erosion).
- Resilient buildings are possible, but are not widespread or required
- BC Hydro in Canada has released a tool to visualise evacuation behaviours and scenarios if a dam breaks. They currently use the tool for public education and awareness-raising. The tool can be adapted for use with other hazards. The tool can be populated with a standard distribution of people, or you can input actual demographic data.

Christopher Lee

Manager Impacts & Adaptation, Office of Environment & Heritage NSW

- It's really good to see some regional representatives in attendance. The issue of sharing responsibility is something we will have to manage all over the state, and nationally as well.
- At the moment we can't deal with current extreme events. The issues we are currently having will be exacerbated by the impacts of climate change on the frequency, magnitude, intensity and distribution of events.

- NSW has a Climate Change Working Group which focuses on improving emergency management in a changing climate. The Group consists of representatives from across NSW Government, from a range of emergency management agencies, as well as environment, planning, health and the Bureau of Meteorology.

8.3.2 Panel 1 – Research perspectives

Blythe McLennan

Research Fellow, Centre for Risk & Community Safety, RMIT University

- Blythe has been working on a project with John Handmer through the Bushfire CRC called “Sharing Responsibility”. The project is focussed on unpacking the meaning and challenges of sharing responsibility and their significance for Australian emergency management.
- The workshop today is a follow-up to one held in Melbourne in March last year as part of this project that explored the meaning of shared responsibility. In the workshop Anecdotal feedback from participants suggested that many people were surprised by the wide range of different views they heard that day about what the idea meant. It was a bit of a shock for some to find out that their own view was just one of many.
- Similarly, an evaluation of the Victorian community bushfire safety policy framework commissioned by Fire Services Commissioner last year also found that stakeholders did not have clear understandings of some of the key principles underpinning the framework, particularly that of shared responsibility.
- At a more on-the-ground level, the issue of Shared Responsibility and different viewpoints on what it means came up when Blythe was involved in doing post-fire interviews with the Fire Services Commissioner recently. The impact of road blocks emerged as a key issue of contention in the interviews, as it always does. At the end of one day of interviewing, the research team (including interviewers from RMIT, University of Melbourne, Fire Service Commissioner and CFA) was debating the issue of road blocks over dinner, and particularly the rights and responsibilities of police, property holders etc. with respect to road blocks. While obviously very important for safety, road blocks also give rise to some very surreal situations that can actually increase risk for some people. Importantly, the research team didn’t agree on what shared responsibility meant for the issue of road blocks either.
- This process of debating and disagreeing and unpacking this issue made Blythe think of a similar process that is a characteristic of High Reliability Organisations. This name is used in some research fields to refer to those organisations that are able to safely manage very complex and high stakes risks – for example nuclear power plants or airport traffic control – without experiencing failures in the risk management system. One characteristic of these organisations is that they tend to have multiple sections within them that hold safety responsibilities. These different sections don’t necessarily agree or complement each other. They often have very different approaches to addressing risks and improving safety, and they can have different procedures, goals, values, and even workplace cultures. However, the tension, disagreement and interaction between the different approaches of the sections is a strength for these organisations. As long as there is real dialogue and exchange

between them, it's been shown that this tension can help the organisation to identify risks before they emerge, to increase innovation, and better understand the risk management environment. This prevents risk management failures before they happen.

- In emergency and disaster management, we tend to think that everyone disagreeing about shared responsibility is a big problem, and that we should try to get everyone to agree on what it means and what it ought to look like. But maybe this isn't the case. We could draw a lesson about the benefits of complexity and interaction between diverse perspectives and conflicting viewpoints from High Reliability Organisations. We could accept that there are differing viewpoints, and emphasise bringing different groups together to have dialogue and interaction so perspectives can change through time.
- Another piece of feedback from participants about the Melbourne workshop last year was a criticism about it being a "talkfest". E.g. it's easy to say all the right things here but nothing is changing on the ground. However, dialogue, conversation allows us to identify and understand intersections between different spheres of activity or responsibility. The conflict and discussion generated can drive innovation. We need more of it in this field, not less. But it needs to be genuine dialogue, where there is an exchange of views across different perspectives. This needs more players to be involved in the dialogue than we usually see.
- If we get 5 or 10 years down the track with the disaster resilience agenda and no one has changed their particular perspective of shared responsibility then the process isn't working.

Questions/ comment:

- *From the floor:* These kinds of workshops are important to get people out of their silos and interacting. It helps avoid "groupthink".

Peter Rogers

Co-director, Climate Futures, Macquarie University

- Peter's work has been focused on identifying synergies and cross-overs, and identifying where different people's work can align.
- Climate Futures is running workshops to get people together to share views to commence the process of a "melting pot" to get the understanding of shared responsibility going.
- He considers his work now to be making space for people to collaborate with their research. Do we focus too much in the research field on our own areas of research at the expense of giving up some of our space in order to share and influence?
- New funding arrangements and changes to the Bushfire CRC and NCCARF will lead to changes in emergency management research.
- We want to get together and do this. We're so passionate though that we beat our own drums so loudly that we perhaps drown out others. The big challenge in the

research sector is for researchers to give away some of their own interests and focus on the best possible outcome for the public.

- We need to think of shared responsibility regarding what else is happening. Researchers often run the risk of taking a too-specific one-hazard approach. A multiple hazard approach is difficult but we need to work on this.
- We need to look at different rules and regulations surrounding sharing responsibility.
- We often deal with technological resilience, incorporating the tools and technical aspects used in the field, for example communication kits and emergency management infrastructure.
- Thinking about organisational or technological resilience is relatively simple and easy to define. Community resilience is a lot more nebulous and difficult to conceptualise.
- Working with the community to build resilience from grass-roots is the best way to approach community resilience, but how does this work in practice? Communities are very diverse, with different needs and different values.
- Information sharing within the community has to be undertaken in a different way. We haven't always engaged the local level members.
- Existing community organisations have a lot of resources, networks and skills we can leverage. Working with these existing organisations can give you an inroad into the community, as well as providing a better understanding of the community.
- Shared responsibility is a personal choice. How do people make decisions in a disaster situation? As researchers, we also need to understand individuals better:
 - How do individuals make choices?
 - What are their expectations of emergency management services?
 - How do they experience trauma?
 - What are the important issues around household finance and insurance?
 - How does health and well-being affect resilience?
 - What role does social cohesion play?
- Health, wellbeing and social cohesion are related - we need to look at these separate to a specific disaster event.
- At present the policy framework might mean we want people to be more resilient to disasters rather than we want to create disaster resilience. This isn't as clear as it could be.
- We struggle with the inertia within established organisational practices and our narrow focus on specific hazards. Resilience is not an end goal it is an ongoing process of change and improvement. The goal will always be moving.
- Hazard is not the same as disaster. Disaster resilience isn't necessarily tied to the event. Disaster is what we get once the hazard hits if we're not well prepared. There is a danger if we only focus on the technology and the hazard that we might undermine the resilience that we're trying to create.

- In this area we see a real desire to use research and review findings to feed back into the way we do things. As researchers this is really good. People actually want to apply your work to better things but in order to facilitate this we need to get out of our silos; spread the word and make our findings more accessible.
- It would be great to have more community members at events like this.
- The agenda for sharing responsibility is a good one. The challenge is more that we need to get out of our silos. We should also bring the public themselves along so that we can learn from them.
- Building trust between public and government is important. At present this is a goal in a number of strategies but it requires a change in how the public are involved in this work.
- A national emergency management act may be required to set the statutory obligations in place. Resilience also means greater local autonomy though. Is that in conflict with a national emergency act?

Questions/comments:

- *From the floor:* What about the role of the State?
- *Peter:* State decision making is hugely important, but we need to understand the connection between that and individual decision-making. They are worlds apart.
- *Blythe:* Personal decision-making involves interaction with neighbours and with the State and what feelings of personal control they have over the situation.
- *Peter:* NSW 2021 contains an aim to build trust in government. Often there is a lack of trust in the agencies that people are dealing with. We need to help build this trust.
- *From the floor:* Or do agencies need to trust the community more?
- *From the floor:* In Tasmania, a lot of the questions were around the behaviour of the emergency agencies. Why hadn't the fire department given more warning, done more fuel reduction burns etc?
- *From the floor:* I think we are missing the engagement with the emergency managers with day to day responsibilities. These are key stakeholders, where is their input in these workshops and in research generally?
- *From the floor:* You're right in a sense. This is why each BCRC bushfire project has end user input. But emergency managers are hard pressed to participate in anything that isn't their core activities. They are limited in time and money, and need to focus on their key role.
- *From the floor:* Local Government colleagues' participation in national space is very different. They do have representatives on some committees, but the capacity to use the roles is constrained by time and money as well.
- *From the floor:* A huge amount of work needs to be, and is being done on reducing risk in the first place, especially with a focus on land-use planning. If there was a massive flood in the Hawkesbury Nepean it wouldn't matter how resilient individuals were, it would have bad outcomes. We need to remember to focus on reducing risk in the first place.

Emma Calgaro

Research Fellow, School of Biological, Earth & Environmental Sciences, UNSW

- Emma is talking about the wider lessons of her research group in the Australia-Pacific Tsunami Research Centre and Natural Hazards Research Laboratory (APTRC-NHRL).
- She is approaching the questions posed for the workshop from three stances: theoretical, practical and through case study application.
- Theoretical positioning
 - To understand what disaster resilience will look like we need to go back to basics: what is a community?
 - What are our assumptions about what communities are? Do we take into account diversity?
 - What about resilience itself? Do we take into account individual context?
 - What about vulnerability? Resilience and vulnerability are co-constituted in a person, a household and a community. Each person is both resilient and vulnerable - the levels of each are dependent upon the timing and context of the event. Do we see these characteristics more clearly after an event?
- Indicator issues:
 - Government emergency services seem to still be focused on hazard mapping and indicators. They're easy to map and can be ticked off but this approach hasn't improved our resilience.
 - We still have problems with indicators. Our reliance on indicators hasn't changed. If we are going to use indicators we need to challenge them.
 - Who gets to define the indicators? This is a power dynamic. Those who have the power make the decisions. Who decides what household is vulnerable? Who should be saved? What about redundancies? How do you identify them?
 - What purpose do indicators really serve? Resource allocation for sure but are they accurate? We expect Japan to have the resources to cope with their earthquake...what about Haiti or the Solomon Islands? We have to make resilience more contextual. We need to look at resilience and vulnerability together. They can't be considered independently.
- Questioning scale and the use of scaled actions in disaster preparedness and response:
 - Do we have effective tools to scale up and scale down projects? Is it possible to upscale to the national level? Do we need to? Are our usual scales an appropriate or effective way to consider resilience?
 - Social networks may not be linear or hierarchical, so may not fit into the particular scales that we assume. In some studies, we found that local people went straight to the national level for resources and help, because they knew the right people there to speak to. We have to question scale and how we perceive things.

- We need to take out strict hierarchies and make the way we consider resilience more real and reflective of day-to-day life.
- But what does this rescaling mean for governments and emergency services? Are they able to shift to an approach that recognizes context (without clear indicators) and works in a way that reflects every-day social processes and actions that do not necessarily follow nested hierarchies?
- Questioning resilience and achieving uniformity within and across communities:
 - Maybe resilience is not possible in a uniform sense? What does this mean for response strategies? Some power elite's don't want the status quo to change. The community may not want change.
 - Also, members of the public react and behave in unexpected ways – they exercise personal choice and their choice might be to do something that makes them less resilient and more vulnerable
 - Overall, we need to challenge fundamentals and look at reality.
 - Who is responsible for building resilience? Do those who share responsibility know that they are sharing it? Are you looking just at indicators or are you looking at the wider context?
 - Emergency managers can see resilience in certain communities. But in a response situation policies and practices tend to go back into linear chain of command mode. There can be misalignment. There is a gap between understanding and practice. Emergency management practitioners need to embrace the complexity of resilience.
 - Both resilience and vulnerability exist in all of us. We need to tap into the resources that we have. But before this happens we need information.
 - A lot of members in the community like to be passive and so they push that responsibility onto someone else.
- What has been learned about sharing responsibility for disaster resilience from experiences so far?
 - To answer this question we again need to return to the basics and eliminate assumptions:
 - Who is responsible for building, enhancing resilience?
 - Sharing responsibility between “whom”?
 - Do those responsible KNOW they are responsible?
 - We need for a change from ‘passive’ receivers of post event aid and resources to ‘active’ participants. But when and how does this occur?

Questions:

- *Ian Armstrong, Sydney Coastal Councils Group:* Resilience sounds like a great idea, but it is an emergent characteristic, it can't simply be added on to a community. The government has an essential role to do something due to social justice and equity reasons.

- *From the floor:* Another point is that an unfortunate side effect of resilience can be resource hoarding, i.e. one community builds its own resilience at the expense of others.
- *Emma Calgaro:* People are keen to get involved in their own community, but don't know how. Alternately, some people don't actually want to do anything for themselves. They are happy for others to take the responsibility of action.
- *From the floor:* People will always use their own networks to get things they need. In one recent experience the Mayor went straight to the Minister instead of using the existing emergency management network. This is not a good outcome, because it's ad hoc and puts people off-side.
- *From the floor:* Rural communities are very resilient already. People living in rural areas are very invested in the local community, and will do what it takes to prepare for something, or to recover from something.
- *From the floor:* The best way to get the message out is to utilise existing networks. SES has recently been working with the deaf community to figure out how best to build resilience there. There is inherent complexity within the deaf community as well, for example some people are deaf and blind; some people use a different language, i.e. not AUSLAN. In order to reach the diverse members of these communities we need to leverage existing networks and communication channels.
- *Emma Calgaro:* In our work we have found deaf people are quite reliant on others. They don't know where to go. They are often passive, dependent and reliant on hearing people in a hearing world. This dependence breeds a high level of reliance. The deaf community is very keen to have a community liaison in emergency services. They need someone who is trained in emergency management, but who also understands the deaf community and culture, and is fluent in AUSLAN.
- *From the floor:* Individuals are very sheltered, and have no real concept of what a disaster is and how it might affect them and their lives.
- *From the floor:* Ku-ring-gai Council has been working with our community in a multi-hazard way, but have focused initially on bushfire. We are trying to get the community to develop indicators. People in Ku-ring-gai are generally well-off, but this doesn't necessarily make them resilient. Even people with experience of fire are not considering up-scaling of the fires. Also it's been a long time since the last fire, which dulls people's awareness of the risk and potential impacts.

