After Cyclone Ului hit Eungella, Queensland in March 2010, Mirani State Emergency Service members took this owner to survey his crushed caravan. "This was my home" was all he could say. Photograph by Lynda McManus

The Grampians, a beautiful and popular national park in eastern Victoria, was ravaged by bushfires at the end of 2005. Like a "Phoenix from the Ashes", nature rebuilds itself despite the devastation. Not much colour, but beauty amidst disaster. Photograph by Marten Jak, Emjay Technology Systems

Traralgon South Kitchen Opening, 19th March 2010
The Traralgon South Kitchen was funded by the Victorian Bushfire Appeal Fund after it was nominated as a priority project by the local Community Recovery Committee in the Community Recovery Plan. Photograph provided by the Victorian Bushfire Reconstruction and Recovery Authority

Strath Creek Hall and Pioneer Reserve, 2nd February 2011
Local community celebrate start of works at Strath Creek Hall & Pioneer Reserve following the Black Saturday bushfires. Photograph provided by the Victorian Bushfire Reconstruction and Recovery Authority
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**Australian Emergency Management Handbook / Manual Series**

The first publication in the original Australian Emergency Manual (AEM) Series of mainly skills reference manuals was produced in 1989. In August 1996, on advice from the National Emergency Management Principles and Practice Advisory Group the AEM Series was expanded to include a more comprehensive range of emergency management principles and practice reference publications.

The AEM Series has been developed to assist in the management and delivery of support services in a disaster context. It comprises principles, strategies and actions compiled by practitioners with management and service delivery experience in a range of disaster events.

The series has been developed by a national consultative committee representing a range of State and Territory agencies involved in the delivery of support services and is sponsored by the Commonwealth Attorney-General’s Department.

In February 2011, the Council of Australian Governments (COAG) released the National Strategy for Disaster Resilience which states that ‘Australia has recently experienced a number of large scale and devastating natural disasters, including catastrophic bushfires, far reaching floods, and damaging storms. Natural disasters are a feature of the Australian climate and landscape and this threat will continue, not least because climate change is making weather patterns less predictable and more extreme. Such events can have personal, social, economic and environmental impacts that take many years to dissipate.’ In order to
better align the series with the National Strategy for Disaster Resilience the series was expanded to introduce handbooks.

Details of the AEM Series are available at www.ema.gov.au

Please note that from January 2012 this website URL will change to www.em.gov.au


Handbook 1  Disaster Health
Handbook 2 Community Recovery


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- Manual 3  Australian Emergency Management Glossary
- Manual 4  Australian Emergency Management Terms Thesaurus
- Manual 18  Community and Personal Support Services
- Manual 29  Community Development in Recovery from Disaster
- Manual 15  Community Emergency Planning
- Manual 27  Disaster Loss Assessment Guidelines
- Manual 9  *Disaster Medicine – now Handbook 1 Disaster Health*
- Manual 28  Economic and Financial Aspects of Disaster Recovery
- Manual 8  Emergency Catering
- Manual 5  Emergency Risk Management—*Applications Guide*
- Manual 43  Emergency Planning
- Manual 11  Evacuation Planning
- Manual 20  Flood Preparedness
- Manual 22  Flood Response
- Manual 21  Flood Warning
- Manual 44  Guidelines for Emergency Management in Culturally and Linguistically Diverse Communities
Manual 26  Guidelines for Psychological Services: Mental Health Practitioners Guide
Manual 45  Guidelines for the Development of Community Education, Awareness and Education Programs
Manual 13  Health Aspects of Chemical, Biological and Radiological Hazards
Manual 6  Implementing Emergency Risk Management—A facilitators guide to working with committees and communities
Manual 42  Managing Exercises
Manual 19  Managing the Floodplain
Manual 17  Multi-Agency Incident Management
Manual 31  Operations Centre Management
Manual 7  Planning Safer Communities—Land Use Planning for Natural Hazards
Manual 14  Post Disaster Survey and Assessment
Manual 24  Reducing the Community Impact of Landslides
Manual 12  Safe and Healthy Mass Gatherings
Manual 41  Small Group Training Management
Manual 46  Tsunami
Manual 16  Urban Search and Rescue—Capability Guidelines for Structural Collapse

Skills for Emergency Services Personnel Series (1989)
Manual 38  Communications
Manual 39  Flood Rescue Boat Operation
Manual 37  Four Wheel Drive Vehicle Operation
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Manual 33  Land Search Operations
(refer to website http://natsar.amsa.gov.au/Manuals/index.asp.)
Manual 32  Leadership
Manual 36  Map Reading and Navigation
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Manual 30  Storm and Water Damage Operations
Manual 40  Vertical Rescue
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This handbook provides a comprehensive guide to community recovery in Australia. It is intended for use by planners, managers and those involved in working with communities to design and deliver recovery processes, services, programs and activities.

The first edition of this handbook, the Australian Emergency Manual Recovery, was developed in 1996 by a steering committee that represented the range of professions and government and non-government organisations responsible for recovery management and service delivery throughout Australia. The steering committee involved in this third revision was supported by the Attorney-General’s Department. Over the past decade, many structural changes have occurred in the governance systems and policy development arenas of emergency management and recovery management. Australia wide, recovery management has been incorporated into the Public Safety Training Package, a competency-based qualification, as well as further professional development courses.

The term recovery worker is a generic description. Practitioners from any and every field involved in delivering services to the community in non-disaster times may become recovery workers post-disaster. The issues confronted by individuals and communities, and the knowledge and skills needed to navigate the post-disaster community environment, are considerable. There is a need for shared understandings that can aid discourse among practitioners, policy makers and administrators. Communication of the commonalities and features of particular systems and practices will hopefully enable Australia’s communities to better recover after disasters.

Some goals of this handbook are:

- to provide shared grounding in key concepts, theories and practice frameworks in evidence in Australia
- to contribute towards a common language to enable sector-wide discourse
- to provide concepts, knowledge and resources that can increase practitioner confidence, autonomy, innovation, critique and reflective practice.

Many of the essential components of the original publications have been incorporated into this handbook, which has been updated in terms of policy, procedures and professional practice developments. It also addresses community resilience and...
sustainability considerations. This handbook therefore includes expanded and updated chapters, in particular on community-led recovery, operationalising community recovery and the inclusion of the natural environment.

This handbook (and many of the publications mentioned herein) is available on the Emergency Management in Australia website (www.ema.gov.au).

Relevant references are cited throughout for further reading. This handbook will be updated in soft copy, so any relevant publications can be brought to the attention of the editor (email <empublications@ag.gov.au> with the subject ‘Community Recovery Handbook’).

To support the advancement of recovery from emergencies and disasters, the Australian Government will allow approved overseas organisations to reproduce this publication with acknowledgment but without payment of copyright fees.

Kym Duggan
First Assistant Secretary
National Security and Capability Development Division
Attorney-General’s Department
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Workshop participants came from local, state and territory, and federal governments, private industry and non-government organisations. Participation by more than 80 people in workshops conducted in 2010 and 2011 enabled the collaborative writing of many of the chapters—the contributing organisations and individuals are listed in Appendix 2. The Australian community will benefit greatly as a result of the contributions made by individuals and organisations of considerable time, resources and insights. Their contribution is greatly appreciated.
Members of the Country Fire Authority, State Emergency Service and other emergency services at a
moving tribute at Kinglake, Victoria, to remember those lost on Black Saturday, 9 February 2009.
Photograph by Blair Bellemijn
SECTION A: INTRODUCTION

How to use this handbook

This handbook has six sections:

- **Section A: Introduction**, introduces the handbook and the broad context in which the recovery manager works

- **Section B: Foundations**, outlines the national principles for disaster recovery and describes foundational concepts to sustainable recovery, community-led recovery and communication

- **Section C: Effects of Disasters**, outlines the effects of disasters on communities, including the four integrated environments: social, built, economic and natural

- **Section D: Processes, Plan and Manage**, describes how to plan and manage community recovery, including preparedness and planning and operationalising community recovery; it also looks at the facets of planning, management and coordination structure in Australia, as well as human resource considerations

- **Section E: Activities**, describes the activities (or services) that may need to be facilitated so that a community recovers well, again including the four integrated environments

- **Section F: Appendices**, provides additional practical information, and includes broad and generalised checklists for the various functional responsibilities.

The organisation of the chapters in this handbook is consistent with the project cycle in Chapter 12, ‘Operationalising community recovery’, which describes needs assessment, planning and programming, implementation, and continuous monitoring, review and evaluation. Section C relates to the sorts of things a community might experience post-disaster and therefore can assist with thinking around needs assessment. Sections D and E offer suggestions for planning and programming and implementation of activities/services.

This handbook can be read as a whole or chapters can be read, according to the reader’s need, on a standalone basis or in conjunction with other chapters.
For example, a recovery worker in the built environment might read:

- the introduction and the foundational chapters (Sections A & B) and
- the processes, plan and manage chapters (Section D)
- Chapter 6, which is an overview of the effects on the community
- followed by Chapter 8, ‘Effects in the built environment’, and
- Chapter 17, ‘Recovery in the built environment’
- along with the relevant built environment checklists in Section F.

Similarly, there are specific chapters in Sections C, E and F for people working in the social, economic and natural environments.

To guide the reader, the following symbols are used throughout the handbook.
CHAPTER 1
What is recovery?

Recovery is the coordinated process of supporting affected communities in the reconstruction of the built environment and the restoration of emotional, social, economic, built and natural environment wellbeing.

Recovery is more than simply the replacement of what has been destroyed and the rehabilitation of those affected. It is a complex social and developmental process. Recovery provides an opportunity to improve aspects beyond previous conditions by enhancing social infrastructure, natural and built environments, and economies.

The manner in which recovery processes are undertaken is critical to their success. Recovery is best achieved when the affected community is able to exercise a high degree of self-determination. Well-designed communication plans are also critical to the success of an affected community’s self-determination.

Emergency management

The primary focus of Australian emergency management systems is to mitigate the effects of emergencies and disasters. Each internationally accepted element of the comprehensive approach concept—comprising prevention, preparedness, response and recovery [PPRR]—is used in these emergency management systems. These elements are not sequential or mutually exclusive: in practice each element has components of the other three and may, at least in part, be operational simultaneously. Each PPRR element should be integrated through planning programs and management processes.

Planning, preparedness and recovery activities with communities should support or instil the characteristics of resilient individuals and communities, and foster an environment that encourages innovation and adaptation, as well as a strong community spirit that supports those in need and the self-reliance to withstand and recover from disasters [COAG 2009, p 22].

Emergency management adopted risk management in the 1990s. In the emergency management context, the term used is emergency risk management. Handbooks have been developed to assist in the use of risk management in this context. The risk management framework and process are outlined in Risk management—principles and guidelines [Standards Australia 2009]. The major advantage of using the standard is that
it provides a uniform approach to emergency management while maintaining consistency with regular management practices. The standard includes the PPRR treatment processes, and also addresses mitigation, resilience and vulnerability. Two handbooks that are also relevant to whole-of-community recovery are Business continuity—managing disruption-related risk (Standards Australia 2010) and Environmental risk management—principles and process (Standards Australia 2006).

Emergency management and, indeed, recovery have been extended from their historical sphere of natural events to include events relating to technological and essential services failures, pandemic influenza, exotic animal diseases, acts of violence, insect infestations and provision of safe-havens for evacuees from strife-torn countries. This extension of responsibilities increases the need for flexibility of planning and management systems.

It is not possible to protect communities from all hazards, particularly with climate change predictions, and there will continue to be a need for recovery activities for physical, social, emotional, psychological, economic, financial, and built and natural environment restoration.

Key agencies

It is critical for communities to manage their own recovery to achieve the best possible outcomes. Where a disaster has impacted on the community’s capacity or it was not high prior to the disaster, recovery agencies have an important role in supporting communities in driving their own recovery and building local capacities for recovery processes.

All levels of government, along with non-government, corporate and philanthropic agencies, ideally work closely and collaboratively to provide a range of recovery activities, programs and services. The aim of emergency relief and recovery is to achieve outcomes that are owned by the affected individuals and community and supported by all of the agencies. In many areas across Australia local governments are recognised and supported as the key lead agencies in disasters.

State and territory departments and agencies are responsible for providing emergency-related services such as policing, social welfare and recovery services, agriculture, education, health and ambulance provision, land use planning policy, building control
States and territories and the Australian Government have shared interests and specific responsibilities in the provision of timely and coordinated services to people affected by disasters. The Australian Government provides direct assistance to community recovery and relief activities through the payment of financial assistance to affected people. It also supports the states and territories through cost-sharing arrangements to alleviate the financial burden associated with the provision of emergency relief and recovery services and activities.

Although the Australian Government has no direct responsibility for local safety and emergency services, it is responsible for the military defence of Australia and the civil defence of the Australian community.

The corporate sector is also integral to recovery planning and management. It is embedded in the affected community in the form of electricity providers, insurance companies, the banking sector, telecommunications, private media, retail outlets, private health providers, private education providers, major employers and so on. These providers are ideally engaged in recovery processes to support whole-of-community recovery.

A range of not-for-profit organisations are also integral to effective recovery, through contributing to development of policy and practice, and particularly in the provision of a range of services throughout affected communities.

**The people involved in recovery**

Recovery is undertaken by recovery workers. The term recovery worker is a generic description, and practitioners from any and every field involved in delivering services to the community in non-disaster times may become recovery workers post-disaster.

The term recovery manager refers to any number of roles in the recovery environment. Some of these include taskforce leaders (if a taskforce or authority has been implemented), and managers and policy advisors from different agencies involved in the coordination of the recovery effort (including managers tasked with implementing the recovery services and activities). Recovery managers manage the recovery process on behalf of the nominated lead recovery agency, taskforce or authority.
The nature of recovery work

Disaster recovery work is carried out in an environment that is characterised by:

- its unpredictable, emergency nature
- the need to provide services in an uncertain and rapidly changing environment
- application of skills in an abnormal environment
- high levels of both acute and ongoing stress
- exposure to direct and vicarious trauma
- a highly charged personal work environment and sometimes challenging inter-agency relationships
- exposure to intensive emotions
- intense scrutiny of work performance (often by politicians and the media).

This handbook has been produced to complement existing arrangements and to provide an overarching theory and models of good practice for all recovery partners in Australia. The terms disaster and emergency as used in this handbook are synonymous.
Emergencies are the result of an interaction between a hazard and a vulnerable population and, as such, disrupt lives and communities. For recovery managers, an understanding of the cause of an emergency is likely to be less important than dealing with the consequences—that is, the effects on people is the primary concern. The exception to this is any cause that may result in criminal proceedings, such as arson or a terrorist attack. In these circumstances the cause and resulting cordons and processes for collecting evidence may impact on recovery activities; however, the primary concern for the recovery manager is to provide for the needs of the community. Although understanding the causal agent is important for contextual purposes, the recovery manager focuses on how to deal with the consequences of the emergency.

This chapter provides an overview of the nature of emergencies and outlines the Australian context in which the recovery manager works. It also describes some of the emerging issues in contemporary society that a recovery manager may need to consider.

**Nature of emergencies**

Even with sophisticated predictive tools and warnings, emergencies are still largely unpredictable in their nature and impacts. Added to this, human nature is such that people commonly do not expect to be affected by an emergency and don’t plan for this eventuality.

Therefore, small or large, emergencies usually have two elements in common: they are unexpected and they disrupt individuals, households, livelihoods and communities.

**Scale**

The term *disaster* tends to conjure up visions of a large-scale, overwhelming event. However, an emergency (which may be an unfolding disaster or a single incident) can also be small but can have profound ripple effects, such as the Beaconsfield mine collapse in Tasmania in 2006.

**Type**

Disasters can be broadly categorised into three groups—natural, technological and malevolent—although caution should be exercised in applying these three groupings too.
rigidly as there is considerable overlap between the three. The type of disaster can range from a single household event to a much larger event.

**Rapid versus slow onset**

Disasters generally tend to be rapid onset. However, some hazards may be slow onset; for example, riverine flooding that commences in western Queensland and moves through New South Wales. Drought can also be considered to be a slow onset, insidious disaster. Some human and animal diseases can also have an ill-defined onset, often waiting for declarations by medical officers based on sufficient clinical and scientific evidence to confirm the pandemic nature of an epidemic.

**Geographic focus**

Emergencies often have a geographic context; that is, they are confined to or defined by a certain geographic area. Even though flooding can be widespread, or bushfires (such as Ash Wednesday in 1983) can spread over more than one state, natural disaster impacts tend to be described geographically. Drought, exotic animal diseases and human diseases may have a comparatively wide area of impact but usually remain geographically focused.

Depending on the specific circumstances, technological disasters and malevolent disasters may have a wide area of impact. Key infrastructure, which is dependent on technology, may serve large and dispersed sections of the population. Transport accidents regularly involve people from many different locations. The Bali bombings and the Port Arthur shootings happened in places that were tourist destinations, and the people affected came from many different places. This can present different challenges for the management of recovery, particularly in defining who is affected and how they can be assisted, with recovery of affected people assisted by a number of jurisdictions.

Within the primary production sector, emergencies (such as equine influenza and citrus canker) can have significant flow-on effects for local and regional communities and the national economy.

In a disaster in which there is significant bereavement or dislocation of populations, the impacts are less likely to be geographically defined. For example, families who are...
bereaved may reside in other localities and may not feel connected to the place where the disaster occurred. This is a particularly important consideration when keeping people informed about services, as well as developing remembrance activities. In communities where displaced people are resettled there is also a sense of disconnection—from losing touch with people they know and the disruption of normal routines, as well as the feeling of imposing on [or not feeling welcome in] their new, temporary home.

**The Australian community/societal context**

An understanding of the Australian community context in which disasters occur and disaster recovery operates can be derived from data on demographic trends and other sources of information for social planning. Important considerations for recovery managers are the composition of the population in a given area impacted by a disaster and broader demographic trends. Community and individual resilience to unexpected dangers may vary according to these characteristics. In some areas of Australia, increasing threats such as those associated with climate change may compound existing vulnerabilities.

Some demographic trends that may impact on the vulnerability of communities in disasters include:

- an ageing population
- population movement
- immigration
- changing patterns of employment, workforce participation and volunteerism
- household composition.

**Ageing population**

Australia’s population is ageing, which presents a number of challenges. As people live longer there are increasing numbers of single person households. Increasing age also generally brings with it deteriorating health and mobility, which can lead to an increase in
isolation. In addition, a more mobile population sees families moving further afield for employment or lifestyle reasons, resulting in weaker family supports. Further, as people live longer, their social networks may contract as family members, life partners and friends die.

A trend towards having children later in life, reduced housing affordability and participation in higher education contribute to children continuing to live in the family home into adulthood. The term *sandwich generation* describes the new pressures faced by the generation of Australians who, facing their own retirement, may be caring for an ageing parent as well as continuing to have parenting and financial responsibilities for adult children. A shift towards working longer and retiring later reduces the availability of skilled and available volunteers.

### Population movement

Internal population shifts can increase the pressures on local communities, governments and environments (McLennan & Birch 2005, pp 101-08). Lifestyle changes, including shifting employment patterns associated with growth in certain sectors [such as mining and resources] and reduced opportunities in other areas, together with the rise of casual and part-time employment, leads to a population that is more dispersed and less well connected to its local community and formal and informal support structures. Indigenous Australians living in rural and remote areas may regularly move between different communities and family groups and may not see themselves as belonging to a geographically defined location. Overseas tourists and other travellers, such as the growing group of ‘grey nomads’, may also lack social networks and should not be overlooked.

### Immigration

Immigration patterns and processes can have a compelling influence on peoples’ responses to disasters and their recovery needs, so recovery planning requires consideration of the pathways that have seen people from culturally and linguistically diverse backgrounds settle in Australia.

Older immigrants tend to be post-Second World War arrivals from the United Kingdom
and Europe. A later wave of immigrants came from countries in South East Asia. Most recently, Australia has increased its intake of immigrants from Middle Eastern and African nations such as Lebanon, Afghanistan, Somalia and the Sudan. The circumstances that lead to people leaving their own countries to start new lives in Australia include war and other forms of extreme conflict and social upheaval. Recovery managers and practitioners need to be aware of the way personal experience can influence recovery and should factor this in to their planning and practice.

**Workforce and volunteers**

Australia faces the ongoing challenge of ensuring a recovery workforce, both professional and volunteer, that has the right skills and capacity to develop and deliver relevant and accessible services. This task is made more complex because there is no discrete recovery workforce. Indeed, successful recovery relies on a community-led approach that builds on existing service capacity.

Australia depends on volunteers. Changing demographics present special challenges in terms of growing, maintaining and supporting an adequate volunteer workforce to fill recovery roles. The nature of volunteering is also changing—people are less likely to commit to one organisation for a lifetime, and are more likely to be ‘cause driven’ (once they have fulfilled their need to help, they move to another cause). This shift drives the emerging phenomenon of spontaneous volunteers; that is, people who are motivated to assist when a high-profile disaster event occurs.

**Household composition**

Other groups and sections of the community that are not usually considered vulnerable need to be considered in planning and delivering recovery services; for example, carers of young children and older people, single parents, people living alone and people with disabilities (whether living in supported accommodation arrangements or with their families).

Although household composition may contribute to vulnerability, it can also be a source of strength and resilience to aid recovery. Larger families or Indigenous families (in which it is common for the extended family to be members of the same household) can
support each other, pool resources and assist with the very old and young.

**The changing nature of society**

Within Western society a number of shifts have influenced our resilience and shaped expectations in relation to disaster management. These shifts, which have delivered high standards of living, community safety and increased life expectancy for most Australians (relative to many overseas countries), include:

- advances in technology and public health
- a relatively stable political environment
- law and order
- economic prosperity.

As a result, most middle-class individuals expect to grow old and die of natural causes despite the increased incidence and severity of disasters in the developed world, including Australia.

These advances and subsequent reductions of risks have led, in part, to a common expectation that the government will protect individuals from death and injury from disasters or other unexpected causes. Although this is an important job for government, an over reliance on governments and a tendency to attribute blame to external factors is not sustainable, and may inhibit peoples’ self-reliance and resilience to disasters.

The advent of the digital age and electronic media also shapes public perceptions of disasters and peoples’ expectations of assistance. This may help or hinder community-led recovery as real-time images and continuous commentary are beamed out across the internet. In fact, while raising awareness may generate much-needed resources, the level of media attention may not accurately reflect the effects of a disaster or the recovery needs of the people who have been affected.

**The changing nature of disasters**

The number of disasters and their impact and cost has increased significantly over the past decade. Within the Australian context emerging challenges include:
• climate change
• terrorism
• exotic animal diseases
• human pandemics
• infrastructure failure.

Climate change

Variations in climatic conditions and changing demographics within Australia will create new challenges regarding disaster recovery and some communities may become more vulnerable. This will impact our health and wellbeing, weather patterns, infrastructure and economy.

Variations in climatic conditions are predicted to affect natural hazards through:

• an increase in the scale and number of extreme weather events
• an increased potential for property damage and more disruptions of critical infrastructure. Past building codes and design may be inadequate for the future climate (CSIRO 2007; Insurance Australia Group 2008).

These changes may challenge the prevailing theories about how we manage recovery. Practices that worked in the past may not work in the future.

Changing climate conditions, combined with changing demographics, could result in more intense and more frequent disaster impacts on communities (CSIRO 2007; Insurance Australia Group 2008).

Terrorism

A terrorist act is defined under the Australian Criminal Code Act 1995 as an act or threat intended to advance a political, ideological or religious cause by coercing or intimidating an Australian or foreign government or the public, by causing serious harm to people or property, creating a serious risk to the health and safety to the public, or seriously disrupting trade, critical infrastructure or electronic systems.
The 9/11 attacks in the United States in 2001 resulted in an increased sense of vulnerability to the likelihood of terrorist attacks in Australia. Governments have invested heavily in national security measures, developed anti-terrorism laws and encouraged protective security awareness in both public and private sectors. The 2002 Bali bombings brought the reality of terrorism to Australia with significant loss of life and far-reaching psychosocial impacts on survivors, their families and the bereaved. The 2005 London bombings highlighted the phenomenon of ‘home-grown’ terrorism. Notions of multiculturalism and the accepted tradition of racial and religious tolerance in Australia were challenged. Discussion continues about whether or not the consequences of terrorism and its implications for recovery vary significantly from other disasters. Notwithstanding this, a terrorist attack includes a criminal investigation element, which would need to be considered by recovery managers and practitioners.

**Exotic animal diseases**

The outbreak of foot and mouth disease in the United Kingdom in 2000 had significant impacts upon primary producers, their livelihoods, the livelihoods of those dependent upon them and community networks, as well as upon the mental health of those directly affected. The outbreak of equine influenza in Queensland and New South Wales in 2007 severely disrupted the spring racing carnival in both states, with the Australian Horse Industry Council estimating the financial impact at $550 million.

Some animal diseases have the potential to infect humans. The emergence of zoonotic diseases can have a major impact by creating fear and uncertainty within the general population and undermining business confidence, to an extent that may be disproportional to the impact of the actual illness.

**Human pandemics**

In recent history, two to three pandemics have been recorded every century. In 2009 the emergence of Human Swine Influenza (or H1N1) was a significant public health concern for Australia and the rest of the world. H1N1 is a highly contagious disease. Symptoms generally include acute upper respiratory problems, but the air-borne illness can cause severe pneumonia and death. In response, Australia activated and tested its national and
state/territory influenza pandemic preparedness plans.

There is no certainty when the next influenza pandemic will occur or how severe it will be. Currently there are influenza viruses with pandemic potential circulating widely in animals. These viruses occasionally infect humans and the potential for a pandemic arises when the virus adapts, enabling rapid transmission between humans.

Like H1N1, a new pandemic could be relatively mild. Alternatively, a highly pathogenic virus could emerge, resulting in serious and widespread illness and leading to a large number of deaths and to the disruption of the normal functioning of society for a prolonged period [Commonwealth of Australia 2009].

**Infrastructure failures**

Our way of life is heavily dependent upon our infrastructure and the supply of essential services such as electricity, water, fuel, gas and telecommunications. Many of these services are interlinked, and the loss of one or more can have downstream consequences. Australia has experienced loss of electricity and gas for extended periods, and fuel shortages.

The loss of telecommunications and the internet for an extended period has not been experienced, and would have significant impact upon business, on the ability to undertake transactions, and on safety and security.
Key points:

- **the National Principles for Disaster Recovery in Australia provide a guide to responding to individual and community needs**
- **different styles of leadership and community support are required.**

Anticipating needs in the immediate recovery relief environment evolves to supporting a community to lead their own recovery

- **communication processes are critical to effective recovery.**

Following an emergency or disaster, the affected community comprises individuals, groups and organisations with differing needs. Some may be directly affected by the event in terms of injury, death, loss of possessions and accommodation, some may be evacuated, some may be emotionally affected, and some may be financially affected through loss of employment or livelihood. There may be groups with special needs such as the aged, people with physical or intellectual disabilities, people from different language groups, or people who lack personal or family support. Directly affected groups may be particular suburbs or areas, particular communities such as caravan parks or retirement villages, or employees of a particular business closed by the event. Organisations that may be directly affected include community, service, sporting and recreation, and ethnic, cultural and religious organisations.

With this potential diversity, it is critical to respond to needs throughout the recovery process, which can last a considerable time. The national principles for disaster recovery in Chapter 3 offer ways of working in this environment.

Chapter 4 describes community-led processes in recovery. After an initial phase of responding to survival needs, the most appropriate service model has a basis of supporting people and communities to manage their own recovery. Often communities are strong and healthy in their own right and need special assistance, including empowerment, to support them through an event.

An important principle to be considered is that people will not tolerate being without the information they need, therefore communication processes are critical to effective recovery. Chapter 5 describes communication in the recovery environment. In the absence of accurate, trustworthy information, people will actively seek it out through
their own resources, and if they cannot obtain information they will fill the gap with rumour and speculation.

The informal community information systems should be recognised and catered for so that they do not confuse the situation and distort the information that is made available. These channels are a vital means of communicating with the community, and often people who do not trust or have access to official channels will rely on them. Rumours and speculation should be actively managed and understood as an important indicator of the community’s need for information.

