Developing community resilience as a foundation for effective disaster recovery

Coles and Buckle compare the resilience of communities and the engagement of local people in disaster recovery in Australia and the United Kingdom

Abstract

Our recent research into community resilience, both in Australia and the United Kingdom (UK), indicates that resilience is a multi-dimensional attribute that in its different forms contributes in various but equally important ways to disaster recovery.

We start with the premise that effective recovery can be achieved only where the affected community participates fully in the recovery process and where it has the capacity, skills and knowledge to make its participation meaningful.

Resilience addresses the second of these qualities; in fact it may be defined as the total of the individual elements, but is ineffectual without the means of engagement through participation with the wider social, economic and political communities.

Our research focuses on four particular areas:

1. The changing risk landscape where new types of risks are emerging that are not amenable to the traditional command and control management model.
2. The changing policy agenda of governments since the attacks of 9/11, in particular the UK's Resilience Agenda.
3. The engagement of local people, whether planned or not, in the recovery process.
4. The limited capacity of emergency services to deal with the protracted and multifarious demands of comprehensive recovery.

This research is derived from a variety of sources including direct experience in recovery management and the investigation of community and emergency service responses to different types of disasters. Community resilience is largely neglected in planning and in operations, though in practice community engagement in recovery, a measure of resilience, tends to happen spontaneously. In this sense resilience may be inherent or at least developed in situ after a disaster. However, resilience can also be planned for and developed before a disaster strikes. We indicate that there are a variety of capacity building methods, and especially linkages with other capacity building programmes, that can materially increase community resilience.

The emerging risk environment

Over the past decade there has been a shift away from focusing on the hazard as the element to be managed or controlled in the disaster management (DM) process to a better understanding that DM is concerned with managing risks (Salter 1997). This has been paralleled by a growing awareness of the range of risks that we now confront, or more accurately which we now see as being part of the risk environment. Governments and communities, and agencies perhaps less so, now accept that it is not just rapid onset natural hazards such as storms, fires and flooding that fall within the scope of disaster management.

A wider range of events and processes that include infrastructure disruption (power, water, transport, telecommunications), extreme weather events (heat waves, cold waves, drought), chemical-biological-radiological-nuclear (CBRN) events, public health threats (such as HIV/AIDS, TB, SARS, BSE, foot-and-mouth disease) and the various impacts of climate change/global warming are all candidates for emergency response. New types of risks include gas and power supply systems disruption and water supply contamination in Australia, disruption of Auckland's power supply in New Zealand, and the concatenated collapse of power supplies in Italy and the northeast of the USA. The heat wave of summer 2003 in Europe killed at least 30 000 people. Apart from the issue of climate change, would death by heat wave previously been considered a disaster as it clearly is now?

This emerging risk environment includes events that have been known for many years (such as heat waves and power outages) but which are only now being

Planning and preparation are the first steps toward mitigation

included in the range of hazards that elicit a response in planning and management from governments, agencies and the community. This reflects not only an increasingly complex and technologically based society and heightened understanding of risk assessment but also the driving processes of the media and of the public appreciation of risks, especially of risk to everyday life (Buckle et al 2001a).

The characteristics of these new risks are significant for disaster management. The hazards may be indiscriminate in where they occur and whom they affect (such as terrorist attacks), they may be invisible (such as disease or CBRN), they may be embedded in the structure of our society and the ways in which we go about our normal business (transport disruption, electricity outages, etc) and they may be long-term processes whose origins are difficult to identify, which run for decades and which once begun, are difficult to halt or control, such as climate change.

This suggests that DM strategies based more on long-term social, economic and environmental adaptation and drawing upon assessments of risk, vulnerability and resilience may be more appropriate strategies than the more traditional hazard control measures.

Definitions

As has been discussed by others (Marsh & Buckle 2001) the word community has a number of different meanings, many of which have validity in the context of DM and which are context sensitive. For our current purposes we take community to mean people at a local (that is sub-municipal) level who are not organised by emergency services but have skills, resources and an organisational capacity or structure that allows them to provide services to people at risk or actually affected by disasters. This includes voluntary groups such as the Red Cross, St John's Ambulance, WRVS or churches. It also includes local volunteers who participate in response and control operations but who are not full-time, are not paid and whose engagement is local, such as fire-fighting volunteers in the rural fire services in Australia.

Community therefore is local, voluntary, self-organising and may have DM as only part of its span of interests.