8.3.3 Panel 2 – Enabling community resilience

Julie Molloy

Director of Social Engagement Initiatives, Volunteering Queensland

- Volunteering Queensland is the peak body for volunteering in Queensland and largest peak in Australia. Works with other NGO's and organisations that involve volunteers, volunteers and potential volunteers.
- Main aspect of its work is engaging, increasing community involvement, participation and connectedness.

- Focus on supporting communities where everyone can make a difference (empowerment).
- Volunteering Queensland has been working in this field for more than 30 years.
- It also has a focus on building capacity for organisations to take on volunteers.
- It has linkages with federal, state and local government. Often acts as a conduit between these organisations and “the community”, levels of governance and the community.
- Volunteering Queensland is active in the area of community resilience and disasters. The “Step Up- Building Qld’s Resilience” program; this is Australia’s largest community resilience building program led by a non-government organisation. These projects were developed based on a range of best practice community capacity building activities and were a natural extension of the resilience building work that Volunteering Qld has been engaged in for decades, but they also leveraged the learnings and expertise gained through Volunteering Qld’s Emergency Volunteering - Community Response to Extreme Weather service (EV CREW), which has been in operation since before the North Brisbane area/ Gap summer storms in 2008.
- Volunteering Qld is aiming to build healthy resilient communities, which will ultimately lead to more disaster resilient communities.
- Its approach in this area emphasises local networks, engaging, informing and helping people to take ownership and responsibility for their actions.
- Focus on grassroots engagement and working at the strategic level allowing communication and work across different groups allows for a unique standing in the two communities filling a communication role and allowing the different levels to work together?
- Not just focused on recovery but planning, prevention also information provision: also response and recovery, how to recover and who you should connect with to make that possible.
- It has a number of online resources in this area.
- One is the Disaster readiness index that encourages understanding and engagement, guides people towards increasing connection and knowing “who you can help”, “who can help you” But uniquely, the Index supports individuals to assess their own levels of preparedness for disasters and provides a customised and tailored response for knowledge attainment and action points.
- <http://www.emergencyvolunteering.com.au/home/disaster-ready/menu/readiness-index>
- Also have an online interactive resource called Disasters: Know your role” in Queensland Disaster Management Arrangements.
- <http://www.emergencyvolunteering.com.au/home/disaster-ready/menu/qdma>.
- Their research and engagement highlights that communities do want to understand about legislation and policy surrounding disasters.

- This resource is being used as part of a community engagement and education program. It can also be presented in person through workshops not just on the website and app.
- Volunteering Queensland is working towards getting people to start thinking more about community resilience and the different facets of this topic.
- EV CREW works to harness the strength of spontaneous and preregistered potential volunteers, who are often negatively regarded as an issue by disaster management agencies, rather than a legitimate asset and a sign of self-reliance and resilience. This is due to a perception that spontaneous volunteering is entirely chaotic, ill informed, unskilled, and reactive with uncoordinated individuals involving themselves in disaster management operations unsolicited. However, Volunteering Qld supports the view that it should not be assumed “that just because a community is vulnerable, that it also lacks resilience”.

Moreover, with the advances in technologies along with social media, combined with the “time poverty” phenomenon acknowledged as a global social trend by the United Nations Volunteer Programme, it can be argued that the traditional definitions of spontaneous volunteering should be reviewed and redefined. Volunteering Qld has been at the forefront of this shift in Australia, comprehensively understanding the different motivational facets of these potential volunteers in supporting their own communities in times of disasters.

Furthermore, by embracing the use of adaptive cloud technologies, social media and forming critical relationships with more than eighty disaster management agencies and other NGOs involved in disaster operations, Volunteering Qld has been advocating at a local, state and interstate government policy level on best practice and management of offers of assistance from potential volunteers, across all components of from preparation, prevention/mitigation, response and recovery (PPRR). Volunteering Qld’s EV CREW service has evolved over the last five years to provide safer, more coordinated referral pathways for volunteers in disaster affected communities and where there is most need of assistance.

- In doing so, more effective use of skill sets and locally sourced support is thoughtfully harnessed, whilst at the same time the capacity of volunteer involving organisations is further enhanced and supported to take advantage of a surge of assistance from members of the community wanting to provide a relatively small amount of individual time but have impact in their action.
- For example, they are currently working in Bundaberg to help with the recovery work with both the volunteers and the council to organise the process. Many questions need to be considered regarding safe and effective coordination of volunteers and we have worked through those with the council beforehand.
- Need to also consider emotional recovery, ownership, paying a part in the community, social cohesion etc. Not simply the activities themselves.
- <http://www.emergencyvolunteering.com.au/home/volunteering/menu/volunteer-opportunities>
- The volunteers they refer are working to prepare for disasters, i.e. sandbagging as well as in post event recovery and long term recovery.

- An aim is to make the experience valuable for the individuals so they will undertake it again and ultimately enhance community connectedness to somewhat reduce spontaneity.
- Means you don't have to be so traditional in your views of volunteers and can capitalise on these peoples skills and desire to help
- Volunteering Queensland also supports building the capacity of the organisations to take on different types of volunteer where they traditionally have not done this in the past.

Alison Turner

Community Relations Manager, ParaQuad NSW

- Working with people with a spinal cord injury. Most of these people cannot walk and use a wheelchair, therefore, must be considered differently in an emergency and evacuation procedures.
- Paraquad is developing a toolkit to help these people during an event
- It includes an ebook, carer sheet, emergency plan and app with things like a torch, and alert systems
- They are helping people to plan, prepare and take action early as people with a spinal cord injury need more time.
- ParaQuad has 1700 members in NSW. They found in a survey that none of their clients have an evacuation plan, hence they are going back to basics in helping them think and be organised for an emergency
- Disaster resilience currently is a one-size fits all bucket. It is focused on people who can act, leave, and respond quickly. However this doesn't suit people with a physical disability. Government representatives often don't consider how a person with a disability could cope: often it's just a tick box item. There is a need for greater community consultation and an appropriate strategy program.
- Some government bodies are keen to help appropriately for people with a disability. However this takes much focus, time and understanding. Alison spoke positively about the NSW RFS AIDER program - <http://www.rfs.nsw.gov.au/aider>
- Each person is going to be different; each plan is going to be different because each disability is different. So the response plans need to be person-centred.
- Alison told us **three stories** from real people in the community who have experienced a disaster.
- These people need more care, planning and some support.
- The **first story** is about a man who is a quadriplegic and lives in the Blue Mountains. There was a fire evacuation in the area. His carers were not available and he was unable to leave. He waited for help from the LGA or SES that didn't come. Roads were closed so his family couldn't get through to help him. He had to wait for the fire to leave.
- This shows how many people with physical disabilities have an expectation that the LGA or Fire services will have a register or list of people who need assistance with their names on it and so will come and rescue them. However if such a register exists

at all it is often not updated. Yet there is a general tendency amongst people to assume that someone else will help the person with a disability.

- The **second story** is about a carer who was going to his client during the floods so his client wouldn't be stuck sitting in his wheelchair all night. He was stopped at a road block but explained the situation and was let through. He put himself in danger to help his client. This raises many questions. Whose duty of care is this? Where does a paid carer's duty of care stop or start?
- There is some opinion that disabled people should not live in areas of risk. However why should these people have to move away from this particular risk when these areas may be cheaper, near family, doctors and other services and support they need.
- The **third story** is about a lady who enjoys living in the Blue Mountains. She enjoys the natural setting. However she is also aware of the risks of living there. She is now taking advantage of some of the services available to increase her house's resilience to disasters. This is where the ParaQuad toolkit comes in to help these people.
- Post black Saturday there was a discussion about disability in extreme events. There is a need for ongoing engagement, education, and awareness.
- Hence the ParaQuad toolkit includes training on how to respond to a disaster, and reduce reliance on others. It is partly about moving the responsibility to plan and prepare to the people themselves. To educate them about how to do this.
- ParaQuad is also hoping to share this toolkit with other people who may find it useful.
- The mobile app will be available on iTunes shortly. It will target people with smart phones. However, ParaQuad is also using traditional communications to reach those people who do not use this kind of technology.

John Richardson

National Coordinator-Strategic Development, Emergency Services, Australian Red Cross

- What does disaster resilience look like? Its complex, not something to reach out and grab, it changes and depends. There is not one size that fits all.
- This type of workshop is not a talkfest. It's good to have some time to talk and discuss rather than just act. In this sector we do a lot but we need to do more.
- Why is Red Cross involved in resilience? It is part of their core business. They have an interest, commitment and can bring knowledge and experience to the table. Red Cross has been doing this for nearly a century.
- Recovery takes a long time and Red Cross has experienced this. Recovery isn't just about washing away the mud. It takes 5 years plus and that must be considered in planning.
- Many things are important to people, whether milking sheds, wedding photos etc.
- Preparedness work has focused on helping people to survive the hazard physically. However, we are now working to consider this complex problem more holistically. We need to think about preparing to recover.
- Resilience is starting to look like 5 different adaptive capacities:

- Security - do people have the funds to recover etc.?
- Connections – community connections are part of the X factor in the equation
- Health & wellbeing – influences coping capacity.
- Access - Proximity to services
- Knowledge – what's the community it's narrative and local context? What's the hazard profile?
- We are starting to think that enhancing those 5 things will help people be resilient to disasters. We need to tap in and draw upon those capacities. ? If people possess these adaptive capacities, they are more likely to build resilience.
- The Red Cross Redi-plan program was initially about information. (http://www.redcross.org.au/files/ARC_REDiPlan_WEB.pdf) But then we had to think about engaging with communities to make sure it is actually used. We're talking about behaviour change, so it has to be multi-pronged. Networks are vital. Red Cross has 35,000 volunteers. Each of those people should be an advocate for preparedness in day-to-day social situations; be an advocate.
- Behaviour change is not something that can be done overnight. It happens one conversation at a time. We work with agencies that go out and have these conversations.
- Resilience might just be the new black. I'm not sure that we've learnt a lot. We still have HUGE amounts to learn. These things are already happening at the grassroots level and we need to access that from an organisational view point.
- Need to be careful on the notion of shared responsibility. We need to be aware of the bystander syndrome. Everyone might stand back and assume that someone else will pick it up and take that responsibility. It could lead to diffusion of responsibility when the individual passes or handballs the blame.
- It's nice to see some non-emergency agencies, like Paraquad, embracing these challenges and getting involved in the sector. It's important.
- Trust is important. It's about public information not public relations. Every day of the week we see agencies telling the public how awesome agencies are, however in an event those expectations aren't met. We need to work on that: be careful of building up people's expectations.
- We need to move from a language of "them" and "they" to "we" and "us". We must be inclusive and not consider the community as something separate.
- It's time to think about the planning processes. We have consultations with only 5 people turning up. We need to access people appropriately: to tap into the community to actually get participation. We are not doing that so well here in Australia. However, those processes are being used successfully by Red Cross in other countries. These things can be attained
- Need to understand communities REAL expectations, not just listening to talk back to develop an understanding of what the community is thinking. We need to get a real handle on what people do expect, want and need.
- Red Cross wants to work more closely with people to focus efforts on those 5 capacities. Instead of putting people into types or categories, we want to build capacities and to understand genuine vulnerability.

Lesley Wood & Jan Gluski

Mandemar brigade / Mandemar district community

Lesley Wood

- Lesley is a member of a volunteer rural fire brigade in the Mandemar community.
- Their neighbours in Mandemar are national parks. They have had some rather exciting experiences with fires, e.g. a massive fire in 1979 - her first experience as a town person.
- We have seen change in the NSW Rural Fire Service to include more community engagement. They are talking to people on the ground, asking what they are doing wrong, and being told what it is. There is positive change happening.
- What is disaster resilience? For Lesley, it is like a woman. She will explain...
- The use of the land in the area has diversified in the area due to subdivision: wineries have been added to sheep and beef production. There are many tree changers and corporate refuges. This has changed the nature of the community quite some. The community has grown, and the people coming to the area have embraced the lifestyle. However, they don't have practical bushfire experience and thus have not brought bushfire preparedness with them.
- The community used to work together as farmers to build firebreaks, as a farming community. However, nowadays the farms are 25 acres and the level of assumed knowledge on behalf of the new people has been hazardous.
- Now the women in the local fire brigade have started a program they call "Fired up Females". They are working to raise awareness amongst women. They run workshops for women based at the fire shed, which is the focal point of the community.
- People moving from the city have a tendency to want to live in dangerous places, because they are pretty and atmospheric. But these people need to understand the situation they are in.
- Their program is sharing local knowledge from people's years of experience in the area: with that knowledge comes empowerment for the women who attended the workshops. 95% of the women who have attended one of the workshops have engaged in some change around their houses, arguably more actively than men would have done.
- Women will network and get things done. There are lots of examples of change resulting from the workshops. The women are building the ability to know what to do when something happens. The women have now formed into support groups – there is a breakfast every Friday of every month, or wine and cheese events. They now have a network for people to deal with the isolation of this high risk area.
- Communication of the risk is improving. 36 women attending workshops = 36 households engaged and this is growing. This is what resilience looks like. These women are taking ownership of their own risk. We're not just building a community, but we're building a more resilient community.

- Lightning strikes are one of the major sources of ignition in the region. People have been listening, engaging and then acting on it.
- Lesley shared stories of women responding to change and fire events. Community members are now educating each other. They understand the risk and want to ensure that others do too.
- That's what resilience can look like. We have passed that responsibility on to the local community. We provided the knowledge and now they understand that they need to take ownership themselves.

