

# Natural disasters and community resilience

## A framework for support

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This paper explores the concept of *community resilience* and outlines some of the recent frameworks and tools that have been developed to understand and measure it. It is likely to be most useful to service providers, practitioners and policy-makers engaged with regional and rural communities that are vulnerable to, or working to recover from the effects of, natural disasters such as floods, storms or bushfires.

### KEY MESSAGES

- Although the concept of community resilience is used regularly in both political and public discourse, it is a concept that can be difficult for service providers, practitioners and policy-makers to translate into concrete actions and policies.
- A number of frameworks and tools have been developed to understand and measure community resilience, and these can help strengthen those practices and policies that will best promote resilience in specific communities.
- As communities are complex and dynamic social structures, levels of community resilience are not static. It is important that those utilising the concept of community resilience make efforts to regularly measure it.
- The first step towards enhancing the resilience of a community involves understanding the community's strengths and vulnerabilities, as well as its *physical characteristics* (e.g., local infrastructure), *procedural characteristics* (e.g., disaster policies and plans) and *social characteristics* (e.g., level of community cohesion).
- While important, frameworks and tools designed to understand and assess community resilience are not enough on their own. Rather, they comprise part of a suite of strategies and techniques that can be utilised by those working to support children, families and communities.

## Introduction

It is increasingly acknowledged that when working to assist children and families it is essential to recognise the influence of the wider community. Community-level factors can work to protect children and families from adverse outcomes, but may also expose them to a number of risks (Edwards & Bromfield, 2009). The importance of community for the safety and wellbeing of children and young people in Australia is articulated in the first outcome for the National Framework for Protecting Australia's Children: that "children live in safe and supportive families and communities" (Council of Australian Governments [COAG], 2009, p. 11). Therefore, it is important that service providers, practitioners and policy-makers in the child and family welfare field have an understanding of the factors that can either compromise or enhance the strength of communities.

Community resilience can be explored in a number of ways, including the strength of relationships across sectors and groups within the community, and the effects of government policy decisions. However, despite the obvious appeal of the idea of community resilience, it is a concept that is hard to define and can be difficult for practitioners and policy-makers to translate into concrete actions or policies. Especially in disadvantaged communities, where multiple and complex problems often exist and where the resources with which to affect change can be limited, the idea of promoting community resilience may seem abstract and divorced from the most pressing problems at hand.

This may be most evident in the ways in which communities respond to natural disasters, such as the 2009 Victorian bushfires and the 2011 Queensland floods. Australia, the land "of droughts and flooding rains", can severely test the capacity of communities to recover from the impact of natural disasters. In light of the growing awareness of the effects of climate change, and in the aftermath of a string of recent natural disasters, the concept of community resilience is increasingly used in both political and public discourse. Indeed, the Council of Australian Governments recently approved the National Strategy for Disaster Resilience (National Emergency Management Committee [NEMC], 2009) (see Box 1), which advocated a whole-of-society approach to disaster management, and emphasised the role that communities play in building national resilience.

The purpose of this paper is to offer service providers, practitioners and policy-makers working in regional and rural communities a framework and practical tools for understanding community resilience, so they can identify and strengthen practices and policies which will best promote resilience in their community (see Box 2 for a definition of community as used in this paper). This paper pays particular attention to providing tools and advice that speak to the reality of the service environment in rural communities, where circumstances can be less than ideal (e.g., limited resources, relative isolation) and where problems must often be faced with flexibility and ingenuity.

### Box 1: *The National Strategy for Disaster Resilience*

In December 2009, COAG agreed to adopt a whole-of-nation resilience-based approach to disaster management, which recognises that a national, coordinated and cooperative effort is needed to enhance Australia's capacity to prepare for, withstand and recover from disasters. The National Emergency Management Committee subsequently developed the *National Strategy for Disaster Resilience*, which was adopted by COAG on 13 February 2011. The purpose of the Strategy is to provide high-level guidance on disaster management to Federal, state, territory and local governments, business and community leaders and the not-for-profit sector. While the strategy focuses on priority areas to build disaster resilient communities across Australia, it also recognises that disaster resilience is a shared responsibility for individuals, households, businesses and communities, as well as for governments. The strategy is the first step in a long-term, evolving process to deliver sustained behavioural change and enduring partnerships.