Given the emerging risk environment any definition of disaster that lists particular hazards is likely to be out of date. Certainly they are typically open-ended in referring to the types of events and to the scale of events (Government of Victoria 1986 and HM Government 2004) and do not exclude events that may arise or which may come to be considered as emergencies or disasters that are not now considered hazardous to the community.

The definitions given in the Emergency Management Australia (EMA) Glossary are:

> ***disaster*** – 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.
>
> ***emergency*** – an event, actual or imminent, which endangers or threatens to endanger life, property or the environment, and which requires a significant and co-ordinated response.
>
> – Any event which arises internally or from external sources which may adversely affect the safety of persons in a building or the community in general and requires immediate response by the occupants…

The definition given in the *Civil Contingencies Bill 2004* describes an emergency as:

> *'an event or situation which threatens serious damage to: human welfare in a place in the United Kingdom: the environment of a place in the United Kingdom or: the security of the United Kingdom or of a place in the United Kingdom' (p1).*

The importance of an increasing range of types of disasters is that it is unlikely that current – or even a single set – of agency-based DM arrangements will be adequate to address the range of hazards, risk, impacts and consequences that we will confront in the future.

Resilience as a concept has gained currency in the post 9/11 emergency management vocabulary, yet it is not a new concept. In 1983 Douglas and Wildavsky described resilience as:

> *'…the capacity to use change to better cope with the unknown: it is learning to bounce back …resilience stresses variability' (pp196–197).*

More recently Kendra and Wachtendorf (2003) have applied the term to the creative actions of organisations they observed in the aftermath of 9/11. They argue that such creativity is an important element of resilience being a significant feature of the emergency response and suggest that planning and training should enhance creativity at all levels of responding organisations, stating:

> *'…training and preparation remain fundamental, but creative thinking, flexibility and the ability to improvise in newly emergent situations is vital' p52).*

Similarly, Dynes (2003) agrees that the term resilience does convey a sense of emergent behaviour

> *'…which is improvised and adaptive in rapidly changing and usually ambiguous conditions' (p17).*

Conversely, he sees the command and control structure of emergency response organisations as a destroyer of flexibility and innovation rather than a necessary part of response to it as does Wildavsky (1988).

Resilience then, has been a term adopted by UK policymakers to describe ways they would like to reduce the nation's susceptibility to major incidents of all kinds by reducing their probability of occurring and their likely effects. They do this by building institutions and structures in such a way as to minimise any possible effects of disruption (Cabinet Office 2003). It has been stated that the 'resilience agenda' is seeking to do three things:

1. Build a comprehensive capability for anticipating major incidents to prevent them or take action in advance that will mitigate their effects.
2. Ensure that planning for response and recovery is geared to the risk therefore ensuring preparedness.
3. Promote a culture of resilience including business continuity thus helping to reduce the disruptive effects of disaster (ibid).

Indicators of community engagement

Policy indicators of community engagement

Dealing with Disasters (Cabinet Office 2003) makes no reference to community but refers frequently to voluntary sector agencies, which we take as a proxy for local and community engagement. Most references are to response activities but there is an explicit statement of involvement in a wider range of activities.

> *"With sudden impact emergencies (explosions, major transport accidents, riots) the initial response is normally provided by the statutory emergency services and, as necessary, by the appropriate local authorities and possibly voluntary organisations. Experience of slower onset or less localised emergencies or crises (BSE, the fuel crisis of 2000, foot-and-mouth disease) shows that other organisations may well face the brunt even in the early stages of a major emergency" (Cabinet Office 2003:6).*

The Draft Regulations accompanying the *Civil Contingencies Bill* (HM Government 2004) refer to community risk registers (but otherwise not to voluntary or community activity) and the *Standards for Civil Protection* (Home Office 1999) make a few references to voluntary sector agencies. In both cases the community (taking voluntary agencies as a proxy) are apparently seen as passive recipients of assistance and support. Similarly, the capabilities work-streams (Cabinet Office 2004) refer to a number of planning and operational tasks without referring to local people, social support or recovery.

In Australia the references are more explicit. Emergency Management Australia refers to one of its four key concepts – the Prepared Community – with the expectation that community actions will be positive and may take the lead (EMA 2004).

Planning in Australia is also directed to involve local people

The Emergency Management Manual Victoria, the principal policy and planning document for the State, refers frequently to voluntary agencies and to community groups, again with the expectation that local people will be actively involved (Government of Victoria 2001).