Jan Gluski

- Jan is a city person who moved to the country. She lives in a timber cottage, surrounded by beautiful trees, wallabies etc. Wished to be a natural horticulturist and develop her own bush garden. When she looked at the block originally was informed by the real estate agent not to worry about the fire risk because the fire brigade was just up the road.
- She went to the Fired up Females day to meet the community and to learn something.
- The day at the shed was a wakeup call. She learnt what to wear when you stay and defend. It was quite confronting to develop their own fire plan. They had a session on how to start pumps, how to hose down things etc. The hands-on stuff was fun.
- Afterwards, she had a different set of eyes for the property she had purchased, and now understood it differently. Understood that the fire brigade was volunteer, friends and neighbours, so wanted to have some more independence and be prepared for a "leave" event.
- She did a lot of things around the property. She removed trees to distance the tree line, cleared the ground, removed saplings to clear the understory, removed the ground cover/litter regularly upcoming to the fire season, added in pumps and water, made the property accessible for fire trucks, had a list of things to take when leaving, readily marked files for an event, once this is in place it is easier annually.
- In January during a catastrophic fire danger day she prepared and left her property - still with a feeling of fear. Thankfully nothing happened but next year the risk will come back again. Next year it will be 32 years since the last fire.
- Jan feels that she may never feel fully prepared but she got more information through the women's group.
- Just being conscious of the dangers has increased her resilience and she hopes that others can have this community day too so they may also develop their own resilience.

Erin Jackson

President, University of Canterbury Students Association, NZ

- Erin spoke about mobilising young people in New Zealand. She is not an academic or professional but she has hands on experience of horrific experiences to share from her involvement in the Student Volunteer Army (SVA) in Christchurch.
- What does resilience look like? From the SVA experience it looks pretty messy. It all developed organically.
- Christchurch pre-earthquake was fairly conservative. Community identified itself around school groups – what school you went to. There were pockets of community however those pockets have changed significantly post-earthquake. September there was a “trial run” earthquake, gave everyone a surprise/shock and inspired preparation. Sam Johnson developed a Facebook page to gather his friends and other students to help respond to the disaster. They went out shovelling silt. The group grew from 30 to a couple of hundred within a week.
- They were initially considered a nuisance to people who were more organised.
- They got some good exposure in the press which empowered students. Hillary Clinton said “use the tools in your pocket”. That approach helped students to understand that Facebook, a familiar tool, can be used differently to engage across a different group of people who would otherwise have been left out of the volunteering program by communicating with them using a medium they are comfortable with. They used Facebook as a mobilising tool.
- The September event meant that by February the community had put small things into place. In the February event people were more prepared, had bottled water etc. so people in general were more prepared. Without the September experience the community would not have been prepared at all.
- The February earthquake was much bigger and the work through SVA happened on a much larger scale. In September students shovelled 40,000 tonnes of silt which is a particularly undesirable undertaking. 450,000 tonnes of silt was shifted in February by SVA.
- Health and safety was a fairly big consideration that needed to develop within the student community.
- They did not experience any community division. They saw that all groups of the community wanted to engage and work together for a common cause. It wasn't just students involved. Everyone just came out and got involved and that sense of community really came through.
- They recently had a 2 year anniversary which was a good time for reflection for the community. That community still exists to this day: meeting new people has lasted. It was good for the helpers and those who were helped. Many people dealt with these issues differently and providing that support was valuable.
- Began to understand that they needed a space to gather people and some kind of organisational body. Not just for managing logistics but also somewhere to come back to at the end of the day. It is a key part of the community development but is also for emotional recovery. Providing “rewards” at the end of the day helped to keep

the volunteers engaged and foster a feeling of community. This keeps volunteers engaged and that permeates into work.

- Key people taking responsibility and facilitating volunteers is integral but this would have been difficult without a shock.
- Have learnt that it is messy but that having a central location and good organisational structure is invaluable in the response of the volunteers.

Questions/comments

Is there any plan to expand the Volunteering Queensland model to an Australia-wide program? Is VQ connected to Volunteering Australia?

- Volunteering Queensland is bigger than Volunteering Australia. However, Volunteering Queensland is working with many of the volunteering groups around Australia to explore potential utilisation of their volunteer referral service.

Spontaneous volunteers and volunteer management – how do we reconcile spontaneous volunteers and logistics, e.g. OH&S, liability?

- SVA: It's difficult. For SVA it was hard particularly with students, i.e. people were out shovelling with sandals on. There are big risks there and enthusiasm drives people to get out there immediately. However, that changes over time. Authorities realised that they wouldn't go away and then worked with them. However, getting push back made the communication channels all the more difficult.
- *Volunteering Queensland*: It's a broad and complex problem. Messaging is critical, it's about the organisation providing a voice for volunteers, need to answer questions about insurance and educate the volunteers on issues involved.
- Must also have good incident planning. These people can be utilised at the time of an event but also in the long term and good incident planning can help that. They need to know that if they can't help on the first day, we'll take your details and you can help down the track. Make sure they are inducted properly and trained and then include that in strategic planning.
- The VQ message is to help your family, help your friends and think longer-term. Get training with organisations that will enable you to be of more use in an emergency.
- *Mandemar*: Technocrats feel like they always have the answer. But it's different when the translation occurs to what this means locally and practically. People who come in from the city don't know how to handle the local setting and often think they can buy themselves out of trouble, but it's about interacting. It's about trying to engage people despite feeling like these people are new and don't belong. We need to create a community.
- We need to keep the stories alive from people who have lived experience: to learn from the past, learn from the traditional owners, engage the migrants and the non-native English speakers and communicate the stories to them to help them understand the risks. Need to have the local connections that allow you to tap into the local capital.

- *How do you engage the people who are new?* You can become engaged if you want to. We need to create connections and networks locally that tap into historic capital. What's the narrative or the story? Need to maintain that, to use local wisdom.
- What is the narrative about disaster and community resilience? What's the story? We've lost a lot of the historical narratives from the past. Now our disaster narratives are shaped by Hollywood. Media reporting is a very simplistic narrative. How those stories are framed can have a big difference. How do our kids become aware? These actions should be second nature.
- All of this is about long-term behavioural change. We have to consider things above decades. This is not a quick fix solution. This is long-term and this scope needs to be facilitated through planning horizons and funding. Yet our funding cycle is annual. The long-term nature of this process should be reflected in the funding.

Does the 'Fired Up Females' program have more room to move because there is less corporate (i.e. policy, Insurance) requirements?

- This is probably right, we do. Our insurance things are covered because we are using the fire shed and the activity is covered by the NSW Rural Fire Service. We didn't ask anyone other than the fire head, who was our friend. The brigade perceived that there was a need and a willingness to do something. We did what we needed to do. We didn't go up higher than that. We don't know more of the politics than that. Being part of the NSW RFS helps significantly. There was a community engagement process but it was done in a traditionally word of mouth country style. In urban settings everything has to be run through the right channels and done through policy and insurance etc. We used to just have the attitude of if there is an event you grab your broom and bucket and go down and help. People just help each other and every time you do that the barriers between people get broken down. Every time you actually act like a community and show concern for your neighbour, you break down barriers and build community resilience.

Is there a maintenance plan for the 'Fired up Females' program?

- Yes, certificates are being given and ongoing programs are happening. There is also plenty of informal follow-ups happening. During a catastrophic day there is plenty of communication between those who have attended the day.

This is about complexity and there needs to be a bridging of the middle space between the grass roots approach to what is right politically or from an OH&S perspective. How would we expand these examples to a national level without increasing complexity?

- Knowledge hasn't been lost. We're scaling up local issues. The knowledge is asleep amongst people but it can be revived when people move out into these areas.
- Emergency management people choose not to listen because you can't scale up a local response to a regional scale.

8.3.4 Panel 3 – Changing government practice

Wendy Graham

Director of Resilience & Planning, MPES NSW

- There are a lot of questions to answer. We've got the information now but how do we change things? How do we change awareness into behaviour change and action?
- What is disaster resilience? How do we understand it? How do we move that awareness into action?
- This is complex because we're talking about relationships, culture change and behaviour change. The way to do this is through conversations. So is this type of event a talkfest? No, this is about process. We have to have these conversations at all levels.
- The disaster resilience agenda is a long-term change but we are impatient.
- The reality of where we've come from is that the traditional approach of government is to tell communities what to do and the job of communities is to do what they're told. The disaster resilience doctrine tells us that communities are vital but we've only just started moving into linking community and government.
- Outside of the emergency management sector, community resilience and community development are not new. We (in emergency management) need to realise that. In terms of what needs to change for government: we need to develop relationships and have conversations: engage with the experience and wealth of knowledge that is already there.
- Conversation themes – all-hazards approach, trust between government and community. What is it at a state government level that we can do to create spaces for conversation and behavioural change?
- What is leading this? Emergent leadership. Government strategies have long sought to encourage community groups but government's tendency is to work with well-established NGOs that have existing connections with government already. We know though, that communities will self-mobilise and will look to government with the full expectation that it will be resourced and facilitated. How can we assist by providing advice so that each of the new emergent leaders / groups doesn't have to make all the same mistakes that previous leaders & groups have made?
- What do we measure? Is it about trucks & evacuation centres? Should the story be how many evacuation centres are empty because people had other places to go? In a disaster event, the things that are reported and measured are numerical that are good grabs in press releases because it looks like the government is doing something. But we should be looking at the community enablers that make people less reliant on government services. How can we shift our own thinking to measure and notice the real indicators?
- It's about thinking differently and doing things differently. We are currently stuck in a rut but it is an area that is seeing change.
- Creating a space for change is already happening. It is about bringing the knowledge and practice into all levels of government. Shared knowledge spaces where we share the things that we have learnt through experience are important. How can we share

the things that we learn with others? NSW is building their version of AEMI's knowledge hub (it will be complementary) in order to share case studies and best practice.

- The aspects of practices and relationships most in need of change - we need to continue to move toward a space where we are enabling and supporting local initiatives rather than constraining them.
- Shared responsibility is not about shifting blame but enabling local groups to have a part in management. What does government need to do to enable these community groups?
- Community engagement - a cultural shift is needed to fund and enable community groups to act. As a collective group maybe we need to influence funding structures to enable community groups more? The reality that this is a very scarce resource sector that we are in. Maybe we can capture grant funding to direct it down to local community groups.
- All hazards approach isn't just about communicating about all hazards.

Tanyia Tuckey

Manager, Community Engagement, NSW RFS

- Tanyia was a founding committee member of IAP² in Australia about 20 years ago. (<http://www.iap2.org.au/>).
- Community engagement in government over a highway or a wastewater treatment plant is a lot different to engaging for emergency services. NSW RFS is not the apparent or obvious choice for people who have experience in community consultation. Emergency Management is not on the radar for community engagement people as a career choice. Only 20 people applied for a recent position with the RFS when in a Utility there would be 100.
- One of the issues in building resilience is getting that expertise. Until we can actually draw on that higher-level community engagement expertise, we are going to have difficulty in progressing.
- The community isn't lazy but there is a lot of white noise and they don't think it's important to prepare for a bush fire. Preparation for natural disasters is perceived by the community as cleaning gutters.
- Survey conducted by NSW RFS in 2010 showed that there was very little difference in preparation steps for those in a high-risk and a low-risk bush fire area. Many people didn't even know that they lived in a high-risk area. This affects the level of perceived risk. If I don't understand my level of risk then why should I prepare or act?
- We need fewer publications and more conversations. Lots of brochures have been distributed but the uptake of these is not really high. What we are finding more is that the local relationships are what make a difference.
- Whatever it is that the government requires agencies to report on is where the agency focus will be. That's then where the resources are going to be directed at. NSW RFS is a business that still has to report to the government. Whatever the

government requires reporting on such as operational issues is what the organisation will prioritise. There will be minimal funds to allocate to community engagement until we are required to report on engagement to central government. There is work being done to head this way now.

- Community response – they are being steered to a website but the website only says “watch and act” until evacuation. Watch and act is open to interpretation and also the understanding of risk. Is it a risk when the fire is 2 kms away or 10? Is the risk increased by the daily temperature?
- One of the messages is “know your triggers” so you can decide when to leave yet historically we have all heard of people being told when to leave. The community perception is that if there is a risk of bush fire impacting on them the powers that be will tell them when to go. – In excess of 50 residences were lost in Coonabarabran. Over 90% of one impacted community went to church on the Sunday morning. They were not aware of the risk. They were waiting until the NSW RFS told them to evacuate. They don’t expect a truck but they do expect to be told to leave. People will wait until they’re told to move because there are conflicting messages. Historical behaviour makes people think that they will always be told to evacuate.
- NSW RFS is a volunteer organisation. There are in excess of 70,000 volunteers in NSW. Most of our current volunteers joined because they want to “put the wet stuff on the red stuff”: flames are viewed as sexy. Our volunteer base had been built on a history of operational firefighting. But what we need to develop is a model in which volunteers don’t need to be in front of the fire. We have to genuinely look at our own structures and government reporting requirements to welcome people as a resource to use other than as operational fire-fighters.
- Government funding and how government measures success is an issue. How do we start to demonstrate the value of community capacity building?
- In trying to get the message of good preparation out, it’s impossible to get the media into a well-prepared home, but they will go to the flames.
- Not only are the government measures driven toward operational outcomes but there is a lack of understanding about what community engagement is. Informing is important but it isn’t everything. We’ve historically done information & education dissemination – this is not engagement.
- The closer you get towards empowering, the more sustainable the change is.