Recovery workers also need current, accurate information about the environment in which they are working, whether they are involved in clean-up, rehabilitation, medical work, environmental health, physical restoration, or social and human recovery.
CHAPTER 3
Recovery—purpose and principles

Disaster recovery and emergency management

Disaster recovery is part of emergency management, which also includes the broader components of prevention, preparedness and response. Figure 3.1 illustrates the non-linear nature of the prevention (mitigation), preparedness, response and recovery (PPRR) comprehensive approach to emergency management.

Figure 3.1: Programs and activities supporting disaster prevention, preparedness, response and recovery (some terminology may differ across states/territories and nationally)
Applied at national, jurisdictional and local levels, a variety of recovery actions deliver significant positive results for those affected by disasters. Planning for recovery is integral to emergency preparation, and mitigation actions may often be initiated as part of recovery.

**Purpose of disaster recovery**

The purpose of providing recovery services is to assist the affected community towards management of its own recovery. Where a community experiences a significant emergency or disaster there is a need to supplement the personal, family and community structures that have been disrupted.

Disaster recovery is:

> The coordinated process of supporting disaster affected communities in the reconstruction of the physical infrastructure and the restoration of emotional, social, economic and physical well-being (EMA 2004, p 67).

Considerations include community, psycho-social, infrastructure, economic and environmental recovery (CSMAC 2004).

Recovery can provide an opportunity to improve these aspects beyond previous conditions, by enhancing social and natural environments, infrastructure and economies, and thereby contributing to a more resilient and sustainable community.

_Should recovery be defined as a return to pre-disaster levels of psychological, social, and economic well-being? … The study of disaster recovery … tends to overlap with research on broader processes of social change … recovery research also focuses on more general post-disaster issues such as the extent to which disasters influence and interact with ongoing processes of social change, whether disaster impacts can be distinguished from those resulting from broader social and economic trends, whether disasters simply magnify and accelerate those trends or exert an independent influence and the extent to which the post-disaster recovery period represents continuity or discontinuity with the past. Seen in this light, the study of recovery can become indistinguishable from the study of longer-term social change affecting communities and societies (National Research Council of the National Academies 2006, p 150)._
Planning for recovery is integral to preparing for emergencies, and is not simply a post-emergency consideration. Recovery commences with planning and responding to an emergency and continues until after the affected community is able to manage on its own.

**National principles for disaster recovery**

Principles that describe the application of recovery are an effective means for sharing goals in a field that involves many entities. These principles are reflected in a variety of manuals and plans to help support effective recovery outcomes.

After comprehensive consultation, in 2009 the Community Services Ministers’ Advisory Council endorsed the new national principles for disaster recovery, replacing those endorsed in 1986.

The principles are a series of six key concepts, each with key considerations (see Appendix 1). They represent a range of aspects that are considered central to successful recovery.

Successful recovery relies on:

- understanding the **context**
- recognising **complexity**
- using **community**-led approaches
- ensuring **coordination** of all activities
- employing effective **communication**
- acknowledging and building **capacity** (CDSMAC 2009).
The relationship between the six principles is shown in Figure 3.2. Although all are equal in ensuring effective recovery, an understanding of complexity and context is a foundation factor.

**Applying the national principles**

Disaster recovery involves a variety of organisations and individuals across government, non-government and the community. The principles are intended to be adopted and used at national, state and territory, and local levels.

The principles are guidelines of good practice and should underpin planning and operations within local emergency management frameworks.
Understanding the context

Successful recovery is based on an understanding of the community context. Recovery should:

- appreciate the risks faced by communities;
- acknowledge existing strengths and capacity, including past experiences;
- be culturally sensitive and free from discrimination;
- recognise and respect differences; and
- support those who may be more vulnerable; such as people with disabilities, the elderly, children and those directly affected.

Recognising complexity

Successful recovery acknowledges the complex and dynamic nature of emergencies and communities. Recovery should recognise that:

- information on impacts is limited at first and changes over time;
- affected individuals and communities have diverse needs, wants and expectations, which are immediate and evolve rapidly;
- quick action to address immediate needs is both crucial and expected;
- disasters lead to a range of effects and impacts that require a variety of approaches; they can also leave long-term legacies;
- conflicting knowledge, values and priorities among individuals, communities and organisations may create tensions;
- emergencies create stressful environments where grief or blame may also affect those involved;
- the achievement of recovery is often long and challenging; and
- existing community knowledge and values may challenge the assumptions of those outside the community.
Using community-led approaches

Successful recovery is responsive and flexible, engaging communities and empowering them to move forward. Recovery should:

• centre on the community, to enable those affected by a disaster to actively participate in their own recovery;
• seek to address the needs of all affected communities;
• allow individuals, families and communities to manage their own recovery;
• consider the values, culture and priorities of all affected communities;
• use and develop community knowledge, leadership and resilience;
• recognise that communities may choose different paths to recovery;
• ensure that the specific and changing needs of affected communities are met with flexible and adaptable policies, plans, and services; and
• build strong partnerships between communities and those involved in the recovery process.

Ensuring coordination of all activities

Successful recovery requires a planned, coordinated and adaptive approach based on continuing assessment of impacts and needs. Recovery should:

• be guided by those with experience and expertise, using skilled and trusted leadership;
• reflect well-developed planning and information gathering;
• demonstrate an understanding of the roles, responsibilities and authority of other organisations and coordinate across agencies to ensure minimal service disruption;
• be part of an emergency management approach that integrates with response and contributes to future prevention and preparedness;
• be inclusive, using relationships created before and after the emergency;
• have clearly articulated and shared goals based on desired outcomes;
• have clear decision-making and reporting structures;
• be flexible, take into account changes in community needs or stakeholder expectations;
• incorporate the planned introduction to and transition from recovery-specific actions and services; and
• focus on all dimensions; seeking to collaborate and reconcile different interests and time frames.

**Employing effective communication**

Successful recovery is built on effective communication with affected communities and other stakeholders. Recovery should:

• ensure that all communication is relevant, timely, clear, accurate, targeted, credible and consistent;
• recognise that communication with a community should be two-way, and that input and feedback should be sought and considered over an extended time;
• ensure that information is accessible to audiences in diverse situations, addresses a variety of communication needs, and is provided through a range of media and channels;
• establish mechanisms for coordinated and consistent communication with all organisations and individuals; and
• repeat key recovery messages because information is more likely to reach community members when they are receptive.

**Acknowledging and building capacity**

Successful recovery recognises, supports and builds on community, individual and organisational capacity. Recovery should:

• assess gaps between existing and required capability and capacity;
• support the development of self-reliance;
quickly identify and mobilise community skills and resources;

acknowledge that existing resources will be stretched, and that additional resources may be required;

recognise that resources can be provided by a range of stakeholders;

understand that additional resources may only be available for a limited period, and that sustainability may need to be addressed;

provide opportunities to share, transfer and develop knowledge, skills and training;

understand when and how to disengage; and

develop networks and partnerships (CDSMAC 2009).
CHAPTER 4
Community-led recovery

This chapter explains why it is critical for communities to manage their own recovery to achieve the best possible outcomes. It also highlights the important role of recovery agencies in supporting communities in driving their own recovery and building local capacities for recovery processes.

The chapter outlines the assets that contribute to a community’s sustainability within the disaster context. The attributes of resilience and vulnerability are described for individual, household and community levels.

The benefits of, and guidelines for, using a community development approach to achieve more sustainable community recovery outcomes are also discussed.

Communities managing their own recovery

Community members are the first responders during an emergency, and take actions to save and protect themselves, their families and their communities. These actions are emergent behaviours (Drabek & McEntire 2003). In responding, disaster-affected communities spontaneously begin their own recovery processes. It is the role of formal recovery agencies to provide structured support, communication and coordination to assist these efforts.

Disaster-affected people, households and communities understand their needs better than any of the professional, government, non-government or corporate supporters. They have the right to make their own choices about their own recovery. There is increasing recognition that the processes used by government and other key recovery agencies to interact with communities are critical and can impact either positively or negatively on the capacity of individuals and groups to manage their own recovery process.

*Individuals and communities have inherent strengths, assets and resources, which should be actively engaged within the emergency and recovery phase.*

*Because trauma emanates from profound powerlessness, interventions should emphasize empowerment, meaning they need to emphasize strengths, mobilize the community’s capabilities, and help the community to become self-sufficient* (Harvey 1996, cited in Norris et al 2008, p 143).
Supporting self-help and strengthening the resources, capacity and resiliency already present within individuals and communities are the keys to successful recovery. Empowering communities to create their own solutions can improve overall social cohesion, and this is critical to sustainable recovery outcomes.

**Sustainable communities: resilience and vulnerability**

**The idea of community and sustainability**

Communities are combinations of open-ended groupings which can be defined by organising cultural beliefs and practices and are constantly open to change (Masolo in Gordon 2004b, p 10).

Even relatively straightforward communities, such as those in a town or geographic area, contain multiple social groups, and these groups may differ in significant ways (Pooley, Cohen & O’Connor 2006). Groups may differ in terms of their socioeconomic status, their degree of geographic isolation or their vulnerability to psychological trauma. These group differences may mean that different groups within the one society can be more or less resilient to a disaster (Buckle, Mars & Smale 2000; Maguire & Hagan 2007).

Community sustainability provides a framework for whole-of-community recovery, with a focus on sustainable development. Sustainable communities are participatory, empowering, collaborative and, although vulnerable in particular contexts or aspects, they may also be resilient (Pooley, Cohen & O’Connor 2006).

**Sustainable community recovery**

Smith and Wenger (2006) suggest conditions to consider in designing, implementing and reflecting on sustainable community recovery in the United States. Adapting their thoughts to the Australian context, the design of recovery programs, and the success or otherwise of implementation of strategies, depends on:

- pre-disaster community-level variables, such as local capacity, previous disaster experience, nature and extent of relationships within and beyond the community, the condition of critical infrastructure and housing, and the level of local participation in collective action
• characteristics of the disaster, such as intensity, scope, speed of onset and duration of impact

• facilitators of sustainable disaster recovery, such as ability to leverage resources, self-reliance and self-determination, pre- and post-disaster recovery planning, identification of local needs, program flexibility, state and Commonwealth capability and commitment

• impediments to sustainable disaster recovery, such as viewing disaster recovery programs as an entitlement, over-reliance on recovery programs, narrowly defined recovery programs, and low capability and commitment.

Integrating disaster recovery and long-term development

After an emergency, an affected community needs to face a new reality, and decide about needs and priorities. As determined by the affected community, relevant aspects of pre-emergency community aspirations and development plans need to be integrated into the recovery processes. This integration ensures that the longer-term recovery process leads to ongoing and sustainable development.

The consequences of a rapid onset disaster on development within a community is shown in Figure 4.1, which illustrates how a disaster can entirely disrupt a community’s developmental process. It also shows the relationships between pre-existing development work, relief, early recovery, long-term recovery and ongoing developmental work.

Resilience

Resilience encompasses all three of the following components in an ongoing process. A resilient community:

• predicts and anticipates disasters

• absorbs, responds and recovers from the shock

• improvises and innovates in response to disasters [Aguirre in Maguire and Hagan 2007, p 17].
Similarly, the National Research Council\(^1\) (2006, pp 151–2) describes resilience factors based upon:

- resources and options for action that are typically available during non-disaster times (inherent)
- the ability to mobilise resources and create new options following disasters (adaptive).

Australians are renowned for their resilience to hardship, including the ability to innovate and adapt, a strong community spirit that supports those in need, and the self-reliance to withstand and recover from disasters.

A growing focus on disaster resilience in Australia is evident in the National Emergency Management Committee’s (2011) *National strategy for disaster resilience*. This strategy emphasises that achieving a higher level of disaster resilience is a shared responsibility for individuals, households, businesses and communities, as well as for governments and the non-government sector. Indeed, if all these sectors work together, they will be far more effective than the individual efforts of any one sector.

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\(^1\) This was adapted from Rose (2004), who was referring specifically to economic resilience, but the concepts of inherent and adaptive resilience can be applied much more broadly.
### Characteristics of resilience

This section describes characteristics associated with individual, community and organisational resilience so that recovery workers can recognise and potentially use individual, community and organisational capacity in the recovery process.

#### Individual resilience

Resilience of individuals has an impact on their ability to recover from disaster. Individuals who are resilient generally have the following characteristics (all of which can be developed in people):

- ‘caring and supportive relationships within and outside the family. Relationships that create love and trust, provide role models, and offer encouragement and reassurance …’
- the ‘capacity to make realistic plans and take steps to carry them out’
- ‘A positive view of themselves and confidence in their strengths and abilities
- Skills in communication and problem solving
- The capacity to manage strong feelings and impulses’ (APA 2011, p 3).

It is important to note that people do not all react in the same way to traumatic and stressful life events. In addition:

> a person’s culture might have an impact on how he or she communicates feelings and deals with adversity—for example, whether and how a person connects with significant others, including extended family members and community resources (APA 2011, p 3).

Parallels can be drawn between the factors that influence personal resilience and those that influence a community’s resilience.

#### Community resilience

Communities that are resilient typically have the following characteristics:

- trust
- social cohesion
CHAPTER 4 | Community-led recovery

- supporting attitudes and values
- leadership
- a sense of community
- good communication and information
- collective efficacy
- community involvement
- resource dependency
- social capital
- existing norms
- engagement with government.

Other elements that support a community’s resilience include the sustainability of social and economic life, including the ability to withstand disruption.

The following assets need to be considered when assessing community resilience to disasters:

- **human capital:** labour power, health, social wellbeing, nutritional status, education, skills and knowledge
- **social capital:** those stocks of social trust, interconnectedness, norms, and social and economic networks that people can draw upon to solve common problems and support community functioning—social capital is mediated through networks and group membership (formal and informal)
- **physical capital:** houses, vehicles, equipment, infrastructure, information technology, communications, livestock, assets etc
- **natural capital:** access to land, water, wildlife, flora, forest
- **financial capital:** savings, tradeable commodities, access to regular income, insurance, net access to credit
- **political capital:** individual/group/community ability to influence policy and the processes of government—political capital is underpinned by the mutual
communication between government and citizens, which allows citizens to participate in the formulation of policy and the provision of government services (ILO & FAO 2009).

Organisational resilience

Organisations are integral parts of communities. The availability of essential services (or supply chains and other businesses) during and following an emergency, crisis or disaster depends on the ability of organisations to survive through a disruptive event. Enhancing organisational resilience is a critical step towards creating more resilient communities.

Other references/resources:

For more information on organisational resilience, see Business continuity—managing disruption related risk (Standards Australia 2010).

Building resilience through recovery

Building community resilience through the recovery process is a desirable outcome. Measuring this is a challenge, particularly given that resiliency is not an end point, but an ongoing and incremental process. Achieving disaster resilience requires a long-term commitment to deliver sustained behavioural change and enduring partnerships.

A high level of community resilience towards disasters is determined largely by social factors (National Research Council of the National Academies 2006), which are based on strong interdependencies. At a practical level, a community’s resilience is developed and maintained by partnerships—with all levels of government and non-government and corporate sectors—through support programs, services and resources provided both pre- and post-disaster.

Disaster recovery is not only about building houses but the reconstruction of the whole community as a safer place. To mobilize each member of the community in this collective action [community development] social capital is a crucial need (Nakagawa & Shaw 2004, p 12).

A community’s social capital and its leadership have been found to be the most effective elements in enhancing collective actions and disaster recovery in communities.
notwithstanding socioeconomic and cultural contexts (Nakagawa & Shaw 2004). Social capital is defined as a function of trust, social norms, participation and social networks of individuals and groups. In the Japanese city of Kobe, the community—with social capital and a tradition of community activities—pro-actively participated in the reconstruction program after the earthquake, thereby making a successful and speedy recovery. After the earthquake in Gujarat, India, the role of community leaders was prominent in using social capital in the recovery process and facilitating collective decision making (Nakagawa & Shaw 2004).

Emergency management plans must recognise and build on a community’s capacity for social resilience (Maguire & Hagan 2007), while at the same time identifying and addressing vulnerabilities.

*Emergencies can create a wide range of significant impacts experienced at the individual, family, communities and societal levels. At every level, emergencies erode normally protective supports, increase the risks of diverse problems and tend to amplify the pre-existing problems of social justice and inequality (IASC Reference Group for Mental Health and Psychosocial Support in Emergency Settings 2010, p 2).*

Recovery planning begins with an understanding of the pre-existing state of the community, and the consequences of a disaster upon that community. To build greater community resilience, recovery processes need to:

- conscientiously address issues of resource inequities
- conscientiously address issues of socioeconomic vulnerabilities
- incorporate community resilience-building activities, including disaster risk reduction measures (emergency risk management and mitigation).

They also need to:

- empower communities
- develop and support leadership
- resource community-led strategies.
Vulnerability

Understanding the vulnerabilities of communities is integral to managing emergency risks and implementing effective emergency planning, preparedness and recovery programs.

In the disaster context, the vulnerability of individuals, groups and communities is variable. A society’s vulnerability to disasters should not be thought of as static or fixed. Just as resilience is not a discrete capability and can change (according to circumstance, location, past experience etc), vulnerability factors are also fluid.

Vulnerability is defined as ‘the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist, and recover from the impact of a ... hazard’ (Wisner et al 2004, p 11).

Vulnerability is not necessarily a condition or attribute of age, disability, poverty, lack of education, health, geographic location or an inability to speak the predominant language such as English. It is a consequence or attribute of a life or lifestyle, and reflects whether the people affected can prevent and resist the potential damage of the disaster and whether, if damage does occur, they can recover successfully.

There are two main aspects to the notion of vulnerability in the disaster context (National Research Council of the National Academies 2006) and these apply to the likelihood of people experiencing:

- negative impacts from a disaster (loss of life, property, livelihood etc)
- recovery-related difficulties; for example, problems with accessing services and inequity issues, as well as inappropriate or ineffective support.

This notion mirrors the discussion in Chapter 7, under the subheading ‘Psychosocial—secondary impacts’.

Some individuals and groups are likely to be more susceptible to loss, or to have less resilience than other individuals and groups; however, lists of vulnerable people and groups are only guides at best because they do not explicitly indicate how or why these groups are vulnerable. Table 4.1 lists groups that may be more susceptible than others.
### Groups potentially at risk or potentially vulnerable

<table>
<thead>
<tr>
<th>Groups potentially at risk or potentially vulnerable</th>
</tr>
</thead>
<tbody>
<tr>
<td>People who are aged (particularly the frail)</td>
</tr>
<tr>
<td>Children and youth</td>
</tr>
<tr>
<td>People with disabilities (mental and physical)</td>
</tr>
<tr>
<td>People who are economically disadvantaged and have limited resources to meet essential needs</td>
</tr>
<tr>
<td>People from culturally and linguistically diverse (CALD) backgrounds</td>
</tr>
<tr>
<td>Indigenous Australians</td>
</tr>
<tr>
<td>People who are socially isolated</td>
</tr>
<tr>
<td>People who are physically isolated</td>
</tr>
<tr>
<td>People who are seriously ill</td>
</tr>
<tr>
<td>People who are dependent on technology-based life support systems</td>
</tr>
<tr>
<td>Single parent families</td>
</tr>
<tr>
<td>Workers at risk from machinery/equipment failure</td>
</tr>
<tr>
<td>People with limited psychosocial coping capacity</td>
</tr>
<tr>
<td>People who are homeless, at risk of homelessness or inadequately accommodated</td>
</tr>
<tr>
<td>People on holiday and travelling (particularly those in tent and caravan facilities)</td>
</tr>
<tr>
<td>Visitors from overseas</td>
</tr>
<tr>
<td>People living close to areas of hazard (e.g., floodplains, chemical processing plants, areas of potential landslip)</td>
</tr>
<tr>
<td>People affected by the impact of a hazard (e.g., people who are trapped, people made homeless)</td>
</tr>
<tr>
<td>Large families</td>
</tr>
</tbody>
</table>

Its principle value is as a prompt for vulnerability assessment. This list is neither exhaustive nor exclusive. Nor is it set out in priority order. Actual groups at risk will depend on the specific circumstances, such as location, community demographics, time of year or particular emergency management phase (for example, prevention, response, recovery).

It is important to be aware of the assumptions we often make about these groups and to challenge those assumptions if necessary (Buckle, Mars & Smale 2000). And it is also important to understand that the potentially vulnerable groups in this list (or those identified through assessment processes) also have strengths, assets and capacities. They cannot only potentially support themselves during critical stages within disasters, but can provide assistance to others. For example, during the 2003 East Gippsland bushfires, aged people who had experienced bushfires previously provided emotional and calming...
support to young families within evacuation centres who were experiencing significant fear. Understanding the demographics of your local community prior to any event will assist in identifying those potentially most vulnerable in a disaster. Developing a greater understanding of vulnerability is also covered in Chapter 12 under ‘Needs assessment’.

**Community development in recovery**

The national principles for disaster recovery (Chapter 3) advocate a community approach to empower individuals and communities to manage their own recovery. Community development is a method of working with people. It starts from the needs and aspirations of groups and moves to articulate and organise action around those needs and aspirations—placing them at the front.

*Community Development is a long term value based process which aims to address imbalances in power and bring about change founded on social justice, equality and inclusion.*

The process enables people to organise and work together to:

- identify their own needs and aspirations
- take action to exert influence on the decisions which affect their lives
- improve the quality of their own lives, the communities in which they live and societies of which they are a part (LLUK & Alliance SSC 2011, p 4).

In the immediate phases of relief and early recovery, recovery agencies can make proactive decisions about supporting anticipated community needs. These decisions are based on knowledge and experiences from previous disasters, coupled with a sound understanding about the consequences of the disaster upon the community and its capacity to meet its own needs.

As individuals, groups and the community recommence engaging, communicating and becoming more aware of the emerging consequences of the disaster, they are able to collectively plan for their recovery needs. Recovery agencies should facilitate and support individuals, groups and communities to identify, prioritise and implement their own recovery process. This involves working with and engaging communities on issues of local concern, and developing localised community recovery plans and projects.
Recovery planning built upon community development fundamentally aims to support self-help and strengthen the resources, capacity and resilience already present within individuals and communities.

Community development recovery processes apply to the four integrated recovery environments (social, built, economic and natural environments). Depending on the type of event and the impacted community, the four environments will be affected to different degrees. Recovery processes should strive to build back better through increasing social capital, stimulating livelihoods and economies, rebuilding more-resilient infrastructure, strengthening institutions, and investing in the health and wellbeing of communities.

Community development processes within disaster recovery can be different from the ongoing work in ‘ordinary’ times. In particular, disaster recovery processes may require a more proactive approach than in other developmental settings. (This is further described in Chapter 16).

Recovery community development workers emphasise the need to:

- provide opportunities for disaster-affected people to ‘have their say’ and enable people to have power to influence (when they may feel powerless following the impact of an emergency)
- work ‘with’ people rather than ‘doing things to’ them, or working ‘for’ them
- support people to come to terms with their different life circumstances and move forward into a new, changed reality, which may provide new adaptive socioeconomic and disaster preparedness opportunities.

**Community engagement**

Community development approaches are facilitated by community engagement. Community engagement is a generic term for any process or interaction with stakeholders, community groups or individuals. It can include one-way communication or information delivery, consultation, involvement in decision making, and empowered action in informal groups and/or formal partnerships.
Based on the public participation spectrum, best practice community engagement is underpinned by a set of principles, including:

- **inclusiveness**—the involvement of people potentially affected by, or interested in, projects or activities, including individuals and groups from culturally diverse backgrounds: engagement should be undertaken in ways that encourage people to participate and that seek to connect with those who are hardest to reach

- **commitment**—engagement should be genuine and aimed at identifying, understanding and engaging relevant communities, and should be undertaken as early as possible

- **building relationships and mutual respect**—development of trust through personal contact and keeping promises is a priority: effective relationships between government and non-government sectors, industry and community should be maintained by using a variety of communication channels, by acknowledging and respecting community capacity, values and interests, and by exploring these areas to find common ground

- **integrity**—genuine community engagement is a means through which the integrity of government and the democratic processes of government are maintained

- **transparency and accountability**—engagement should be undertaken in a transparent and flexible manner so that communities understand what they can influence and to what degree
feedback and evaluation—engagement processes should inform participants of how their input contributed to decision making.

Recovery managers need to be clear when engaging with communities about the ability of the community to have input (for example, whether community input will be considered and policy programs adjusted accordingly, or whether the community engagement process is only about informing the community of the practice to be adopted). Trust can be eroded if the community engagement methods used are inappropriate, or promise a level of involvement or decision making that is not delivered.

Asset-based community development

Asset-based community development refers to the practice of using and building on existing local networks and strengths in the community. In many instances effective outcomes may be achieved through use of (and by complementing) the resources already available within an affected community. Communities have a range of trusted community groups/networks, which can be used to implement a range of community development recovery activities. These groups understand the local community dynamics and are best placed to provide ongoing sustainable community recovery support.

Although an assets-based approach is the optimum way to implement a disaster recovery community development process, the local capacities to meet the ongoing service needs of communities, as well as to address recovery needs, also need to be assessed.

Community development workers

Depending on the consequences of a disaster, in some circumstances it will be necessary to provide additional resources to support the community development component of the recovery process. In particular, the employment of community development workers may be necessary to facilitate activities that will enhance the recovery of individuals and the broader community. Chapter 15, ‘Human resources’, outlines human resource considerations in relation to community development workers.
Early assessment should be made of any need for, and likely benefit of, additional community development resources, which may be required when:

- the emergency has a demonstrated impact upon social infrastructure and networks and economic systems
- an affected area is experiencing or is likely to experience socioeconomic disadvantage as a result of the emergency, and/or
- the emergency has created a high degree of stress/distress within the community that will impact upon its health, wellbeing and socioeconomic recovery.

The decision to fund and employ community development workers is undertaken following a disaster when a community is usually experiencing significant consequences and the personnel within local community-based agencies and groups may have been affected.

The work load of local councils and other agencies will exponentially rise, and additional resources may be required for these agencies to maintain their usual levels of services, as well as to provide community development recovery support.

Additional resources such as community development workers can reinforce existing resources within communities and assist in preventing further breakdown in those services, thereby alleviating future long-term costs. Equally, the use of community development workers can alleviate the expected escalation of health and socioeconomic issues, including the continued loss of productivity and economic hardships.
Challenges for community development

Challenges involved in working with the community in disaster recovery processes include:

- engaging with communities when they are struggling with other serious issues relating to the disaster, such as royal commissions or legal class actions
- maintaining continuity throughout the long-term recovery process
- balancing government and community agendas, which may include political higher-order recovery planning and prioritising of needs (occurring simultaneously and potentially not in line with local community planning and prioritising)
- ensuring productive communication and relationships between government and disaster-affected communities
- engaging with CALD communities
- engaging and including excluded community groups in decision-making processes
- keeping the balance (for example, weighing up individual versus collective community good) and balancing local interests with those of the wider region (for example, funding allocations)
- managing conflict—unlike the response phase, where unilateral command generally applies, recovery is multilateral and leads naturally to disagreement and conflict because communities are not cohesive groups: there may be competing groups with exclusive practices
- dealing with inequity—communities can have pre-existing social and economic inequities
- including emergent groups in recovery processes—emergent groups can evolve to support and assist with recovery processes or, conversely, can be obstructive and time consuming
- dealing with community culture—cultural shifts may be required (for example, a rural community’s strong sense of independence can hinder the move to a position of interdependence)
Community development processes in managing conflict

In the aftermath of disasters, survivors with shared experiences may form new groups and friendships. However, these relationships may only be for survival purposes and may not be sustainable in the medium to long term. Following this community fusing and bonding process, subsequent fragmentation can occur and can damage the community recovery process. Strains in previous relationships may also become apparent.

As well as good feelings of giving and receiving, there may be conflict, anger and jealousy. Examples of issues that cause conflict include differing rates of repair, different or no insurance, community expectations and opposing community values. Opposing values can include rebuilding versus environmental issues, country versus city, safety versus accessibility, and prioritising of needs (such as a focus on employment and the economy versus accommodation and shelter needs). Cash programming and allocation of funds can cause perceived inequity issues, and fundraising appeals that appear to duplicate purposes create confusion within communities.