The *National Strategy for Disaster Resilience* is available online <[www.coag.gov.au/coag\\_meeting\\_outcomes/2011-02-13/docs/national\\_strategy\\_disaster\\_resilience.pdf](http://www.coag.gov.au/coag_meeting_outcomes/2011-02-13/docs/national_strategy_disaster_resilience.pdf)>.

## Box 2: Defining “community”

The word “community” can be defined in many ways. It can denote those who live in a specific region, those who share certain characteristics (e.g., cultural history, religious belief) and identify as being part of a community, and those who come together through shared interests or concerns (Maguire & Cartwright, 2008). Communities can be located within a bound physical space or geographically dispersed, as with “online” or “virtual” communities (Porter, 2004). The word community can even be used to describe a feeling of connection, reciprocity and positive interaction, as in the statement “a real sense of community has developed”.

For the purposes of this paper, the term community refers to individuals and families who live in a similar geographic area. Furthermore, as this document focuses on challenges faced more frequently by those in regional and rural areas, “community” identifies towns or small cities, rather than major cities or large geographical areas such as whole states or territories.

## On vulnerability

Before beginning the process of measuring a community’s resilience, it is imperative to understand and assess the risks and vulnerabilities inherent in any complex nexus of people, natural systems and built environments. Indeed, vulnerability is an inevitable component of any community (Cutter et al., 2008; Fenton, Kelly, Vella, & Innes, 2007; Maguire & Cartwright, 2008), and arises from the intersection of human systems, the built environment and the natural environment (Fenton et al., 2007; Maguire & Cartwright, 2008). In the literature on community resilience, vulnerability is discussed in the following terms:

- *Physical and environmental vulnerability:* The most obvious factor contributing to community vulnerability is proximity to hazard-prone areas. The risk of fire, flood, drought, cyclone, earthquake and the subsequent disruption of potential contamination sites (e.g., sewerage treatment facilities and chemical plants and factories) increase the physical and environmental vulnerability of communities.
- *Vulnerable infrastructure:* The vulnerability of the built environment is related to location and proximity to sources of environmental hazards or threats. Poorly constructed buildings and infrastructure, including roads and other transportation channels, industrial and commercial developments, and certain types of housing (e.g., manufactured homes, caravans) intensify the vulnerability of the built environment in communities (Borden, Schmidlein, Emrich, Piegorsch, & Cutter, 2007).
- *Economic vulnerability:* Communities reliant on a single economic sector for their livelihood (e.g., tourism, agriculture) are more vulnerable than those with more diversified economies (Cutter et al., 2008). These vulnerable communities will usually experience greater difficulty recovering from a disaster.
- *Social vulnerability:* There are certain demographic and social characteristics that make some communities more vulnerable than others. Social vulnerability arises from inequality, which in turn affects access to resources and information (Cutter et al., 2008). Social indicators of increased vulnerability include: age (e.g., the elderly and the very young), gender (e.g., women are more likely to be vulnerable than men), socioeconomic status (e.g., the poorer members of the community are more vulnerable), populations with special needs (e.g., physically or intellectually disabled groups, homeless people), culturally and linguistically diverse populations, and Indigenous populations (Cutter et al., 2008; Tierney, 2006; Tierney, Lindell, & Perry, 2001).

The resilience approach taken in this paper acknowledges that communities and the systems within them (e.g., families, organisations, individuals, and ecosystems) possess aspects or components that

render them vulnerable to specific changes. However, the resilience approach shifts the focus to processes and resources that enable communities to overcome these intrinsic vulnerabilities and adapt positively when faced with challenges.