Fiona Dunstan

Manager Community Education and Public Warnings, SA Country Fire Service

- Fiona has an operational role and a role in preparedness through engaging communities on how they can prepare. Community engagement has a team of paid staff in SA CFS. But each brigade has a different skill base and a different level of interest in engagement.
- Programs are aimed at the ability to share knowledge gained from experience. E.g. the Community Fire Safe program is helping motivated communities to know local risk and help them to prepare for a fire.

http://www.cfs.sa.gov.au/site/prepare_act_survive_2012/community_programs/community_fire_safe_groups.jsp)

- We don't always hear about empowered, informed communities where resilience is working.
- Our engagement people are more like community development people. In SA, 'Firey Women' is a similar program to the NSW group [introduced by Lesley Wood and Jan Gluski].
http://www.cfs.sa.gov.au/site/prepare_act_survive_2012/community_programs/firey_women.jsp).
- Need to be aware that these conversations and engagement processes need to be maintained and supported and funded.
- Community engagement feels a little 'tacked on' to most agencies, isn't really integrated.
- As communities grow and develop, so do our programs.
- We rely highly on fire units and other fire services. The connotation of what a fire truck means to a service versus a community member is different. Some community members have their own fire trucks.
- Community members are driving a reform agenda in their own communities. It's not sexy though, it doesn't get the attention.
- There is a perception of a threatening authoritative position or officer. The fire services have a challenge to face in how the public perceives them. Community engagement officers aren't uniformed.
- Unless we have more rigour in addressing other community awareness factors, our resilience will be reliant on response groups and their associated infrastructure. Yet the community often knows a lot more than the fire service. We need acknowledgement of those channels.
- Complexity of community development – it takes time. Women are strong motivators of change. Motherhood in a home allows them to make changes in their home so they have a leadership role.
- An ongoing piece of work is to encourage communities to act.
- There is a cultural, structural and functional divide between operational activities and community engagement. Community engagement should become part of the business rather than a nice thing to do.
- Warning message release – these messages have to be structured well to make sense to people. The need to be an official source of information is strong. Technology can make a reliance on apps and messages so that people will be waiting for that message. How messages are constructed matters. When using social media, the question is how to get a specific and informative message right in 140 characters.
- The most informed messages are the ones shared locally. We need to tap into that and be a voice amongst the many as well.

Chris Collett

Assistant Secretary, National Disaster Recovery Programs Branch, Commonwealth Attorney-General's Department

- There is a distinction between a national view and a Commonwealth view. Chris is here to provide both perspectives. It is also important for those working at the federal level to get out of Canberra and consider other perspectives.
- Resilience has been used as an organising principle for a long time. In the last several years the concept has increasingly involved government policy across a range of areas.
- How we are living in Australia is changing. We have more and more people living in places that are at risk than ever before. This also means that we're much more brittle.
- We should be proud of our emergency management agencies but these resources are limited. We have to really think about where we place our time and our resources. While we need to maintain and build on our excellent response capability, we must also take a broader look at what may lie behind the impacts of natural disasters.
- The national strategy, as a policy document, is about getting past the event and considering root causes. It's about thinking about the broader picture and a more honest conversation about the risks we live with and the fact that we're constantly surprised when disasters happen. We need to understand the risks that we are living with and we need to act on this improved understanding.
- What is left over after we've mitigated the risks? We still need to think about the residual risk and what is the residual risk that we're comfortable to live with? How many homes are too many homes to lose?
- Shared responsibility is about the government acknowledging their limits. It is not an excuse for government to do less. There is a responsibility of government to acknowledge that changes have to be made.
- We are seeing better engagement across government areas and across cabinet rooms. We're seeing great work being done in the emergency management area.
- As our capability increases then there is often new challenges raised, such as issues with liability, that need to be dealt with.
- Another example relates to our improved warning capabilities: what does the new messaging capability mean? Do people have a responsibility to receive the messages? To act on them?
- The move to resilience is fundamentally a generational thing. We must realise that it will take a long time, we need to think long term, but at the same time we must also be impatient about it.
- We need to consider our investment in mitigation versus recovery. There is a lot of money put into mitigation, but a lot more into recovery. Do we need to reassess this? We are not going to see more money in the budget. We need to re-think how we are spending existing money and be brave in engaging long-term policy reform.

- We need to think about measurement. We have to get beyond measuring government activity and more toward measuring community resilience. If it is about intergenerational change then how do we know that it's working?
- We also need to reassess how we learn lessons in this country. If we continue to treat our learning of lessons post events through judicial and adversarial processes, this will shape the recommendations and outcomes. Negligence and misconduct is not to be excused but we need to consider whether adversarial legal processes are the best way to learn and improve.
- How do we ensure that these issues stay on the agenda? How do we mainstream resilience into our every day? These issues transcend the levels of authority in this area. We're starting to see more of a whole of government engagement space.
- The environment and risk are often kept separate in policy debates. Interesting, given that natural disasters happen in particular environmental contexts. The environmental voice is now coming to the table too.

Ian Armstrong

Project officer, Climate Change Adaptation, Sydney Coastal Councils Group

- Ian has a bit of an outsider perspective here. His background is in climate change. Sydney Coastal Councils Group has just received a grant to look at the local government perspective of emergency management (http://www.sydneycoastalcouncils.com.au/Emergency_Management_Planning_Project).
- Having been involved in climate change adaptation and mitigation, we sometimes joke that the next step is emergency management, so we can help pick up the pieces after “adaptation” has failed.
- The reality, of course, is that Emergency Management is integral to the development of Flexible adaptation pathways. It incorporates the identification of risks and responses, trigger points etc. that provide feedback to the scoping and definition of the problem
- Risk appetite and risk compensation are key to this assessment. How we regard tolerable risk affect the priorities for adaptation, but as social measures they can change rapidly.
- Resilience is a function of the broader social context, an “emergent property”? Resilience can be hard to define, and perhaps a good start is to remove some of the barriers and let resilience emerge rather than seeking something specific?
- Is the emergency management process suited to local government? The administrative boundary doesn't always help. The scale issues that correspond to different hazards mean boundaries are seldom simple and rarely coincide with Local Government boundaries. Local planning needs to be in the context of these higher level assessments, although the contradiction here is that we need local awareness of hazard and risk to get traction with the community.

- It can be useful from a strategic perspective to characterise policies, programs, & projects as the levels of intervention. Often the policies and the projects are fine, but do we do enough at the program level?
- There is a gap between the specifics of local government and the policies of state government. We need to integrate horizontally through local governments and then also from local government up.
- We're not working enough with each other. One of my colleagues said that "Emergency management is like a dysfunctional family". The more we can build the trust and respect between the organisations beforehand, build capability and a resilient "family", the better will be the situation when a crisis hits.
- Should we be using identified skill-sets rather than responsibilities that come with a level within an organisation, to facilitate resource sharing and to promote the most flexible response to any emergency situation?
- Are our emergency management plans that are online speaking to the community? They don't appear to be, as they're often dry and complex, and focused on organisational issues. If we are trying to work with community-local residents-the readily available emergency management plans provide no guidance for the local resident at their level.
- It's a process – in climate change adaptation we talk about low regrets and no regrets. This can be applied in emergency management and there are opportunities for improved communication resources for Local Government to promote prevention and preparation.
- Social networking spaces-can be utilised to develop neighbourhoods. Instead of virtual, it can become real, and a vital part of a resilient community.
- Other levels of government "share" the responsibility but not the resources.
- We have promoted the need for Local Government to provide holistic approaches to adaptation, including emergency management. We see this as best achieved through the Integrated Planning and Reporting Framework for Local Government. Implementing emergency management within the framework can assist in breaking down the silos that often exist in organisations, to promote the recognition that the roles that Local Government can best assist with can as much be part of the Community Strategic Plan, and Council's Resourcing Strategy as it is about trucks and equipment.

8.3.5 Open Discussion

Are developing nations sometimes better at resilience than Australia?

- It is hard to say. Some processes in developing nations are very good however they have to deal with a very poor resource base, however their practices are good. It is not possible though to say that those communities are more resilient.

That leads to the question, does resiliency depend on money?

- To some extent yes. Resiliency is about protection of assets and livelihoods and the ability to earn an income. International aid organisations are exceptionally good,

because their practices are good. Communities in developing countries have a practical and common sense approach, whereas we have a tendency to over-complicate things in this space in Australia. Resilience depends on the infrastructure they start with. Developing countries may bounce back more quickly because of the type of infrastructure they have.

- We can't make assumptions based on income. For example the stories we heard today from the rural communities in NSW. What we need to grapple with is how are we going to measure resiliency? How can we track it? How to determine if communities are resilient or not?

Have the Volunteering Queensland programs discussed today been successful? If yes, is there any documentation that we can access?

- The Step Up program has been reported on. There is a lot of information on the outcomes and impacts: both qualitative and quantitative data. In terms of the Emergency Volunteering Service – research is underway and we are looking more deeply at community connectedness. At the same time as reporting, there is copious amounts of data generated simply by us being there and asking questions, e.g. 'why are you doing this?' etc. There is a whole range of data collecting and we share it as we see appropriate. We are not about reporting we are about doing. However, if someone would like to fund us to do a report I am open to that offer. We ensure that we are transparent. Information is available online.

What about the business perspective?

- The business perspective is not well-represented at this workshop today. An important aspect is the ability to function in a crisis. From a business perspective there is a need to further understand linkages between parts of the economy. For example, what are the factors that drive resilience?
- The role of the private sector is crucial, and is no less than the other sectors. There are lots of examples of the private sector doing great work, and doing things we could never achieve otherwise.
- It depends how we define business. We heard today from farmers in rural NSW, they are a business.

Concept of resilience

- We need to translate the talk into action. We need to be more specific when we talk about resilience –e.g. who are we talking about? Do the same factors apply to everyone? What about events of different magnitude? There are both preventative and response actions.
- We need to acknowledge that there is a threshold. It doesn't matter how prepared we are if events exceed the threshold. There is a point where people will be overcome, and the government's measure of resilience isn't going to matter. We haven't seen anything yet. It is the fundamental meaning of warnings. We are treading a slippery slope, it is a fine line.
- We have dedicated the day to resilience; however what is the definition of resilience that we are talking about? It is easy to discuss how resilient a community is/wants to be, but without defining resilience we are not going to get very far.

- We must then ask ‘does terminology matter?’ This brings us back to our first question of the day ‘what does resiliency look like?’
- Perhaps it is not productive to engage in debate over agreed definitions. A uniform approach, which is narrowly defined, cannot work in every circumstance. We need a slightly messier approach. We need to put resources into where there are the most losses, which aren’t the rarest events. We need a multi-faceted approach, which hopefully won’t miss anything completely. It is a lot easier to say what resilience is not. We get into the cycle of ‘what does that really mean?’ Sometimes it is easier to focus on what we have identified, and we can resolve those things.

Behaviour change and community resilience

- We need to consider what drives our behaviour now (e.g. why do we allocate resources like we are?), and perhaps we should turn to what will drive it in the future, so we go in the direction that we want to go in.
- We will see more readiness for change the more disasters we get. We need to be prepared for people who are ready for change. We need to get ready on a practical level.
- People are wanting more information on what is going on however the nanny state is stepping in more.
- Research actually shows that people who are impacted on by fire are not more prepared. There is the mentality that it can’t happen again, lightning doesn’t strike twice. There is no increase in preparedness statistically.
- Resilience is also a factor of people’s experience during recovery. They often do not want to engage afterwards because of the trauma they experienced and the relationship of recovery to the trauma. The Australian Red Cross sometimes use the phrase ‘preparing to recover’.

It would be interesting to hear the government's perspective on how to build trust with and between communities.

- The community expects the government is looking after them, through effective land use planning, mitigating risk etc. We need to work with communities to ensure the community understands what risk is. There is a need to build linkages, but then we must follow through on these to build trust.

Has the role of gender in resilience been downplayed?

- Yes, it has been downplayed and marginalised. Lesley said it beautifully this morning – ‘resilience looks like a woman.’ We need to consider how men and women engage with risk? How do they prioritise their responsibilities? Research shows it is worth paying attention to gender as it affects how we communicate to communities and how we engage. There is the issue of children too. Women often see themselves as helpless to act because of their responsibilities to children
- Gender is one aspect of diversity in the community. We have ignored other diverse aspects of the community too, e.g. ethnicity etc.
- The issue of gender, children and minority groups is covered by developing nations. We tend to say it doesn’t apply here, but it does, we just ignore it.

Why can't we give jobs to people on the first day of a disaster? What about insurance?

- Response on the first day has to be needs focused: not driven by people who want to help. These events are what we plan for. We have plans for the first day and that's what we and those organisations involved do. What we need is help moving forward in the days to come. There is the issue of insurance, but also that of duty of care. For example, what if a volunteer does something horribly wrong?
- In some cases, agencies and NGOs can't deliver services for a few days, so it is local people who deliver these services. For example, people who drag people out from collapsed buildings before the emergency services arrive.
- The question is 'is there something for these people to do?' We have got to think about organisations/processes that are organised and let them carry on with that.

Local government responsibility and community leadership

- In our LGA (impacted by Black Saturday) we are looking for opportunities for community leadership pre, post and during an event. What is the link between shared responsibility and shared leadership? Within frameworks, what is the capacity for true community based leadership at the community level?
- Initiatives in local community leaders undertaken by Volunteering Queensland – engage with a broad group of leaders organically in their particular context. We need to equip those local leaders with more theory, information; have meaningful ways to engage and deal with scenarios. Don't just talk about it, but provide actions that will help the cause. Many projects will come out of that. We need outcomes that feed back into the community. From that, this leads to us asking 'what is community?' We need to link potential sources of funding.
- Following Black Saturday and despite all the best efforts of people, there was intense frustration in the recovery phase. As soon as people got going to do something the government came in and said e.g. 'you haven't followed the process etc.' you must stop. The recovery phase is when the community is most focused, but there are lots of barriers still in this stage. It's frustrating to the community member. It's on the trajectory of getting worse.

What about an independent emergency management organisation and by independent I mean from Canberra too?

- There is a need to be controlled at a higher level as that doesn't happen at a state or local level.
- Independent from whom?
- Government. Could we have a system with private membership?
- These are whole of society, whole of government issues. We need to work within what we have.

8.3.6 Wrap-up and reflections

Seven people with diverse affiliations and backgrounds agreed to share their final reflections on the day to wrap up. These are summarised in the boxes below. Names were not recorded against the notes. Acknowledgement for participating in this session goes to (not in speaking order):

- Chris Collett - Commonwealth Attorney-General's Department
- Lew Short - Eco Logical
- Christopher Lee - Office of Environment & Heritage
- Aliane Rance - University of Melbourne
- Katharine Haynes - Risk Frontiers, Macquarie University
- Andrew Richards – NSW State Emergency Service
- Ron Cox - UNSW/ ACCARNSI

- Resilience needs to be measurable
- How people manage post disaster matters
- How we have a touch point into our diverse communities
- Need to focus on how we convey preparedness messages
- We need to have a good hard look at how we value return for investment in our communities

- Many important observations and questions were raised today.
- It has been a fascinating day, last year was too, and it is great to see this conversation playing out.
- There are not a lot of absolutes in this space.
- The concept of resilience is receiving a level of shared acceptance.
- There is a real opportunity to review and clarify the roles of sectors.
- Where does the role for government sit? What do we want the role of government to be?
- These are fascinating and difficult questions that we need to face as a community and as a nation.
- How do we mainstream the willingness to engage about resilience today?