Social attitudes need to be worked with to ensure the maintenance of a constructive
environment. Without sound community development and management practice, conflict can significantly damage or destroy the social infrastructure of a community.

Community development strategies to recover the social fabric include:

- rebonding
- community formation
- facilitation of social bonds through communication
- normalising communication about the disaster and its effects
- forming disaster-related social representations
- forming a common reality
- preserving differences and complexity
- preserving boundaries and identities
- facilitating reference groups
- facilitating social representations of post-disaster life
- integrating services (Gordon 2004a, pp 21–2).

**Adaptive change opportunities within community development**

Recovery processes can support people to make *adaptive changes*—that is, to come to terms with their different life circumstances and to move forward into a new, changed reality, which may in time provide new opportunities.

Disaster recovery processes are often a time of strong reflection for individuals, families and communities when new choices and learning can occur. The sensations of disorientation and disequilibrium following a disaster can enhance individual and
community abilities to address change and adopt new learning. Therefore, community development recovery programs that aim to support long-term sustainability can facilitate processes whereby individuals and communities can review their decisions and lifestyles and assess future directions.

People from outside the affected community may be the most suitable facilitators of adaptive change processes (because changes may be non-sustainable, may diminish access to certain socioeconomic opportunities, or may raise social, economic and disaster vulnerability issues). An external, neutral and respected facilitator is unlikely to have vested interest in particular outcomes, and should therefore be able to support individuals, families, groups and the community to embrace the potentially difficult changes required to address issues of disaster resiliency, including social and economic vulnerability and sustainability.

Renewin’ Strathewen

This is a unique example of community-led recovery. The community of Strathewen in Victoria was one of many communities devastated by the Black Saturday bushfires on 7 February 2009. In this town of 220 people, 27 died and 80 of their 120 homes were destroyed.

In the days following the disaster it became obvious that Strathewen had received little attention in the thinking of emergency services before, during or after the fire. Residents felt that the media had overlooked the plight of Strathewen, overshadowed by bigger and better known locations such as Kinglake and Marysville. It was clear that government and non-government agencies had commenced an enormous recovery effort and it was felt that a small community like Strathewen could be swept along by the State’s disaster recovery imperatives unless they established a legitimate Strathewen voice. Public meetings were held and a steering group was established to draft a constitution for an incorporated association. The Strathewen Community Renewal Association (SCRA) came into existence at a public meeting on 28th June 2009 [SCRA 2010].
Renewin’ Strathewen (continued)

SCRA was then able to apply for funding and set up processes to account for decisions and expenditures.

One of our greatest achievements has been to nurture an understanding that all of our residents and those in neighbouring Arthurs Creek whose lives are intertwined with Strathewen are part of the same extended fire affected community. Our association is inclusive; the constitution recognizes that living through fire is not the only measure of belonging. There is no them and us … We’ve strived from the first public meetings to manage the potential for division by emphasizing a culture of respect, equity and consistency in our processes and transparency in decision-making … Council’s willingness to accept the uncertainties of a community led recovery, their flexibility in proceeding at the community’s pace and respect for the SCRA agenda has been fundamental in creating a very positive working relationship (SCRA 2010).

Figures 4.2 & 4.3:
Strathewen’s first community meeting after Black Saturday to propose the formation of a recovery association, March 2009
Photographs by Malcolm Hackett
Mackay Community Arts Project

As part of the long-term recovery process following the 2008 Mackay flood, Tropical Population Health Services initiated a community arts project in collaboration with the Department of Communities and Mackay Regional Council.

‘Be kind to your mind … get involved in the arts’ aimed to bring people together, 18 months after the event, to reflect on their experiences, to acknowledge the inspiring community response during and after the flood, and to strengthen individual and community capacity for responding to and recovering from disasters and for preparing for future disasters. The project attracted 455 participants, and 1180 people visited the exhibition spaces.

The project was based on research that suggested that strategies to engage communities in thinking and reflecting on their experiences after a disaster should be undertaken at key points in recovery—in the short, medium and long term—and that these strategies should engage government and community institutions beyond the traditional welfare sector, especially those concerned with the arts and the environment.

The community arts approach was chosen because there is very strong commitment to the arts in Mackay (artists and arts organisations work in visual arts, crafts, film, theatre, dance and music). Local artists and arts organisations were invited to participate in a one-day workshop on the role of the arts in community recovery and mental health promotion to ensure an agenda of inclusiveness for a wide range of audiences and participants. They were then invited to submit an application for delivery of a series of sessions in their particular fields with a focus on working in partnership with other artists and with community support services.

Sessions were planned to take place close to areas most affected by the flood to enable easy access for participants. Showcase events were held locally to attract a wide audience and an exhibition of all works was held at Artspace.
Mackay Community Arts Project (continued)

Seven local artists were engaged to work with the community. Projects included:

- artists working with groups at Beaconsfield, Walkerston and the Women’s Centre using mixed media, including pastels, felt, fibre and even recycled teacups, to create works celebrating the local neighbourhood and community spirit
- blacksmithing sessions conducted at a property at Balnagowan
- digital photography sessions at Mackay City and Gordon White libraries for people interested in using their personal photographs to create visual stories of their flood experiences
- production of a short film, *Resilience*, to show how people who were affected by the flood have stood together and emerged stronger from the disaster.

Four of the seven artists organised local showcase events and all participated in the culminating showcase at Artspace.

Media coverage, including print, television, radio, and print and electronic community newsletters, publicised the projects.

One-off projects such as the Mackay Community Arts Project can assist with the strengthening of individuals and communities after a disaster, and assist with characteristics that build resilience. The immediate impact on individuals that emerged from participant feedback suggested individual empowerment and community connection; for example:

- many participants commented on how much easier it was to talk about their flood experiences while doing something creative and that the environment/atmosphere made it feel safe to do so
- groups continued to meet after the official end of the project to further develop their skills—individuals indicated that they would participate in further art classes
Mackay Community Arts Project (continued)

- participants indicated that they were interested in becoming volunteers in the community
- Mackay Regional Council libraries had increased participation in their courses as a direct result of the project.
CHAPTER 5
Effective communication in recovery

The social connectedness of communities is based on communication processes. During emergencies these communication channels can be broken and/or disrupted. This may result in disaster-affected people feeling disconnected and isolated for extensive periods of time from their families and friends, existing community networks, and health and social services.

Employing effective communication is a key principle of disaster recovery, and is critical to facilitating community involvement and ensuring a sustainable process. Underpinning the delivery of all community-based recovery services is the need for an effective communications strategy (which includes the provision of timely and easily accessible public information) and effective community engagement activities to facilitate two-way information flow. Communication is the process: information is the message being sent or received.

This chapter outlines the communications process in the recovery environment, how it is done, who it is for, and the types of information that are required by different parties.

In the national principles for disaster recovery, the ‘employing effective communication’ principle states that:

Successful recovery is built on effective communication with affected communities and other stakeholders. Recovery should:

• ensure that all communication is relevant, timely, clear, accurate, targeted, credible and consistent;

• recognise that communication with a community should be two-way, and that input and feedback should be sought and considered over an extended time;

• ensure that information is accessible to audiences in diverse situations, addresses a variety of communication needs, and is provided through a range of media and channels;

• establish mechanisms for coordinated and consistent communication with all organisations and individuals; and

• repeat key recovery messages because information is more likely to reach community members when they are receptive (CDSMAC 2009).
It is important to:

- use respected and trusted community sources to disseminate information and to correct rumours or misinformation
- ensure (through media management) that best use is made of broadcast and print media to convey accurate information, and to respond quickly to correct any rumour or misinformation being disseminated by the media.

Managing communications

Communications management is the method through which information is communicated to the community, other recovery workers and stakeholders. Communications management in the recovery environment aims to provide timely, effective communication channels to gather, process and disseminate information relevant to the recovery of the affected community. This is commonly managed through the development of a *communications strategy*, which links directly to and supports the recovery management structure (see Chapter 14). The communications strategy provides timely and easily accessible public information and effective community engagement activities to facilitate two-way information flow.

The management task is to identify what needs to be communicated, to whom and when, and to develop information gathering, processing and dissemination channels. The information that needs to be communicated in the recovery process depends upon the characteristics of the event in terms of type, location, severity and effects on the community.

Communicating information in recovery provides the affected community with information about the availability of recovery services and plans, but it is also the basis for important social processes such as bonding between individuals, groups and communities. It engenders a sense of belonging and caring, and provides a sense of control and predictability of events.

The effective management of communication following an emergency or disaster can be used to promote and hasten community recovery.
Release authority and credibility

The question of authority to release information is paramount, as is the credibility of the release. For instance, a release on meteorological matters that is not verified or attributed to experts will not be credible and, if not authorised, may restrict the recovery manager’s ability to disseminate information.

The recovery manager must have a clear understanding of whose role it is to release what information and the timing of that release. The distinction between agency-specific information and public information is illustrated in Figure 5.1. When working in a multi-agency environment, agency-specific information might in fact be shared between multiple agencies.

![Diagram showing the distinction between agency-specific information and public information](image)

Figure 5.1: The distinction between agency-specific information and public information
Often, media releases are the preserve of elected representatives and ministers, although, once released, the information can be disseminated in newsletters and the like. Also, emergency managers, whether they are police or emergency management organisation officers, may have an embargo on the release of information until its publication or broadcast, including multimedia and digital forms.

In any case, the recovery manager must be aware of the information he or she is able to disseminate, the authority required and the expiration of any embargo.

The communication process

The processes involved in communication can be categorised into:

- identifying the need for information—this may include identifying the target audience
- gathering information
- processing information—evaluating and integrating information
- disseminating the information, which may include decision making on urgency of delivery, and confirmation that the target audience received the information
- feedback to the source, so its relevance can be evaluated (leading to further gathering)
- understanding the context in which communication is taking place.

Community engagement is integral to the communications process (see ‘Community engagement’ in Chapter 4).

The communication process is a circular one (Figure 5.2). Each aspect of the process is explained below.

Context

The message communicated is always more than the intended message. The timing, format, style and content (as well as the implicit characteristics of emotional tone, attitude, values and priorities) all convey additional messages about attitudes, recognition of needs and
other factors. The lack of a message or information, or the failure to inform that there is no information at a particular time, can itself be a message that carries an unintended meaning. Communication always occurs within a pre-existing context and this provides the framework for the interpretation of any information, or lack of information conveyed.

Other references/resources:
Tom Crompton (2010) discusses this issue in Common cause: The case for working with our cultural values (see Chapter 3 [Frames and framing], pp 40–58).
Gathering

The information required depends on the nature of the event and varies as time passes and the repercussions become apparent in the different areas of community life. It should be gathered from outside and within the community. Information that provides resources to people in terms of the availability of services and knowledge about how to cope with problems engendered by the event is often gathered from outside the community. Information identifying community needs, day-to-day problems, and the community’s own services and resources needs to be gathered from within it. A network needs to be created to provide access to information from without and access to official and informal information from within. Since the information needs arising from the disaster are different to those that may have existed before, the community’s current information systems need to be augmented and changed to serve the new purposes. One early task of recovery management is to establish a communications system to provide for input to and feedback from the community. This may mean convening existing networks and developing new ones to regularly report on their observations of community needs.

Processing

Timing of information, the amount that can be absorbed and the meaning it has within the existing recovery process need to be considered. Once information is obtained, it needs to be integrated with community culture, education levels, ethnic or other value systems, language, social traditions and local customs to ensure that the message delivered is the one intended to be received. Incoming information from the community needs to be analysed and interpreted for the requirements needed, which may not be expressed clearly or accurately. This processing occurs within the recovery management system and the network of local providers for planning, delivering services and obtaining resources from outside the community.

Community members may also need to process and integrate the information they receive before it can be of any use. They need to discuss and evaluate it, ask questions and make their own individual responses to it. This happens within family and informal social support networks, but these networks may not be able to effectively perform these
tasks and there is the risk of distorting the information with rumours and uninformed or emotive opinions. It is important to establish opportunities for people to process important or disturbing information through other means. These may include community meetings, discussions with existing networks [such as schools, childcare or elderly citizens centres, or rural and ethnic groups], talkback radio, newsletters etc. People can then integrate their needs and understanding with what has been provided to them.

**Dissemination**

Once information has been processed, it needs to be conveyed along relevant and trustworthy communication systems so that it can be received by those who need it and can be accepted by them. The message in response to the information gathered, intended for agencies or for the community, needs to be designed so that appropriate and accessible language and presentation are used. In addition to design, consideration needs to be given to whether it should be written, verbal, mass media, pictorial, anecdotal or matter of fact. Official recovery information should be seen to be given by trustworthy spokespersons. Risk information may need to be given by those with independent expertise in the area. The systems that can be used are varied and may need to validate and support each other to ensure dissemination is successful. Media releases, interviews, public announcements, newsletters, meetings, information and drop-in centres, noticeboards, visits and telephone contacts all have a role to play.

**Feedback**

Information is best conveyed as part of a two-way communication process. People receive and integrate information best if they can interact with it and provide feedback about it to the source. Feedback needs to be built in as part of any communications system and information release. A wide range of systems may be employed to do this. They include community to recovery manager, recovery manager to community, and between the affected community and the wider community. Official or informal communication such as news coverage of the progress of recovery can all be harnessed in the service of the communication process. Feedback options might include face-to-face meetings, surveys, committees and groups [and other methods listed later in this chapter].
Communication—the how

Communication methods include:

- community meetings
- pamphlets/flyers/brochures
- print newsletters
- noticeboards
- word of mouth
- posters/billboards
- face to face
- email newsletters
- websites
- local newspapers
- text messaging
- social media
- radio and television
- video communication
- blogs.

Further details on some of these methods of communication of information are provided at the end of this chapter.

Other references/resources:

The *Communicating in recovery* guide (Australian Red Cross 2010) discusses various methods of communication, including their strengths, limitations, purposes and tips for each method. It also contains a section on communicating with special groups.
The recovery services and programs that may employ these methods of communication are outlined in Chapter 12.

**Media as a communication tool**

‘The media’ [which is not a homogenous group] is a communication tool in recovery. The media outlets (television, radio and print, and online) are an excellent—indeed, essential—means of disseminating information to the affected community and the wider public. The media can influence powerfully the way the disaster and the management of the disaster and the recovery of the community are talked about. A positive, enabling working relationship with media outlets can assist recovery.

During emergencies and disasters, the media have a legitimate interest in obtaining prompt and accurate information. Considerable media interest must be anticipated. It is recommended that regular and scheduled media briefings be negotiated to suit the publishing and broadcasting timetables of the media so that they can meet their deadlines. Reporters will meet those deadlines with whatever information they have at the time, and the competitive nature of news reportage demands a variety of methods of information collection. If the media have not been provided with sufficient information, the gaps may give a distorted view of recovery efforts. Indeed, if media access to accurate information is unduly restricted, rumour and speculation may be substituted for fact. Consequently, there is nothing to be gained by attempting to restrict media access to information. Restricting media access for the purposes of protecting individuals’ privacy in recovery centres is another matter entirely—and this needs to be proactively managed. Be familiar with your recovery organisation’s protocols and processes for communicating with the media and protecting individual privacy.

The contemporary media environment—with Web 2.0 (a term used to describe websites that allow users to interact and collaborate with each other in a social media dialogue, with user-generated content and virtual communities) and the many new technologies that support it—also needs to be considered. The use of unfiltered information and websites such as Facebook can potentially impact on the recovery of those affected if inappropriate messages are contributed.
A frequently updated, purpose-built website giving accurate, up-to-date information is recommended. In addition, a *dark site* can be prepared beforehand in readiness for recovery content to be uploaded—and the site can go live when needed. This website should also contain links to social media such as Twitter and Facebook to allow users to distribute the site address to their networks. Facebook and Twitter contributions from the wider community should be monitored as part of the overall media and feedback monitoring process.

Due to the fact that recovery processes generally involve a range of different organisations, there is a need for coordination of information to the media to avoid confusion or conflict. The most effective means of dealing with this issue is through the nomination of a media liaison officer to represent the overall recovery process.

**Communication—the who**

In considering information gathering, processing and dissemination channels, it is necessary to take account of who needs information and whose role it is to provide information. It is relatively easy to identify two broad groups that need information: (1) the affected community and (2) those working towards community recovery. The individuals, groups and organisations included in those groups are innumerable; however, special mention needs to be made of the information needs of:

- Indigenous and culturally and linguistically diverse communities, the disabled and aged, and isolated and vulnerable people
- elected representatives
- the media.

The means of communicating information to the affected community, recovery workers, elected representatives and the media differ vastly. Figure 5.3 illustrates some of the methods of communication between the various groups and communication management. It should be kept clearly in mind that each group is a disseminator of information, as well as a receiver, and that communication occurs between the community, the media, elected representatives and recovery workers.
Community

The affected community following an emergency or disaster comprises various individuals, groups and organisations with differing needs. Some are directly affected by the event in terms of injury, death, or loss of possessions and accommodation; some are evacuated; some are emotionally affected; and some are financially affected through loss of employment or livelihood. There will be groups with other special needs, such as people with physical or intellectual disabilities, people with language needs, the aged, or people who lack personal or family support. Groups that may be directly affected may comprise particular suburbs or areas, particular communities such as caravan parks or retirement villages, and owners and employees of particular businesses closed by the event. Organisations that may be directly affected include community, service, sporting and recreation, ethnic, cultural and religious organisations.

Where people from non-English speaking backgrounds are affected, communication should be provided in the necessary range of languages and styles. This may include the use of translations, interpreters, ethnic media and representatives of ethnic communities (Australian Red Cross 2010, p 102).

There are also individuals, groups and organisations who suffer the secondary effects of the event and whose information needs may be as great as those directly affected. In particular, there are friends, relatives and neighbours of people directly affected, whether they are affected as individuals or as part of a group or organisation.

Outside the immediately affected community, there may also be a need to communicate with the broader community, particularly with respect to access to affected areas, information on support and donations, and perhaps information about how to manage similar emergencies.

Information that is gathered and disseminated without taking account of these many factors is likely to miss the needs (or be interpreted as uncaring or overlooking the needs) of those affected and is unlikely to be seen as helpful or credible.
Recovery communication management

Providing coordinated, accurate, factual and timely information about:
- the disaster response, and
- community recovery

Feedback to agencies and providers of recovery services, social events, BBQs, meetings, via community representatives, media, social media

Briefings, debriefings, agency and interagency meetings

Official briefings, meetings

Elected representatives

Community forums, media releases, call centre, events, newsletters, websites, informal chats with community members and representatives

The media

Briefings, media conferences, interviews

Recovery workers

Informed empowered community

Figure 5.3: Recovery communication management—communicating with the various stakeholders through various means
An important principle to consider is that **people will not tolerate being without the information they need**. In the absence of accurate, trustworthy information they will actively seek it out through their own resources, and if they cannot obtain information they will fill the gap with rumour and speculation. The informal community information systems should be recognised and catered for so that they do not confuse the situation and distort what is made available. These channels are a vital means of communicating with the community, and often people who do not trust or have access to official channels will rely on them for what they need. Rumours and speculation should be actively managed and understood as an important indicator of the community’s need for information.

The instant nature of social media tools, ‘citizen journalists’ and digital mediums is now well accepted. Tools such as Facebook can be used to effectively communicate with a wide and mobile sector of the community.

**Recovery workers**

People working towards recovery of the community also need current, accurate information about the environment in which they are working. These information needs exist across the range of recovery workers whether they are involved in clean up, rehabilitation, medicine, environmental health, physical restoration or community recovery. Recognise that both volunteer and paid agency workers will require constant information on developments.

**Elected representatives**

Elected representatives, whether federal or state politicians, or local government councillors, can play an important part in assisting the recovery of the community. In fact, it is their duty as community representatives to do so. However, their success is directly related to the quality of information and advice with which they are provided to enable good decision making and credible dissemination. The information needs of elected representatives cover all aspects of recovery. Well-informed elected representatives can assure the success of public meetings and media briefings. They can also engender confidence in the recovery processes and that the community can overcome the effects of the disaster.
The ACT Bushfire Recovery communication model, which reflected the management structure, is an example of a structure set up to support a communications strategy.

The ACT [Australian Capital Territory] Bushfire Recovery Taskforce, answerable directly to the Chief Minister of the ACT, was set up within days of the bushfire. Headed by Sandy Hollway, former Canberra resident, senior Commonwealth public servant and [Chief Executive Officer] of the Sydney Organising Committee for the 2000 Olympic Games, it consisted of five other prominent Canberra people representing the ACT community sector, ACT business, the ACT Government and the directly fire-affected community. The Taskforce was informed by a Community and Expert Reference Group (CERG) of 15 people representing a wide range of interested and affected groups in the community, including business, professional and trade organisations, unions, community groups and local politicians.

The Taskforce and CERG were served by a Secretariat consisting of six functional areas. One of the functional areas was the Communications and Community Relations Group ... which was responsible for the communication effort. CERG’s advice was channelled through the Taskforce to the Secretariat for action. The Secretariat was also able to call on all other ACT departmental agencies for support, and drew staff from all areas of the ACT public service during the intensive period in the first months after the bushfire (Beckenham & Nicholls 2004, p 69).

Other references/resources:
For a diagram of the ACT Bushfire Recovery communication model (based on ACT Bushfire Recovery), see Beckenham & Nicholls 2004, p 74.
Hume region communication model

Another example of a communications strategy, this time at a regional level in Victoria, comes from the Hume region. The strategy included communications with multiple geographic communities.

To support the multiple recovery processes operating within Hume region for the February 2009 bushfires, it was critical to ensure that the collective responses remained coordinated; that communication and linkages between all local, regional and state authorities was clearly defined; and, that recovery was facilitated in an integrated manner for all communities regardless of boundaries.

A regional strategic communication model was developed for all recovery agencies tasked with recovery in Hume region, inclusive of the interface between the urban or rural fringe and departmental boundaries [Figure 5.4]. This model further enhanced the recovery management process implemented by the Hume Regional Recovery Committee on 18 February 2009 which was facilitated and fostered by the Executive Committee through:

- Inclusion—bringing together all relevant personnel, authorities and agencies across all boundaries
- Education—informing people and committees of all participant roles and responsibilities
- Accountability—ensuring committees can deliver what they agree to provide.

The communication strategy identified the linkages between the various recovery committees and authorities currently operating within Hume region. The strategy also endeavoured to provide clarification and direction on how each recovery provider could directly or indirectly communicate with one another and impacted municipalities, without replicating process or undermining existing regional structures.
Representatives of the Regional Recovery Executive Committee included the Victorian: Alpine, Indigo, Mitchell & Murrindindi Shires; Department of Sustainability and Environment, Regional Development Victoria, Department of Primary Industries, Department Planning and Community Development, State Emergency Services, Victoria Police, Country Fire Authority and Department of Human Services (White 2010).

Communication—the what

The broad categories of information that needs to be communicated (perhaps in different ways at different times) in the recovery process are covered by the following questions:

- what has happened in the community?
- what areas have been affected and how have they been affected?
- what is recovery likely to involve?
- what plans are in place for the wellbeing of the community?
- what services and resources are available for recovery of the community?
- what information will assist the community to achieve recovery?

Communication—the where

Information can be provided at a range of settings, including:

- any place where people spontaneously or normally congregate
- disaster sites (if it is safe to do so) such as mass-casualty events, train or aeroplane crashes, bridge or tunnel collapse etc
- reception or assembly points (airports, evacuation holding locations in central business districts, hospitals etc)
- overseas repatriation centres (airports etc)
CHAPTER 5 | Effective communication in recovery

Figure 5.4: Hume Region Recovery Committee strategic communication model
relief, recovery centres/one stop shops, which can be used for the short, medium or long term—these services provide the opportunity for face-to-face information provision, as well as a central repository for up-to-date newsletters and agency-specific information such as fact sheets, posters and leaflets

- outreach programs
- community information forums, or neighbourhood or community meetings—these can include congregations of sporting, spiritual, recreational and school groups
- community events (street/neighbourhood barbeques, memorials, anniversary events, social occasions).

Information can also be provided remotely through:

- a central website with links to relevant government and non-government service information—websites can establish email networks and use pre-existing community groups’ databases. Note: using community groups’ databases for email contact has privacy law issues.

In addition to information regarding services available to individuals, there is a need for broader information regarding community activities. The dissemination of such information is an important part of supporting the community.

**Information management guidelines**

Communication is the process: information is the product or the output. Communication processes and information are intrinsically intertwined. The following guidelines for effective recovery information management rely heavily on the premise that an affected community has a right to all information relevant to its recovery. The capacity of the community to participate in its own recovery directly depends on communication of information. It is essential that information is provided by appropriate methods and in appropriate languages to ensure accessibility by Indigenous and Torres Strait Islanders and people from non-English speaking backgrounds. Remember that:

- information is the right of an affected community
- information enhances the capacity of an affected community to manage its own recovery
• information should be timely, factual and disseminated through a range of communication channels—in the case of events affecting people from non-English speaking backgrounds, this includes provision of information through a range of ethnic media

• information should be repeated frequently in the early stages following an event

• information needs of the community change during the course of the recovery

• information should aid recovery as well as assist with understanding

• information credibility is enhanced through delivery by a known, credible person or organisation

• information is the basis for effective decision making

• information management involves gathering, processing and disseminating information

• information is needed by disaster workers, managers and authorities, as well as by the affected community

• information is needed by other government agencies to assist with disaster relief payments

• both freedom of information and privacy legislation should be considered in the disaster context.

Practical strategies

Efficient management of information following an emergency or disaster can contribute significantly to the success of the recovery process. However, management of information in such a setting can be a difficult task. Detailed below are helpful hints gleaned through the experience of recovery managers.

• keep the national principles of disaster recovery (Chapter 3) and the information management guidelines (above) in the forefront of the mind of all information workers

• information must be timely, factual and accurate—verify material wherever possible
delivery by a known or easily identifiable person or organisation enhances credibility of information

information disseminated must aim to enhance recovery

in the early stages following a disaster, information needs to be repeated in order to be comprehended and retained

information needs to be disseminated through a number of different channels or media to reach the target population. This may include the use of different forms and media to meet the needs of people from non-English speaking backgrounds

to reduce the likelihood of confusion, it is essential that information from the range of organisations involved in the recovery process is coordinated

information leaflets are best suited to significant, single-issue messages with reference to the location of updated information. All information available in hard copy should also be made available online (in pdf format), and labelled with time and date of release

newsletters are best suited to multiple-issue information dissemination and enable provision of ongoing updates to information

leaflets, newsletters and newspapers have the advantage of providing retainable hard copy

newspapers provide the opportunity for information dissemination by way of news, features and paid advertisements

paid advertisements need to be managed well to ensure appropriate and targeted messaging

radio is often the quickest and most easily accessible means of mass dissemination of information. Talk-back programs offer an excellent means of communicating and processing information; however, drawbacks include the potential spread of misinformation/rumours and pursuit of a particular single-issue interest at the expense of other equally important issues

as well as news, television offers current affairs programs and community service
announcements as a means of disseminating information

- information centres gather, as well as disseminate, information
- information needs to be packaged to the needs of the receiver
- information changes constantly—include updated information for staff in briefings
- information centres must have the capacity to ascertain the information sought. Staff at information centres must also be aware of the availability of interpreter services and how to access them
- enquirers must be able to access information centres by telephone
- only disseminate information within the competency level of the staff communicating the information
- know the referral process for other services and what they offer and to whom
- use a website as a key referral point for inquiries and ensure that it is continually updated.

Methods of communication: examples

Community information briefings and debriefings

Community briefings or meetings are often conducted by response agencies in the preparedness and response/relief phases of an emergency as part of their role in keeping communities aware of the emergency situation before, during and after emergency events.

In the event of a major incident, community information [including community briefings and meetings] are often led jointly by emergency services, municipal councils and state government departments.

The role of community briefings in the recovery context is to provide:

- clarification of the emergency event [control agency]
- advice on services available [recovery agencies]
- input into the development of management strategies [lead recovery agencies]
often local government
• advice to affected individuals on how to manage their own recovery, including the provision of public health information [specialist advisers].