Recent extensive reviews by the House of Representatives into the 2003 bushfires in the Australian Capital Territory, and the Victorian bushfires by the Victorian Commissioner for Emergency Services, indicate that through local, public and transparent public consultation there is a growing commitment to engaging local people, involving them in policy and in taking their needs into account (Government of Victoria 2003).

These reviews have been paralleled in the UK by a long running series of reviews into DM arrangements spanning many years and culminating in the latest review that was trigged by floods in 2000/2001; the fuel crisis; and the outbreak and consequences of foot-and-mouth disease, resulting in the development of new arrangements for managing disasters in the United Kingdom.

All these activities suggest a strong commitment on the part of governments to understand the needs and priorities of local people for local people, in turn, to contribute to these reviews.

Planning indicators of community engagement

Policy commitment has to be translated into action if it is to have any force and the first step is through the disaster planning process.

Planning is given great weight in Australia and the UK, though it is in the former that there is a concerted and directed effort to involve local people. In both countries emergency services and local government (although only recently in the UK) are expected to contribute to risk assessment and planning.

In Australia there is an explicit effort made at all levels of government to involve local people, community groups and the volunteers. Australia's federal constitution planning for DM occurs mainly at State and Territory and lower levels. In Victoria there are representatives of the community and voluntary sectors at State, regional and local levels.

This commitment is less evident in the United Kingdom. Discussions with a number of emergency planners from the emergency services and local government indicate varied commitment to local community. While local authorities are very much involved in planning, initially only in a secondary role to the 'Blue Light' agencies in the response phase of a disaster, they do have primacy in the recovery phase. It is true to say that in some areas of England and Wales there is no political or bureaucratic will to engage local people in the voluntary sector through purposefully designed processes, while in other areas there is a strong commitment to voluntary agencies. It is important to point out that voluntary organisations, in particular St John's Ambulance and the WRVS, have historically been very involved in DM arrangements, especially in providing services for blue light agencies during disasters, manning rest centres, etc.

Interestingly, current research indicates that at the most local level, the parish, there is substantial DM planning being conducted. This is planning not for response or recovery particularly, but for mutual aid with no set events or timeframes.

In Australia there are clear statements about the composition of planning bodies (Government of Victoria 2001). The national guidelines in the UK are much less specific in setting out how, or even whether, local people should be involved.

We therefore have a situation where policy commitment is similar in both countries, but the UK's strategic commitment to local involvement through formal planning is less evident. To a degree planning for disaster operations can occur at the time, as all plans have to be fine-tuned to the context in which they are invoked. The research of Buckle, Marsh and Smale (2002) indicated that risk assessment and vulnerability identification occurs in Australia and can be effective, but is certainly frugal with resources prior to the disaster event. This is a risky approach especially when it comes to establishing management arrangements and arrangements for co-ordination, logistics and command and control as these are called into play as soon as the disaster occurs. They depend on defined and agreed roles and sources of funding, equipment and personnel, and these are almost impossible to achieve during a disaster.

Operational indicators of community engagement

The strongest indicator of community engagement occurs in the management and operational activities focused at the control of, and recovery from, a disaster.

This is the strongest test of local engagement. Policy and planning are impotent if they do not lead to practical action, while impromptu practical action can compensate for weak policy and planning (though in some circumstances it may cause confusion where it conflicts with already agreed practice).

Our work, and that of others, has shown that local people have a good understanding of the risks they face, though the priority they attach to any particular risk may not be shared with the emergency services. Local communities will often identify risks that emergency services consider irrelevant or trivial or outside the legislatively mandated boundaries of DM, despite the open-ended definitions set out in legislation (Buckle et al 2001b).

Case studies

In England initial research centred on Lewes, a town in East Sussex and the seat of the Lewes District Council, and at the village of Leonard Stanley in Gloucestershire. Lewes was badly affected by flooding in October 2000 and many homes in Leonard Stanley were affected by a windstorm in October 2002 that caused a power outage for five days.

In Lewes the local emergency management plan made virtually no reference to the community, voluntary groups or to recovery activities. However, from discussions with officers at the district council it became clear that following the floods local people were engaged in support and recovery activities. A range of groups provided home visiting and outreach programmes, local information, help with clean up, and personal support activities to the affected community.