- This goes back to the opening comments about shared responsibility today – where does agreement exist? We make assumptions about this.
- Some things aren't shared, e.g. legislation and frameworks that the community expect government to make a call on.

- Part of me still thinks the push for shared responsibility is the government's way of shifting errors, e.g. errors in previous land use planning etc.
- A good point that was made today is that everyone is both vulnerable and resilient, and we are all impacted in very different ways
- We talk about connections and social capital, but how do we connect with people who are marginal?
- What about risk reduction?
- We need community champions, who are few and far between
- I disagree with a comment made today that people are lazy. They are not.
- There is an imbalance between recovery and mitigation: we need more funding for mitigation.

- I really liked that some speakers acknowledged resilience as a process
- Talking like we have today is an integral part of moving forward
- It was sad to hear climate change and climate change adaptation described as being “out of vogue”

- It is difficult for government to engage directly with the community
- There is a big issue around changing/shifting roles and demographics of volunteers
- It is still important to talk about wanting to be resilient, what does it mean to be resilient and how do we track it?

- I particularly liked the community discussions (as opposed to big policy and academic level discussion) and discussion about how to get things done
- The example of improved preparedness to fire using something as simple as green waste collection was illustrative
- We need to hear more of these (community-focused discussions) in academic areas.

8.4 Attendee affiliations

- Australian National University
- Australian Red Cross
- Bureau of Meteorology
- Bushfire Cooperative Research Centre
- Christchurch Student Volunteer Army
- Commonwealth Attorney-General's Department
- Victorian Country Fire Authority
- Deakin University
- Department of Fire and Emergency Services, WA
- Department of Primary Industries, NSW
- Department of Sustainability & Environment, Victoria
- Eco Logical Australia
- Edge Environment
- Fire & Rescue NSW
- Ku-ring-gai Council
- Local Government and Shires Associations, NSW
- Macquarie University
- Mandemar fire brigade
- Mandemar district community
- Ministry for Police & Emergency Services
- Monash University
- Nature Conservation Council of NSW
- New Zealand Fire Service
- Nillumbik Shire Council
- NSW Rural Fire Service
- NSW State Emergency Service
- Office of Bushfire Risk Management Western Australia
- Office of Environment and Heritage, NSW
- Paraquad NSW
- Queensland Fire and Rescue Service
- Risk Frontiers, Macquarie University
- RMIT University
- South Australian Country Fire Service
- South Australian Metropolitan Fire Service
- Southern Rural Fire Authority (New Zealand)
- Sydney Coastal Councils Group
- Tasmania Fire Service
- The University of Sydney
- University of Adelaide
- University of Canterbury Students Association
- University of Melbourne
- University of Newcastle
- University of NSW
- University of South Australia
- University of Tasmania
- University of Technology Sydney
- University of the Sunshine Coast
- University of Wollongong
- Volunteering Queensland

9 Bringing it all together

9.1 Deconstructing the stories of Shared Responsibility

The ultimate aim of the *Sharing Responsibility* project was to support stakeholders of Australian disaster management to make decisions about how to pursue the vision of Shared Responsibility. The project began with a strong awareness that before decisions can be made problems need to be recognised and defined.

In Australian disaster management, a general, normative vision of Shared Responsibility is clearly central to the current discourse and, in large part, is widely supported by stakeholders. However, recognition and definition of the problems that exist for achieving this vision are unclear. Neither the VBRC nor the NSDR, nor any subsequent developments arising from these, have clearly recognised the problems that need to be addressed to realise the vision. This has left stakeholders wrestling with the task of coming to grips with the meaning, significance and challenges of Shared Responsibility with minimal guidance.

The *Sharing Responsibility* project sought to open up a process of critical and reflective examination of this vision with a focus on its meaning, significance and challenges for sharing responsibility in practice between government and non-government actors. The project approach and design rested on two important underlying premises. The first was that achieving the widely-supported vision of Shared Responsibility in Australian disaster management is a 'wicked' policy and management problem that does not have an easy, straightforward, win-win solution (Rittel and Webber 1973; Gibson 2003; Australian Public Service Commission 2007; Head 2008). Like other wicked problems, it is not amenable to resolution by traditional, linear problem-solving methods in policy, management and research (Australian Public Service Commission 2007; Head 2008; Brown 2010). The second and related premise was that 'framing matters' and particularly that framing matters for wicked policy problems. As section 2.2 explains, framing is particularly important in the agenda-setting stage of policy-making. Agenda-setting is as much a process of selecting from amongst "the various different ways to define what the problem "really" is" (Birkland 2004a, p.343) as it is about recognising that an objective problem exists "out there" somewhere that needs addressing (Howlett *et al.* 2009, p. 93). This process of selection is one of problem framing, also known in policy research as constructing 'causal stories' (Stone 1989) or 'diagnostic-prescriptive stories' (Schön and Rein 1994, p. 25-6) about "what is wrong and what needs fixing" (Schön and Rein 1994, p. 24), and it shapes all subsequent stages of the policy cycle.

In Australian disaster management, causal stories told about "what the problem "really is"" for achieving Shared Responsibility – and hence what needs to be changed– significantly influence what actions are taken (or not taken) to share responsibility in practice. Because these causal stories assign responsibility to particular actors (Stone 1989), their impact is of particular importance for the way that Shared Responsibility is understood and pursued.

The *Sharing Responsibility* project explicitly sought to expose and examine the causal stories told about responsibility-sharing. Causal stories are told at all levels of disaster management – amongst individual stakeholders (managers, policy-makers, members of the public), organisations, policy communities/ networks, policy sectors, research communities,

social groups, and society. Hence, the project examined these stories across a range of levels and settings including within: Australian disaster policy discourse (McLennan and Handmer 2012b; McLennan and Handmer 2012c); risk research and theory (section 3 and McLennan and Eburn In press); risk management settings beyond Australian disaster management (section 5 and McLennan and Handmer 2012a); and amongst stakeholders of Australian disaster management (sections 6-8 and McLennan and Handmer 2013). Through a number of engagement activities it also sought to assist stakeholders to reconsider the problems and potential solutions for Shared Responsibility by 'seeing' them in new ways (section 4).

9.2 What is Shared Responsibility and how do we do it?

There are two fundamental and underlying questions that disaster management stakeholders are most likely to seek answers to from the work undertaken in the *Sharing Responsibility* project: *what is Shared Responsibility and how do we do it?* It is therefore fitting that this final section of the report focuses on providing answers to these two questions based on the research conducted over the three years of the project. The answers provided to the first of these questions critique the overly simple discourse about Shared Responsibility in disaster management currently. They also highlight the impact of framing at three important levels: a broad, societal level, the level of national policy agenda, and at the level of policy implementation. The answers to the second question summarise what this research reveals is needed in order to begin to more fully and effectively address the wicked problem that Shared Responsibility poses.

9.2.1 What is Shared Responsibility?

A partially articulated social contract³

At a broad, societal level, the discourse about Shared Responsibility in Australian disaster management is fundamentally a discourse about a new social contract for living with disaster risk in this country. However, the new social contract being proposed has only been partially articulated. One half of the terms have not been discussed, namely the rights and benefits provided.

The social contract was identified in the Stage 1 review of this project as one of the ten key ways that challenges for sharing responsibility in risk management are framed in research (see section 3.3.3). To recap, the idea of a social contract is a metaphor for the balance of rights and responsibilities between the State and its citizens that is accepted in a society as the legitimating basis for a country's system of governance at a very fundamental level. Ideally, the benefits and rights that citizens receive in a governed society will justify and make acceptable the obligations and responsibilities imposed on, or expected of, them by government such as taxes and laws (e.g. O'Brien *et al.* 2009). Importantly, under a social contract, the most fundamental right or benefit received by citizens, and therefore

³ Acknowledgement and thanks are due to John Richardson at the Australian Red Cross for contributing to the ideas in this section by underlining the lack of a rights discourse in Australian disaster management in conversations with the authors.

legitimizing the State's right to govern, is protection from risks to life, property or wellbeing (Zack 2006; O'Brien *et al.* 2009; Pelling and Dill 2010).

Research highlights three important things regarding social contracts and disaster risk (outlined in section 3.3.3). First, social contracts are not static; they can be contested and renegotiated in response to changing socioeconomic conditions. This is particularly the case when people question the terms of the contract following a disaster event (Frankenfeld 1992; De Waal 1996; Bruce 2002; Johnson and Priest 2008; Pelling and Dill 2010). Disaster events are thus one of the challenges contributing to the broader legitimacy challenges faced by modern democratic political systems and public institutions described in section 2.1.3. Second, social contracts are not based solely on formal, written rights and responsibilities (such as those protected and enforced in law) but also on informal and unwritten rules, norms and expectations within society. Citizen acceptance of the terms of the social contract ultimately stems from public perceptions and expectations about what rights and responsibilities are legitimate and reasonable, not from what is written in law or policy (Ahrens and Rudolph 2006). Third, because of this, the balance of rights and responsibilities cannot be determined and legitimated solely through formal, government-directed procedures and processes, but rather emerge out of State-citizen interaction and negotiation at a much broader – and less tangible – societal level.

Within Australia, calls for a “new focus on shared responsibility” and a “resilience-based approach” to disaster management, such as those made in the NSDR, are essentially calls for a new balance of responsibilities between the State and citizens (or in the language more common in this field, between government and communities) compared to the recent past. According to the NSDR, this is needed to respond to the challenges of changing contextual conditions as well as rising public expectations of emergency services and increasing pressure on government resources.

In short, the NSDR asks that citizens accept greater responsibility for their own resilience in the face of disaster risk and expect a lesser degree of protection to be secured by the State on their behalf. In return, it asks governments to take greater responsibility for empowering citizens to build their resilience. It also opposes any significant increase in government's direct imposition on citizens' choices through new legislation or regulation. Rather, it states that “Governments will support community empowerment through initiatives that generate and share information on hazards and risks, and will work locally with communities to reduce risk and build resilience” (COAG 2011, p.15). Thus, the NSDR argues that increased partnership and interaction between government and nongovernment actors is needed to underpin and legitimate a new ‘disaster resilience social contract’.

In some respects, the NSDR reflects the broader – and increasingly critiqued – worldwide trend towards a governmental and public policy focus on increased citizen responsibility in relation to risk and uncertainty, already noted in section 2.1.3 and 3.3.3. However, its position, like that of the VBRC before it (McLennan and Handmer 2012b), is also somewhat different to the emphasis in other settings because it also emphasises increased government responsibilities to support communities to build disaster resilience.

By recognising the discourse on Shared Responsibility and disaster resilience as an articulation of a new social contract we can see that one half of the contract is missing: the

rights and benefits that citizens would receive. This is highly significant given that the basis of a social contract's legitimacy with citizenry rests on a balance of the rights and benefits they receive on one hand, and responsibilities and obligations imposed on or expected of them on the other. Yet despite this, there is an almost complete absence of any direct mention of rights in relation to disaster risk in the Shared Responsibility / disaster resilience discourse. The term 'rights', for example, is not present in the NSDR at all. While this document does contain a language of community 'choice and empowerment', it is only used in relation to increasing community (e.g. citizen) responsibility, not securing their rights.

The need for a corollary discourse on rights in relation to disaster resilience was evident in our analysis of the responsibility-sharing challenges reflected in public submissions to the VBRC (section 6). The results showed quite strong disagreement over the basic rights and responsibilities of citizens and government with respect to bushfire risk management. Themes of protecting citizen and property holders' rights, questioning the legitimacy and accountability of government agencies and government decisions, and the uneven distribution of impacts, impositions and benefits in society were evident. From a government agency point of view in particular, it is tempting to see these themes as simply evidence of people's reluctance to take responsibility. However, the social contract lens suggests that these themes should be acknowledged as evidence of a legitimate and, ultimately, democratic questioning of the terms of the social contract for living with disaster risk.

A second factor compounding the imbalance between rights/ benefits and responsibilities/ obligations in the Shared Responsibility discourse, is that the benefits of disaster resilience are unspecified and therefore effectively taken as given.⁴ They are not articulated in terms of citizens' rights and there is an implied assumption that, whatever those benefits are, they will be enjoyed equally by all. While it may at first seem dubious to question the benefits of building disaster resilience, a strong critique of resilience in relation to security, risk and disaster is beginning to emerge in research (Coaffee and Rogers 2008; Duffield 2011; Davoudi *et al.* 2012; Petersen and Tjalve 2013; Welsh 2013). One central line of argument, for example, is that resilience in modern policy discourse is used to present an apolitical, conservative idea of citizenship that is attune to, and protective of, existing neoliberal modes of government in times of uncertainty. Resilience discourse focuses on citizens' responsibility to adapt to the status quo, rather than to agitate or work for change or to expect a better social future (e.g. Duffield 2011; Welsh 2013).

The lack of a rights discourse in Australian disaster management again reflects the broad trend in the way governments are responding to the legitimacy challenges facing modern democratic political institutions. As Sevenhuijsen (2000) observes:

In the past decade there has been increasing unease among key political actors (political parties, government officials, political theorists) about the political

⁴ Notably, Petersen and Tjalve (2013) have raised a similar point in relation to ideas of shared responsibly and community resilience in US Homeland Security discourse: "On a 'responsible' public first: responsibility when, by whom, toward what, accountable how? In a culture of preparedness, private actors are called upon to make judgment calls on behalf of a highly unspecified but assumed common interest... Shared responsibility, in short, reflects an unsound organicist notion of harmony—of a "national interest" simply taken for granted. From a democratic point of view, this is, ... a dangerous and potentially disastrous idea" (p. 13-14).

language of rights. The idea, which had its origins in welfare discourses, that rights can easily turn individuals into passive claimants seems now to be common currency and is also winning ground in other policy domains. In contrast with ten years ago, the slogan ‘no rights without obligations’ no longer seems to evoke widespread contestation (p. 6).