## The concept of community resilience

In the last decade, resilience has evolved from a specialist term used largely in materials science and environmental studies to become a concept employed frequently and passionately by policy-makers, practitioners and academics in various disciplines. The concept has become embedded in laws, government, doctrines, and plans, and universities across the world have established resilience centres, institutes, and research programs.

It is an appealing concept, as it denotes the capacity of something or someone to cope when confronted by hardship—to bounce back, recover and return to normal after grappling with an unusual, distressing and often unanticipated (or unexpectedly severe) threat (Bonnano, 2005; Cutter et al., 2008; Maguire & Cartwright, 2008; McAslan, 2010, 2011; Tanner, Mitchell, Polack, & Guenther, 2009). The term encompasses fundamental elements in the daily struggle for life and survival—including notions of awareness, detection, communication, reaction and recovery—and suggests an inherent ability to adapt over time to an environment that changes and is often threatening (Maguire & Cartwright, 2008; McAslan, 2010, 2011).

*Resilience* entered the English language in the early 17th Century from the Latin verb *resilire*, meaning to rebound or recoil (Concise Oxford Dictionary, Tenth Edition). Since then, the term resilience has been employed to describe a feature of metals, people, living creatures, ecosystems, families, communities, organisations, and nation states. The concept has been so widely applied that it has frequently proven difficult to define, and critics have argued that the term is obscure and ambiguous (Folke, 2006; Hunter, 2012; McAslan, 2010, 2011; Tanner et al., 2009).

It would seem, however, that differences in the term's definition are not as extensive as some literature may suggest, and the concept, regardless of its application, possesses a number of essential characteristics. The *National Strategy for Disaster Resilience* (NEMC, 2009) includes the following four, core features in its description of a resilient community:

- functioning well while under stress;
- successful adaptation;
- self reliance; and
- social capacity.

Therefore, a resilient community is one whose members are connected to one another and work together in ways that enable it to function in the face of stress and trauma. A resilient community has the ability to adapt to changes in the physical, social or economic environment, and the potential to learn from experience and improve over time. A resilient community can also be self-sufficient, at least for a time, if external assistance is limited or delayed. As Maguire and Cartwright aptly summarised: the essence of community resilience is the ability to “utilise community resources to transform and respond to change in an adaptive way” (2008, p. 8).

The resilience perspective is empowering as it embraces the dynamic nature of communities and envisages many potentialities within them (Maguire & Cartwright, 2008). It is a flexible model that provides a means of understanding how a community's positive response to change can be encouraged and reinforced, as it shifts attention to capacity in the context of change rather than focusing solely, and unproductively, on a community's vulnerabilities (Kelly, 2004).

## Understanding and measuring community resilience

In recent years, both in Australia and internationally, a number of frameworks and tools for conceptualising and measuring community resilience have been developed.<sup>1</sup> These frameworks and tools differ in their scope, purpose and detail. Some were designed to clarify the theory of community resilience, others provide practical general guidelines for service providers or policy-makers, and others focus on enhancing resilience in specific types of communities (e.g., those in developing countries) or in response to specific threats (e.g., climate change, bushfires). Despite these differences, however, a number of key points emerge from the literature. In this section, these points are identified and applied to the circumstances that Australian service providers, practitioners and policy-makers are likely to encounter.

McAslan (2011) suggested that, due to the difficulties involved in developing a universally applicable model of community resilience, it is perhaps most useful to consider those factors that are generally agreed to *enable* resilience. These factors include:

- *physical characteristics* of the community (e.g., local infrastructure, local emergency and health services);
- *procedural characteristics* of the community, such as systems that are in place to respond to, and recover from, disasters (e.g., disaster policies and plans, local knowledge); and
- *social characteristics* of the community (e.g., community cohesion, community leaders).

McAslan's framework is utilised below to structure the key points emerging from the broader literature on conceptualising and assessing community resilience. It is important to note that the information provided below is aimed primarily at identifying those factors that may be leading to higher or lower levels of resilience in a community, rather than providing detailed guidance on how any identified problems can be overcome.