Community meetings can serve varying purposes at different stages of the recovery process and are an excellent means of communicating recovery information to and from an affected community. When well planned and actively managed, they can be useful in providing information, gathering concerns, dispelling rumour and correcting misconceptions.

Clarity about the purpose of the meeting is paramount. Community meetings that are not well planned and are hazy about their objectives have a high potential to go awry and degenerate into a forum of scape-goating, blame-laying and complaint.

The objectives of community meetings depend on the stage of recovery that the community has reached at the time the meeting is to be held. However, the objectives should always include raising or maintaining the profile of the recovery effort and assisting the community towards recovery.

In planning public meetings, the following must be taken into account:
• the patronage under which the meeting is to be held (local authority, emergency management organisation, recovery agency)
• the objectives of the meeting, the agenda to be addressed, the process of conducting the meeting, the speakers (including local identities) and their subject matter
• availability of personnel to address issues after the meeting
• the process for expressions of concern or complaint by attendees
• advertisement of the venue, date and time, purpose, patronage, speakers and complaint process
• strategies to deal with and follow up expressions of concern or complaint and further meetings/arrangements
• management issues.
Public meetings should:

- be held at a neutral venue
- have a strong, independent but fair and non-defensive chair
- have representatives from emergency-related disciplines to give factual information
- address the psychosocial issues as well as physical aspects of recovery
- have a pre-determined finishing time
- allow for a review of the meeting and its effect on the recovery process
- follow up issues raised and prepare report-back for subsequent meetings.

Regardless of the success or otherwise of the meeting, every effort should be made to conclude the meeting on a note of optimism for the early and successful recovery of the community.

Community information briefing sessions are useful as soon as practicable after an emergency event has occurred.

The development of these sessions is a first practical step in the process of ensuring an affected community is actively involved in the emergency recovery management process and can also be used to support the development of local community recovery committees.

Debriefing sessions need to be small in size so that people can have the opportunity to ask questions that can be answered and local issues can be addressed. Initial sessions usually focus on the event and what happened. It is particularly useful for the response agencies involved to be present at these meetings to answer the community’s questions.

Once initial issues are answered the community can more readily move onto questions about what happens next and how they can work together. They should be able to more clearly articulate their needs, which provides direct input into the ongoing recovery needs assessment.

**Remote information services**

Information telephone lines (call centres) and web services may already exist or be
established during and after an emergency. Information services that can be provided through these methods include:

- a disaster information line, to provide the primary contact point at the initial stage of an emergency
- registration and reconnection services, such as the National Registration and Inquiry System
- disaster-specific web portals—or recovery agencies with separate sections for the disaster within their websites (with appropriate links to other sites)
- mental health advice lines
- telephone counselling.

**Newsletters**

Newsletters are an excellent means of providing a wide range of information to affected communities. Topics can range from eligibility conditions for financial assistance to how to restore flood-damaged furniture or photographs, and can carry messages of encouragement from civic and community leaders.

Newsletters are often used in the early days following an emergency or disaster when affected people do not have access to other information media. They are seen as an informal, friendly and caring means of communication.

Leaflets or brochures serve much the same purpose but are usually specific to one issue.

Another advantage of newsletters, leaflets and brochures is that they can be retained by affected people for future reference.

**Radio**

Radio newscasts, community service announcements and talk-back programs are particularly useful means of disseminating information in affected communities. Radio is very effective because announcements can usually be broadcast at short notice and talk-back radio is interactive. Furthermore, radio broadcasts can be listened to while people are engaged in other activities.
Television

Television graphically brings the pictures of the event to the people. Television time is short, so precise statements are needed to convey messages. Television stations also carry community service announcements and may feature disaster issues in current affairs programs.
SECTION C: EFFECTS OF DISASTERS

Key points:

- the range of impacts of disasters on a community can be described across the social, built, economic and natural environments
- the four environments constituting community are described separately for the purpose of functional responsibility, however in reality these are integrated
- an awareness of the possible impacts of disaster coupled with assessment of community needs can enable strategic planning for community recovery.

This section describes the anticipated consequences of disasters and emergencies for individuals, households and communities. It describes the impacts that may be expected upon the four integrated environments (the social, built, economic and natural environments).

This section provides a general understanding of what can be expected regarding the impact on communities following a disaster—which can be translated into anticipated community needs. However, recovery practice needs to be directed by ongoing recovery assessment processes and needs analysis, coupled with the development of community-driven recovery action plans. Only then will effective recovery processes be established and effective recovery activities implemented.
CHAPTER 6
Overview of effects on the community

This chapter introduces the types of anticipated consequences of disasters and emergencies for communities and the four integrated environments (interrelated aspects of community)—the social, built, economic and natural environments. A discussion of who the affected community is, and the interrelationship between individuals, households, communities and broader communities, sets the context for Chapters 7–10.

Emergencies and disasters—whether caused by the extremes of nature, failures of essential services or technology, exotic diseases, insect infestations, acts of violence, human action or any other cause—disrupt communities. It is in this environment that recovery is conducted. The impacts of disasters can be complex and need to be well understood to enable the effective provision of recovery services [see Chapter 12 and 16–19].

Any community recovery program should address the four key aspects (referred to as environments) in order to support individuals and communities to manage their own recovery (ICSMAC 2004). Recovery takes place in the:

- social environment
- built environment
- economic environment
- natural environment.

Depending upon the type of event and the impacted community, the four environments will be affected to different degrees.

For example, an event such as the equine influenza outbreak in New South Wales and Queensland in 2007/08, which caused no damage to the built environment, resulted in recovery activities that included assistance to the built environment through the provision of decontamination equipment stations and controls. Assistance was also provided as financial grants for livelihoods as part of the economic environment, and was provided as psychosocial support as part of the social environment.

Who is the affected community?

Disasters disrupt communities in many ways, including disruption to normal routines.
(Kreps 1998), physical harm and social disruption. In short, disasters are unexpected events and it is essential that the affected community is identified so that the needs of these groups of people can begin to be identified and then addressed.

There are many definitions of community, but for our purposes a community can be considered as a:

social, religious, occupational, or other group sharing common characteristics or interests and perceived or perceiving itself as distinct in some respect from the larger society within which it exists.

When thinking about engagement it is useful to look at communities as two distinct types:

- communities of place, and
- communities of interest (MCDEM 2010, p 9).

When identifying disaster-affected communities or parts of a community, it is also important not to be restrictive in how affected communities are defined. Caution needs to be exercised so that the process does not alienate people who, although not appearing to be obviously affected, may be experiencing consequences from the disaster. These people may include those who have witnessed an event, helped others affected, become distressed by hearing information about the emergency or felt they were at potential risk of the emergency (even if that risk did not eventuate).

Following a disaster, an understanding of who is affected enables planning of recovery activities. The affected community may consist of:

- groups/people directly affected by the disaster in terms of injury, death, and loss of people they know, possessions or accommodation—this includes those evacuated and/or displaced, emotionally affected, or those financially affected through loss of employment or livelihood (people may also be affected by a combination of these consequences): as a result of a disaster people may be forced to leave their homes (internally displaced people) to take up residence in another area that may have been unaffected
- groups with additional or complex needs—this may include Indigenous
populations, people with particular cultural, language or spiritual needs, people with physical or intellectual disabilities, the aged and infirm, and people with little personal or family support

- particular suburbs or areas, particular communities such as retirement villages or employees of a particular business closed by the disaster—the affected community, however, may comprise geographically dispersed populations linked only by a tourist destination or by a particular sub-group of a community with a shared interest (such as horse owners and workers during the equine influenza pandemic)
- repatriated persons or groups from overseas
- individuals, groups and organisations that suffer the secondary effects of disaster—these include friends, relatives, neighbours of those directly affected (whether affected here or overseas), or those linked through businesses. This group may also include the transition workforce provided by response, rescue, relief and recovery workers.

In the chapters that follow, discussion of the impacts on communities is broad and issues of vulnerabilities and additional and complex needs are not covered in detail. Refer to state/territory or local government guidelines for more information.

More information and resources for working with CALD communities are listed in this handbook in Chapter 16.

Other references/resources:
For detailed information about Indigenous communities and emergency management, see Keeping our mob safe: a national emergency management strategy for Indigenous remote communities (EMA 2007a). The aim of the strategy is to improve community safety in remote Indigenous communities through a more coordinated approach to emergency management at local, state/territory and national levels.
Other references/resources:
For detailed information about culturally and linguistically diverse (CALD) communities, see Guidelines for emergency management in culturally and linguistically diverse communities (EMA 2007b). The purpose of the guidelines is to assist the sector to work proactively with local CALD groups, thereby creating a safer, more sustainable community.

Effects of disasters on a community

The range of impacts of disasters on a community can be described across the social, built, economic and natural environments. Figure 6.1 shows how all four environments constitute community. The four environments are mainly separations for the purpose of functional responsibilities within recovery—when working with communities in recovery each environment should be coordinated with all others. The importance of supporting the social functioning of a community is fundamental to the implementation of recovery activities in all other environments, and to supporting the foundations of community sustainability.

Figure 6.1: The four environments—integral aspects of community recovery
This focus on the impact of disasters upon communities recognises that human beings do not function separately but as social groups with interdependence. Individuals are intrinsically connected to their community in conscious and subconscious ways through collective economic, emotional, physical, spiritual, environmental and cultural mores.

So although the impact upon individuals and households needs to be understood and addressed, it is equally important to understand the impact and disruption to the social capital and connectedness of communities and the need to support the restoration of communities to a functioning state.

The Mangrove Mountain community in New South Wales provides one example of how a community can be affected by a disaster—in this case an outbreak in 1999 of Newcastle Disease (which affects chickens). The impacts during the control period were substantial. For example:

- movement restrictions made movements of other products (such as citrus) more difficult, causing friction amongst farmer groups;
- there were conspiracy theories within the community and a degree of paranoia. Actions such as confiscating chicken sandwiches from kids at school bus checkpoints fuelled these emotions;
- farmer’s kids were bullied at school and spat on in the playground; and
- the outbreak left significant divisions within the community. Two years later the Government is still assisting with efforts to ‘heal’ community divisions (Productivity Commission 2002, p 127).

**Effects on the social environment**

Social wellbeing results when the essential needs of the populace are met. Generally speaking, social wellbeing occurs when income levels are sufficient to cover basic needs, where there is easy access to social, medical and educational services, and where people are treated with dignity and consideration.

Many attempts have been made to quantify social wellbeing. Seven indicators may be used:
Overview of effects on the community

SECTION C: Effects of disasters

Disasters can impact upon all these aspects of social wellbeing and can degrade quality of life and undermine the social quality of the community.

Impacts on the social environment include the disappearance of much of what was once considered routine—from simple, everyday things to the loss of the communication network that you are familiar with, such as walking down the street and talking to people. These impacts are often intangible.

Social structures such as faith groups, educational facilities, networks and relationships, childcare, service groups, Rotary and Lions groups, non-government organisations, neighbourhood centres and health facilities can all be disrupted.

Chapter 7 considers social environment impacts in terms of safety, health and wellbeing, and psychosocial components.

Effects on the built environment

The effects of a disaster on the built environment depend on the disaster type, scale, magnitude, duration and location of impact.

Within the built environment, impacts may include:

- loss of essential services, power, water, food, fuel, sewerage, gas, communications, internet
- loss of community infrastructure; for example, public buildings, schools, hospitals, iconic buildings
• loss/damage/disruption of transport services (for example, roads, air, marine and rail transport infrastructure, facilities and assets), which has a flow-on effect on the movement of people and goods, and on transport and traffic management on transport networks (for example, road and rail closures, detours, vehicle permits and regulatory services, passenger transport, road traffic management systems)

• loss of property (residential, rural, industrial, public).

Chapter 8 considers the built environment in terms of effects on infrastructure that supports essential services, rural infrastructure, residential infrastructure, commercial or industrial infrastructure, and public building and asset infrastructure.

Effects on the economic environment

The effects of disaster on the economic environment can be classified in terms of direct and indirect impacts—that is, those that are tangible and can normally have a dollar value easily assigned, and those that are intangible.

Impacts on the economic environment may include:

• loss of livelihoods

• disequilibrium, disorientation of service providers (disasters are not a usual method of doing business)

• reduction in cash flow for some small businesses, and injection of funds into others

• loss of tourism activities

• loss of employment opportunities for some people, and creation of employment opportunities for others

• the impact of donated goods and services on local economies (State Government of Victoria 2010).

Chapter 9 considers the economic environment in terms of effects on individuals, businesses, infrastructure and government.
Effects on the natural environment

The effects of disaster on the natural environment that impact on the community may be a result of the disaster or they may be a secondary impact or flow on from the disaster response or recovery process. Examples include air quality, water quality, land degradation and contamination, bio-security, sense of place issues and impacts on the natural environment (including public lands and national parks) (State Government of Victoria 2010).

Chapter 10 considers the impacts on the natural environment that have flow-on effects to the community in relation to:

- air
- water
- land and soil
- plants and animals.

Disasters may impact on all aspects of a community. The degree to which sustainable community recovery can be achieved depends on the disaster and on existing community and individual resilience and vulnerability. In creating a heightened awareness of the risks communities face, disasters afford communities the opportunity to adapt and reduce their exposure to potential future risks.
CHAPTER 7
Effects in the social environment

This chapter describes the impact of disaster upon people’s personal and collective social wellbeing. It also explains that it is important to understand the consequences of a disaster upon the social infrastructure because effective social recovery is the foundation for enabling the progression of recovery in all aspects of the community (including the economic, natural and built environments).

In addition to the impacts of the disaster event, the response—and the recovery effort (planning, management and service delivery) itself—has potential to create negative social consequences for affected individuals and communities. These are discussed as secondary effects. Positive consequences can be enhanced and negative ones avoided, or at least alleviated by an effective recovery effort and the sound coordination of response and recovery.

Other secondary impacts also briefly considered include the consequences of responding to emergency events on those within the community who help (such as the disaster workforce and volunteers).

Social environment—definition
The social environment is defined by relationships and connected by networks of communication. In simplified terms the social environment consists of individuals, families and common interest groups that form whole communities (Figure 7.1). It is important to remember that, depending on the type of disaster, the impact distribution may extend beyond geographic bounds (for example, equine influenza, which affected the equine industry and people with horses, is a case of a specific community of interest).

Social impacts—understandings gained from experience
Understanding the impact of disasters upon the collective social environment recognises that human beings do not function separately but within an array of social relationships with interdependence. Equally, each individual’s unique strengths and weaknesses (or risk and protective factors) will influence their recovery. Therefore, this chapter connects the personal and collective social impacts to ensure the focus is on the impact of disasters upon communities as a whole.
Within the social environment, the impacts of a disaster usually result in losses and/or disruptions to peoples’ lives—both individually and in terms of the social infrastructure. Each disaster is unique, varying along dimensions such as predictability, speed of onset, duration, degree of damage and so on. As a general rule, unpredictability, rapid onset, long duration and severe damage are likely to be associated with greater adjustment difficulties for individuals and communities. Regardless of the disaster dimensions, loss of life, loss of shelter, injury, trauma and threats to safety (many of which may continue while the recovery operation is underway) all impact on community recovery.

The following impacts are commonly found following a disaster and the consequences of these impacts on individuals and communities vary. As the number, severity and duration of the following impacts increase, so does the likelihood of longer-term social consequences for individuals and community.
Examples of impacts that may influence people’s recovery include:

- bereavement, injury, or direct threat to life, personal health, and safety of self and loved ones (sometimes including ongoing threat in the aftermath)
- family separation (the lack of information and knowledge about the safety, wellbeing and whereabouts of other people can be one of the highest causes of continuing anxiety)
- witnessing the death, injury or suffering of others
- extended isolation from information, failure of information/communication channels and networks, outage of telephone networks and electricity (preventing internet access) and loss of informal communication networks through lack of social contact
- extensive threat to, or loss and damage of, home, property, capital assets, livestock, or businesses or sources of income
- loss of essential services, including electricity, that may result in loss of foodstuffs, inadequate heating and cooling, lack of access to money and purchasing ability, and restricted access to information and communication pathways
- loss of pets/companion animals
- evacuation or dislocation from home, school, family and support networks
- physical isolation and lack of transport due to road closures, bridge collapses and public transport closures
- destruction, damage and/or failure of a range of physical and social infrastructure including historic and spiritual places
- loss of future plans or hopes
- loss and disruption of usual routines and community activities
- social problems induced by response and recovery support (for example, inequities of response, cultural inappropriateness, or the undermining of community
structures or support mechanisms)

- the language and stories (public discourse) framing the disaster (through media, VIPs, politicians, community)—along with relentless scrutiny
- escalation of pre-existing issues such as social dislocation, poverty, belonging to a group that is discriminated against or marginalised, neighbourhood violence, family violence, mental health disorders, alcohol abuse
- continued economic hardship due to an inability to resume income-generating activities
- control measures, cordons and quarantine
- coronial inquiries, royal commissions and legal class actions
- eradication of pets/pests/livestock/plants.

The disruption to social infrastructure, normal routines and community activities in the aftermath of disaster creates a particular challenge for recovery. Examples include:

- inability to maintain income activities
- reduced quality, access and timeliness in the provision of education, health, childcare and other government and non-government services
- inability to continue to live in the same home, street, neighbourhood, community
- changes to recreational activities (cancelled, postponed, relocated)
- increase in travel times and frustration
- delays in the provision of care and other services provided in-home
- reductions in normal communication and social interactions, such as through service groups, Rotary, Lions or parent groups, kindergarten etc (adapted from Productivity Commission 2002).
Social impacts—categories

Social impacts of disasters upon individuals, families, communities and workers are further described under the following categories:

- safety, security and shelter impacts
- health impacts
- psychosocial wellbeing impacts.

Safety, security and shelter impacts

The loss of life, loss of shelter, injury and threats to safety as a result of a disaster impact upon individuals and communities. Danger to life, and threats to safety, may continue while the recovery operation is underway.

The threat of loss of safety due to an imminent, expected or ongoing disaster may also have an impact on psychosocial wellbeing. The nature of the disaster impacts on this; for example, ‘the malicious intent and unpredictable nature of terrorism may carry a particularly devastating impact for those directly and indirectly affected’ (Butler, Panzer & Goldfrank 2003, p 4). Equally, a traumatic bushfire, which continues for long periods of time and is highly unpredictable, or an earthquake, after which long-term and continuing aftershocks threaten homes, buildings and the safety of the community, all escalate community safety concerns.

For displaced people, safe, alternative accommodation when their homes have been damaged or destroyed is of paramount concern. Securing a surety of access to basic living needs (such as social order, food, water, clothing and access to money) is similarly of enormous concern to people.
Health impacts

Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease and infirmity (WHO 1948 in IFRC & International Federation Reference Centre for Psychosocial Support 2009, p 26). It is an inalienable right of all people without any regard to race, religion, colour, nationality, sex or origin. The impact of disaster from a health perspective includes deaths and injuries, as well as exposure to diseases and environmental hazards (for example, contaminated water, diarrhoea, viruses, influenza, chemicals and dust).

People affected by the disaster may require a wide range of health services, and people with pre-existing health needs may require additional support from service providers. This level of servicing can be difficult if medical staff and infrastructure have also been impacted by the disaster.

The number of affected individuals may be significant and this can have an impact on the local health services’ capacity to meet demand. The provision of health services is briefly discussed under ‘Social environment recovery—categories’ in Chapter 16.

The level and quality of care can also be severely impacted. For example, people may be evacuated and become isolated from their usual health care providers, medication and personal support systems; medical infrastructure may be damaged and fail; case notes may not be accessible; and regular staff may be diverted to assist with the disaster.

Health-specific threats or disasters may also significantly threaten the functioning of the social system. Pandemic influenza, for example, is an emerging threat in the globalised world we now live in, and, as with any contagious disease (human, animal or plant), one of the biggest psychosocial effects is that of uncertainty (see ‘Psychosocial wellbeing impacts’ below).

Other references/resources:

For more information about the provision of health services, see the Australian Emergency Management Handbook Series: Handbook 1 – Disaster Health [Commonwealth of Australia 2011].
Psychosocial wellbeing impacts

Psychosocial impacts can be very broad and may be a result of how a disaster affects peoples’ emotional, spiritual, financial, cultural, psychological and social needs as part of a community.

*Everyone who has experienced or witnessed crises is likely to be affected in one way or another. Reactions may be shock from the actual event; grief reactions to having lost loved ones; feeling a ‘loss of place’ and feeling distress due to other consequences of the crises. The extent of reactions varies between individuals and whole communities, as does the need for responding interventions…*

*Following a crisis, people commonly experience a loss of confidence in the norms, networks, and mutual trust in the society that is supposed to protect them and provide for interaction between themselves and institutions. This feeling has been defined as a ‘loss of place’ (Perkins & Long in IFRC & International Federation Reference Centre for Psychosocial Support 2009, pp 30–1).*

An outline of the psychological processes involved in response to an emergency event is illustrated in Figure 7.2. Pressure from a range of factors (stressors) impact on the individual as stresses. The majority of people experience normal adaptive responses, which are short term and have low severity.

The remainder of this chapter focuses primarily on the normal, adaptive responses, which impact to varying degrees on individual and social wellbeing. Maladaptive responses are briefly outlined at the end of this chapter [see ‘Mental health effects’].

A dynamic relationship exists between psychological and social relationship/infrastructure effects, each continually interacting with and influencing the other. The psychological and the social interactions are described more fully below in terms of individual and community reactions and interactions.

Examples of community-based and individual psychosocial programs that can be provided to support recovery and adaptation processes are discussed in Chapter 16.
CHAPTER 7 | Effects in the social environment

SECTION C: Effects of disasters

Mental health disorders
Emotional, cognitive, physical and behavioural symptoms. Sufficient symptoms for diagnosis of a range of anxiety, affective and substance-use disorders.

Pre-existing risk & protective factors
Marginal changes to prevalence rates and levels of disability

Stressors
Event characteristics – duration, intensity, impact, threat, terror and horror, unexpectedness, cumulative effects, and cultural and symbolic. Economic and financial, natural and built environment impacts of the event – losses in income, value of property, amenity.

Stresses
Medium to longer term and more severe impacts

Maladaptive responses – trauma
Responses can be short to longer term depending on level of impact

Normal, adaptive responses

Appraisal

Impact on emotional states – pain and suffering
Impact on cognitive and physical states
Impact on behavioural functioning
Impacts on family relationships
Impacts on employment and productivity
Community disruptions

Community development activities and individual programs and supports

Specialised support services & community-based support programs

Figure 7.2: Stresses and wellbeing impact
Adapted from Productivity Commission 2002
Psychosocial—impacts on individuals

All emergencies cause a range of stressors on the individual resulting in a broad range of responses. Typically these are ‘normal’ responses to an abnormal event that has touched the lives of an individual, a family or a community. These usually resolve over time and without the need for additional support. Stress responses are normal: survival and preservation strategies such as fight, flight, rescue and attachment have evolved to enable our species to continue.

Immediately following an emergency, people primarily seek practical assistance and reassurance in an emotionally supportive manner. Emotional and psychological responses to trauma may be displayed across a number of domains including:

- biological; for example, fatigue, exhaustion, headaches or general aches and pains
- psychological; for example, inability to make decisions, emotional distress, states of high arousal, reliving the events, irritability
- behavioural; for example, avoidance of reminders, increased time spent at work, use of alcohol and other substances
- social; for example, being intolerant of others, social withdrawal and breakdown of relationships.

These reactions may radiate through all elements in a person’s life. Effects may also be experienced by workers (including volunteers who work with the affected people).

People affected by events, and who have been subjected to severe stress, are usually capable of functioning effectively. Some of their reactions to the stress may show as emotional strain. This is usually transitory—it is to be expected and does not imply mental illness.

Most people show great resilience in the aftermath of a disaster and the majority of the disaster-affected population will continue to conduct their lives without significant health problems. Van Ommeren (2006) estimated that, after an emergency, more than 80% of the broader population conduct their lives without experiencing prolonged distress or developing significant mental health problems. Equally, most will experience a range of mild to moderate signs and symptoms, particularly in the early days [Table 7.1].
In the more severe cases of trauma, such as the death of a family member or loss of home and/or pre-existing conditions, people may require higher levels of support for a longer period of time and may benefit from clinical services. These situations in a minority of cases may lead to serious mental health issues, including post-traumatic stress disorder and anxiety (Hawes 2009, p 3).

Table 7.1: Summary of WHO predictions of the prevalence of psychosocial problems after an emergency

<table>
<thead>
<tr>
<th>Psychosocial problem</th>
<th>Before emergency—12-month prevalence</th>
<th>After emergency—12-month prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe mental disorder (such as psychosis, severe depression, severe disabling anxiety disorder)</td>
<td>2–3%</td>
<td>3–4%</td>
</tr>
<tr>
<td>Mild or moderate mental disorder (such as mild and moderate depression or anxiety)</td>
<td>10%</td>
<td>20% (reduces to 15% with natural recovery)</td>
</tr>
<tr>
<td>Moderate or severe psychological/social distress (no formal disorder but severe distress)</td>
<td>No estimate</td>
<td>Large percentage (reduces due to natural recovery)</td>
</tr>
<tr>
<td>Mild psychological/social distress</td>
<td>No estimate</td>
<td>Small percentage (increases over time)</td>
</tr>
</tbody>
</table>

Source: DHS 2009, p 5 (adapted from van Ommeren 2006).

**Typical reactions to an emergency or disaster**

The emotional impact of traumatic events is very real. Strong feelings may arise when the experience is talked about. Increased worry may interfere with day-to-day living and the experience may leave people shaken and worried about the future. However, most people return to their ‘usual functioning level’ given time and the support of family and friends.

Everyone’s reactions will differ; however, Table 7.2 shows some of the typical reactions that people exposed to a traumatic event may experience. It is worth noting that men may respond differently to women. Men may find it harder to acknowledge psychological issues and to ask for support. They may be more likely to experience problems such as anger and substance abuse. Women may be more vulnerable to anxiety and depression, but are also more likely to be able to use support networks and health services more effectively.
## Table 7.2: Typical reactions that people exposed to a traumatic event may experience

<table>
<thead>
<tr>
<th>Emotional responses</th>
<th>Shock</th>
<th>Fear</th>
<th>Anger</th>
<th>Helplessness</th>
<th>Irritability</th>
<th>Depression</th>
<th>Sadness</th>
<th>Shame</th>
<th>Guilt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(disbelief at what has happened; numbness—the event may seem unreal or like a dream; no understanding of what has happened)</td>
<td>(of harm/injury or death to self and close others; of a similar event happening again; awareness of personal vulnerability; panicky feelings; other apparently unrelated fears)</td>
<td>(at ‘who caused it’ or ‘allowed it to happen’; outrage at what has happened; at the injustice and senselessness of it all; generalised anger and irritability; ‘why me?’)</td>
<td>(crises show us how powerless we are at times, as well as how strong)</td>
<td>(frequent swings in mood)</td>
<td>(about the event, past events or loss of personal affects; guilt about how you behaved)</td>
<td>(about human destruction and losses of every kind; for loss of the belief that our world is safe and predictable)</td>
<td>(for having been exposed as helpless, emotional and needing others; for not having reacted as one would have wished)</td>
<td>(that some have not lost as much as others; about behaviour required for survival)</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Other possible responses include frustration, playing it down, terror, grief/sense of loss, confusion, bewilderment, insecurity, crying, anxiety, disempowerment, feeling inadequate, dependence, withdrawal, apathy, lethargy, compassion, uncertainty, humility, euphoria, detachment, empathy, avoidance, panic, odd humour, uncertainty, hypersensitivity, disbelief/denial, self-blame, blaming others, embarrassment, highly charged, feeling isolated/abandoned, hope.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cognitive responses</th>
<th>Tension</th>
<th>Sleep disturbances</th>
<th>Dreams and nightmares</th>
<th>Memories and feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(more easily startled; general nervousness—physical or mental)</td>
<td>(unable to sleep; thoughts that keep the person awake; reliving the event)</td>
<td>(of the event or other frightening events)</td>
<td>(interferes with concentration, daily life; flashbacks; attempts to shut them out which lead to deadening of feelings and thoughts)</td>
</tr>
</tbody>
</table>
### Cognitive responses (continued)

Other possible responses include difficulty concentrating, memory impairment, disorientation, confusion, preoccupation/worry, indecisiveness, intrusive or irrational thoughts, absentmindedness, unwanted memories, poor problem-solving ability, reality distortion, revert to ‘native’ language, slow reactions, impaired decision-making ability, poor attention span.