In Leonard Stanley there was no agency or government response to the loss of power. Losing electricity was significant for many people. Those on low incomes could not afford the loss of perishable goods in freezers and fridges and people dependent on stair lifts were trapped either at the bottom or top of their homes. Some people were unable to cook or heat water and were without lighting while others made frequent visits to hospital when their electrically powered medical equipment failed.

Local emergency services were not evident initially; though later they and the local council were broadly supportive. The initial response began with local people, one family in particular assuming a leadership role, who contacted the local church. They arranged home visits and the church hall was opened as a support centre where hot meals (which were provided) could be prepared and eaten. A local community information programme advising on appropriate personal action and reporting on progress of power restoration was started and maintained (Bevan 2003).

Community leadership and mutual support was equally evident in events in Australia. Buckle (2001b) makes particular reference to bushfires in the Yarra Ranges shire on the outskirts of Melbourne, widespread floods in East Victoria in 1998, and the loss of gas to 1.8 million households across Victoria in October 1998.

Buckle (2001b) indicates the natural events showed a range of responses that were characterised by:

- local engagement;
- local, non-coercive and inclusive management activity;
- co-operative behaviour;
- innovative support programmes;
- management structures focused on local and specific issues; and
- attention to issues of lifestyle and development.

These responses addressed a range of support programmes that included:

- personal support;
- outreach programmes;
- childcare;
- financial assistance for homes and farms;
- personal hardship grants for essential household items;
- locally provided clean up and immediate aftermath subsistence programmes;
- social activities;
- memorial activities; and
- community development.

These occurred within the framework of planned arrangements but the timing, shape, range and commitment to activities was wholly the community's own.

The gas shortage management arrangements were not so well planned. After an initial delay government took a lead, relying on the DM networks established through planning and training. The gas outage was treated as a disaster of the same sort as a flood or bushfire, and the needs of affected people were treated as the same sort of need requiring similar arrangements for support.

Local people's mutual support was critical to effective management of this event that ran for almost three weeks (Buckle 2001b).

After a short time it became apparent that there were a number of especially vulnerable groups that included:

- people on gas-powered life support systems;
- people with skin disorders or psychological disorders who had to bathe numerous times a day and who required hot water;
- people in palliative care;
- the frail elderly and newborn children who needed heating and hot water; and
- healthcare facilities, nursing homes and hospitals that required gas for heating, cleaning, washing and cooking.

These people could not receive adequate care without community support at the local level. This local support came in the form of neighbourly watching and care, sharing of domestic hot water and cooking facilities, use of community facilities for cooking and bathing, voluntary restrictions of gas use, and a range of daily support services.

Local communities in England and in Australia play a vital role in supporting their members who have been affected by disasters. In England we experience the same sort of local engagement, but without the planning support. This leaves communities more vulnerable to resource inadequacies through isolation from official recovery efforts.

Why community engagement in disaster management

Rights-based disaster management

Basing the supply of aid and services to affected people on a human rights basis is a new concept for disaster management in developed nations but has widespread currency in relief, aid and development programmes in developing countries. Rights extend beyond assistance and should include planning and, where feasible, strategic management. This is a cornerstone of democracy. We can therefore extend the human rights approach from aid to planning, and from the developing world to the developed world.

Local people's mutual support is critical to emergency response

Planning as the basis for effective management

Effective management in disasters can occur without planning as the Victorian gas shortage showed, but it is fraught with risks, suffers delays in start up and is usually inefficient in use of resources. Disaster management practitioners generally accept that effective management derives from effective planning. Effective planning needs to include all stakeholders, including voluntary agencies and community representatives.

Government cannot do it alone

Governments are rarely able to meet all the needs of affected people. Our experience shows that extensive and long-term support to affected communities, families and individuals is likely to be required as the disaster unfolds. Emergency services and governments may concentrate upon control of the hazard and the protection of life and property but support in terms of welfare, recovery, reconstruction and development typically comes from local people.

Local people provide some services before, or even as a substitute for, government and emergency services support. Search and rescue, first aid, personal support, evacuation and emergency welfare centres are frequently provided locally before agencies and emergency services are able to respond.

Government resources are limited

The resources of government, emergency services and local government are limited, even for major disasters. There is a simple, practical need to rely on the knowledge, skills, capacities and resources of local people to meet initial needs as well as their needs weeks, months or years after the event when the attention of government has been directed to other priorities.

Local engagement will inevitably occur

Local people will be involved whatever the planned arrangements. All our research shows that local people will assist each other. Planning just makes this commitment proceed more efficiently. Not recognising the inevitability of local action, and not planning for it, is denying demonstrable social behaviour.