### Physical enablers of community resilience

The physical enablers of community resilience address the basic human needs for survival. Access to food, water and shelter, as well as personal security, health, wellbeing and protection against accidents, illness and injury are all physical enablers of community resilience.

- Appropriate **safe havens and effective evacuation channels** for community use are required to ensure the welfare of populations in times of crisis. A varied range of community refuges, shelters and evacuation options that accommodate the needs of vulnerable members of the community need to be established.
  - Safe havens and evacuation channels must be accessible and cater to the needs of the most vulnerable in the community.
  - Emergency managers and key community members need to keep up-to-date with the latest national and state safety and emergency guidelines and procedures.
- Existing **community infrastructure should be reinforced** to better withstand extreme weather events, and make certain that utilities (water, electricity and gas), health services and communications operate at a standard that allow individuals and groups to survive and recover after a disaster (2009 Victorian Bushfires Royal Commission [VBRC], 2010).
  - Streets, roads and shelters should be clearly signposted.
  - Simple strategies to reinforce homes and community buildings in the lead up to a disaster (e.g., sandbags, boards for windows) need to be implemented.
  - Important community and emergency management information must be backed-up regularly, with duplicates stored in spaces that are shielded from the effects of a disaster.
- Well-prepared and equipped **local emergency health services and trained volunteers**, as well as access to external assistance, are fundamental physical enablers of community resilience.

<sup>1</sup> For examples, see the "Resources and Further Reading" section of this paper.

- Emergency health services workers and volunteers should receive regular training (e.g., first aid) and guidance material.
- Links to state and national emergency management bodies need to be established.
- Local community groups (e.g., sports clubs and teams, religious groups, youth groups, Rotary Clubs, Senior Citizens' Clubs, CWA) can be approached and asked to assist the community in times of crisis.
- Effective, multi-channel **alert and warning systems** that include timely and informative advice on the predicted course of fires or floodwaters, with specific instructions for people in the direct path of the disaster, are required.
  - An effective, multi-channel alert and warning system provides timely, accurate and tailored information to community members; accommodates the needs of non-English-speaking and vulnerable (e.g., the elderly, disabled, or homeless) community members; utilises social media and text messaging, and enlists community members to help coordinate and manage its procedures.
- Adequate supplies of **food, water, medicine and medical equipment** should be stored at safe havens and emergency management centres in the community.
  - Food, water, medicine and medical equipment should be appropriately packaged (e.g., canned food, bottled water, water-tight packaging around medicines and medical supplies); stored in safe havens, and regularly checked and replenished.
- Evidence demonstrates that healthy, fit and strong individuals are more likely to survive and recover from a disaster than the weak, frail and disadvantaged. It is important that **the health and wellbeing of emergency staff and volunteers** is maintained, with counselling and debriefing services made available, and that those most vulnerable in the community receive the additional assistance they require in emergencies.
  - Counselling and debriefing services should be offered to all emergency staff and volunteers.
  - Local authorities and organisations should know where the most vulnerable people in the community are located (e.g., aged-care facilities, child care centres), and tailor emergency plans and procedures to meet their needs.

## Procedural enablers of community resilience

Procedural enablers of community resilience equip communities with the systems and strategies required to plan and prepare for, respond to, and recover from disasters such as floods, storms or bushfires.

- Widely understood and broadly applied **disaster plans and policies**, emergency management plans and the application of standards and regulations are pivotal procedural enablers of community resilience (Maguire & Cartwright, 2008; McAslan, 2011). An awareness of national and state strategies should be used to inform municipal planning that tailors safety options to the specific needs of distinct communities, with risk status assessed at the local level.
- Strong **community awareness and education campaigns** provide populations with the information needed to plan and prepare for, respond to, and recover from disasters.
  - Families and community members should be provided with information (pamphlets, fridge magnets, calendars etc., including translated material for non-English-speaking community members) and strongly encouraged to devise their own disaster plans.
  - Emergency education should be incorporated into the local school curriculum.
- **Shared information** at every level is a prime procedural enabler of community resilience. Organisations, services and community members need to work interactively and transparently to ensure correct information is communicated in a timely and effective manner.