Yet, as Sevenhuijsen goes on to argue: “there are divergent views on how to think about obligation in a political context. Broadly speaking there are two approaches: the first takes obligations as a corollary of rights; and the second takes notions of responsibility as a starting point” (p. 6). The first of these approaches, in which responsibility is used as a corollary of rights to frame disaster management, would be more attune with the negotiation of a new and legitimate social contract for living with disaster risk in modern Australia. By contrast, the second approach, in which responsibility is the starting point and is used to frame disaster management without being coupled with rights, has the dangerous potential to undermine the legitimacy of any proposed new social contract.

A diagnosis without a prescription

At the level of policy agenda-setting, the combined Shared Responsibility/disaster resilience discourse represents an agenda without a clear causal story. While it does present a partial diagnosis of “what is wrong and what needs fixing” in Australian disaster management, it does not provide a clear prescription for how to fix it.

While most authors who write on policy framing highlight the importance of framing policy problems and telling causal stories, far fewer recognise framing policy solutions as a second, critical level of framing. Schön and Rein (1994), for example, introduced the term ‘diagnostic-prescriptive stories’ to describe stories about “what’s what and what needs fixing”. For them, however, the story told about the problem (the diagnosis) also determines the approach taken to fix the problem (the prescription). Thus the story told about the problem “describe[s] what is wrong with the present situation in such a way as to **set the direction for its future transformation**. Through the processes of naming and framing, the stories make the “normative leap” leap from data to recommendations, from fact to values, from “is” to “ought”” (p. 26, emphasis added).

Yet the *Sharing Responsibility* project’s Stage 3 policy review (section 5) showed that even when the underlying problem with responsibility-sharing for managing risk is framed similarly, very different prescriptions for how to fix it can still emerge. The review identified seven broad categories of mechanisms that have been used – or proposed – to change the way responsibility is shared to manage risk across a range of settings. Which types of mechanisms were used was of course shaped by the particular risks and various types of contextual conditions to which they were applied. The review also showed, however, that each category of mechanisms was also based on a general, implied way of framing the underlying problem for responsibility-sharing. So, for the category of ‘hard’ laws and regulations, the implied story of ‘what is wrong’ is that the citizens will not share responsibility effectively with government by choice (or the outcomes are too important to risk should they choose not to). Responsibility-sharing **standards** therefore need to be prescribed and compelled through the use of legal obligations and authorised sanctions and penalties. By contrast, for the mechanisms in the category of collective inquiry and decision-

making, the implied story of “what is wrong” is that conflict, disagreement or dissatisfaction exists amongst citizens or society regarding responsibility-sharing. Responsibility-sharing **processes** are therefore needed to engage citizens and government to collectively query and/or decide where responsibility lies and/or how to share it.

However, the Stage 3 review also showed that even within the same category of mechanisms that share a similar problem frame, the solution can still be framed very differently. This was particularly evident in the category of ‘soft’ interventions that encourage responsibility-sharing in line with predetermined goals and standards (e.g. through financial incentives or informational/persuasive campaigns). Notably this is one of the categories of mechanisms that are arguably most familiar for government – non-government engagement in Australian disaster management. All of the examples in this category aimed to encourage people to voluntarily take greater responsibility for reducing their own risks. They were based on a similar underlying problem frame that implies that some parties do not have sufficient information, risk awareness, resources or motivation to make ‘good decisions’ (as determined by government actors) or behave in accordance with their obligations. Yet, there were significant differences amongst the examples as to how collective, coordinated action involving government and non-government actors was understood or presumed to be effective to address this problem. Key differences identified were: whether the mechanism was focused on individual or collective decision-making by those who were at-risk, and whether or not the parties at-risk were involved only as the targets of government-led initiatives or as active participants in either deciding what the outcome of an initiative should be (goal-setting) or how it should be implemented (process design).

This suggests that the framing of both the underlying problem and of the type of collective action required to address the problem are important for shaping efforts to share responsibility. While the framing of the underlying problem is critical, it does not necessarily determine how collective action to share responsibility will be viewed. A second level of solution – and more particularly collective action – framing is therefore also important for shaping what type of mechanisms are deemed to be most appropriate.

The importance of this two-step framing is highlighted by a limited number of authors who write about policy and collective action framing. Examples are Benford and Snow (2000) and Coburn (2006). For example, Coburn (2006) emphasises that the influence of diagnostic frames is on “defining problems and attributing blame” (p. 347) while prognostic frames shape the process of “articulating a proposed solution to the problem” (Coburn 2006, p. 347). This two-step diagnostic and prognostic framing is significant in the context of the Shared Responsibility discourse in Australia. The disaster policy discourse contains a first, partial diagnosis about “what is wrong” in Australian disaster management: the level of disaster resilience in Australian communities is not sufficient in the face of modern risk conditions. It also contains a second diagnosis: that government and non-government actors do not currently share responsibility in a way that is effective for building disaster resilience. The language of Shared Responsibility is therefore used to present a normative vision of achieving more effective responsibility-sharing through government – non-government collective action. The discourse thus contains a clear call to action to disaster management stakeholders to get in and “do” Shared Responsibility. However, it does not contain any clear guidance on what actually needs to be done – how collective action between government and non-government actors need to be changed – in order to go about the “doing” of Shared

Responsibility. Thus it has left stakeholders without a prescription for “how” to share responsibility.

The lack of a clear prescription for how to share responsibility in high level policy agenda statements like the NSDR, however, is in many respects quite appropriate. Collective action between government and non-government actors to build disaster resilience will occur at a wide range of levels, and will take different forms (see also following section). This is a part of the wicked nature of Shared Responsibility. Thus, it is not appropriate to have a national level blue print to prescribe how this collective action should take place. As Stirling (2008) shows, “unitary and prescriptive” policy advice that highlights “a single course or a very small subset of possible courses of action” (p. 279) can “close down” “wider policy discourses” (p. 278) and “seriously downplay the scope for legitimately divergent interpretation” (p. 279) (see also Ockwell 2008; Palmer 2011).

Yet a failure to have processes in place to develop prescriptions to guide collective action supported by the stakeholders involved is a problem. Without some form of guidance to make decisions about responsibility-sharing at the levels where collective action occurs, there is a serious danger that stakeholders will frame solutions in line with existing views, procedures, practices and training, rather than embrace new approaches that are more effective for building resilience to disasters. Further, when the stakeholders engaged in collective action – including government and non-government actors – have very divergent ways of framing how this action can and should occur, it can lead to miscommunication, and conflict about responsibilities. What is needed, therefore, are governance frameworks that provide guidance and structure to stakeholders to collectively frame prescriptions for how to engage in collective action to share responsibility ‘on the ground’ at the levels where this collective action happens.

A many-headed beast and an emergent property

While Shared Responsibility is a singular, overarching vision in Australian disaster policy discourse, when it comes to sharing responsibility in practice at the level of policy implementation stakeholders actually face a multitude of diverse yet overlapping and interacting challenges. For this reason, it is in some respects something of a misnomer to speak of Shared Responsibility as a single problem – whether wicked in nature or no. It is more accurate to recognise the Shared Responsibility vision as being a ‘many-headed beast’ comprised of many overlapping but diverse challenges that will need to be addressed using many overlapping but diverse responses. Because of this, at the implementation level the Shared Responsibility vision is better thought of as an emergent property of a complex disaster management system rather than as a single, knowable and predictable outcome of management interventions and activities.

The many different types of responsibility-sharing challenges that exist in Australian disaster management were most evident in our analysis of responsibility-sharing challenges reflected in public submission to the VBRC in the Stage 4 case study (section 6). Using the multiple research theories identified in Stage 1 (section 3) to identify and explain these challenges revealed a more complete and multi-layered picture than would be possible using a single conceptual framework. Importantly, the responsibility-sharing challenges identified were far more diverse than is widely recognised in disaster management discourse. We found that no

single explanation from research of “what the problem “really” is” was sufficient to understand the challenges reflected in the submissions. Instead, the challenges faced varied across organisational and social scales as well as across types of disaster management goals and activities. So, for example, the underlying challenges revealed for risk mitigation at the local level through fuel and roadway management were not the same as for state-level coordinate and collaboration for emergency communication, resource allocation and land use planning. However, both these levels and areas of activity are important for realising the vision of Shared Responsibility in disaster management more broadly.

In this way, Shared Responsibility is a many-headed beast much like the fabled Hydra from Greek mythology. The Hydra could not be killed with a sword because when one head was cut off, two grew in its place. This is an apt analogy for the wicked nature of Shared Responsibility in disaster management. As Rittel and Webber explain, “with wicked problems, any solution, after being implemented, will generate waves of consequences ... Moreover, the next day’s consequences of the solution may yield utterly undesirable repercussions which outweigh the intended advantages (p. 163). Because of this, wicked problems have no clear exit point (O’Brien *et al.* 2010, p. 501): “no ‘stopping rule’, i.e. no definitive solution” (Head 2008). Given that the pursuit of Shared Responsibility involves addressing many diverse challenges that rear up in many different parts of the disaster management system, it is unlikely that a clear exit point – a point at which the problem of Shared Responsibility can be said to have been definitively solved – will ever be reached.

This open-endedness is exacerbated by the interconnected nature of the responsibility-sharing challenges identified in the public submissions. For example, people’s assessments of specific legal and regulatory standards as having imposed inappropriate and risk-creating obligations on property owners was one specific type of responsibility-sharing challenge that was raised. Yet this challenge often also reflected people’s discontent with the balance of rights and responsibilities between governments and citizens: a second and much broader type of responsibility-sharing challenge.

Thus, challenges in different parts of the system feed into challenges in other parts and at other levels. It is for this reason that Shared Responsibility is best thought of as an emergent property of a complex disaster management system. Emergent properties are large-scale patterns within complex systems that are the result of myriad little interactions. Emergent properties cannot be reduced to their component parts, because this reduction removes the important interactions between the parts that make up the property (e.g. Haimes *et al.* 2008; Larsson *et al.* 2010). Thus emergent properties are often described with the phrase: “the whole is larger than the sum of the parts”.

Significantly, emergent properties are also difficult to predict. What they look like cannot be easily determined before they emerge. This suggests that attempts to definitively map out what Shared Responsibility in Australian disaster management ought to look like may be misguided. This is a challenging notion for a sector in which stakeholders are arguably more familiar and comfortable with the setting of clear standards, protocols and procedures. While standards and procedures for responsibility-sharing may assist with addressing particular responsibility-sharing challenges, such as improving coordination and communication between emergency services agencies, they are not an overarching solution for resolving the problem of Shared Responsibility.

9.2.2 How do we do it?

Talk about rights with responsibilities

The absence of a rights discourse in Australian disaster management arguably has the potential to seriously undermine the legitimacy of a new disaster resilience social contract. A clear implication of this is that a legitimate, new social contract is unlikely to be advanced in Australia without a corresponding rights discourse alongside the discourse on citizen (e.g. 'community') responsibility. An international example of such a rights-based discourse in relation to disaster risk is the statement on 'Ethical Principles on Disaster Risk Reduction and People's Resilience' released in 2012 by the Council of Europe under its European and Mediterranean Major Hazards Agreement (EUR-OPA) (Prieur 2012).

While instigating a public (rather than a government policy) discourse on disaster rights in Australia would be difficult, it is not without domestic precedent. Two examples are the community consultation processes that preceded the establishment of the ACT Human Rights Act and the Victorian Charter of Human Rights and Responsibilities (Williams 2006). Furthermore, while there is arguably a tendency amongst government agencies to assume that citizens want only rights for themselves and responsibilities for government, there is much evidence in research on citizenship, risk and responsibility to suggest otherwise. For example, Bickerstaff (2008) found that citizen ambivalence towards personal responsibility shown across a range of environmental and technological risks in the UK was associated with "tensions in the relationship between citizens and the state and to associated doubts that institutional actors would (or could) fulfil their role-responsibilities" (p. 1326). The authors concluded that "individuals may more readily engage with risk issues as 'active citizens' if institutions themselves can demonstrate a capacity to operate responsibly" (p. 1328). They therefore emphasized the need "to extend current institutional commitments to transparency by developing institutional mechanisms and practices that make the workings of political agency more visible and demonstrate to citizens governmental accountability in the management of risk" (p. 1328) as an important mechanism for mobilising citizen responsibility. Closer to home, Williams (2006) reported that:

One of the many ways that community views had a direct impact upon the Victorian Charter of Rights was the inclusion of the term 'responsibilities' in its title. For many people, responsibilities were a more powerful way of addressing community problems than what they perceived to be more individualistic conceptions of human rights. For example, some argued in favour of both a right to vote and a responsibility to cast a vote as recognised in Australia's system of compulsory voting. ***People across the community spoke positively about the idea of a document that recognised, even in symbolic terms, the interrelated nature of their human rights and responsibilities.*** The Victorian Charter of Rights, so far as I am aware, is the first such instrument in the world that includes a direct reference to responsibilities in its title (p. 892, emphasis added).

This counters the influential view in political and social thinking, noted by Sevenhuijsen (2000), that rights discourse encourages passive citizens. By contrast, it suggests that

taking “obligations as a corollary of rights” rather than as “a starting point” can activate citizen engagement in and responsibility for disaster management.

Develop more inclusive governance frameworks

At the level of policy agenda-setting, there is a need in Australian disaster management for governance frameworks that provide guidance and structure to stakeholders to collectively frame prescriptions for how to engage in collective action to share responsibility ‘on the ground’ at the levels where this collective action happens. As Tierney (2012) highlights:

Complex social problems, such as those associated with the environment, climate change, hazards, and disasters, do not fit neatly within the purview of individual organizations and institutions. Governance through networks of collaborating and diverse entities provides a means of addressing these problems because networks are flexible, adaptable, and capable of mobilizing diverse resources (p. 343).

Disaster and risk governance therefore occurs through frameworks that involve “a set of structural arrangements and processes through which coordinated decision making and action take place” (Tierney 2012, p. 343) amongst networks of stakeholders (Renn 2008b; van Asselt and Renn 2011; Kapucu 2012). Importantly, disaster governance processes largely take place outside of the urgency of immediate response to disaster events and their aftermath.