Principles of Community Capability

There is a set of principles that govern effective and sustainable community engagement in disaster management. These principles were developed following research conducted in Australia and the UK (Buckle et al 2004).

Good governance

This addresses the extent to which programmes and the policies they reflect conform to contemporary standards and include:

Inclusive processes	Local policy development and programme implementation need to be fully inclusive across many social dimensions including gender, ethnicity, religion, age, occupation and wealth as exclusive programmes often fail.
Legal authority	Clear legal authority to act reduces uncertainty and minimises ambiguity, therefore supporting the development of effective DM plans and practice.
Accountability	Accountability is necessary to ensure that even at the local level, compliance with explicit statutes and codes occurs and that local people have the capacity to monitor and critically assess performance.
Agreed and defined priorities	Competing interests severely limit the effectiveness of capacity building and DM processes. One means of minimising competition is to ensure that agencies, governments and groups agree on clearly stated priorities.

Adequate resourcing

Financial adequacy and continuity	Financial support needs to be adequate to meet programme requirements.
Staff	Staff numbers need to be adequate for the process of programme development, start up, implementation, review and closure.
Skills	The skills of staff, local people and agencies need to be adequate to the project. Enthusiasm, an indispensable ingredient, is no substitute for skill.
Knowledge	Knowledge of local circumstances (local risks, history, tradition and culture) is an essential ingredient for effective programmes.

Integrated development

The linkages between environmental processes, social and economic are generally accepted, if not fully understood.

Social	Links between people, groups and communities whether on a personal, formal or regulated basis.
Economic/livelihoods	Human activities that focus on livelihoods, wealth generation and wealth distribution.
Environmental	Relationship between human activities and the natural world.
Cultural	Values and beliefs of individuals and groups, including faith systems, diet, dress, behaviour, inter-personal and person-to-government relations.

Self-sustaining

Programmes and activities and the changes they achieve in the world need to be self-sustaining and to contain a capacity to adapt to, and optimise, relations with external systems.

Adaptive capacity	Programmes and entities need to have the ability to respond positively to changes in the environment.
Over the horizon scanning	Planning needs to look to the future so that plans remain relevant to a changing environment.
Continuous assessment	Any programme or situation requires continuous monitoring and critical evaluation to ensure that it is still achieving agreed outcomes.

Change mechanisms

The capacity to respond to change (related to adaptive capacity) is a prerequisite of any situation or system that wants to avoid becoming rigid and inflexible.

Exit strategies	Not all situations are avoidable or recoverable and there may be situations and circumstances when the optimum strategy is withdrawal.
Consultation	Consultation is a requirement for all elements and all stages of resilience development.
Information exchange, feedback and reporting	For matters significant to the community – or to a part of the community – more formalised exchanges are required (though they may not be formal in tone or manner).

Effectiveness

Any programme needs to be effective in meeting its goals and efficient in minimising the costs of attaining the specified outcomes.

Effective	The resilience-building programme must achieve its aims.
Efficient	The capacity building programme must use the minimum resources necessary to achieve its outcomes.
Cost-effective	Costs should be proportionate to benefits and this proportion agreed on prior to the programme beginning.
Multi-lateral	Multi-lateral benefits should be maximised, as should sharing of resources, information and skills.

Severe storms are natural, destructive and rapid onset events

New risks require new responses

Numerous authors (Buckle 2003; Quarantelli 2001; Rubin 1998; Rubin 2000) have written on the new risks we face. The risks described may differ very significantly from risks we have been exposed to in the past. The arrangements we have for dealing with disasters have been designed around natural, destructive, rapid onset events and they may not be well suited to events that are non-natural, involve systemic failure or accident rather than destruction, which are irreversible and slow onset (so making it difficult to recognise the threat until it has occurred and is escalating beyond control).

These risks tax government and agency resources more than traditional disasters and are likely to be more widespread in their impacts and long lasting in their effects.

Governments need to engage the community whose knowledge and capacity are essential components of any response. This has been recognised at a policy level but less so in the UK in planning, training, education and awareness.

Beyond this we see that there is an urgent requirement for DM to learn from the practice and experience of the humanitarian and development sectors. It appears to us initially that other broad policy and governance frameworks have applicability to disaster management. These include Agenda 21, the Universal Declaration of Human Rights and the United Nations Millennium Development Goals. All these provide a standard against which we can assess resilience and disaster management.

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