- Mobilising **community groups and volunteers** to provide information and assistance during disasters strengthens a community by fostering social capital, and bolsters emergency services by providing an extensive network of trained, local support workers during disasters.
  - Existing volunteers in the community should be approached and asked to assist in times of crisis.
  - Local community groups (e.g., sports clubs and teams, religious groups, youth groups, Rotary Clubs, Senior Citizens' Clubs, CWA) can also be approached and asked to assist the community in times of crisis.
- Emergency support staff (including volunteers) require **regular training and guidance material**, as well as debriefing and counselling services in the aftermath of a disaster.
- **Disaster plans and policies need to be continually re-evaluated** and monitored, as do the effectiveness of community education and awareness campaigns (VBRC, 2010). “An assessment of resilience is never complete. It must be revisited regularly as system dynamics change and as understanding grows. [It is] a process, rather than ... a final product” (Resilience Alliance, 2007, p. 6).

### The use of social media in emergency management

It is critical that emergency managers provide timely, detailed, location-specific and accurate information to community members during disasters and major emergencies such as floods, severe storms and bushfires. Recent disasters, such as the 2003 Canberra and 2009 Victoria bushfires, demonstrated that traditional technologies are sometimes unable to cope sufficiently with crises of severe magnitude (NGIS Australia, 2009). Web 2.0 technologies (e.g., web applications that facilitate participatory information sharing), however, can offer invaluable enhancements to traditional information management practices, and augment emergency management processes in ways that can save lives and property.

In 2009, the Gov2.0 Taskforce commissioned a report, *Social Media Helping Emergency Management* (NGIS Australia, 2009). The report's first recommendation is that Emergency Services Organisations use social media to actively engage communities in order to assist emergency management processes.

The Queensland Police Service's (QPS) use of social media during the 2011 Queensland floods provided an excellent case study for the use of social media for public engagement and emergency disaster responsiveness. The QPS developed an online community of followers on Facebook and Twitter before the floods occurred, and this enabled the Service to engage in a real-time, two-way conversation with the public as soon as the flooding reached crisis-level. Adoption of social media in its emergency management strategy equipped QPS with the means to:

- act as a centralised clearing house for disaster-related information through Facebook and Twitter, posting as soon as warnings, advice, news, facts or figures became available, including details on behalf of other departments and authorities;
- provide live video streaming of the Brisbane-based disaster-related media conferences on the QPS Facebook page, and subsequently posting the video on the QPS YouTube channel;
- tweet key points as they were made in briefings and in media conferences;
- upload dot-point summaries of media conferences to the QPS Facebook page immediately after their conclusion;
- upload daily audio updates to Facebook from local disaster coordinators around the state;
- “mythbust” any misinformation and rumours being promulgated by the media and community;
- tweet most QPS Facebook posts, using the #qldfloods, #TCYasi or #mythbusters hashtags; and
- respond to inquiries from the public by providing 24-hour moderation of the QPS social media accounts.

### The benefits of using social media in a disaster

Social media are characterised by immediacy, and allow authorities to proactively disseminate accurate information to large numbers of people as soon as it becomes available.

The official Facebook pages and Twitter feeds of emergency management authorities can become trusted, reliable hubs for the dissemination of timely, accurate information and facts for the community and media.

Tailored information can be directed to specific communities and community members without them having to rely on mainstream media coverage.

Social media enable authorities to access immediate feedback and information from the public on the ground.

### Further resources

- **Australian Government Common Alerting Protocol** <[www.em.gov.au/cap](http://www.em.gov.au/cap)>

The Common Alerting Protocol (CAP) is a standardised system that allows consistent and easy to understand emergency messages to be broadcast across a variety of communication systems. CAP can be used to alert and inform emergency response agencies, media and the general public. CAP ensures that messages remain consistent and clearly indicate to the recipient the severity of the threat and best response.