Governance arrangements for Australian disaster management already include many such networks of collaboration, ranging from more to less formal. Examples include AFAC and the more recently established Trusted Information Sharing Network (TISN) for Critical Infrastructure Resilience. However, none of the existing arrangements and networks, or the existing governance frameworks more broadly, have yet enabled coordinated decision making that supports stakeholders to develop prescriptions for how to share responsibility at appropriate levels: or more descriptively stated, for how to engage government and non-government actors in collective action to more effectively build resilience to disasters.

This was demonstrated in the stakeholder workshops conducted in Melbourne and Sydney as part of the *Sharing Responsibility* project (sections 7 and 8). Not only were the workshops quickly oversubscribed by stakeholders seeking avenues to collectively discuss and confront the challenges of Shared Responsibility, but comments from speakers and attendees at the workshops further stressed the need for additional forums for collective reflection and decision-making regarding responsibility-sharing. Wendy Graham, Director of Resilience & Planning at MPES NSW, for example, highlighted that building disaster resilience is about relationships, culture change and behaviour change. She stated that the way to do this is through conversations. In response to a suggestion that this type of (multi-stakeholder workshop) event is a talkfest she answered: No, this is about process. We have to have these conversations at all levels.

These stakeholder workshops differed from other disaster management stakeholder network opportunities because they explicitly included both government and non-government actors. Very few existing stakeholder network forums bring together representatives of all the parties

involved in sharing responsibility, and in particular, very few include a significant contribution from NGOs and civil society. The networked and collaborative governance arrangements laid out in the Victorian Government's *emergency management reform white paper*, for example, which aim in part to "clarify roles, responsibilities and accountabilities" notably refer only to governmental actors and networks (Victorian Government 2012). This is despite its stated intention to work within the context of the NSDR that "considers disaster resilience the collective responsibility of all social sectors" (p. 4) and its own claims that the new governance arrangements will "adopt the principles of community resilience and community participation, and provide the Victorian public with a key role in emergency management arrangements" (p. 16).

Yet the vision laid out in the NSDR implicitly but firmly supports the view that governance frameworks inclusive of non-government actors need to be developed. As has already been noted, it opposes any significant increase in government's direct imposition on citizens' choices through new legislation or regulation. Rather, it argues that increased partnership and interaction between government and nongovernment actors is needed. This reflects the thinking behind inclusive disaster and risk governance that is increasingly supported in academic discourses on risk and disaster (e.g. De Marchi 2003; Chilvers 2007; Stirling 2008; Renn and Schweizer 2009; Palmer 2011). In the context of wildfire management, Aguilar and Montiel (2011) describe inclusive governance as explicitly including broader social participation throughout the whole policy process – from agenda setting through to implementation and evaluation. Renn and Schweizer (2009) elaborate further on the need for inclusive risk governance, arguing that:

Inclusive governance is based on the assumption that all stakeholders have something to contribute to the process of risk governance and that mutual communication and exchange of ideas, assessments and **evaluations improve the final decisions rather than impeding the decision-making process** or compromising the quality of scientific input and the legitimacy of legal requirements ... As the term governance implies, collectively binding decisions cannot be confined to governments. Rather it involves the four central actors in modern plural societies: governments, economic players, scientists and civil society organizations (p. 175, emphasis added).

These same authors outline a number of key components of inclusive risk governance that are worth citing in full. They argue that inclusive risk governance requires clear attempts to:

- involve representatives of all relevant actor groups (if appropriate),
- empower all actors to participate actively and constructively in the discourse,
- **co-design the framing of the (risk) problem or the issue in a dialogue with these different groups,**
- **generate a common understanding about the framing of the problem, potential solutions and their likely consequences (based on the expertise of all participants),**
- conduct a forum for decision making that provides equal and fair opportunities for all parties to voice their opinion and to express their preferences and

- establish a connection between the participatory bodies of decision making and the political implementation level (p. 175, emphasis added).

While emergency service agencies and other government actors in Australian disaster management are increasingly aware of the need to engage more actively with NGOs and civil society/communities at various stages in the disaster management cycle, it needs to be said that inclusive governance is not community engagement by another name. Community engagement is undertaken at the level of implementation and, with few exceptions (e.g. see Elsworth *et al.* 2010), does not commonly involve non-government actors as active participants in all of the components listed above. Community engagement is more commonly a part of implementing a solution to a problem as it is framed by a governmental agency or network. Indeed, non-government actors are seldom involved in problem or solution (e.g. diagnostic or prescriptive, see Coburn 2006) framing in Australian disaster management in significant or influential ways. Yet, as experiences in the stakeholder workshops revealed, active involvement of non-government actors in discussions about Shared Responsibility reveals aspects of the problem that would otherwise remain out of view (McLennan and Handmer 2013).

Inclusive governance frameworks for making decisions about Shared Responsibility would therefore involve far more opportunities to bring together government and non-government stakeholders to co-design the framing of the Shared Responsibility problem and to collectively influence decision-making through all stages of the policy-making cycle, from agenda setting right through to implementation and evaluation. Significantly, developing more inclusive governance frameworks also has potential to provide a forum for ‘talking about rights with responsibilities’ in relation to disaster risk and thus to facilitate negotiation of a more socially legitimate ‘disaster resilience social contract’.

Inclusive governance frameworks are not, however, a magic bullet for addressing the challenges of Shared Responsibility. Disaster governance is shaped by the particular social, institutional and political contexts in which it takes place (Tierney 2012), which may or may not enable and support inclusive forms. Furthermore, inclusive governance presents some significant challenges to current government arrangements and practices. For one, there is an underlying assumption inherent in inclusive governance: “that governments today cannot remain as firmly in control of policy processes as in the past and, at the same time, take a more ‘enabling’ role” (Edwards 2002, p. 58). A similar point was clearly made by government speakers at the Melbourne stakeholder workshop (section 7 and McLennan and Handmer 2013). Because of this, inclusive governance presents significant responsibility-sharing challenges of its own, most notably to existing structures and procedures for government accountability (Edwards 2002; Levidow 2007; Walker *et al.* 2013). Again, these accountability challenges were clearly identified in the two stakeholder workshops conducted under the *Sharing Responsibility* project. Notably, both these challenges – to government control and government accountability – were clearly positioned by government speakers at the workshops as issues to be wrestled with rather than as insurmountable barriers to sharing responsibility.

Thus, despite the challenges, there is implicit but firm support for more inclusive governance frameworks in Australian disaster management within the NSDR and amongst disaster management stakeholders. There is also a growing precedent for such a development in the

context of natural hazards, and an increasing research base to support stakeholders to develop more inclusive disaster governance frameworks through which to share responsibly for building disaster resilience more effectively and legitimately (e.g. Brummel *et al.* 2010; Aguilar and Montiel 2011; Boholm *et al.* 2011; Walker *et al.* 2013; Daniell *et al.* In Press). However, there is as yet no clear policy agenda for, nor significant movement towards actually putting such frameworks into place.

Engage in frame reflective practice

At the more specific level of implementing particular policies and programs, a third important vehicle for sharing responsibility in practice is for stakeholders to embrace and engage in frame reflective practice (see also Bosomworth 2012; Bosomworth *et al.* 2013).

As explained in section 2.3, being frame reflective involves the people, groups and organisations that are engaged in the policy-making process acknowledging and identifying the different perspectives that exist, and purposefully querying the implications of the way they—and other stakeholders—frame problems.⁵ Frame reflection is important for addressing wicked problems like Shared Responsibility. When Rittel and Webber (1973) first coined the term, for example, they emphasised that addressing wicked problems requires “an argumentative process in the course of which an image of the problem and of the solution emerges gradually among the participants, as a product of incessant judgment, subjected to critical argument” (p. 162). Similarly, Head (2008; see also Head and Alford 2013) highlights that these problems require “deliberation and debate concerning the nature of the issues and exploring alternative ways forward” and “recognition of perspectives and values that ‘frame’ the definition of problems” (p. 102). In the context of disaster management, O’Brien *et al.* (2010) refer to the need for frame-reflective processes of this kind to enable learning focused on “doing it differently” rather than on more incremental learning focused on “doing it [the same thing] better” (p. 499).

In order for inclusive governance to occur, there needs to be awareness amongst the stakeholders involved – governmental and non-governmental – that diverse ways of framing problems exist. More than this, there also needs to be greater recognition that engaging with diverse and even conflicting perspectives improves decision-making rather than impeding it. One notable example of where this process is shown to be effective in risk management is within High Reliability Organisations (HROs) (Lofquist 2010). HROs are organisations that manage very high stakes and complex risks such as air traffic control and nuclear power plants without failures occurring in the risk management system. One important characteristic of HROs that enables this is deliberation amongst multiple divisions within the organisation that have overlapping safety responsibilities but also very different – and

⁵ See also the related concepts of “reflective equilibrium”, Cotton, M (2009) Ethical assessment in radioactive waste management: a proposed reflective equilibrium-based deliberative approach. *Journal of Risk Research* **12**, 603 - 618., “transformative” or “social” learning, Brummel, RF, Nelson, KC, Souter, SG, Jakes, PJ, Williams, DR (2010) Social learning in a policy-mandated collaboration: community wildfire protection planning in the eastern United States. *Journal of Environmental Planning and Management* **53**, 681-699, Bosomworth, KA (2012) Adaptive governance in fire management: Exploring the role of bureaucrats in reflexive learning. PhD thesis, RMIT University., and “triple loop learning” Bos, JJ, Brown, RR, Farrelly, MA (2013) A design framework for creating social learning situations. *Global Environmental Change*.

potentially conflicting – goals, priorities, procedures, knowledge, and even cultures in relation to the risks. The interaction between these divisions and their multiple perspectives on risk management problems helps HROs to identify and address emerging risks before they are realised, to question the current management practices, and to foster greater learning and innovation within the organisation.

A first important step towards fostering greater frame reflection is for stakeholders to articulate the causal stories they tell about “what is wrong and what needs fixing” with Shared Responsibility more clearly and with more specificity. The abstract and simplified language used to talk about Shared Responsibility in Australian disaster management needs to be pulled apart. While disaster management stakeholders may use the same generic language of Shared Responsibility to talk about practices that need to be changed, they are often talking about very different types of challenges, and are unknowingly framing these challenges in very different ways. Articulating and specifying causal stories more clearly enables stakeholders to be aware of framing differences as a first step towards reflecting on their implications. This could be as simple as providing short answers to basic questions about the scope of the responsibility-sharing challenges and processes they envision:

- **Sharing responsibility for what?** – E.g. reducing risk? Mitigating hazards? Building resilience? Reducing vulnerability? Protecting life? Making informed risk choices?
- **Sharing responsibility between which parties at what levels?** – E.g. emergency service agencies and communities? Property holders and local government? Public and private sectors? Levels of government or jurisdictions?
- **Sharing responsibility on what grounds?** – E.g. Legal or moral obligations? Social expectations? Capacity to act? Freedom of choice? Distributional equity?
- **Sharing responsibility under what conditions and limitations?** – E.g. before, during or after an event? For what type or severity of hazard? Within what legal and institutional structures? Under what socioeconomic constraints? With what degree of certainty or uncertainty? In what kinds of natural landscapes?

To this end, a simple framing device is currently being developed in conjunction with the Bushfire CRC’s research utilisation manager as an emerging output of the *Sharing Responsibility* project to assist stakeholders to articulate or ‘map out’ their causal stories.

As Hander and Dovers (2007) have pointed out, it is “difficult to step outside dominant institutions or disciplinary ways of thinking” (p. 83) to see problems in new ways (see also Bosomworth *et al.* 2013). In Australian disaster management, there are also external and internal pressures on government stakeholders in particular that work against their engagement in frame reflective practice. The high stakes involved and high degree of public scrutiny, for example, particularly through adversarial and accusatory post-event inquiry processes, challenge the development of a culture of frame-reflection. In response to such pressures, emergency service agencies are arguably more likely to emphasise the delivery of authoritative statements, and to defend existing agency positions from countering views, than to engage actively with divergent views to collectively reframe the problems associated with Shared Responsibility. Yet, at the same time it appears there is also greater openness amongst governmental disaster management stakeholders to rethinking and reframing core problems currently than there has been for some time. This was clearly evident in the discussions at the two stakeholder workshops. It may be that, despite the challenges, if ever

there was a time in Australian disaster management to foster a culture and practice of frame reflection it is now: and if ever there was a vision to focus such a shift, it is Shared Responsibility.

9.3 Project contributions to Australian disaster research

It is important to acknowledge that approaches in Australian disaster research have evolved in response to the problems being grappled with in this sector at different times, and in response to the expanding knowledge base. In the context of bushfire, for example, earlier research focused on understanding physical aspects of bushfire and responses to it (Pyne 2007). Since the 1990s, however, recognition of the importance of understanding social and human dimensions of bushfire has increased, particularly with respect to designing community safety programs. Thus, there has been a corresponding growth in social research in this field (Beilin and McLennan 2012). The issues the sector is grappling with in more recent years have continued to shift, calling for new ways of doing disaster research and new kinds of questions to be asked.

Of the contributions made by the *Sharing Responsibility* project to new and emerging ways of thinking and knowledge in Australian disaster research, two are most significant. First, the research asked a new and fundamentally important kind of question, and adopted a new kind of approach to answer it. Second, it contributed to opening up Australian disaster research to a wider and more political focus on disaster governance.

Disaster management is by nature an action-oriented industry that is focused on ‘getting the job done’ under difficult and urgent conditions, with high stakes and in the face of intense public scrutiny. It is no surprise then that most research that aims to support the sector is **solution** or **implementation oriented** research that focuses on ways to support, enhance or improve practice. Consequently, it is far less common for industry-engaged research to explore the ideas, concepts, assumptions and values that ultimately underpin and shape this practice. This less common type of research approach is best described as **problem construction oriented** research and it is the type of approach adopted in the *Sharing Responsibility* project.

While solution oriented research remains an important focus in disaster research, there is a need for greater research attention on the construction of research, policy and management problems in this field. Stakeholders regularly wrestle with the recognition and definition of problems at levels of programs up to policy strategy. This is particularly so now, as emergency service agencies and their industry bodies and networks actively grapple with making sense of, and responding to, major disaster events and the public inquiries that have followed them. Yet very little research is tailored to examining, critiquing, and supporting this kind of reflection and reframing.