### Physical responses

- Tiredness, palpitations (racing heartbeat), tremors, breathing difficulties, headaches, tense muscles, aches and pains, loss of sexual interest, nausea, diarrhoea or constipation, changes in sleep patterns (insomnia, nightmares), impaired immune response (colds, flu), fatigue/exhaustion, shortness of breath/hyperventilation, gastrointestinal problems, chest pain, numbness, tingling, changes in appetite, anxiety attack, startle response (jumpy), agitation, dizziness, sudden onset of the female cycle, lethargy, vulnerability to illness.

### Behavioural responses

**Social withdrawal** (a need/wish to be alone)

Other possible responses include avoidance, loss of interest in usual activities, increased smoking, alcohol and other drug use.

### Delayed effects

Any of these may occur after months or years of adjustment.

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Figure 7.3 shows some of the common reactions, experiences and emotions that may be experienced by individuals and communities following disasters and before they feel they are able to get ‘back on their feet’.

It is important to note that individual responses will vary and that the cycle is not necessarily a single or linear one, but may alter, extend, diminish or re-occur at different times throughout the recovery process. Friends, family and local recovery support services can all assist in reducing the frustrations and amount of time people spend in the ‘trough of disillusionment’, or limit the depth of that trough. If disaster-affected people understand the types of experiences and emotions they may experience throughout their recovery process, they can establish a stronger understanding that what they are experiencing is not unusual but is a fairly typical response to a post-disaster situation. Understanding this may also help people to more strongly understand the transient nature of these experiences, and that they will get through and recover from a disaster.
CHAPTER 7 | Effects in the social environment

SECTION C: Effects of disasters

Honeymoon

Sense of shared survival
Anticipation of help
Return to normal
Community and outside agencies

Heroic

Feelings of altruism
Family, friends, neighbours

Disappointment

1-3 days

Anger

Frustration
Disputes
Red tape
Loss of support
Groups weaken/fragment

Disillusionment

Exhaustion

1-3 years

Reconstruction

Delays

Obstacles

Disillusionment

Figure 7.3: Different phases that individuals and communities might experience post-disaster
Adapted from Cohen and Ahearn 1980 and DeWolfe 2000
Effects in the social environment

Children and adolescents

The psychosocial effects of disasters on individuals, households and communities can vary greatly and depend upon individual and collective strengths, capacities and vulnerabilities. It would not be useful to attempt to list all of the specific groups experiencing differing levels of psychosocial consequences. They vary greatly within any given disaster and need to be identified through a sound understanding of the affected community and via a recovery needs assessment process. Special mention, however, needs to be made of the impacts on children and adolescents.

Children and adolescents, although not necessarily more vulnerable than any other group, may, relative to their developmental age, have distinctly different and/or unique experiences of disasters.

The very young are overwhelmingly dependent on carers for their wellbeing and therefore the needs of parents/carers of young children and infants cannot usually be considered separately to that of the child. Children are less able to communicate through use of language and the most reliable means of assessing their recovery needs is usually through listening carefully to parents and caregivers, observing behaviour and seeking expert guidance wherever possible. Children may react to trauma by reverting to an earlier stage of development or may become excessively ‘clingy’ and/or may ‘act out’ strong emotional responses in uncharacteristic behaviours such as crying, fighting, sleep disturbance and withdrawal. Adolescents, although physically mature, may, nonetheless, have difficulty dealing with the strong feelings that may occur after witnessing or experiencing death, injury and destruction and the disruption to everyday life that a disaster may bring. They may be more likely to withdraw or become silent, isolated and moody (which might be seen as an exacerbation of pre-disaster behaviour).

Depending on the assessment of recovery needs following disasters (see Chapter 12), recovery workers and managers may need to factor in the provision of specialist child and adolescent services as part of a suite of recovery measures.

In the case of orphans or children separated from their carers (that is, children without next of kin), considerations for child safety are of paramount concern and need to be planned for and immediately actioned.
Australia is working to establish stronger child-centred practices within emergency management systems and this work is being progressed in disaster risk reduction, emergency preparedness, humanitarian relief and long-term recovery programs. Children and young people have strengths and resiliencies in disasters that not only support them, but can provide assistance to others. Their ability to do this can be further developed through school emergency management programs and involvement in community disaster preparedness activities.

Other references/resources:
For a detailed overview of the psychosocial impacts of disasters on children and adolescents (and on adults and families), see the Australian Child and Adolescent Trauma, Loss and Grief Network website (www.earlytraumagrief.anu.edu.au/).

Other references/resources:
Information about work in raising children’s and young people’s awareness of taking action to protect themselves and the likely consequences of disasters can be found on the Emergency Management for Schools website (www.ema.gov.au/schools) and the Australian Red Cross website (www.redcross.org.au/ourservices_acrossaustralia_emergencyservices_resources.html).

Psychosocial—impacts on social relationships/infrastructure

Following a disaster event people may become disconnected from their usual support systems, and survivors with shared experiences may form new groups and friendships. These relationships may only be for survival purposes and may not be maintained in the medium to longer term. Strains in previous relationships may also become apparent.

As well as the good feelings of giving and receiving, there may be conflict, anger and jealousy. Individuals may feel that too little or the wrong things are offered, may perceive inequities in the support provided, or may feel that they are unable to give as much of themselves as expected by others. Changes may occur in the way families, friends and the community relate to and need each other.
In an emergency event, those affected tend to identify themselves as part of a group and are often portrayed as such by the media. In emergencies with a social dimension, there is a tendency at first to detach from the existing social framework, as personal survival is the dominant concern. When the danger is past, there is a tendency to form an emotionally charged, cohesive social unit devoted to immediate needs. This cohesive social unit may only last a few weeks at most and is followed by a tendency for conflict and antagonism to develop between the stakeholders, because of emerging differences between them. This fragments the community’s recovery and may leave some people isolated (Gordon, 2004[b]). Therefore, a major principle of the recovery strategy must be to support and enhance local services and community networks (DHS 2005, p 3).

A key response to social issues is the provision of accurate, up-to-date information, not only about the events of the disaster, but about what people can expect to experience in the immediate aftermath and during the recovery period.

In addition to information, social attitudes need to be worked with to ensure maintenance of a constructive environment. Although there is a tendency to rank the severity of the impact, the reality is that emergencies have complex and varied consequences for people’s lives. Recovery can only be based on recognition of the actual consequences. Therefore, it is important to encourage community members to address their recovery needs, look forward to and plan for the future, and recognise that acceptance of tragedy is a basis for healing (and blame can prevent effective adjustment).

**Psychosocial—secondary impacts**

There are potentially two sources of psychosocial impacts:

- the emergency event itself, with its trauma and loss
- the response and recovery process, with its potential disruption, depersonalisation and disorientation.

The response and recovery processes can be made worse or better depending on how they are managed. For the most part, people manage well, but frustration may accumulate when challenges are faced, such as encountering misinformation, red tape and bureaucratic tangles while seeking recovery support. Feelings of anger and helplessness may result.
Dealing with relief agencies (particularly government agencies), loss of job, loss of community status, or a changed socio-cultural mix in the community are all experiences that may occur following a disaster and may actually be more significant, over time, than exposure to the disaster agent itself (Flynn 1999, p 11).

Psychosocial—impacts on workers

In some cases, relief and recovery workers live in the affected community and may be dealing simultaneously with their own personal losses and uncertainty about the safety of their families, homes and livelihoods.

**Uncertainty in emergency events—Ovine Johne’s Disease**

Uncertainty increases stresses and impedes an individual’s ability to cope with traumatic events.

Uncertainty was pervasive in the Ovine Johne’s Disease (OJD) outbreak of the mid to late 1990s in south-east Australia.

*Uncertainty about the disease, uncertainty about diagnosis and uncertainty about the future are all factors that make OJD distressing. One witness described it as ‘living on the knife’s edge’. The situation is particularly difficult for those under suspicion and surveillance. It is also stressful for thoserestocking. Farmers fear that, ‘If we missed the signs of OJD the first time, how can we guarantee that we will not miss them again and start the whole cycle all over?’* (ENRC 2000, p 249).

One farmer summed up the effects of the Victorian OJD Control Program on his community, and the consequences of the loss of social cohesion, ‘With regard to the social impacts of the strategies implemented from December 1996 I can only say that there would be no other issue that has virtually destroyed the unity of our rural community [in East Gippsland]. Families have been shamed and farming groups and regions bitterly divided ... Without social cohesion communities become unworkable and fail’ (ENRC 2000, p 261).
Demands on workers responding to an emergency event are driven by the needs of the community after the event. Some impacts on workers include:

- very long working hours—often seven days a week for many weeks
- work pressure—stressful situations and responsibilities
- relationship changes with the community—loss of esteem/respect of communities
- shared trauma and the emotional pain of implementing policy
- the requirement to go beyond the bounds of normal work and offer emotional support to the community
- added financial stress for volunteer organisations (Productivity Commission 2002).

Chapter 15 details human resource issues specific to the disaster context, and Appendix 13 offers a checklist for managing people in the disaster context.

**Mental health effects**

The focus of this chapter has been on the impacts on individuals, families and the community in the spectrum of normal, adaptive responses to the stresses.

As noted above, a small proportion of the population may experience more serious adjustment problems with potential for the development of mental health disorders. Some of these are described below. In the context of disasters, the provision of community recovery interventions is designed to aid the prevention of a greater prevalence of mental health disorders.

More detailed information for mental health practitioners in regards to disaster may be found in state and territory support documents.

**Mental health problems and mental disorders**

Mental health problems and mental disorders refer to the spectrum of cognitive, emotional and behavioural disorders that interfere with the lives and productivity of people at school, at work and at home, and impact upon their interpersonal relationships (DHAC & AIHW 1999, p 7).

A mental health disorder implies ‘the existence of a clinically recognisable set of
symptoms or behaviour associated in most cases with distress and with interference with personal functions’ (WHO 1992, cited in DHAC & AIHW 1999, p 7).

Common mental health problems include:

- **depression**—characterised by a sad or depressed mood, a loss of interest in normal activities, poor motivation and lack of energy: it is usually accompanied by disturbed sleep and poor appetite; in more severe cases, suicidal thoughts may be present

- **anxiety**—characterised by fear that something bad will happen, and often by worry about areas such as safety, health and money: these disorders are usually accompanied by physical symptoms (being tense, on edge, heart racing etc) and the person will often avoid activities that they find upsetting

- **substance use disorders**—characterised by excessive use of alcohol or other drugs, which interferes with the person’s social relationships and ability to carry out normal roles

- **post-traumatic stress disorder**—one of the anxiety disorders, it is often mentioned in the context of trauma and disaster, but is probably no more common than depression: it is characterised by memories (often in the form of images, smells or other sensations) that haunt the person (and are associated with high arousal, being jumpy, on edge, disturbed sleep, being irritable) and efforts to avoid reminders, and a general numbing of emotional responsiveness.

### The positive side (post-traumatic growth)

Research has demonstrated that:

> the psychological and social impacts on those affected by major emergencies are many and varied. As well as including grief, trauma, stress and other forms of loss-related reactions, the evidence suggests that people are generally resilient and demonstrate the ability to adapt, adjust and recover after such events. The ability to cope is related to a range of pre-disaster, within-disaster, and post-disaster risk factors (Eyre 2006, p 2).

There is growing evidence that after a disaster or emergency people can become wiser and stronger. At a community level, bonds between people can be strengthened by
sharing an intense experience together. The experience of this event may help in the future with coping with the everyday stresses of life. It can also be a turning point where people re-evaluate the value of life and appreciate the little things often overlooked. People who have been through disasters should be encouraged to identify the positive aspects for themselves and for those who are close to them.
CHAPTER 8
Effects in the built environment

The built environment is broadly defined as those human-made assets that underpin the functioning of a community. With the relatively high dependence of modern-day communities on the built environment, large-scale disruption to these assets causes broad-ranging hardships for the community. This chapter identifies the effects of disaster on the elements of the built infrastructure and the services that rely on the infrastructure and how the community is impacted by the absence of any of these.

Damage to essential services—whether significant or small, and whether to commercial and industrial facilities, public buildings and assets, or housing—may disrupt both the commercial (economic and financial) and social life of the community. The direct and indirect costs of this disruption are discussed in Chapter 9. Rapid impact assessments are increasingly being used and coordinated among the multi-agency response and recovery interests after disaster. In addition to the economic and social systems that rely on the built environment, the networked nature of the built environment means that few aspects of it are independent.

Elements of the built environment may be privately run or owned and operated by public agencies, and this has implications for the management of the recovery.

The community impact

Effects on the built environment impact on the activities of all who are involved in recovery, including:

- the community [see Chapter 6] that is significantly affected by the physical effects of an event—it will be inconvenienced by damage to infrastructure and other services, which will frustrate efforts to affect speedy recovery: this may be reflected in decreasing community morale

- recovery and reconstruction workers, who, whether normally part of the community or not, may have to cope with compromises in operating conditions due to lack of power and other facilities—response workers will most likely come into contact with affected people [see Chapter 7 for the social impacts of disasters].
Community interactions with recovery workers

An understanding of community reactions assists recovery managers to plan for compromised operational conditions and prepares them for some of the impacts on the community that will become the focus of the recovery efforts.

Electricity transmission workers involved in reconnection of power after Cyclone Larry in Far North Queensland in 2006 experienced a high level of community interaction characterised by ‘highly aroused, emotionally motivated behaviour’ (pers. comm., Rob Gordon, consultant psychologist, October 2010). This was a result of people’s need to make sense and meaning through talking about their experiences—and to reduce uncertainty through information. This can be a very difficult situation for workers who have not been briefed on how people may react to a disaster experience. People may complain about services that the worker is not responsible for, and some simple skills and tips on reducing emotional behaviour are beneficial.

The built environment—supporting recovery

The built environment supports a range of services on which the community relies. Damage and disruption to the built environment inhibits the capacity of these services. These include:

- essential services, including water supply, wastewater removal, power, gas and communications
- food and merchandise distribution systems, which include markets, wholesalers and retailers—food and produce distribution may come to a standstill, at least temporarily
- supply chains that allow goods and supplies to be managed in and out of locations—this includes food, as well as material aid, reconstruction materials, fuels and freight-forwarding capacity
- the building sector, including insurers, builders, sub-contractors and suppliers
- the health care sector, including health insurance, medical practitioners, pharmacists, pharmaceutical suppliers and hospitals—as well as injuries from the...
event, there are additional problems for people whose regular life-support systems or drugs may not be available due to the loss of infrastructure

- education and training functions
- recreation
- housing, accommodation and catering systems
- financial systems, including banking functions.

These are very important networks for recovery operations. Restoration of any one of these can rely on functions in many of the others.

Damage to the built environment can also create consequential hazards that also need to be addressed. For example, leaking gas and exposed power lines can cause fires and contaminated water or asbestos exposure can lead to public health issues. In addition, damage to industrial and commercial facilities can cause loss of livelihoods and production, and damage to housing and infrastructure can cause personnel shortages as workers attend to their own losses.

Accommodation is a critical aspect of the recovery process. Cyclone Tracy in Darwin provides a well-known example of this. The repair of the city required a large workforce, but the loss of around 90% of the accommodation meant many people who performed vital infrastructure tasks had to be evacuated to ease the accommodation shortage.

**Specific physical effects**

The following section describes the impact on the built environment under the categories:

- essential services infrastructure
- rural infrastructure
- residential infrastructure
- commercial/industrial infrastructure
- public buildings and asset infrastructure (adapted from MCDEM 2010 and Australian state plans).
The impacts described can be considered as twofold—those that are a direct result of the disaster, and recovery-related difficulties and impacts (particularly due to the interdependencies in the systems).

**Essential services infrastructure**

Essential services are also referred to (in different contexts) as *physical lifelines* and sometimes as *critical infrastructure*. Basic infrastructure is likely to be affected and may include damage to the supporting infrastructure for essential services, such as:

- communications network/systems—information, telecommunications, public media networks
- energy supplies—liquid fuel, electricity, gas
- water supply, treatment and sewage
- transport networks—road, rail, aviation, maritime
- food production and food/merchandise distribution
- health and community service sector—aged care, hospitals, health care facilities (general practitioners, chemists)
- sanitation—liquid and solid waste disposal
- drainage systems
- security—fire alarms, security lighting and cameras.

Damage to one of the essential services is likely to impact on others due to their interdependencies. Failure to coordinate the re-establishment of these essential services will cause difficulties and hinder recovery. For instance, without water or communications, electricity cannot be restored, and, conversely, without electricity, water and communications may not be able to be restored. Interim solutions may be undertaken before the longer-term repairs are made.

**Communication network/systems**

Data transfer is essential for many aspects of commercial activity, community support and administrative functions. Communications systems failure creates a significant
sense of dislocation and isolation in a community and an inability to deliver key messages and information to the public. The length of isolation can magnify the adverse impact and the capacity to recover.

Although many communications systems have back-up power, they are vulnerable when:

- towers for repeaters, mobile network base stations and transmitters are damaged (back-up battery systems only have a limited life of 20–30 hours)
- telephone systems (for example, hands-free telephones), internet and email services require power supplies—mobile telephones rely on batteries, which have a limited life.

**Energy supplies**

The consequences of loss of energy supplies may include:

- perishable food spoilage
- an impact on supply of essential services, such as water, sewerage and gas
- failure of communication and information technology-based systems (for example, public media and banking services)
- disruption to fuel distribution
- a high demand for portable generators
- security and safety concerns due to lack of lighting and loss of traffic lights and rail signals, which will compromise transportation
- an impact on commercial and industrial activities
- implications for the location of a recovery centre
- difficulties in maintaining accommodation
- problems for medically dependant residents who require electricity.

Implications for business and industry can be very costly following power outages, especially prolonged outages. Restaurants, other food outlets, food suppliers and food storage facilities can quickly suffer downturns in business. Businesses that typically rely
on the tourist trade are particularly at risk of business failure.

Many farmers are impacted by prolonged outages; for example, if dairy farmers have no back-up generators they are unable to work their milking machines [cows that go un-milked are open to a number of debilitating diseases].

Many agricultural businesses rely on tourist and backpacker trade for their seasonal workforce. If a community is impacted, many tourists move on to find casual labour elsewhere. During the south-west Queensland floods early in 2010, many tourists who were staying in accommodation not equipped with back-up generators simply left town and headed for other regions not impacted by the weather event. The mass exodus of tourists can have prolonged economic impacts on a region.

**Water supply, treatment and sewage**

Damage to the water supply system impacts on the quantity and possibly the quality of water available for community and commercial use.

Impacts of the loss of water include:

- sanitation systems will not work, which creates health problems
- firefighting is compromised.

Overflows caused by blockages and local flooding may lead to flooding of homes and businesses.

**Transport networks**

Transport networks, including road, rail, aviation and maritime, and the infrastructure that supports them, can be affected during an event. Consequences include:

- difficulty in accessing communities
- problems with delivery of supplies
- difficulty in accessing medical and other essential services.

Restoration of these networks is a priority in support of recovery.

After a disaster there may be road weight limitations, which may cause difficulties moving livestock from pasture and farms or moving fodder on to farms.
Food production and food/merchandise distribution

Following an event some households will have sufficient food and groceries to sustain them for a period of time, but the majority will not. For example:

- the food and groceries industry suggests that on average 95% of households have between two and four days of pantry supplies (Bartos & Balmford 2010, p 14)
- 40% of meals are purchased and consumed outside the home (Bartos & Balmford 2010, p 22)
- people in rural areas may have significant pantry supplies due to their experiences and locations (pers. comm., Alan Edwards, Trusted Information Sharing Network, Food and Groceries Sector Group, October 2010).

The impact on the food supply chain depends upon the extent of the event. The food supply chain is very flexible and can respond very quickly where the event is regionally contained. However, in the affected area supplies may be limited due to the direct impact of the event and panic buying by the community. The food supply chain is also the primary channel to market for a range of essential household health, sanitary, cleaning and disinfecting supplies. Restoration of the food supply chain is a priority.

Health and community services

Health and community services are primarily delivered from premises within the built environment. Damage and disruption to these premises reduces the capacity of the service system to meet the existing and emerging health and psychosocial needs of the community. At the same time, a disaster event almost always carries with it the likelihood that people will be killed or injured and/or experience emotional trauma. The demand for medical and personal support is likely to increase, which will place extra burden on a community with an already diminished capacity.

Impacts within health and community services include:

- hospitals, clinics and aged care facilities and/or their equipment may become damaged and inoperable—disruption to water, gas and power will also severely restrict the services these facilities can provide
• even if they continue to function, existing health care facilities may not be adequate to treat the scale and type of injuries that present; for example, specialist burns units are usually located in larger regional and metropolitan hospitals

• damage to supported accommodation facilities for housing vulnerable people (frail aged and people with disabilities), which may put them at higher risk of harm

• the need to evacuate people from health care facilities and other forms of supported accommodation—this becomes more complex if people are frail or ill or have special needs

• public health concerns that arise with the displacement of large numbers of people [including into temporary accommodation such as ‘tent cities’]—the interruption and disruption of utilities and sanitation creates a high risk of infectious disease outbreak.

Sanitation—liquid and solid waste disposal

The level of sanitation may well be severely compromised and result in a risk of infectious disease outbreak or spread. In addition to contaminated water, risks can result from:

• rotting food

• other contaminated materials, such as soft furnishings, papers and even building materials

• dead animals, including pets and farm animals

• human bodies.

Security

Security infrastructure such as fire alarms and security lighting and cameras may all be impacted. Security issues following an emergency may also relate to a crime scene or coronial inquiries. The forensic requirements of these issues can hamper recovery of the built environment.

Looting may also be an issue:

looting of any kind is rare in certain kinds of disasters in certain types of societies ...
There are occasional atypical instances of mass lootings that only emerge if a complex set of prior social conditions exist (Quarantelli 2007, p 3).

Damage to buildings presents genuine concerns for the security of premises and possessions.

**Rural infrastructure**

Damage to rural areas can impact on livelihoods and on living conditions. For rural people, the loss of their homes may result in dislocation from their livelihoods. It may be very difficult for them to remain living onsite to maintain their enterprises.

The following aspects of rural infrastructure may be damaged:

- fences
- pasture
- machinery
- sheds
- irrigation infrastructure.

Other specific rural issues include:

- the length of time needed to restore livelihoods in rural areas may be extended
- there may be a difference between commercial and hobby farmers
- the impact on livestock by loss of fodder and pasture and the consideration to sell, agist or cull livestock may be foremost in farmers’ minds
- biosecurity can be compromised by damage to fences or movement of soil or water.

**Residential infrastructure**

Residential losses can occur in the following categories:

- houses, home units, apartments, flats, sheds, mining camps
- nursing homes, hostels, aged-care facilities
- boarding houses, hotels, motels, caravan parks
- residences in commercial buildings and businesses.
Damage to accommodation contributes significantly to community disruption. Residential damage affects:

- accommodation for community members and the recovery workforce
- coordination of recovery and reconstruction operations when owners cannot be contacted: dislocated people may not be able to access community recovery services.

In general, Australia’s building regulations have addressed risk associated with predictable events. However, there will certainly be substantial damage if a major centre with substandard infrastructure is impacted upon by tropical cyclones or earthquakes.

**Commercial/industrial infrastructure**

Much of the economic activity in a community is driven by the commercial and social networks that depend on the built environment. Demand on most commercial facilities increases during the recovery period but the capacity to supply need is often hampered by the damage to the built environment.

Damage or disruption to commercial facilities and infrastructure may inhibit the community’s access to the services and support provided by:

- transport
- banking and finance; for example, cash accessed by automatic teller machines
- employment
- hospitals and emergency facilities
- tourism
- supply chains, such as for food [supermarkets, warehousing and transportation offices], fuel, hardware and building supplies, chemists and suppliers of other controlled substances.

Adverse affects of damage to commercial facilities can include:

- contaminated debris; for example, hazardous waste (asbestos)
- health hazards; for example, biochemical, animals, food.
Public buildings and asset infrastructure

For a community to function or to be viable, it requires operational public buildings and assets, including:

- community/neighbourhood centres
- schools
- kindergartens
- places of spiritual worship
- sporting clubs
- cultural centres
- entertainment venues
- restaurants and cafes
- heritage-listed properties and cultural icons.

Each facility has the potential to help considerably during the recovery, but may be unable to perform its community functions if damaged. The community is reliant on the restoration or replacement of the above infrastructure to re-establish and function.

Practical strategies

In planning recovery, recovery managers must:

- be aware that essential services and infrastructure may be significantly damaged
- have contingency plans to allow work to be done, despite the immediate difficulties (including reduced transportation and communication services)
- recognise the strong links between infrastructure recovery and human response to emergencies and disasters
- prioritise infrastructure restoration and its eventual recovery according to the importance of the service that the infrastructure supports
- recognise that people may be traumatised if they feel that their buildings have not
protected them or if they have suffered loss as a result of the event

- recognise that these feelings of loss and deprivation will be heightened if the normal community structures for support are not in place, and if the damage to infrastructure places further threats on their continued wellbeing

- understand that reconstruction of the infrastructure by external parties can alienate the community unless the community is involved in the formulation of recovery strategies.

**Drinking water and waste water**

After the Black Saturday bushfires on 7 February 2009, the Victorian Bushfire Reconstruction and Recovery Authority worked with local water authorities to ensure that drinking water and waste water services were maintained while damaged systems were returned to pre-fire operations. Many properties in fire-impacted areas use rain water tanks as their primary water supply. In the wake of the fires the Department of Sustainability and Environment, in conjunction with the relevant water corporations, provided free temporary water tanks and cleaning and water carting services in and around the Kinglake area. During the recovery phase, access to free reticulated drinking water was provided at nine locations by Gippsland Water, Goulburn Valley Water and Yarra Valley Water at temporary standpipes and community water tanks.

More than 950 properties had their rain water tanks cleaned and about 1100 properties received one-off 5000-litre water carting. Another 14 drinking catchments are under restoration, rehabilitation and recovery, and 16 water treatment facilities that were affected are back in operation (Victorian Bushfire Reconstruction and Recovery Authority 2009).
A vibrant local economy is a vital part of a sustainable community in the normal/routine environment, so in an emergency environment economic recovery is critical to the whole-of-community recovery process. This chapter describes some of the broad economic and financial impacts on communities after disaster. Strategies supporting economic recovery are offered in Chapter 18.

Economically, the physical damage (to lives, property, infrastructure, stores, livestock etc) following a disaster is often the most evident impact, but, increasingly, indirect and intangible economic impacts are being recognised and measured, and strategies are being implemented to reduce these impacts where possible.

Broadly, the range of economic effects and consequences on an affected community varies greatly and depends on both the nature of the event and the resilience of the community. It is also important to recognise that communities are diverse. In some cases, affected communities recover and prosper; in others, the adverse economic impact has a domino effect that spreads throughout the community.

Detailing and understanding the economic and financial impacts of a disaster is a critical component of the recovery process for a number of reasons:

- to enable implementation of strategies to minimise negative impacts and embrace opportunities, such as supporting people’s livelihoods (which supports social, emotional and community wellbeing)
- to enable the economic recovery task group/practitioner, the householder or the business enterprise to quantify what has been lost (in order to replace it, claim it on an insurance policy and/or build back better)
- to enable the community to attract funding support (government, appeal, philanthropic etc) through provision of evidence
- to quantify impacts in order to improve mitigation and evaluate prevention and preparedness strategies, as well as direct policy
- to contribute to monitoring, reviewing and evaluating the recovery process as it proceeds.
The impacts

The economic effects of emergencies and disasters can be devastating and widespread. When disasters strike, houses, businesses and community infrastructure may be damaged or destroyed and people’s livelihoods may be temporarily and sometimes permanently disrupted. Physical damage is the most visible economic impact. However, the less visible impacts such as lost income, through disruption of trade, are just as significant and the consequences often last longer than the physical damage (for example, bankruptcy and business closures). The flow-on effects through a community can be pervasive and long term.