- **CFA mobile website and FireReady smartphone app** <[www.cfa.vic.gov.au/warnings-and-incidents/cfa-on-your-mobile.htm](http://www.cfa.vic.gov.au/warnings-and-incidents/cfa-on-your-mobile.htm)>

The CFA mobile website and CFA FireReady smartphone app allow users to easily access timely and accurate information on mobile devices with Internet access. The FireReady app puts CFA and Department of Sustainability & Environment (DSE) bushfire information at users' fingertips, enabling access to up-to-date bushfire warnings and advice where it is needed most.

- **DisasterWatch smartphone app** <[www.em.gov.au/Resources/Pages/DisasterWatchPhoneApp.aspx](http://www.em.gov.au/Resources/Pages/DisasterWatchPhoneApp.aspx)>

The Attorney-General's Department has released the free DisasterWatch smartphone app to improve access to disaster information, and help reduce call volumes to Triple Zero (000) during natural disasters.

- **Disaster Mapper—Interactive resource for Schools** <[www.ema.gov.au/www/ema/schools.nsf/Page/Teach\\_Resources\\_DisasterMapper-Aninteractiveresourceforschools\\_DisasterMapper-Aninteractiveresourceforschools](http://www.ema.gov.au/www/ema/schools.nsf/Page/Teach_Resources_DisasterMapper-Aninteractiveresourceforschools_DisasterMapper-Aninteractiveresourceforschools)>

The Disaster Mapper is an interactive map of Australia that shows various disaster events. By familiarising themselves with previous disasters, students can better understand and prepare for future events, as well as develop a greater understanding of how resilient Australian communities can, and continue, to be.

- **Emergency 2.0 Wiki** <[emergency20wiki.org/](http://emergency20wiki.org/)>

The Emergency 2.0 Wiki is a new collaborative model for sharing and advancing knowledge on utilising Web2.0 and social media in emergency management.

- NGIS Australia. (2009). *Social media helping emergency management: Final report*. Canberra: Government 2.0 Taskforce. Available online: <[gov2.net.au/projects/project-14/](http://gov2.net.au/projects/project-14/)>

- Queensland Police Service (2011). *Disaster Management and Social Media – a case study*. Available online: <[www.police.qld.gov.au/Resources/Internet/services/reportsPublications/documents/QPSSocialMediaCaseStudy.pdf](http://www.police.qld.gov.au/Resources/Internet/services/reportsPublications/documents/QPSSocialMediaCaseStudy.pdf)>

- **Road closures and traffic alerts from Vic Roads** <[alerts.vicroads.vic.gov.au/](http://alerts.vicroads.vic.gov.au/)>

On this website you will find information about unplanned (emergency) road closures and traffic alerts. It is Victoria's official source of information about roads and traffic during incidents and emergencies that may impact road users.



## Social enablers of community resilience

The capacity of a community to respond effectively to challenges is dependent upon positive social connections and the ability of community members to draw together.