Research that asks and answers questions about the construction, framing – or “manner and form” – of policy and management problems supports a deeper kind of learning than solution oriented research. Known variably as “reflexive”, “social”, “transformative” or “triple loop” learning, at its core lies the intent of frame reflection and change (Bosomworth 2012). This is the type of learning that O’Brien et al (2010) described as focused on “doing it differently”

rather than on “doing it [the same thing] better” (p. 499). Thus it can be contrasted to instrumental or everyday learning that contributes to incremental change and adaptation of existing policies and programs (Williams 2008). The approach taken in the *Sharing Responsibility* project has contributed to asking and answering questions about the construction of the Shared Responsibility problem that supports this deeper, reflective form of learning.

The second significant contribution of the *Sharing Responsibility* project to Australian disaster research is to open up a wider and more political focus on disaster governance. As described in section 2.1.3, governance thinking and perspectives in relation to resilience, disasters and risk is emerging as a core and fundamental theme in international disaster and risk research (De Marchi 2003; Renn 2008b; Tierney 2012) but it has not yet become a strong focus in Australia.

In line with a primarily solution orientation, disaster research in Australia has rather remained primarily focused on the narrower area of disaster management by government actors. While much community-based research has been conducted, it has nonetheless focused primarily on generating knowledge to inform and improve *government-directed* programs and activities. By contrast, disaster governance research is not confined to examining and supporting the activity of government actors but explicitly encompasses the activities of non-government actors and the interactions and relationships between these groups. As outlined earlier, the changing nature of relationships between government and citizens in the face of risk and of dynamic and complex social, economic, environmental, political and technological conditions is a fundamental challenge faced by modern democratic political systems. Yet Australian disaster research has had relatively little engagement with theories and analyses of these broader trends. The *Sharing Responsibility* project has taken a significant step towards filling this gap. In doing so, it has brought the fundamental issues of State-citizen relationships (the social contract) and the legitimacy of governance processes – as opposed to government processes – squarely into view.

10 Appendices

10.1 Project outputs

Note: Links to downloadable versions of most of this material can be found at <http://www.bushfirecrc.com/projects/1-3/sharing-responsibility-component-mainstreaming-fire-and-emergency-management-across-pol>

Research reports

- McLennan, B., & Handmer, J. (2011). *Framing the challenges for sharing responsibility*. Centre for Risk and Community Safety, RMIT University & Bushfire CRC. Melbourne, Australia.
- McLennan, B., & Handmer, J. (2011). *Mechanisms to share responsibility in risk management*. Centre for Risk and Community Safety, RMIT University & Bushfire CRC. Melbourne, Australia.
- McLennan, B. J., Bosomworth, K., Keating, A., Kruger, T., & Towers, B. (2012). *Visions of sharing responsibility for disaster resilience: account of a multi-stakeholder workshop*. RMIT University, Bushfire CRC, National Climate Change Adaptation Research Facility (NCCARF).
- McLennan, B. J., & Handmer, J. (2012). *Windows on responsibility-sharing challenges: a multi-theory analysis of public submissions to the 2009 Victorian Bushfires Royal Commission*. Melbourne: RMIT University & Bushfire Cooperative Research Centre.
- McLennan, B., Austin, E., Hearne, J., Henry, S., Rance, A., & Travers, A. (2013). *Sharing responsibility for implementing the National Strategy for Disaster Resilience: account of a multi-stakeholder workshop*. Melbourne: RMIT University, Bushfire CRC, NSW OEH, NCCARF-EM, ACCARNSI.
- McLennan, B., & Handmer, J. (2013). *Sharing responsibility in Australian disaster management*. Melbourne: Centre for Risk and Community Safety, RMIT University & Bushfire CRC. Melbourne, Australia.

Peer reviewed journal articles

- McLennan, B. J., & Handmer, J. (2012). Reframing responsibility-sharing for bushfire risk management in Australia after Black Saturday. *Environmental Hazards*, 11(1), 1-15.
 - **Abstract:** In the context of risk, the concept of responsibility incorporates the notion that certain parties have a prospective obligation to undertake actions to manage risk. However, differences in judgements about which parties are responsible for which aspects of risk management often lead to social conflict. This paper uses the heuristic of a 'responsibility continuum for risk management' to highlight how judgements of the obligations of different parties to manage risk are underpinned by particular ways of framing responsibility-sharing. It then uses the heuristic to examine the case of a Royal Commission enquiry into Australia's deadliest bushfire (wildfire) event, known as Black Saturday. It argues that the Royal Commission reframed

responsibility-sharing away from an emphasis on the self-reliance of at-risk communities towards a greater degree of responsibility for government emergency management agencies. This is particularly the case when fire conditions are extreme and where vulnerable people are at risk. This position runs counter to an international trend in policy towards placing greater responsibility for risk management on at-risk communities. However, the Commission's analysis is strong for the distribution of responsibility across government and between government and communities, but is weaker across the government-private sector interface and where the factors underlying vulnerability are concerned.

- McLennan, B. J., & Handmer, J. (2012). Changing the rules of the game: Mechanisms that shape responsibility-sharing from beyond Australian fire and emergency management. *Australian Journal of Emergency Management*, 27(2), 7-13.
 - **Abstract:** In this paper, we look beyond Australian fire and emergency management to compare ways that responsibility-sharing – broadly conceived – has occurred in other places and sectors where risks to community safety are faced. Responsibility-sharing occurs any time there is collective action, and formal and informal institutions provide the “rules of the game” that prescribe how responsibility should be shared amongst the parties involved. We reviewed a broad sample of risk research literature in order to examine by what mechanisms responsibility-sharing institutions have been shaped in other places and sectors where risks to community safety are faced. Our review revealed more alternatives for shaping responsibility-sharing institutions than are widely considered by policy and decision makers in Australian fire and emergency management. It therefore raises an important question about why certain mechanisms are chosen, prioritised, overlooked or resisted in this sector. As food for thought, an alternative way of conceiving and pursuing Shared Responsibility is discussed.

- McLennan, B., & Eburn, M. (In-press). Exposing hidden value trade-offs; sharing wildfire management responsibility between government and citizens. *International Journal of Wildland Fire*.
 - **Abstract:** Developing resilient communities and sharing responsibility for emergency and hazard management is the key to Australia’s ‘National Strategy for Disaster Resilience’. However, a wide range of conflicting assessments of the responsibilities of governments (such as fire authorities, local government, and land management agencies) and citizens or communities (including households, landholders) exist, which is not well-recognised in the national policy discourse. What the ideas of resilient communities and shared responsibility mean for wildfire management, and how these ideas might shape wildfire safety thinking and practice, is therefore unclear and contested. This paper presents a conceptual framework that makes explicit some of the necessary but often hidden trade-offs between competing political values that are implicit in assessments of where responsibility for wildfire management

lies, and how it should be shared. After describing different ways that responsibility is attributed and legitimated through legal and governance systems, it compares and contrasts potential legal and governance implications of four hypothetical scenarios for wildfire management responsibility, each of which portrays a contrasting set of extreme value trade-offs. The underlying purpose of the exercise is to encourage stakeholders to draw on the frameworks to explicitly acknowledge and debate the value trade-offs that are necessary, but most often unacknowledged, in more moderate decision-making about how to share responsibility between governments and citizens in the management of risks such as wildfire..

- McLennan, B.J. Weir, J. Eburn, M. Handmer, J.H, Dovers, S., Norman, B. (Forthcoming). Negotiating risk and responsibility through law, policy and planning. *In preparation for Australian Journal of Emergency Management.*

Conference and discussion papers (* indicates peer reviewed)

- McLennan, B., & Handmer, J. (2011). *Reviewing research for policy-making: A discussion paper for the Australian fire and emergency management industry.* RMIT University & the Bushfire Cooperative Research Centre. Melbourne.
- McLennan, B. J., & Handmer, J. (2011). *Framing responsibility-sharing for risk management and community safety.* Paper presented at the AFAC and Bushfire CRC Conference, 29 Aug-1 Sep (Sydney, NSW).
- McLennan, B. J., & Handmer, J. H. (2012). From risk to resilience? Reframing Shared Responsibility in Australian disaster policy [extended abstract]. In R.L. Fox (ed.), *Proceedings of the 3rd Human Dimensions of Wildland Fire Conference, 17-19 April 2012, Seattle, WA.* International Association of Wildland Fire. (CD-ROM) (Missoula, MT): 71-74
- * McLennan, B.J. and Handmer, J.H. (2013). Visions of sharing responsibility for disaster resilience: sharing control. In R.P. Thornton & L.J. Wright (eds.), *Proceedings of Bushfire CRC & AFAC 2012 Conference Research Forum.* Perth, WA, Bushfire CRC: 13-25.

Presentations

- Handmer, J. & McLennan, B. (2010). *Sharing risk, responsibility and blame.* Presentation to the Bushfire CRC - Community Projects Research Workshop, 29th-30th July. (Adelaide, SA)
- McLennan, B. & Handmer, J. (2010). *Sharing responsibility - A project of the Bushfire CRC.* Presentation to the Bushfire CRC Research Advisory Forum, 25th November. (Adelaide, SA).
- McLennan, B. & Handmer, J. (2011). *Sharing responsibility.* Presentation to the AFAC Community Education Subgroup, 17th March. (Melbourne, VIC)
- McLennan, B. & Handmer, J. (2011). *Sharing responsibility- Feedback.* Presentation to the AFAC Community Safety Group, 14th April. (Launceston, TAS)

- McLennan, B. J. & Handmer, J. (2011). *Framing responsibility-sharing for risk management and community safety*. Paper presented at the AFAC and Bushfire CRC Conference, 29 Aug-1 Sep (Sydney, NSW).
- McLennan, B. J. (2011). *What's the problem with sharing responsibility?* Presentation at the CFA Community Safety Professional Development Day, 22nd September (Burwood, Vic).
- McLennan, B. & Handmer, J. (2011). *Sharing Responsibility - A project of the Bushfire CRC*. Presentation to the Bushfire CRC Research Advisory Forum, 25th October. (Canberra, ACT).
- McLennan, B. J. (2011). *Formal institutions and social capital in community bushfire safety: a missing research agenda?* Presentation at TASA, the Australian Sociological Association Annual Conference, 29th Nov-1st Dec. (Newcastle, NSW).
- McLennan, B. & Handmer, J. (2012). *From risk to resilience? Reframing Shared Responsibility in Australian disaster policy*. Presentation at the 3rd Annual Human Dimension Conference of the International Association of Wildland Fire, 17-19 April. (Seattle, USA) (Note: Extended abstract also accepted for the conference proceedings)
- McLennan, B. (2012). *To tame or tackle the many headed beast? Back to 'Shared Responsibility' in the Royal Commission*. Presentation at the Bushfire Social Researchers Network seminar series, RMIT University, 15 August 2012.
- McLennan, B. & Handmer, J. (2012). *Visions of sharing responsibility for disaster resilience: sharing control*. Paper presented at the AFAC/BCRC Annual Conference Research Day, 28 August, 2012.
- Handmer, J.W. and McLennan, B.J. (2012). *Making and unmaking human security: the limits of state power in reducing risk and creating resilience*. Paper presented at the Third International Disaster and Risk Conference IDRC Davos, 29 August 2012. Davos, Switzerland.
- McLennan, B.J. (2012). *The Sharing Responsibility project... so far*. Presentation to the Bushfire CRC Research Advisory Forum, 23rd October, Sydney, NSW
- McLennan, B.J. (2012) *Is 'disaster resilience' a new paradigm for Australian disaster management?* Invited guest lecture to postgraduate class on Disaster and Emergency Management. 13th November, Royal Rhodes University, B.C., Canada [via Skype].
- McLennan, B.J. (2012). *Sharing responsibility for a disaster resilient Australia: what, why and how?* Presentation at the Australian Academy of Technological Sciences and Engineering (ATSE) Parliamentary Science Briefing. Victorian Parliament, 29th November 2012, Melbourne, VIC.
- McLennan, B.J. (2012). *Resilience matters in disaster management*. Presentation to the RMIT Human Security and Disasters: A dialogue conference Resilience matters in disaster management. 13th-14th December, 2012, Canberra, ACT.
- McLennan, B.J. (2013). *Shared Responsibility*. Paper presented at a Special Planning Workshop on Urban Risk and Bushfire at the Planning Institute of Australia (PIA) Annual Congress, 26th March, 2013

- McLennan, B.J. (2013). *On Shared Responsibility*. Presentation to the 'Regenerating people, place, prosperity, preparedness' Conference organized by the Kinglake community resilience committee. 5th May 2013, Kinglake Community Centre, VIC.
- Handmer, J.W. (2013) *On Political Leadership*. Presentation to the 'Regenerating people, place, prosperity, preparedness' Conference organized by the Kinglake community resilience committee. 5th May 2013, Kinglake Community Centre, VIC.
- McLennan, B.J. & Handmer J.W. (2013). *Sharing Responsibility - perspectives & myths*. Presentation to the Bushfire CRC Research Advisory Forum, 14th May, Perth, WA.
- McLennan, B.J. (2013). *'Shared responsibility' in disaster management policy*. Presentation to 'Exploring New Frontiers: Risk-based Land-use Planning'. A workshop of the Australian Emergency Management Institute. 13th June Mount Macedon, Victoria [participation by invitation only].

Posters and communication material

- McLennan, B. & Handmer, J. (2010). Sharing Responsibility project statement.
- McLennan, B. & Handmer, J. (2010). *Moving beyond the blame game: sharing risk and responsibility*. Poster presented at the annual conference of the AFAC/ Bushfire CRC conference. (Darwin, NT).
- McLennan, B. & Handmer, J. (2011). *Annual Report: Year 1 of the Sharing Responsibility project*. RMIT University & Bushfire CRC.
- McLennan, B., & Handmer, J. (2011). *What is the problem with sharing responsibility?* Poster presented at the annual conference of the AFAC/ Bushfire CRC conference, 29 Aug-1 Sep. (Sydney, NSW).
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