Table 9.1 outlines some of the impacts that may be experienced by households and businesses following an emergency event.

Table 9.1: Impacts of emergencies at the household and business/industry levels

<table>
<thead>
<tr>
<th>Household</th>
<th>Business/industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of employment and income (loss of livelihood)</td>
<td>Loss of supply chain networks</td>
</tr>
<tr>
<td>Loss of household assets</td>
<td>Loss or damage to business assets</td>
</tr>
<tr>
<td>Instability or loss of social networks</td>
<td>Loss of employees due to business closure and migration of skilled staff</td>
</tr>
<tr>
<td>Increased costs due to short supplies of goods and services</td>
<td>Infrastructure damaged or devastated</td>
</tr>
<tr>
<td>Lack of childcare and school facilities</td>
<td>Damage to or loss of natural resources</td>
</tr>
</tbody>
</table>

Livelihood—the right to earn an income through employment or operation of a business—is recognised as fundamental to the dignity of individuals (SEEP Network 2009) and contributes to all other aspects of people’s lives. Communities are economically disadvantaged when individuals are unable to work, either because their place of employment has been impacted by the emergency event or by other disruptions, such as school and childcare closures, which necessitate children being cared for at home. Being able to work in paid employment or to run a business profitably empowers affected individuals and motivates communities to regain charge of their lives by meeting their own needs as they best see fit.

Local business and industry economic impacts can be far reaching, especially in small
communities where a large proportion of the workforce is employed in a small number of businesses or where people depend on rural properties for their livelihoods. Loss of income through loss of trading activity and the time taken to re-establish such activity is more difficult to quantify.

The consequences of extended periods of downtime in trading or production can result in bankruptcy, forced sale of the business, forced sale of stock or livestock, business closure, loss of experienced workers, loss of supply chain linkages and a depleted customer base due to temporary or permanent population shrinkage. These consequences are exacerbated by community losses, which result in a reduction in disposable income. The flow-on through the affected community has been likened to the domino effect.

**Measuring economic consequences**

In order to understand the economic and financial impacts of a disaster on a community, we need to be able to measure—quantitatively and/or qualitatively—the consequences.

The economic consequences of disasters can be classified in a variety of ways. No single framework covers and prescribes every possible impact a disaster might have. Each event has unique characteristics and, consequently, in any attempt to classify these impacts there will be impacts that do not fit neatly within the classification. Nevertheless, a classification framework is a useful guide or tool to tackle these issues. One common classification relates to tangible (loss of things that have a monetary or replacement value) and intangible impacts (loss of things that cannot be bought or sold). This is further discussed below (see ’Economic impact assessment’).

**Direct and indirect impacts**

For recovery management purposes it is useful to evaluate the direct and indirect impacts.

Direct impacts result from the physical destruction (or damage to buildings, infrastructure, vehicles and crops etc) of direct contact with the emergency event.

Indirect impacts are due to the consequences of the damage or destruction.
For example, the impacts of a storm might be:

- direct impacts—flood and wind damage to buildings, infrastructure and crops
- indirect impacts—transport disruption, business losses due to lack of trade/loss of income (OESC 2008).

**The affected sector**

Another approach is to examine the impacts of disasters in terms of who or what is affected. Four interconnected groupings that may be helpful to consider are:

- residents and households
- public infrastructure, community facilities and the natural environment (essential services such as water and sanitation systems, electricity, gas, telecommunications and transport)
- business enterprises and supply networks (retailers, distributors, transporters, storage facilities and suppliers that participate in the production and delivery of a particular product), and other networks including peak bodies, not-for-profit sector etc
- government.

These groupings are described below, and are then considered in terms of direct, indirect and intangible economic impacts.

**Residents and households**

The residential sector includes houses, flats, units, townhouses and so on and the people who live in them.

**Public infrastructure, community facilities and the natural environment**

Essential services are vulnerable to all types of disasters. Direct damage to essential services infrastructure includes the immediate physical damage (for example, roads cracked or washed away, destroyed electrical transformers etc) and the damage that may take some time to become visible (for example, accelerated road deterioration due to the effect of water intrusion under road pavements).
Public buildings include schools, childcare centres, kindergartens, hospitals, nursing homes, neighbourhood centres, churches, entertainment/art/cultural centres, museums, clubs and so on. Direct damage to public buildings can be classified as structural damage (for example, roofs, walls etc), damage to contents (furniture, floor coverings and specialist items like sound systems and paintings etc) and external damage (playground equipment, swimming pools etc).

**Business enterprises and supply networks**

Business enterprises include commercial, industrial, retail, financial, service, agricultural and not-for-profit business types. Essentially, the impact on businesses falls into three main areas:

- infrastructure damage or loss
- asset damage or loss
- virtual business interruption or reduction.

For example, in the rural sector, built environment/infrastructure damage or loss might apply to fences, machinery, sheds and irrigation infrastructure. Asset damage or loss might include propagation of crops, stock feed, aquaculture, livestock and horticulture.

**Government**

Government includes local governments, the state and territory governments and the Australian Government. In any disaster there may be economic impacts on the whole of government and government resources will be impacted in various ways depending on the type of disaster (for example, government infrastructure damage, workforce continuity). However, cost-sharing arrangements between states/territories and the Australian Government occur following an event, and often local government can recoup some costs through arrangements with their state or territory (see Chapter 18, ‘Financial assistance—Commonwealth and state/territory government assistance’). Predictions from climate change science indicate that the frequency, duration and scale of events in Australia may rise, and both government and other affected industries (such as the insurance industry) are considering the implications of this.
### Direct economic impacts

Direct impacts result from the physical destruction or damage to buildings, infrastructure, vehicles and crops etc from direct contact with the emergency event. Table 9.2 lists some examples of direct effects of disaster by sector/area of impact.

<table>
<thead>
<tr>
<th>Sector/area of impact</th>
<th>Examples of direct economic effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents and households</td>
<td>Structural (roofs, walls etc). Contents (furniture, floor coverings etc). External (swimming pools, gardens etc). Death and injury.</td>
</tr>
<tr>
<td>Public infrastructure, community facilities and natural environment</td>
<td>Damage to or loss of roads, bridges, dams, sports grounds and facilities, schools, halls, parks, waterways, bushland.</td>
</tr>
<tr>
<td>Business enterprises and supply networks</td>
<td>Infrastructure damage or loss: structural damage to buildings such as shops, factories, plants, sheds, barns, warehouses, hotels etc. This includes damage to foundations, walls, floors, roofs, doors, in-built furniture, windows etc.</td>
</tr>
<tr>
<td></td>
<td>Asset damage or loss: farm equipment, food, records, product stock (finished manufactured products, works in progress and input materials), crops, pastures, livestock, motor vehicles, fences or irrigation infrastructure, contents damage to fixtures and fittings (carpets etc), furniture, office equipment.</td>
</tr>
<tr>
<td></td>
<td>Virtual business interruption.</td>
</tr>
<tr>
<td>Government</td>
<td>Local governments impacted by disaster may experience loss of ratepayer base. This may occur, for example, if a council waives rates as a goodwill gesture or if properties have lost their homes and/or businesses.</td>
</tr>
<tr>
<td></td>
<td>In high-profile disasters state and federal governments may outlay greater funding. Where this is for building substantial infrastructure, the impacts for local/state/federal governments include project management and maintenance costs.</td>
</tr>
</tbody>
</table>
Indirect economic impacts

Indirect impacts are incurred as a consequence of an event, but are not due to the direct impact. Many indirect impacts are common to the household, business and public/community sectors (for example, disruption and clean-up). Importantly, indirect economic impacts are not always losses: they may be opportunities for businesses to provide services to affected areas, or renew their businesses/start again with a better business plan. Furthermore, a loss to one business can mean a gain to another business (thus maintaining the regional economic balance). An influx of recovery grants may also increase the cash flow in an emergency-affected area and provide business opportunities.

The provision of material donations can also impact negatively on local economies. For example, the donation of new white goods in an affected area can mean that the local electrical retailer may have much less business in subsequent years.

The disruption to households, businesses and the community caused by disasters is pervasive. The economic impact of disruption and its consequences for community recovery may be overlooked, as economic recovery can tend to focus on the highly visible direct physical damage. Table 9.3 lists the common forms of disruption or indirect economic effects relevant to each sector.

Table 9.3: Examples of indirect economic effects of disaster by sector/area of impact

<table>
<thead>
<tr>
<th>Sector/area of impact</th>
<th>Examples of indirect economic effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents and households</td>
<td>Additional costs (alternative accommodation and transport, heating, drying-out costs, medical costs etc)</td>
</tr>
<tr>
<td>Public infrastructure, community facilities and natural environment</td>
<td>Transport (traffic delays, extra operating costs etc) Loss of computer-controlled systems Loss of other lifelines (electricity etc)</td>
</tr>
<tr>
<td>Business enterprises and supply networks</td>
<td>Impact on production [manufacturing, agriculture, services etc] Impact on income/trade/sales/value added [tourism operators, retail traders etc] Increased costs [freight, inputs, agistment etc] Loss of supply chain networks Increased work [construction industry] Opportunity to renew struggling business</td>
</tr>
</tbody>
</table>
Natural disasters can cause serious disruption to affected businesses. Businesses may not be able to operate during the event, and for some time afterwards, while the premises are cleaned and equipment repaired. Business lost during this period can have devastating financial consequences and, in some cases, businesses may not recover at all. This issue is compounded when a business is a major employer in a small community.

Loss of farm income due to a natural disaster can affect the economies of country towns. For example, the Australian Bureau of Agriculture and Resource Economics estimates that farm expenditure represents at least a third of the economies of towns with less than 1000 people (ABARE 2000). Disasters that reduce farm expenditure can therefore have a major effect on the economies of small towns.

### Sector/area of impact

<table>
<thead>
<tr>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs of implementation of royal commission recommendations</td>
</tr>
<tr>
<td>Increased demand on government services (education, health etc)</td>
</tr>
<tr>
<td>Loss of business continuity (state government may provide case management involving significant resources to be redeployed immediately for long periods)</td>
</tr>
<tr>
<td>Loss of tax revenue</td>
</tr>
<tr>
<td>Cost of engaging extra resources and/or backfilling positions</td>
</tr>
</tbody>
</table>

### Examples of indirect economic effects

Banana growers after Cyclone Larry, 2006

The impact on the banana trade following Cyclone Larry had severe implications for the supply chain attached to this industry and the region. Aside from the fact that banana growers lost all their crops in the event, the re-growth of the industry has taken a number of years. Workforces attached to the industry were also impacted (for example, the casual workers who harvest the crops, the suppliers of the bagging for the bananas, the packers of the fruit, the transporters of the fruit). Further impacts were the increased market cost of the fruit, which had to be sourced from other states or imported. Another effect relates to the backpacker workers and other transient/casual.
Banana growers after Cyclone Larry, 2006 (continued)

workers who were to harvest the crops. These workers left the region to find work elsewhere, which further impacted the economic stability of the region. Without the workers and other visitors to the region, many hotels, cafes, restaurants, retail outlets and tourist attractions were no longer able to trade at their usual capacities.

**Clean-up**

Cleaning up after a disaster is an obvious area of indirect impact. The impact for businesses, households and for public and community infrastructure is essentially the time it takes and the costs of cleaning materials.

Clean-up activities typically include the removal of debris (for example, mud, building rubble), disassembly and cleaning of machinery and equipment, removal of destroyed household and business contents items, and so on.

**Response costs**

The time and effort of emergency services and volunteers in responding to disasters are other forms of indirect impact. Costs typically include those associated with dealing with the disaster and rescue, evacuation and other immediate relief measures.

Response costs can also include the cost of aerial surveillance, which is sometimes the only means of assessing the impact of flood waters on agricultural land and for conducting fodder drops to stranded livestock. Other examples include the cost of engineering assessment of impacted infrastructure, and environmental assessment of damaged waterways/water storage facilities.

The considerable volunteer input into recovery is increasingly recognised. The impact of this includes potential loss of income to volunteers and disruption of business for their employers.

**Intangible economic impacts**

Intangible impacts are often described as a ‘catch all’ that includes all those costs that are very difficult to estimate, for which there is no agreed method of estimation and for
which there is no market to provide a benchmark.

Examples of intangible impacts are listed in Table 9.4 for each of the four sectors.

Table 9.4:  Examples of Intangible economic effects of disaster by sector/area of impact

<table>
<thead>
<tr>
<th>Sector/area of impact</th>
<th>Intangible economic impact examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents and households</td>
<td>Loss of personal memorabilia</td>
</tr>
<tr>
<td></td>
<td>Inconvenience and disruption, especially to schooling and social life</td>
</tr>
<tr>
<td></td>
<td>Stress-induced ill health and mortality</td>
</tr>
<tr>
<td></td>
<td>Pets—loss, injury, stress</td>
</tr>
<tr>
<td></td>
<td>Quality of life</td>
</tr>
<tr>
<td></td>
<td>Dislocation</td>
</tr>
<tr>
<td>Public infrastructure, community facilities and natural environment</td>
<td>Health impacts (deferral of procedures, reduced quality of care etc)</td>
</tr>
<tr>
<td></td>
<td>Death and injury, spread of diseases</td>
</tr>
<tr>
<td></td>
<td>Loss of items of cultural significance</td>
</tr>
<tr>
<td></td>
<td>Environmental impacts</td>
</tr>
<tr>
<td></td>
<td>Heritage losses</td>
</tr>
<tr>
<td></td>
<td>Lack of access to education, health, defence, art galleries and museums etc</td>
</tr>
<tr>
<td>Business enterprises and supply networks</td>
<td>Loss of confidence (investment and individual decision making)</td>
</tr>
<tr>
<td></td>
<td>Loss of future contracts</td>
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<td>Loss of, and inability to attract, experienced and skilled staff</td>
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<td></td>
<td>Loss of access to transient (backpacker) casual labour</td>
</tr>
<tr>
<td>Government</td>
<td>Managing perceptions and expectations, including public confidence in the recovery</td>
</tr>
</tbody>
</table>

Evidence suggests that intangible costs are substantial. Although most cannot be quantified, in many cases they have an economic impact that should not be ignored. There may also be mental and emotional costs to the community, which are difficult to quantify (Chapter 7 expands on this).
CHAPTER 9 | Effects in the economic environment

Uncertainty and its impacts—some economic impacts for Port Arthur
At Port Arthur and surrounds on Sunday 28 April 1996, 35 people were killed and 22 injured by a gunman who was later captured. The economic impact of this disaster was significant for both the State and the Tasman municipality. Port Arthur itself was closed down for three weeks. Although some of the businesses suffered badly, others received additional business from the media and government department personnel who came to the area.

The estimated net effect of the loss of approximately 130,000 visitor nights meant $15.6 million less for the Tasmanian economy in 1996. It is likely that around 400 jobs were lost as a result of this downturn in tourism business.

At a regional level, businesses were down around 28% on the same period a year after the disaster. A 28% drop in revenue is approximately $5.32 million or 166 jobs—a significant impact on the regional economy (Wells 1997, p 133).

The local council recorded an additional $56,000 in expenses (telephone costs, salaries etc), which was a burden on the 2200 permanent residents and rate payers. The State Government contributed to these expenses. In addition, the local council attributes some of the subsequent increase in rates to the disaster, although they ‘realised that everyone in the community was hurting, and ... endeavoured to keep any increases down to a minimum’ (Noye 1997, p 83).

Uncertainty and its impacts—foot and mouth disease potential impact
In a 2002 report into the potential of the impact of a foot and mouth disease outbreak in Australia, the Productivity Commission found that uncertainty would relate to:

- market effects—eg, how long will markets be closed and how reflective of next seasons prices are current prices;
- income effects—eg, the availability of short-term cash flow and the duration of expected impacts on cash flow from market closures;
CHAPTER 9 | Effects in the economic environment

Uncertainty and its impacts—foot and mouth disease potential impact (continued)

- scientific aspects of the disease—eg, how it started, how it spreads, the possibility of recurrence, the role of livestock farmers in the initial outbreak, and the role of livestock farmers and public authorities in the spread and elimination of the disease; and

- governmental effects—eg, the timing and extent of assistance and the effectiveness and consistency of policy interventions designed to control the spread of the disease.

Uncertainty would be highest early in the outbreak prior to knowledge about the extent of the outbreak and control measures being established (Productivity Commission 2002, p 119).

Economic impact assessment

Assessing the impacts of emergencies and disasters is integral to the recovery process. Impact assessments provide communities and policy makers with invaluable information about how a disaster manifested and with the results of previous prevention, mitigation and preparedness initiatives. These assessments can inform future disaster risk management, as well as broader sustainability goals.

Measuring the economic impacts of a disaster needs to be strategic and therefore requires thorough planning. There are a number of guides to conducting disaster loss assessment (EMA 2004; OESC 2008). The process is complex and requires some specialist expertise, so at the minimum some members of the assessing team should have formal experience or training in disaster loss assessment or economics.

Economic impact assessment attempts to quantify, in a common unit (dollars), all impacts (both costs and benefits) possible. This allows for a usable comparison between impacts and between different disaster events. Importantly, the economic in economic impact assessment applies not only to goods and services that are traditionally traded in the market place, but also to the value attributed to social and environmental assets.
Economic impact assessment is distinct from financial impact assessment. Economic impact assessment includes all impacts—financial impact assessment concerns a single economic unit such as an industry, business or household.

As well as direct and indirect impacts, economic impacts are typically divided into tangible and intangible impacts:

- **tangible impacts**—the loss of things that have a monetary (replacement) value (for example, buildings, livestock, infrastructure)
- **intangible impacts**—the loss of things that cannot be bought and sold (for example, lives and injuries, environment, memorabilia).

Tangible impacts are typically easier than intangible impacts to assign a dollar value to because they are traded in the market place. With tangible impacts the practitioner must choose and justify whether to record the replacement or depreciated value.

Despite the fact that intangible impacts are not traditionally tradable, there exists a wide literature and practice devoted to assigning them dollar values. For example, the loss of life and morbidity has a long tradition of valuation through statistical value of life estimates. Cost-benefit analysis and environmental valuation literature and practice have a breadth of techniques available for valuing environmental services and amenity (such as travel cost method, hedonic pricing, contingent valuation and benefit transfer). Valuing intangible impacts is challenging; however, when carried out correctly credible estimates are possible. Intangible impacts, such as loss of ecosystem services, may often hugely outweigh tangible impacts in an economic loss assessment and this can lend a new perspective to the evaluation of a disaster or emergency.

Direct and indirect impacts of disasters and emergencies are discussed above. From the perspective of economic impact assessment it is essential that the practitioner ensures a theoretically sound and consistent approach. A key issue with some assessments is the problem of *double counting*. Double counting can occur when both stock and flow measures are taken to measure loss. For example, a practitioner may count the loss of stock as a direct impact, and then also count loss of sales as an indirect impact of business interruption; in this case the stock loss has been counted twice.
Assessing how much disasters cost the nation and its communities is a major challenge, in part because different agencies and entities calculate costs and losses differently. If the recovery manager is aware that the information collected in the short to medium term following a disaster will most likely be used in an economic impact assessment, this may contribute to better information and hence improved disaster risk management (National Research Council of the National Academies 2006).

An economic impact assessment practitioner must set the geographical and temporal boundaries for the assessment. These boundaries often depend on the scale of the disaster and emergency, as well as the sort of information being sought. An economic impact assessment that looks at the impact of a disaster in one shire over one year will be very different to an assessment that looks at the impact of the same disaster on the nation over five years. The spatial and temporal scales of the analysis determine which costs and benefits to include.

Economic impact assessment looks at not only the negative impacts (costs) of an event, but also any benefits that may occur. All impacts are used to determine the net impact of the disaster.

**Great Divide Bushfires 2006–07, Shire of Wellington, Victoria**

The Socio-Economic Impact Assessment Model for Emergencies was designed to provide an 'impact assessment framework and related templates to analyse the impact of future emergencies on regional districts' (OESC 2008, p 4). To test the model, an analysis of the 2006–07 Great Divide bushfires in the Shire of Wellington, Victoria, was undertaken. The analysis looked at key costs, benefits and impacts including:

- direct costs (total $40.8 million) such as infrastructure, crops and buildings
- indirect costs (total $25.2 million) such as business disruption, disaster response and clean up
- intangible costs (total $7.4 million) such as injuries, cultural and environmental heritage
Great Divide Bushfires 2006–07, Shire of Wellington, Victoria (continued)

- benefits (total $7.7 million) such as government and insurance payments within the shire
- the net cost of the fires to the Shire of Wellington, which was determined to be approximately $65.7 million (OESC 2008).

These figures are used in contexts such as government budgetary considerations occurring in relation to mitigation initiatives and risk management strategies.

Practical strategies

In measuring the economic impact of disasters and mapping the economic strategies for recovery over time, recovery managers should seek answers to question such as:

- what strategies will assist in the economic recovery of the community?
- what makes some communities recover and prosper and others decline in the aftermath of a disaster?
- what are key characteristics of disaster resilient communities?

These are important questions and are critical to understanding the economic recovery process. The guidelines and strategies identified in Chapter 18 are informed by the answers to these questions.
Emergencies and disasters can have serious effects on the natural environment and on the ability of communities to function in the immediate and longer term. This chapter explores some of these impacts. Response and recovery actions have the potential to assist in the recovery of the natural environment. Key questions for determining what, if any, activities and interventions may be necessary to enable recovery of the natural environment are outlined in Chapter 19.

The Australian Government’s *Environment Protection and Biodiversity Conservation Act 1999* defines environment to include ecosystems and their constituent parts, including:

- people and communities
- natural and physical resources
- the qualities and characteristics of locations, places and area
- the social, economic and cultural aspects.

Many aspects concerning the social, economic and built environments as part of community functioning are considered in other chapters. For the purposes of this chapter, effects of disaster on the natural environment are considered in terms of the ecosystem components:

- air
- water
- land and soil (and organic matter)
- plants and animals.

A healthy and functioning natural environment is critical because it underpins the economy and society. Indeed, environmental functions often have a value put on them and this is termed ecosystem services.

_Ecosystem services are the services that nature provides which benefit human health and wellbeing, support our economy as well as supporting nature itself. They include regulation of the atmosphere and climate, protection from the effects of extreme weather, provision and storage of water, production and protection of soils and associated nutrients, treatment of wastes, provision of systems that support_
biodiversity, food and fibre production, provision of natural medicines, opportunities for outdoor recreation and a range of cultural values [including spiritual, religious and aesthetic values] (Tovey 2008, p 197).

So, the natural environment is necessary to sustain our health, agriculture, industry, amenity and cultural values. The natural environment also has intrinsic value. Building resilience into the natural environment builds socioeconomic resilience. Prioritising natural environment considerations after an emergency is critical to sustainable community recovery.

Pre-event recovery planning (see Chapter 11) needs to factor in the potential impacts on the natural environment and consider the particular impacts of climate change risk. Environmental risk management and ongoing community development planning are integral to this, including natural resource management and land use planning.

Community recovery planning (whether for a threat or actual disaster) for recovery of the natural environment should use a whole-of-community approach. Cross-sectoral taskforces and local recovery committees (see Chapter 14) should work together within a community-led recovery process.

Impacts from emergencies or disasters can be immediate and/or have long-term effects; for example, the interruption of breeding cycles during a disaster can have long-term effects on population numbers. Responses therefore also need to consider the immediate and longer-term actions required to recover the natural environment.

Some examples of potential risks that may need to be considered are listed in Table 10.1 in terms of the components of air, water, land and soil, and the plant and animal life that depends on them. The impacts of a disaster will be specific to the impacted community and so the natural environment needs to be carefully considered in the given context.
### Table 10.1: Examples of impacts of disasters on the natural environment by component

<table>
<thead>
<tr>
<th>Component of the natural environment</th>
<th>Aspects of this component relevant to disaster management</th>
<th>Some examples of effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air</strong></td>
<td>Particulates, Chemicals, Biological aerosols, Radiation</td>
<td>Immediate: asthma cases</td>
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<tr>
<td></td>
<td></td>
<td>Longer term: deposition of particulates residues on assets</td>
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<tr>
<td></td>
<td></td>
<td>Dust from wind erosion—denuded landscape (fire, drought)</td>
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<td></td>
<td></td>
<td>Heatwave deaths</td>
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<tr>
<td></td>
<td></td>
<td>Deaths from bushfire smoke affecting air quality</td>
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<tr>
<td><strong>Water:</strong></td>
<td>Quality: biological contamination, particulate contamination, chemical contamination, dissolved oxygen levels/quality—river, radiation</td>
<td>Loss of capacity (drinking water etc)</td>
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<tr>
<td></td>
<td>Quantity: changed river flows, changed groundwater storage, flow regimes</td>
<td>Behaviour change as it moves through the environment</td>
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<tr>
<td></td>
<td>Marine: storm surge, biological contamination/introduced pests</td>
<td>Quality and quantity supporting:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• production systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• recreational water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ecosystems</td>
</tr>
<tr>
<td><strong>Land and soil:</strong></td>
<td>Loss and movement: erosion, deposition</td>
<td>Significant erosion after a fire or flood, earthquake or cyclone can change the course of waterways, reduce the productivity of farmland and create erosion risks for infrastructure both up and down stream.</td>
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<tr>
<td></td>
<td>Quality and condition: contamination</td>
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<tr>
<td><strong>Surface water</strong></td>
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<tr>
<td><strong>Ground water</strong></td>
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</tr>
<tr>
<td><strong>Marine</strong></td>
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<tr>
<td><strong>Artificial storages</strong></td>
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<td><strong>Lakes</strong></td>
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<td><strong>Rivers</strong></td>
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<tr>
<td><strong>Estuaries</strong></td>
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<tr>
<td><strong>Wetlands</strong></td>
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<tr>
<td><strong>Rocks</strong></td>
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<tr>
<td><strong>Soil</strong></td>
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<tr>
<td><strong>Geo-heritage</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Production systems</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Recreational water</strong></td>
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<tr>
<td><strong>Ecosystems</strong></td>
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</table>
### Component of the natural environment

**Land and soil (continued)**

- Changes to soil—acidification/structure change/compaction
- Damage to landforms and landscapes

**Plants and animals**

<table>
<thead>
<tr>
<th>Land and soil (continued)</th>
<th>Aspects of this component relevant to disaster management</th>
<th>Some examples of effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• changes to soil—acidification/structure change/compaction</td>
<td>All of this will have impacts on flora and fauna. Potential impacts also include natural, cultural and geo-heritage sites.</td>
</tr>
</tbody>
</table>

| Plants and animals | Loss of species and populations (biodiversity), especially threatened species | Increased interaction between wildlife and humans due to animals being disorientated, displaced (vehicle collisions, kangaroos/rabbits grazing in gardens, noisy birds [such as corellas] concentrated in civic areas, foxes coming into yards and killing domestic animals/stirring up pets [spreading mange to pets] etc). |
|                    | Change in abundance of species | Introduced predators concentrate on the native species and livestock remaining in the landscape (advantaged by no harbour for wildlife), can wipe out threatened species, impact on farm production/survival. |
|                    | Predators | Rabbits compete with native wildlife for scarce food resources, impact on regeneration of plants, impact on pasture/crop production. |
|                    | Competitors | Weeds are first to establish on bare ground and can outcompete native plants and agriculture/pasture plants. |
|                    | Changes in recruitment [whether seedlings can survive] | Birds may move out of the area, reducing pollination activity and/or allowing insect activity to get out of balance. |
|                    | Loss of habitat | |
### Assessing the effects

In normal activity, environmental impact assessments are typically designed to assess and protect environmental values (those qualities of the natural environment that make it suitable to support particular ecosystems and human uses) where development is proposed. But the procedures can easily be adapted to the *post-disaster* situation to identify significant ecosystem attributes and the likely impacts from the disaster. This type of report includes a broad survey of the impacted area (usually both through desktop analysis of existing data resources and, if required, the use of survey methods). In some cases, ecological survey techniques need to be employed to assess specific concerns, or to gain a broad audit of natural environmental impacts and likely consequences of the disaster. A rapid response research capacity following a large-scale natural disturbance assists in understanding the ecosystems dynamics and long-term consequences of natural disasters (Lindenmayer, Likens & Franklin 2010).