- Community resilience is dependent, at least in part, on there being a large number of resilient individuals and families within the community. When there are high levels of both **individual and familial responsibility**, the community is better placed to respond quickly and effectively to challenging situations.
  - Families and individuals should be actively encouraged to develop their own emergency plans.
  - Children and young people need to be told about the risks of disasters, and informed of the actions they should take during emergencies.
  - Local authorities and organisations should know where the most vulnerable people in the community are located (e.g., aged-care facilities, child care centres), and tailor emergency plans and procedures to meet their needs.
- **Effective local leadership** is central to the social strength of a community (Hegney et al., 2008; Maguire & Cartwright, 2008; McAslan, 2011). Such leadership can be formal (e.g., local government) or informal (e.g., influential individuals or community groups). Good leadership promotes unified, flexible and adaptive responses to challenges.
  - Local individuals or groups who obviously play a leadership role in the community (e.g., religious leaders, local sportspeople, influential service providers, leaders of minority groups) should be made aware of the positive role they could play in an emergency or rebuilding situation, and accordingly be incorporated into local emergency management plans.
- Communities that are high in **social capital** are able to respond more effectively to difficult situations and emergencies (Maguire & Cartwright, 2008; McAslan, 2011; World Resources Institute, United Nations Environment Programme, & World Bank, 2008). Putnam (1995) defined social capital as “features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (p. 67).
  - Wherever possible, positive, trusting relationships between different community organisations, which encourage collaboration, cooperation and the sharing of information (e.g., local service organisations interacting positively with local police), should be fostered.
  - Community meetings for the discussion of matters of collective importance should be arranged.
- **Social inclusion** promotes community resilience (Maguire & Cartwright, 2008; Tanner et al., 2009). When a large number of community members actively participate in community life (e.g., through employment or education), a number of positive effects tend to follow: important information is shared, community members become aware of their rights and responsibilities, formal and informal networks of reciprocation and trust are developed and strengthened (i.e., social capital is increased), and a shared sense of community ownership is engendered.
  - Signifiers of social exclusion (high levels of unemployment or low levels of engagement with education in the community) should be assessed, and disaster management plans and procedures tailored to accommodate the needs of these vulnerable community members.
- A strong and positive sense of local identity encourages community members to adopt common objectives and to work collectively for “the greater good”, which, for example, is particularly important in the aftermath of a disaster.
  - Events, activities, qualities or industries around which a sense of local identity is structured (e.g., historical events in the community, sporting activities, shared ethnicity) should be encouraged.
- In many cases, a community may have been vulnerable to particular risks for a long time (e.g., the community may be situated in a bushfire-prone area). When community members have an awareness of their community history they are able to learn from the successes and failures of the past. An awareness of history also encourages a sense of local identity and allows people to see the “bigger picture” in times of hardship (Hegney et al., 2008; Maguire & Cartwright, 2008).

- Community members should be made aware of past successes or failures in facing disasters or other traumatic events.
- Older people, who may be away of the community's history, should be given a voice within the community.

## Practical applications

As the concept of community resilience has become more popular, a number of authors have developed frameworks and tools to understand and measure it. The purpose of this paper is to summarise the main points of these resources—to get the reader thinking about how they might start to conceptualise and assess the resilience of the community with which they work—and to direct those interested to more detailed publications and measurement instruments. The move toward more rigorous measurement of community resilience is to be encouraged, and is indicative of a general trend that sees increasingly sophisticated conceptual understandings being brought to bear on the risks and problems faced by many individuals, families and communities in Australia. There are, however, some caveats that should be kept in mind when measuring community resilience.

Firstly, measurement tools are just that: tools. They do not replace the need for other forms of professional judgement or the exercise of “practice wisdom”. Rather, they comprise one in a suite of techniques and strategies that can be used by those working to support families and communities (e.g., professional judgement, research literature, practice guides, the assistance and resources of collaborating service providers). Measurement instruments cannot possibly capture the complexity of the service environment, in which multiple factors, including state and Federal legislation, interact in ways that can either support or constrain the work of professionals in the field. This is not, however, a problem or a reason to reject such instruments. As long as they are used in conjunction with other techniques and strategies, the strength of many measurement tools lies in their simplicity: in their ability to reduce the complexity of the social environment and to identify important causal relationships that may otherwise have gone unnoticed (e.g., the relationship between a strong sense of local identity and community resilience).

Secondly, although many frameworks and measurement tools aim to identify the strengths and weaknesses that encourage or discourage the development of community resilience, they may not necessarily provide all the answers on the steps that need to be taken to address problems that are identified. Again, this simply speaks to the need for these frameworks and tools to be used in conjunction with other strategies. For instance, if a service provider identified that the community in which they work had low levels of social inclusion, they could use some of the many resources (including training courses) that focus specifically on practices and strategies to increase social inclusion. The importance of simply identifying where a community's strengths and fault lines lie should not be underestimated. This identification can form the foundation for the construction of truly effective services, practices and policies—effective precisely because they are tailored to the unique circumstances of individual communities.