Chapter 19 provides brief guidance on post-disaster environmental assessment.

The aspects of each component of the natural environment and some potential impacts of disasters are described below.

### Air

The release of particulates (dust, ash, smoke, heavy metals), gases, chemicals or biological aerosols during or after a hazardous or natural event can cause degradation to air quality. This can have affects on visibility and air quality, and can cause health problems and reduce the amenity of the environment.
Air contaminants can deposit in the environment and can contaminate rain water tanks, water reservoirs, food crops, livestock, recreational water bodies, buildings and flora.

Air quality can be impacted by the management of waste, such as the release of biological aerosols (such as during incineration of carcasses after infectious disease), discharge of ozone depleting gases (from air conditioners, including those in cars bodies or from refrigerators), and creation of dust and odours from food and organic material disposal.

**Water**

Aspects of water quality and quantity can be affected by disasters. Groundwater, surface water (including rivers, lakes, canals, reservoirs and tanks) and marine water are all types of water systems that may be susceptible to impact from disaster. Without appropriate quality and quantity, the sustainability of production systems, human health, ecosystems and recreational water use may be jeopardised.

Water quality can be affected by dust, sediment, rotting organisms (decaying organic matter), disease or pollutants. Where the water is used for drinking (by people or animals, including stock and aquaculture), the degradation directly impacts the community. In other cases, changes in water quality may affect suspended gas and lead to changes in the biota and flora in the water. This may lead to fish kills, development of algal blooms, weed kills or the choking of waterways with weed or algae. If the water quality is reduced, public health may be compromised and there may be fears of disease outbreak. The degradation of water quality can pose health risks to communities or decrease opportunities for commercial activities such as tourism, agriculture and aquaculture.

**Land and soil**

Soil forms from rock so slowly that it is effectively a non-renewable resource. Healthy soil is essential to provide us with food, fibre and clean water. Land and soil can be affected by disaster through:

- changes to location through loss and movement; for example, erosion, landslip or earth movements due to earthquakes, which might cause damage to landforms
• changes to the quality, such as soil chemistry, through contamination and structure, including the effects of compaction.

**Erosion**

Erosion is a natural process that gradually wears away land by wind and water, but can be accelerated by human activities and particularly during emergencies (for example, fire and flood). Following severe weather or fires, the vegetation that protects the soil from erosion is often damaged or removed, leaving the soils exposed and in danger of erosion. Soils can then be transported during a flood (by water) or following a fire (by wind or water), leaving rural farm properties damaged, and potentially depositing soil on roads or flood plains. Although there may be some positive impacts for environments downstream (from the addition of silt and soil on the quality of that soil), there can also be negative impacts due to compaction (from the weight of floodwater), which hinders growth of crops and native vegetation, or due to the toxic nature of some floodwaters.

Climate change may further increase erosion risk. When natural events occur in combination (for example, heavy rain soon after fire), these events create great potential for severe erosion. If severe storms affect landscapes already impacted by fire or floods, or if marine storm surge (very high tide at the same time as a low pressure weather event) occurs, there can be impacts on the marine environment when sediments from the land are deposited in and beyond river mouths. This can reduce marine visibility, impede growth of marine plants and have flow-on impacts to fisheries. The sediments may be toxic, leading to fish kills, impacts on sea birds and potential public health issues from raised *E. coli* levels. There is also potential for large items of rubbish to be transported.

Bare soils are also susceptible to land slip, which can block roads or threaten the integrity of buildings, putting people in danger and impacting businesses. Landslides may result in fences being displaced, so that stock are no longer contained.

Earthquakes have the potential to cause dramatic changes to the landscape, potentially altering the surface of the land in urban and rural areas, disrupting economic and social activity, and leading to changes in water courses.
**Soil contamination**

Contaminated or polluted soil directly affects human health through direct contact with soil or via inhalation of soil contaminants that have vaporised. Potentially greater threats are posed by the infiltration of soil contamination into groundwater aquifers used for human consumption, sometimes in areas apparently far removed from any apparent source of aboveground contamination.

**Plants and animals**

Plants and animals are the biological components of the earth and operate as ecosystems. An ecosystem is a dynamic complex of plant, animal and micro-organism communities and the non-living environment interacting as a functional unit. People are an integral part of many ecosystems. Ecosystems are relatively stable and balanced, but that balanced state is dynamic, responding to changes in energy and nutrient inputs, predator–prey relationships (including diseases) or irregular disturbances.

Ecosystems have always experienced (and will continue to experience) periodic natural disturbances such as floods, fires, volcanic activity and even release of hydrocarbons from the sea floor, which offer both opportunities (for example, floodplain nutrient replenishment) and threats (death of populations of organisms, ecosystem damage). However, people have developed a system of industry and agriculture (production), a way of life (society) and forms of recreation that rely on the ecosystem functioning in a relatively predictable manner.

Significant disturbance to ecosystems can drive them out of their balanced state. If a disturbance pushes an ecosystem beyond its capacity or resilience, the balance can be lost forever, and a new ecosystem will eventually result. Due to the complexities of ecosystems and our relative ignorance of how they work, it is impossible to predict the characteristics of the ‘new balance’ and whether it will support the industrial, agricultural, societal and recreational activities of before. In these cases, particularly, recovering ecosystems (to a previous state or an ‘in-balance’ new state) will enable society, built environments and the economy to also recover. For example, the natural environment was a critical area of recovery in Marysville after Black Saturday because the community relied heavily on visits fromweekenders and nature-based tourism. Two years on, things have improved, but not to previous levels.
The ability of ecosystems to recover through their own energy and resilience depends on a number of factors including the level of disturbance or degradation of the ecosystem prior to the event, and how the ecosystem is managed after the event. An already-impacted or degraded ecosystem is more vulnerable to a disaster event and may be irreversibly changed by a major disaster or event. A resilient system is more likely to be able to sustain and respond to impacts and recover balance more quickly.

So, plants and animals/flora and fauna (and ecosystems) across a landscape have variable resilience, depending on the level of disturbance pre-event. Disturbances include degradation of vegetation (for example, grazing of feral animals and livestock) and soil resources (for example, erosion), vegetation clearance and fragmentation of habitat (for example, small, unconnected patches of vegetation), length of time since last disturbance (for example, time since last bushfire) and level of removal of species (for example, fishing).

Plants and animals don't just exist in parks and reserves or on land owned by government. They are distributed widely across the landscape and across a range of tenures (public and private land, freehold and leasehold land). After a disaster, plants and animals may ‘appear’ in unusual or different places, in environments they would not usually occupy. Although this may sometimes be transitory behaviour (en route to a safe refuge elsewhere), for less mobile species the new location may become their safe refuge. In either case, recovery actions across the landscape, across tenures and land uses will be important.

Man-made disasters (for example, oil spills, radioactive leaks or the release of toxic chemicals), which can include the secondary impacts of response and recovery actions, can severely impact animals and plants and might push sensitive species to local or wider extinction. They may also give exotic species advantages (for example, marine pests and weeds). The impact of natural or human-induced disasters on ecosystems and species needs to be assessed and monitored to determine if active intervention is required.

Enabling biodiversity is a wise strategy for managing risks associated with medium-term and long-term climate change and other environmental changes and for keeping future management options open.
Other references/resources:
The linkages between people’s wellbeing and the natural environment is detailed in the *Millennium Ecosystem Assessment: A toolkit for understanding and action* (Island Press 2007).

Other references/resources:
*Environmental risk management—principles and process* (Standards Australia 2006) has a first step—Establish the context—which details identification of impacts and potential impacts through sources of risk (hazard/aspect, event), pathways, barriers and receptors. The steps outlined are:

- List all environmental aspects and components of the surrounding environment in a matrix
- Consider each environmental aspect against each component of the surrounding environment for a possible interaction or interface: then
- Where an interaction or interface occurs a potential environmental impact exists and requires further assessment (Standards Australia 2006, pp 27–31).
Building a disaster resilient Australia

CHAPTER 10 | Effects in the natural environment

Coorong, Lower Lakes and Murray mouth recovery—the importance of ecosystem function to social, economic and built recovery

The Coorong, Lower Lakes and Murray mouth ecosystem has suffered drought and long-term impacts due to over-allocation of Murray–Darling Basin water resources. This case study demonstrates the role of natural systems and the services they provide in underpinning economic, social and built environments.

The region is a Ramsar Wetland of International Importance. It contains a wide range of flora and fauna (including many migratory wading birds that spend summer in Australia), many of which are endangered or threatened.

The area is a popular tourist destination, and in 2008 approximately 138,000 people visited the Coorong National Park. Nearly 28,000 people live in the region, and because a majority of people are employed in industries that rely on water from the Lower Lakes, the local economy is heavily dependent on the health of the whole Lower Lakes system (DEH 2010, pp 32–3).

The region and surrounding areas are the central homelands of the Ngarrindjeri people. Creation stories about Yarluwar-Ruwe (sea country) reveal the significance of the relationship between the country and the people both physically and spiritually.

The flow-on effects of ecosystem decline in this region include impacts on the following areas:

- **fishing**: low water levels prevent commercial fishing—fishers identify that this results in a halving of their income and lay off of staff
- **agriculture**: dairy farmers and graziers have to reduce genetic breeding livestock, begin feed lotting cattle, or have bought and carted water—there is now less employment on farms (which negatively impacts town businesses and essential services) and some land managers have sold out, while others have undergone major changes
- **viticulture**: local growers and irrigators have experienced significant

...
Coorong, Lower Lakes and Murray mouth recovery—the importance of ecosystem function to social, economic and built recovery (continued)

emotional, physical and financial strain and job losses with ongoing water management issues

- **business:** small businesses and town businesses report business downturn, and economic and employment loss (particularly in businesses directly associated with water activities and tourism) and property values decreased

- **boating:** the boating, tourism and recreation industry was severely impacted, in some cases with 80% loss of business and subsequent business closure and loss of employment

- **infrastructure:** water-based infrastructure (for example, jetties and pipelines) was ‘marooned’ above the water line and was unable to be used, and infrastructure was damaged (levy banks damaged by drying phase, river banks slump, boats stranded on dry land)

- **health:** reported increase in mental health issues due to economic impacts and an increase in physical health complaints (skin and eye irritation) due to contact with lake water; concern about increased mosquitoes; concern about an increase in dust storms; Indigenous community identified at risk by medical practitioners

- **education:** a loss of jobs and families moving out of the region resulted in a drop in school enrolment numbers and a reduction in teaching numbers

- **community:** increasing demand on community services; tensions and conflicts between community groups with competing interests and changes to the demographics of communities

- **environment:** native fish translocated then taken into captive breeding facilities to ensure survival of the species/populations, lake and river fringe habitat degraded, change in water quality, exposure of acid sulphate soils, frog species decline, migratory birds affected.
Exotic animal disease impact on the natural environment

The Productivity Commission report on the impact of a foot and mouth disease outbreak in Australia assessed the potential economic, social and environmental impacts of a range of hypothetical scenarios on the agricultural sector in rural and regional Australia and on the national economy.

Eradication and control of the disease potentially has a number of adverse impacts on the natural environment. These are primarily associated with the disposal of animal carcasses. Other natural environmental impacts could arise from:

- the disposal of other livestock products (such as milk)
- widespread use of disinfectants to decontaminate infected properties
- a reduction in on-farm environmental improvement measures such as soil conservation, tree planting and salinity reduction arising from decreases in farm cash flow (Productivity Commission 2002, p 137).
SECTION D: PROCESSES, PLAN AND MANAGE

Key points:

• Pre-event planning and post-event community processes and actions are critical to maximise the likelihood of sustainable disaster recovery.
• Supporting processes and systems need to be in place, ready to be activated, to enable effective recovery.
• Recovery is inherently a social process, influenced by multiple social factors and requires experienced facilitation, knowledgeable leadership and sound process.

The objective of recovery management is to provide effective and efficient coordination and delivery of programs, services and activities to assist and hasten the recovery of affected individuals and communities. Recovery management embraces the measures taken before, during and subsequent to any event.

Sustainable disaster recovery is the ... process of restoring, rebuilding, and reshaping the physical, social, economic and natural environment through pre-event planning and post-event actions.

This orientation focuses on processes. It sees sustainable disaster recovery as a holistic, non-linear series of actions taken by community-level social units and systems that result in alterations to the built, social, economic, and natural environments.

Both pre-event and post-event actions are part of the process, including the role that state and federal organisations, non-profits, emergency groups, corporations, and others play in local recovery (Smith & Wenger 2006, p 237).

This section provides an overview of the essential elements of the supporting processes and systems, including preparedness and planning (Chapter 11), the operationalising of community recovery (Chapter 12), more detailed management considerations (Chapter 13), management structures in the Australian recovery environment (Chapter 14) and human resources in the recovery environment (Chapter 15).

The information on recovery management in this section is intended for all personnel involved in emergency management, not only recovery workers and managers. It is necessary for all involved in emergency management to have knowledge of recovery.
management functions to achieve the necessary coordination between agencies, services, workers and managers. This section should be read in conjunction with Section B—Foundations.
CHAPTER 11
Preparedness and planning

This chapter describes preparedness activities along with planning aspects of community recovery, including the two dimensions of recovery planning (pre-event and post-event community recovery plans), the planning process and business continuity.

Before embarking on preparedness activities and the development of recovery plans, it is important to revisit the purpose of recovery (see Chapter 3) and the involvement of community at all stages.

Preparedness

Tasks for preparedness primarily include planning tasks such as the development of pre-event recovery plans and those tasks necessary to maintain preparedness (to activate those plans when required). The suite of activities involves community engagement and awareness and action.

The tasks required to maintain preparedness for activation involve:

- participation in education campaigns and community conversations
- development of community profiles to determine the community demographic and identify potential risk areas if an emergency event was to occur
- liaison with local, regional and/or state emergency management authorities
- liaison with recovery committees and agencies
- maintenance of preparedness for activation of recovery agency personnel (both government and non-government) and systems, sometimes called operational readiness; for example, preparation of a ‘dark’ (off line) website including all relevant information generally needed by a recovering community (telephone numbers for help line, call centre, medical services, Lifeline, insurance, Centrelink, veterinarian services etc) in readiness for additional specific content
- updating and maintaining recovery plans
- education and training of paid staff within agency and involving multiple agencies (see Chapter 15)
- exercising recovery plans (see Chapter 15)
• updating contact lists
• identification and training of voluntary workers
• provision of assets to be deployed in an emergency event, such as mobile phones, satellite phones, laptop computers, printers, telecommunications connections
• development and maintenance of potential contractual arrangements for service provision
• regular maintenance and testing of emergency assets
• facilitating community preparedness—encouraging communities, individuals and households to plan.

Recovery planning
Planning for the recovery of affected communities requires participation by the various agencies, organisations and the community in the development of recovery plans. Pre-event planning is necessary for each operational level—local, regional and state/territory—and post-event planning also includes both strategic and operational plans.

The planning process
Planning for recovery is integral to preparing for all emergencies and is not simply a post-emergency consideration. The planning process demonstrates engagement with the community and requires forward thinking, communication and consultation.

The planning process:
• communicates intent
• clarifies roles and responsibilities
• provides consistency and a shared language
• engenders confidence
• allows an appreciation of the potential magnitude of recovery needs and the resources required to address/meet those needs
• meets statutory obligations
• fosters recovery practices that are community focused and consequence driven across the four recovery environments (social, built, economic and natural)
• anticipates issues likely to arise, such as media interest and the need for website maintenance and monitoring.

**Dimensions to recovery planning**

There are two dimensions to recovery planning:

• pre-event plans—completed as part of all hazards/emergency planning
• community recovery plans—post-event and tailored specifically for activities following an event.

**Pre-event plans** are part of the emergency risk management process and interface with other emergency plans. They can be prepared at various levels (for example, state, regional, local council, local community) and provide a broad framework and governance for recovery. They establish and strengthen relationships between individuals, communities and organisations that will play a role in the event of an emergency.

Planning arrangements need to be conscious of the responsibility to support recovery activities for emergencies that occur outside their boundaries (for example, in another municipal district or region, interstate or overseas). Plans should include provisions to ensure equity of emergency recovery services in such circumstances.

A checklist for undertaking pre-event recovery planning is provided in Appendix 3.

**Community recovery plans** are tailored specifically for activities following an event.

These plans are generally operational plans developed for each event, and define strategies and interventions specific to the affected communities. The plans aim to agree and communicate the immediate, medium and long-term goals for recovery. The plans need to consider the impact of the event, the location, community demographics and the vulnerabilities of the community. In addition, the existing social networks prior to the event, the culture and the four recovery environments need to be considered. Planning
must involve the community from the outset.

Community participation in the post-event planning process is critical to identify the specific activities that are required by the community to re-establish community systems and ensure the outcomes of the recovery process are community driven. The community can contribute to planning in a variety of ways, including attendance at local council meetings. The spontaneous public forums that emerge after an event are usually indicative of community concerns.

**Preparing a recovery plan**

There are many ways to prepare recovery plans. Pre-event and post-event (community recovery) plans require different approaches and timeframes. Plans are living documents, and are subject to periodic review and update. Plans are written by the designated agencies/committees and by all agencies responsible for providing specific recovery services. Each plan will have clear lines that link the plan to the relevant authorising process. Recovery plans are based on normal management strategies so that agency recovery roles require only minor deviation from their normal functions.

**Pre-event plans** should include:

- formalised arrangements for effectively managing recovery, including accountability and responsibility
- identification of all strategic partnerships in the recovery process
- agreed arrangements, roles (responsibilities and tasks) and an understanding of capacity of the partner agencies in coordination, logistics, post-event planning, communications and service operations
- clear scope—describe what’s in and what’s out of scope of the role and what the plan is trying to cover (negotiation with other stakeholders is a necessary step in understanding how the recovery role fits with the response and mitigation roles)
- details of organisational networks and structures appropriate to recovery, including contacts and resources, thereby involving all agencies with a role to play in the recovery process
clear and agreed goals and objectives for each stage of the recovery process; that is, the short, medium and long-term goals and objectives

escalation protocols to ensure that there is capability to scale up if warranted (this may include the inclusion of experts in the planning process)

consultation, enabling community participation

resourcing, which considers arrangements that may be appropriate in various circumstances

regularly testing and exercising the arrangements—this offers an excellent opportunity for agencies and community organisations to consolidate their own roles and responsibilities, to improve familiarity with the roles and responsibilities of other agencies and organisations, and to develop constructive networks in a particular community, district/region or at state/territory level; it also enables assessment of community recovery capability

regular review and amendment of the plan where required—this is often an annual process and considerations could include changes to population demographics, community vulnerabilities, service delivery capacity, scope and likelihood of potential disaster events, recovery committee membership, and any changes to roles and responsibilities: aligning review with planned training exercises can assist in identification of potential amendments (amendments that impact on operational integrity need to be approved and aligned with other relevant local/district/regional/state/territory plans)

post-event evaluation details that will potentially inform a review of the plan (Chapter 12 contains more detailed information on evaluation)

the authority and plan endorsement, which may include multi-level approval and signing by Chairs of appropriate committees (including those representing the community).

Post-event plans are sometimes referred to as operational or tactical community recovery plans. These plans should take account of the:

• short, medium and long-term considerations
nature and scale of the event
- demographics and characteristics of the affected community pre- and post-event
- issues identified in the impact and needs assessments
- emerging issues
- existing community goals and expectations
- internal resources available
- external support
- mitigation for future events
- reduction of future risk and loss
- opportunities to improve community functioning.

A good plan provides a balance between fostering community resilience and maintaining the provision of community-based services that support recovery to meet community needs. Various recovery planning formats and examples are available on emergency management websites in states and territories and on local government sites.

Although there are often plans in place at a local, regional/district and state/territory level, recovery from a disaster should be guided by the recovery manager and local community. The establishment of sound processes ensures the integrity of the program and supports social basics such as trust and social cohesion.

A community recovery plan should also document processes and measures to ensure:
- accountability towards disaster-affected people (beneficiaries), as well as donors, taxpayers and corporate supporters
- recovery activities are equitable (with a known complaints procedure)
- transparency, accessibility and delivery through a community-based methodology.

It is important to be accountable for many reasons, including to:
- help build trust with the community
- ensure that the most vulnerable people are reached with the right assistance in a...
manner that is respectful and dignified

- contribute to the understanding of people about how they can influence recovery actions that involve their living situations
- ensure people are satisfied with the quality of the assistance
- contribute to empowering communities and partnerships
- prevent fraud, exploitation and misuse of assistance
- minimise any risks introduced by recovery programming.

Community recovery plans are informed by community needs assessments and lead to the development of specific recovery activities that have measurable outcomes and timelines associated with them and responsibilities negotiated with the key partners.

**Business continuity planning**

Some organisations deliver community-based services that support recovery as part of core business (for examples see Chapter 14). This business is simply carried out in a different environment when an event occurs. Effective recovery can leverage the business continuity arrangements of organisations and communities. Business continuity arrangements need to seamlessly interface with recovery arrangements. Conversely, community-based services and activities can support business continuity by supplementing normal business levels during a recovery event.

Other references/resources:
For more information, see *Business continuity—managing disruption-related risk* (Standards Australia 2010).

**Other planning activities**

A number of specific plans may form sub-plans to the community recovery plan. The purpose of sub-plans is to supplement and support a comprehensive recovery, and these could include:

- communications—to ensure collective responses remain coordinated, and
communication and linkages between all stakeholders are clearly defined and describe the means and modes for communication with those affected (this is discussed in Chapter 5)

- community development plans (refer to Community development in recovery from disaster [EMA 2003]; community development approaches are discussed in this handbook in Chapter 4)
- activation of recovery functions including formal handover from response to recovery
- exit/closure/transition to renewal—planned withdrawal of recovery services linking back to mainstream service provision and/or development of the new norm (this is discussed in Chapter 12)
- other specific functional arrangements
- standard operating procedures
- household plans such as the Australian Red Cross [2009] REDiPlan, which can assist with community pre-event planning.

Planning for resilience

A strong recovery process encourages individuals, households and communities to consider the consequences of events and requires a level of capacity building. Households and communities are the cornerstone; households and communities that plan for disaster reduce the need for extraordinary recovery services. (See ‘Sustainable communities: resilience and vulnerability’ in Chapter 4.)
CHAPTER 12
Operationalising community recovery

Recovery activities assist the affected community towards management of its own recovery. They should be provided in a coordinated way to support disaster-affected communities in the restoration of their social, economic, and physical and environmental wellbeing.

The services provided depend on an assessment of the needs of the disaster-affected community. Depending on the dynamics and resilience within the community, recovery timeframes will differ (for example, for rural or remote communities, the recovery may be protracted). The nature of the disaster (for example, a six-week inundation event causing isolation of communities or a half-hour hailstorm event) may also affect the recovery timeframes.

This chapter provides an overview of recovery service providers and facilitators, the activities that occur to and from recovery (including the transition of coordination from response to recovery, and from recovery services into mainstream service provision), and the project cycle (including the needs assessment process, post-disaster planning, implementing activities/services, continuous monitoring, and review and evaluation of services). The types of services that might be provided to the community across the four recovery environments are described in greater detail in Section E.

Recovery providers

In many events, communities conduct their own spontaneous recovery, and this needs to be supported by a range of partnerships between government agencies, non-government organisations and the private sector. Increasingly, corporate organisations are becoming more involved. Government is not the only provider of services; therefore, public-private partnerships are integral to recovery planning and management. The private sector is often embedded in the affected community; for example, electricity providers, insurance companies, banking sector, telecommunications, private media, retail outlets, private health providers, private education providers and major employers.

It is important to engage these providers to support the community in whole-of-community recovery.
Recovery over time

The path to recovery is often not ‘smooth sailing’ and does not proceed in an orderly stage-like and unitary manner. Researchers have attempted to categorise recovery phases [National Research Council of the National Academies 2006, pp 149–50]. It can be helpful to think very broadly about the recovery of communities and the activities that need resourcing over the duration; however, these categories should be used with caution because they might mask both how phases overlap and how recovery proceeds differently for different social groups. Keeping this in mind, as well as the recognition that every emergency has different impacts on a very different community, community recovery activities can generally be categorised into five broad phases:

• activation
• relief—typically immediate
• early recovery
• medium to longer-term recovery
• transition from recovery to mainstream services/ongoing community development.

See Figure 4.1 in Chapter 4 for a diagrammatical illustration of these phases. Planning/preparedness prior to an event is also a critical aspect of community recovery (see Chapter 11).

Community and individual needs vary prior to and post-disaster, and a community’s recovery is a dynamic process—so adaptive management/governance, monitoring, and review and adaptation of programs is essential.

Activation

Activation occurs in many different ways depending on the nature of the event and statutory obligations or responsibilities, and it may be formal or informal. Commonly, activation occurs if a community has been impacted significantly; for example, if people have died, if children are involved or if the community is disrupted (whether it be economic, social, built or natural environments or a combination of these).
Relief

Communities affected by disaster may require immediate relief such as food, water, shelter/accommodation and cash. Relief is provided by different agencies in the states and territories. Refer to your state/territory or local government emergency management arrangements for details.

When requested through the Australian Government, the Australian Defence Force may provide assistance in the relief and recovery phases through the Defence Assistance to the Civilian Community agreement, which is part of the Australian Government Disaster Response Plan (COMDISPLAN; Chapter 14 describes this further). In the Queensland floods in 2011, for example, about 1600 defence personnel helped with the search and rescue and recovery in the Lockyer Valley and with the initial cleanup and recovery in Brisbane and Ipswich. Helicopters assisted in search and rescue activities and in transporting essential items and supplies.

Recovery transition

Significant ‘handovers’ or transitions occur during:

- response–recovery
- recovery–mainstream/ongoing activities and services.

Response–recovery interface

Recovery begins at the same time as response. For an immediate or perhaps prolonged period, depending on the nature of the disaster and its impacts, response agencies will coordinate the response and in some states and territories some relief through the use of an Emergency Coordination Centre (ECC). An ECC is set up either prior to (for proactive monitoring) or immediately after a disaster has occurred. The designated (appropriate) emergency services agencies provide the coordinated provision of resources to minimise damage to life and property. A recovery liaison is usually present in the ECC from the outset in order to communicate the ‘state of play’ to the recovery team/committee and its agency, and to enable effective decision making and strategic planning.
The transition of overall coordination from response to recovery (which can vary between the different states and territories) is usually influenced by a number of considerations, including the:

- nature of the hazard/threat and whether there is a risk of a recurring threat
- secondary impacts, which may require the continuing role of response agencies and may result in a prolonged transition period
- level of information and analysis about the known level of loss and damage associated
- considerations for the resources required to be activated for effective recovery arrangements (for example, in some situations the army has been activated to support start-up relief and recovery activities)
- number of fatalities and injuries, and retrieval and identification of bodies (which results in reduced access to some locations and communities).

Relief and recovery activities are undertaken concurrently and the distinction between relief and recovery activities is primarily to identify the different roles and responsibilities of key agencies.

These distinctions are irrelevant for a disaster-affected community. Therefore, there needs to be close working operating procedures, communication and coordination for activities to appear seamless. Communication and coordination between agencies and service providers is vital to achieve the best community outcomes.

When disasters occur the first requirement is immediate emergency relief to save lives, alleviate suffering, provide information, prevent outbreaks of disease and meet the basic emergency needs of the affected population, such as shelter, food, clean water and medical services.

Although recovery activities may be required to maintain the provision of relief services for some time, recovery goes beyond relief to restore local livelihoods, stimulate economies, rebuild physical infrastructure, strengthen institutions and invest in the health, wellbeing and social capital of disaster-affected communities.
Various functions cease to be coordinated by response agencies at various times (for example, the re-instatement of electricity or water supply), so the handover from response to recovery agency coordination will occur throughout the time that an ECC operates. This gradual shift can be an effective strategy to enable a smooth and productive transition. When the ECC closes, it conducts a handover to the recovery coordinating committee.

**Recovery—mainstream services (ongoing activities and services)**

If existing community services, organisations and agencies have been used within the relief and recovery phase, the transition and exit strategies will be simpler and more direct. If additional recovery service systems have been constructed, then more careful planning for the transition is required.