Finally, it is worth re-emphasising that the resilience of a community is not static—communities are complex and dynamic social structures—and so an “assessment of resilience is never complete” (Resilience Alliance, 2007, p. 6). Just as it is important that service providers embed general evaluative strategies in their programs and services, so too it is important that those utilising the concept of community resilience make efforts to regularly measure it. Not only will this ensure that practice and policy stay focused on the most important enablers of community resilience, but it can also act as a form of outcome evaluation in its own right, indicating to service providers, practitioners and policy-makers whether their efforts to enhance the strength of their community have been effective.

## Resources and further reading

This section outlines a selection of Australian and international resources, frameworks and tools that have been developed around emergency management and community resilience. Additionally, as part of the *National Strategy for Disaster Resilience*, a number of research institutes and universities have been funded to develop instruments that assess community resilience. For example, the Torrens Resilience Institute is currently developing the tool *Measuring Community Resilience* (due to be released in 2012), which will rate resilience on a numerical scale and allow individuals to assess the resilience of their own community.

### Websites

- **Australian Emergency Management** <[www.em.gov.au/](http://www.em.gov.au/)>

This website is the key online access point for emergency management information from the Australian Government.

- **Crisis Intervention and Management Australasia Conference 2011 Presentations** <[www.cima.org.au/resources](http://www.cima.org.au/resources)>

These presentations provide case studies and current research on crisis intervention and management, with a focus on natural disasters.

- **Disaster Preparedness and Response Resources** (US) <[www.childwelfare.gov/management/disaster\\_preparedness/](http://www.childwelfare.gov/management/disaster_preparedness/)>

The resources on this website were compiled by the Child Welfare Information Gateway (US) and are intended to help governments and jurisdictions develop comprehensive disaster preparedness plans, and respond to emergencies quickly and effectively in order to protect children and families.

### Additional frameworks and tools for assessing community resilience

- **Assessing Resilience and vulnerability: Principles, Strategies and Actions** (Buckle, Marsh, & Smale, 2001): Provides information on both the components of community resilience and the different assessment methods and data sources that can be used to conduct evaluations.

- **Assessing a Community's Capacity to Manage Change: A Resilience Approach to Social Assessment** (Maguire & Cartwright, 2008): Focusing on those rural communities that have limited access to water, this approach to assessment emphasises the assessment of (1) the community and the process of change, (2) the internal community structure, (3) community history, (4) community vulnerabilities, (5) community resources, and (6) adaptive capacity.

- **Assessing and Managing Resilience in Socio-Ecological Systems: A Practitioners Workbook** (Resilience Alliance, 2007): Focuses on assessing resilience within a socio-ecological framework. Argues that there are five main stages to assessment: describing the system, understanding system dynamics, probing system interactions, evaluating governance and acting on the assessment.

- **Building Resilience in Rural Communities** (Hegney et al. 2008): Outlines what were identified as the 11 factors most commonly reported to enhance individual and community resilience: social networks and supports, positive outlook, learning, early experience, environment and lifestyle, infrastructure and support services, sense of purpose, diverse and innovative economy, embracing differences, beliefs and leadership.

- **A Guide to the World Resources 2008: Roots of Resilience-Growing the Wealth of the Poor** (World Resources Institute et al., 2008): Focuses on the impact that climate change is likely to have on disadvantaged communities. Argues that resilience is best promoted by strengthening ownership, capacity and connection.

- **Urban Governance for Adaptation: Assessing Climate Change Resilience in Ten Asian Cities** (Tanner et al., 2009): Proposes an assessment framework for urban resilience that measure levels of (1) decentralisation and autonomy, (2) accountability and transparency, (3) responsiveness and flexibility, (4) participation and inclusion, and (5) experience and support.

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- Caruana, C. (2010). **Drawing on research-informed clinical wisdom to guide interventions with trauma survivors: The work of Rob Gordon.** *Family Relationships Quarterly*, 15, 8–11. <[www.aifs.gov.au/afrc/pubs/newsletter/newsletter15.html#gordon](http://www.aifs.gov.au/afrc/pubs/newsletter/newsletter15.html#gordon)>
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