Relief and recovery activities should be undertaken within the context of the pre-existing:

- socioeconomic disadvantages experienced within the community
- local community organisations, services and representative structures that are used for the provision of relief and recovery activities
- developmental aims and aspirations of affected communities
- community development work (including emergency preparedness) already being undertaken.

Transitioning from recovery to ongoing community activities and services requires a comprehensive strategy that integrates recovery services into mainstream service provision while maintaining the sense of community health and wellbeing. Ideally, many of the activities and services that are facilitated will be integrated into structures that may have existed prior to the emergency or may have emerged since, and this will require minimal transition.

Other terms used for recovery transition to mainstream services include *exit strategy*, *closure* and *legacy issues*. There may or may not be a difference between the terms used within an agency and the language chosen to communicate the process to the community, and communities may be more comfortable with *transition* rather than *exit*.
The transition strategy is ideally considered in the establishment phase of recovery and generally includes:

- ensuring agencies and organisations involved in the management, coordination and service delivery undertake long-term recovery operations in a planned, integrated and adaptive framework
- provision of a strategic platform for recovery/service providers to embed sustainable community-based recovery services in affected individuals and communities
- implementation of strategies to support the integration of specific recovery-related services into mainstream service provision through integration and coordination
- maintaining partnerships and communication that was established during recovery.

After time, all remaining community recovery programs should transition into regular mainstream services and activities, which shift the focus from emergency recovery to ongoing community development while ensuring the community services can continue to provide services for any ongoing needs of affected people.

Within these major transitions there are changes to the resourcing of recovery services (provision of resources transitions back to the mainstream as community recovery progresses). Smooth transitioning depends on how the activities and services were initially set up in regard to the national principles for disaster recovery (see Chapter 3).

**Project cycle**

The project cycle consists of a number of phases (Figure 12.1), including needs assessment, planning/programming, implementation of services/activities, and continuous monitoring, review and evaluation. This is described in more detail below. Appendices 4 and 5 contain checklists for managing community recovery.

**Needs assessment**

A critical component in the management of an effective recovery program within any
community is needs assessment. The nature of the disaster event (its type, size and effects) will indicate different needs. The demographics of the community also greatly affect needs, as does the availability of local resources and the health, wellbeing and psychological state within the community. Consequently, the initial needs assessment looks at effects, community demography, available resources within the community and the pre-existing health, wellbeing and psychological state of the community. Needs assessment should be conducted to inform the community recovery planning for programs and activities such as those described in Chapters 16–19.

Figure 12.2 shows this community-driven needs assessment process.
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Disaster event

Response and relief services, geospatial information services, local information, local volunteers and workforce etc

Assembly, registration, evacuation centres, 1800 call centres, emergency services debriefs

Outreach, community services, debriefs

Social functioning now repairing

Community groups and organisations now having increased input

Community in a non-disaster context

Community profile mapping of cultural and political capital and risks

Community planning, forums, community meetings, debriefs

Community structures driving community-based recovery

Community structures, more active given capacity and support

Emergency services planning to meet future emergency needs

Community planning, forums, debriefs, service surveys

Fully functional and modified community structures

Assembly, registration, evacuation centres, 1800 call centres, emergency services debriefs

Outreach, community services, debriefs

Social functioning now repairing

Community groups and organisations now having increased input

Community in a non-disaster context

Community profile mapping of cultural and political capital and risks

Community planning, forums, community meetings, debriefs

Community structures driving community-based recovery

Community structures, more active given capacity and support

Emergency services planning to meet future emergency needs

Community planning, forums, debriefs, service surveys

Fully functional and modified community structures

Figure 12.2: Community-driven needs assessment process

Source: Sally McKay

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Prior to an event there usually exists a local community profile, which includes demographics, community-based services, structures and knowledge of existing social capital. Effective recovery programs are led by sound knowledge of the local communities and their capacities and strengths.

Following an emergency the initial information gained regarding community needs is received from the emergency management services (response and recovery agencies) active in the disaster. This knowledge is obtained when emergency response and recovery agencies ask affected populations what services they need. The involvement of response and recovery agencies and provision of services and facilitation of programs and activities (represented by the red/grey circles in Figure 12.2) evolves over time in response to community needs. As the response and recovery progresses, the amount of input from these agencies decreases. The ability of community groups and organisations to function repairs, and their level of input and ownership over the recovery process increases to the point where the community becomes fully functional (represented by the blue/green circles).

**Initial stages**

If it is determined that recovery services are required, an initial needs assessment will help establish basic recovery services. This initial assessment can be based on rapid impact assessments (RIA) completed during response and on relevant data from the impacted community and those working with the community. The context in which recovery is undertaken is a rapidly and ever-changing environment, which requires the frequent and continuing assessment of community need (continuous monitoring).

**Ongoing**

The sources of data to determine the needs within a community are many and varied and, again, change over time. The most likely sources for gathering needs data include (in no order of priority) RIA, emergency services personnel, police, local government, essential services workers, the ambulance service, hospitals, doctors, social workers, mental health workers, psychologists, psychiatrists, recovery workers, welfare workers, recovery agencies, community agencies, talk-back radio, social media, and, most
Rapid Impact Assessment

Some states and territories have developed the Rapid Impact Assessment (RIA) framework/tool to assist agencies with providing recovery services to affected communities during the initial stages of an emergency.

**The RIA life cycle:** data about the impact of an emergency is gathered and verified during the first 48 hours of an emergency. This data includes information on people, residential property, environment and community infrastructure affected by the emergency event.

RIA provides a standard process for collecting, collating, analysing and distributing information for all agencies involved with emergency response and recovery.

**Arrangements for activation:** arrangements for activation vary; usually, control agencies can initiate RIA when the size and scale of the emergency requires additional resources for assessment of the impact of an emergency.

Importantly, affected persons and local communities. A more detailed recovery needs assessment across all environments [social, built, natural and economic] should be undertaken following a RIA.

Care needs to be taken to avoid over-serving some groups to the detriment of others. Identified services should be provided in a planned, coordinated and adaptive framework to mitigate people becoming overloaded and thereby rejecting assistance and support in the recovery phases.

Some key questions that will assist with determining the level of recovery services that may need to be provided, in the initial stages and ongoing, include:

- what did the community look like prior to the emergency/disaster?
- what has been the impact on the community?
- what does the community need now?
- what can the community provide for itself?
Fundamental to any needs assessment of a community is change to the existing state of the community. The challenge is to determine how much of the community’s need is due to the impact of the event and to estimate what level of resource is required to support an effective community development approach to the recovery process.

**Indicators of need**

Some of the factors to consider in a needs assessment (to assist in answering ‘what has been the impact on the community?’ and ‘what does the community need now?’) and to plan recovery activity include:

- the percentage of the community displaced
- the length of time people are displaced from the community
- loss of infrastructure (physical/social)
- the scale of the disaster
- the community identity tied to physical infrastructure
- the increase in requests for material aid and financial assistance
- the length of time to restore services.

**Service capacity**

In order to answer the question ‘what can the community provide for itself?’, another measure of the impact of a disaster and the subsequent need for community-based services is the capacity of existing services to meet the additional demands generated by the event. Some signals that might indicate the need for additional service support include:

- the usual information lines are broken
- community requests—for information/meetings etc
- an increased requirement for information on health and safety issues
- a sudden/unexpected/unusual event for the area
- service disruption.
Priorities of need

Part of pre-event recovery planning at the local level involves identification of vulnerable groups within local communities and implementing strategies to reduce their susceptibility to disasters. Once an event has occurred, planning for community recovery involves identifying those who will be vulnerable and targeting the provision of services to ensure they are catered for.

Identification of the most vulnerable people and groups is especially required during high impact and significant disaster events when the prioritising and rationing of services may be required to meet the urgent needs of large numbers of disaster-affected people. Effective relief and recovery intake systems are particularly required for assessments in these types of events to ensure the most vulnerable are able to be prioritised. The majority of people will have the ability to manage their own recovery, with the provision of supports for identified needs.

The following needs should be considered in the immediate to longer-term community recovery environment:

- sustaining workforces
- sustaining livelihoods
- sustaining life (including people on life support machines)—essential medical facilities, medical equipment and ‘hospital in the home’, medicines
- sustaining physical wellbeing—accommodation, food, water, clothing etc
- sustaining community and individual wellbeing—personal and psychological support and information
- reducing social isolation—access to support networks, as well as information and resources
- reducing physical isolation—access to support networks, as well as information and resources
- supporting emergency staff—supporting staff whose job is to provide urgent, critical support to others
• supporting people who have few resources—access to financial supplementation and resources supplementation

• assisting people who have resources adequate to manage their own recovery—access to assistance/support measures

• shelter and food.

Planning and programming

Systematic identification of community needs and the development of a comprehensive strategy for long-term recovery and reconstruction provides opportunity to improve the overall quality of life for its residents, enhance local economies and improve environmental conditions (Smith & Wenger 2006, p 239).

A needs assessment feeds into your planning and programming, or the organisation of recovery activities. In practice both the needs assessment and planning/programming occur at the same time because communicating and coordinating with multiple stakeholders identifies needs and informs the recovery plan during the planning process.

The planning process consists of developing key strategies that are agreed across all four elements and between multiple stakeholders; for example, community members, local council, district recovery committees and industry leaders. Conducting planning to include a wide representation from the community is critical to the success of the program. Expect the unexpected in discussions with such a variety of stakeholders.

Taking a flexible, practical and adaptive approach ensures the robustness of the planning process and consequent program.

The key strategies contain activities that address specific needs identified by the community. This may be, for example, a small non-government childcare centre, which, due to flooding, has lost all of its outside play equipment. Assisting this childcare centre to re-establish its service provision enables community members to place their children in care while they perform the clean-up task.

An example of a framework to support recovery will include an overarching strategy; for example, to assist local groups and communities to rebuild their routines and activities. The activity supporting this strategy might be, for example, to coordinate and deliver
assistance to non-government organisations to re-establish their service provision. Chapter 11 covers this in further detail, including the difference between pre-event and post-event (community recovery) plans.

**Reducing risk through the recovery process**

In planning and programming for recovery, the sustainability of communities needs to be supported; therefore, as in any project, risk management needs to be incorporated into the planning. Successful risk reduction prior to an emergency reduces the impacts of events and the cost and time of recovery services. Prevention and mitigation activities (such as controlled burning or building regulations to reduce flood impacts) can reduce or avoid an event impact and minimise longer-term consequences. Similarly, incorporating these types of strategies, including building back better, can mitigate future risk.

Risk reduction can occur across all four environments during recovery. Although traditionally the focus has been on physical risks or hazards, equal weight should be given to strengthening the community, economic resilience and ecological enhancement as risk reduction opportunities.

Opportunities to reduce the risks of future emergencies should be considered during recovery where possible.

**Implementation of services/activities**

The implementation of services/activities involves the actions taken to facilitate community recovery. Section E details the recovery services under each of the recovery environments, bearing in mind that all services should be integrated, thus coordination in the multi-agency environment is paramount. In operationalising recovery services, refer to the national principles for disaster recovery in Chapter 3. The next chapter, Chapter 13, outlines some of the more detailed considerations that arise in managing community recovery. A checklist for undertaking community recovery management is provided in Appendix 4 and a recovery management/operational checklist is in Appendix 5.

In the recovery environment, services/activities might be provided to the community in a number of ways, including an evacuation centre, relief centre, recovery centre,
information centre or family assistance centre, or through outreach, case management, telephone services and web-based services. The precise terminology for the various states/territories may differ, so refer to the relevant state/territory emergency management arrangements. Relevant plans will also refer to operational considerations such as locations, access, responsible officers and so on.

Some of the activities and services provided include registration, information, advocacy (for example, legal or insurance), financial, direct referral services, advisory services, essential services and building services. Registration is central to the delivery of effective recovery services after an emergency. This is described below, followed by descriptions of the different methods of service provision that may be used individually or in combination. Importantly, duplication of existing services should be avoided, and, as stressed in Chapter 4, integration into community programs and services, which existed prior to the emergency, enables better outcomes. Where communities have the capacity to provide for their own needs at any stage of the recovery process, this leads to more sustainable recovery outcomes.

**Registration**

Registration through contact with local, state and Commonwealth governments (at points of congregation, relief centres, call centres etc) or via the National Registration and Inquiry System:

- ensures the identification, safety and welfare of people
- reconnects people with family, friends and community networks
- facilitates identification replacement and access to welfare and support services.

**Evacuation centres**

An evacuation centre is a facility that may be used to shelter people from the threat of a hazard. Some basic services relating to relief or recovery centres may be provided. These are also called *emergency relief centres*.

Appendix 11 details location considerations, facility equipment requirements, administration equipment requirements and management considerations for evacuation...
and emergency relief centres.

**Emergency relief centres**

An emergency relief centre is a building or place established to provide essential needs to people affected by an emergency. Emergency relief centres are established on a temporary basis to cope with the immediate needs of those affected during the initial response to the emergency. They do not imply any long-term use of facilities as a location for recovery services. A range of services can be provided from an emergency relief centre and in some state and territories they also provide emergency accommodation. Some states and territories call these *evacuation centres*.

**Other references/resources**

The comprehensive *Emergency relief handbook* (DHS 2010) is a Victorian publication, which, although it will not apply directly to other states and territories, contains useful and adaptable checklists, which cover emergency relief centre considerations including site assessment, a ‘mud map’ example, an agency services matrix, a contents list for an emergency relief centre kit, set up of a centre, equipment, operational checklists, staff and volunteer registration forms, and a report template.

**Recovery centres**

Different states and territories use interchangeable names for the centres/shop fronts that provide a range of relief and recovery services. In some cases, a relief centre may be called a recovery centre or a ‘one stop shop’.

A recovery centre provides a single point of entry for disaster-affected people for an ‘all agency, all stakeholders’ integrated recovery process—a ‘one stop shop’. A recovery centre may also be called a humanitarian/family assistance centre if there has been a mass casualty event and a significant disaster victim identification process is required, as well as access to a range of support services.

A recovery centre provides support to affected communities in the restoration of their emotional, social, economic and physical wellbeing and facilitates the provision of
services. A range of services can be collaboratively based in the same facility and may vary according to the impact of the disaster but usually consists of direct access to or conduits to:

- psychological wellbeing services (psychological first aid, personal support services and, in some cases, mental health services)
- temporary and medium-term accommodation
- environmental health (for example, public health)
- financial assistance
- legal and insurance advice
- case coordination/management service
- primary industry advice
- rebuilding advice
- disaster victim identification (for mass casualty events).

Management considerations for recovery centres include coordination of volunteers, management of donations, establishment of databases to manage registrations and administration of grants.

The site selection for a recovery centre is important—it needs to have access, the potential for long hours of operation and the potential to provide for the longer-term nature of services that may be required. The recovery manager needs to mindful of the symbolism of the location of the recovery centre (it may need to be near the impact site), and the timing of its opening and its closure. Closing a recovery centre should not be promoted as ‘the recovery is over’, but as entering into the next phase or period of the recovery.

Appendix 12 details location considerations, facility equipment requirements, administration equipment requirements and management considerations for recovery centres.

**Information centres**

Information centres provide an easily accessible one stop shop for affected people to gather information about the whole range of services established to assist recovery.
Information centres are often operated by local authorities, citizens’ advice bureaus or community agencies. The information available may cover many services available to the community, but it is impossible for an information centre to have information on hand to satisfy every possible inquiry. Therefore, it is important for centres to have the capacity to obtain information. It is also essential for information centres to be accessible by telephone.

Information centres are often established at or near evacuation centres, relief centres, or in council chambers or conveniently located one stop shops.

The integrity of information centres depends on the accuracy and usefulness of the information they provide. Centre management must, therefore, be vigilant to ensure the currency of the information provided.

**Family assistance centres**

Family assistance centres were initially set up in response to the London bombings in 2005, and although they have not been used in Australia, a description of their purpose is provided for clarity. These are facilities where bereaved families and survivors can receive information and appropriate support from all the relevant agencies without the need for referral elsewhere. Their essential purpose is to enable timely two-way flow of accurate information between families, survivors and service providers, enabling comprehensive longer-term assistance for the duration of the response and any subsequent investigations (McClenahan 2006).

**Outreach**

Outreach support involves visiting people in their homes or temporary accommodation to provide access to core recovery information and services. Outreach teams are able to assess the impact of the event thereby contributing to the needs assessment process.

Outreach should generally commence as soon as access is made available to affected areas.

Objectives of outreach might include:

- undertaking a community needs assessment in conjunction with an appraisal of service gaps
- providing essential information to the affected community regarding community
recovery services and financial assistance packages

• servicing affected individuals and communities who have little or no access to transport, who may think they are not entitled to, or don’t need, recovery services, or who for some other reason can’t readily access recovery centres/one stop shops or community meetings

• ensuring key services are delivered in a personalised face-to-face manner

• ensuring ongoing recovery services meet community requirements and expectations

• consolidating service delivery from numerous agencies to people affected by emergencies.

Activities can include initial proactive telephone contact with identified affected resident/property owners. Information gathered can assist with briefing and prioritising activities of outreach teams.

An outreach team preferably will be multi-agency and will require coordination by a lead agency.

Prior to commencing an outreach service, a distinction needs to be made regarding the type of model to be delivered. It should be tailored to meet the needs of emergency-affected people, and should not just set in motion a standard response.

It is important to be clear about the levels of personal support and the needs assessment to be undertaken. Given the significant time and resources required to develop and manage an outreach service, the maximum benefit from those resources needs to be achieved.

Management of an outreach or visitation program requires:

• a clear understanding of the objectives of the program

• adequate briefing

• notice of proposed/scheduled outreach visits to communities

• liaison with police to determine residences that should not be visited.

In conducting an outreach or visitation program:
home visits should be undertaken by workers in teams of at least two
interpreters should be provided where necessary
visits should only be undertaken during daylight hours
workers should be debriefed at the end of each shift
training and supervision should be provided by workers experienced in recovery activities.

Visits generally occur immediately after the event and may be repeated as part of the ongoing recovery process as required. They may also be conducted towards the end of the recovery process as a means of advising the community that external services are being withdrawn and to provide information regarding the availability of ongoing services within the community.

A checklist is provided in Appendix 10.

Case management

Case management is a term used to describe the linking of individuals who have been impacted by disaster with a person designated as a case manager who will support the individual/household through the recovery process. Personal responsibility and self-determination in the process is often emphasised, as is the importance of linking to community activities and programs to support overall wellbeing. It is important to note that case management is a term that has different meanings and diverse adaptations within the health and social services professions [Moore 2009, p xvi]. Case management has been used in disaster recovery in Australia [for example, for the Canberra bushfires in 2003 and Black Saturday bushfires in Victoria in 2009].
Canberra bushfire recovery—case management

In the recovery process after the 2003 Canberra bushfires, case management provided an individual or family-level service response, which was complemented by community work. This meant that issues reflected in family units were able to be responded to with community-wide information, support and education programs. In non-disaster circumstances, these interventions are provided by separate government agencies applying different criteria. In the Canberra bushfires, case management and community development approaches were integrated to provide whole-of-community service to individuals, families and communities. This model provides dedicated, flexible, accessible and quick service to people in distress. Pathways were sought for people through organisational silos, and ‘red tape’ was unravelled or cut.

Case managers, known as Recovery Workers, provided:

- personal support to individuals, families and community through the recovery process via home visits, office drop ins and telephone contact
- assessment of the social, emotional, financial and practical needs of individual, families and the community in the short, medium and long term
- information about services and support available and smooth access to these services
- advocacy for flexibility in service provision by government and non-government agencies, and a conduit between affected individuals and the management structure through provision of information and feedback on concerns and issues (ACT Bushfire Recovery Taskforce 2003, pp 32–3).
Telephone and web-based services

Information phone lines [call centres] and web services may already exist or be established during and after an emergency. Plan for access to telephone advice and referral services (for example, help lines). Consider the need to have people able to provide information in a range of languages. Recovery managers should try to coordinate information lines through a single point of contact to reduce confusion in the affected community [and the appearance of confusion], and promote ease of access to information.

These services might include:

- a disaster information line—the primary contact point at the initial stage of an emergency
- registration and reconnection services, such as the National Registration and Inquiry System, for people unsure of the whereabouts of, or needing to connect with, family and friends
- disaster-specific web portals or recovery agencies with separate sections for the disaster within their websites
- mental health advice lines
- telephone counselling
- rebuilding, insurance and tax advice.

Continuous monitoring, review and evaluation

Continuous monitoring, review and evaluation examines the processes and outcomes of recovery operations. Continuous monitoring and review are ongoing processes throughout recovery, and evaluation might be viewed as an ‘end report’.

In planning monitoring, review or evaluation of recovery management, the following major areas should be considered:

- contextual issues—timing, local and other politics, resource availability, nature and scope of the disaster, sensitivity
• desired outcomes—what are/were the aims of particular strategies?
• strategies—use and balance of formal/informal approaches
• performance indicators—what are they and how might they be measured?
• data sources—diaries/information records/activity sheets can be used for multiple purposes (handovers, mapping the impact of interventions, reflective practice)
• findings and gaps/outcomes achieved (what worked and what didn’t)
• recommendations—whom are they for? what is their purpose?

The characteristics of a disaster or emergency situation mean that any review and evaluation undertaken is different from a normal, routine evaluation. Handmer and Dovers (2007) advise that recognition of the following characteristics will enable monitoring and evaluation to be optimally effective:

• explicit recognition of uncertainty
• measureable policy goals (process or desired outcome or both)
• basic routine data capture
• coordination of roles and activities across agencies, private industry and non-government organisations
• a clear mandate for monitoring and evaluation activities
• information made widely available.

The outcomes of monitoring, review and evaluation should be transparent and communicated to the community and to all agencies involved in the recovery process. There is a growing emphasis around the world on social justice/equity issues and the importance of proper governance, and this can be demonstrated through sound evaluation and reporting processes (Labadie 2008).

A wealth of information exists regarding review and evaluation models and processes. The national principles for disaster recovery (Chapter 3) potentially offer process goals that could be considered for a recovery evaluation process.
Continuous monitoring

Monitoring involves the continuous observation of the recovery program’s progress. Community needs and recovery service processes should be continuous and dynamic. They should recognise and respond to the changing service needs of the community and the changing capacity of the community to meet its needs.

Review

Review is an essential part of recovery management to improve the process and outcomes of recovery practices. It also informs communities and displays transparency and accountability.

A review is a comprehensive examination of progress and is carried out by a member of operational management or the recovery management agency. The potentially long duration of recovery programs can result in a number of reviews. The process also enables facilitation of the adaptive change process with communities (see Chapter 4).

Evaluation

Evaluation is an independent, objective and thorough examination of a policy, program, support service or emergency operation, including its design, implementation and impact (IFRC 2008).

Evaluation in emergency management is an emerging capability in Australia: ‘... in the emergencies area and elsewhere in public policy, careful harvesting of insights from
past and current experience and purposeful application of the knowledge thus gained to adapt and improve capacities are too often not evident’ (Handmer & Dovers 2007, p 125).

The purpose of evaluation is important to define at the outset. Evaluation may centre around process, efficiency, effort or (more specific to the disaster context) performance and effectiveness (Handmer & Dovers 2007). Judgment about the appropriateness of the services delivered is also important.

In recovery management the process is often considered as important as the outcomes. In this context, evaluation is useful:

- as a management process to monitor performance, assess the value of existing strategies, determine the need for new strategies and, if necessary, to reposition aspects in a changing environment
- as a learning tool for those who have performed the task, as well as those new to a position
- as a validation of what has been undertaken
- to give credibility to disaster recovery processes and methodologies
- for obtaining continued funding
- for gaining new funding.

The sources of feedback and documentation used to evaluate the delivery of community recovery services include:

- operational records
- demographic data and community profiles
- financial records
- health records
- historical records
- incident reports and damage assessments
- media reports
• personal accounts, daily/weekly logs and file notes
• service requests
• debriefs, briefings.

Given the nature of recovery management activity there is a need for qualitative, as well as quantitative, measures. One difficulty is in developing comparative data on what might have happened if a particular strategy/process had not been put in place.

Revisiting the outcomes is important in measuring the process. Consequently, the process has to be monitored regularly and the desired outcomes may change over time.

Appendix 16 details a checklist of key considerations for evaluation processes used in recovery management in disaster.
CHAPTER 13
Management considerations

This chapter discusses some of the more detailed management considerations that may arise within the broad management framework that was discussed in Chapter 12. These considerations relate to internal organisational functions in a multi-agency environment, as well as to broad and additional cross-cutting issues that will impact on community recovery.

Contextual considerations

Relational aspects including politics and organisational politics and the way the media and communities talk about and frame the experience (social discourse) can all influence management structures. Echterling and Wylie (1999) discuss the implications of this for the management of disasters and this has particular relevance for recovery. The framing of the issues takes place through the media, social media, politics, local community conversations (wherever they may be) and other communications, and this influences how issues arising after a disaster are dealt with.

Political elements of the disaster experience, and its longer-term aftermath, impact on the understanding, interpretation and ultimately the experience of disaster by all those involved. Recovery planners must take into account this social and political context of disaster when planning and implementing any response (Eyre 2006, p 12).

Key recovery management tasks

Each emergency or disaster has specific recovery management requirements depending on the social, built, natural and economic impacts on the community affected. Generally, the recovery management tasks include:

- resources management
  - human resource management, including joint service delivery
  - physical resources
  - funding—operational and assistance measures
- management systems and processes
  - the Australasian Inter-service Incident Management System, Incident Command System
• records
• finance
• human resources systems
• child protection and security
• information and communications management
• convergence issues
• political and organisational demands
• ministerial and VIP visits
• goodwill management (volunteers and donated goods)
• media
• other issues
• post-event legal inquiries.

Resource management

The community needs assessment identifies the type and scale of services and the resources required to deliver effective recovery services. Management of human resources, joint service delivery, physical resources and funding is needed.

Human resource management

Recovery management is human resource intensive over an extended period and workers are engaged in stressful duties in disrupted circumstances. Workers may also be personally affected by the emergency event. It is necessary that staff, agency personnel and volunteers are provided with high levels of training, care and support. Consideration of issues relating to emergent organisations, sub-contracting work and spontaneous volunteers is necessary. The level of support must be extended to agency personnel and volunteers, not only to directly employed staff. Care should be taken to recognise that personnel continuing to deliver agency services during the absence of their colleagues (who are delivering recovery services) may also be under added stress.
The regular human resource management tasks continue to be needed; however, there is a significant increase in selection, vetting, recruitment, rostering, travel arrangements, cost reimbursement, accommodation, and care and support. Although these functions are common to human resource managers, albeit lesser in intensity and in less disruptive circumstances, the care and support services for recovery workers need special consideration.

Chapter 15 discusses human resource management in more detail and Appendix 13 lists the issues likely to affect workers, as well as the support aimed at their wellbeing and effectiveness.

**Joint service delivery**

A number of agencies across the various levels of government and/or from the non-government sector need to be coordinated in a way that effectively contributes towards the recovery effort. With high-profile events there is often a convergence of services, some of which are articulated with existing local, regional or state/territory arrangements, others that are not within plans (but are local service providers) and others again that are not local (and self activate to assist). In addition, some services or organisations emerge in response to perceived and real gaps in services (for example, Blaze Aid provided fencing volunteers after the Victorian bushfires in 2009).

A part of the management task is to identify whether there may be a need for additional surge capacity to respond in a timely and effective manner to the event. Working with all partners/stakeholders in delivering a coordinated approach to service delivery ensures any identified gaps within the service system can be addressed.

**Physical resources**

Adequate physical resources are essential for recovery workers to be able to perform the tasks required of them. Physical resources may include facilities, equipment, vehicles, office supplies, records, finance, agency personnel and volunteers.

Management of these resources involves planning for their continued availability and accountability, purchase (or hire and return) and maintenance. Managers should confirm the condition of loaned or donated resources prior to their acceptance, and the conditions
of the loan or donation. For example, a car may be donated, but running costs will require funding from the organisation managing the recovery effort.

Two of the most important tasks in resources management are record-keeping and avoidance of wastage to ensure efficient cost recovery.

Managers should be familiar with plans and have arrangements in place to escalate requests for resource assistance if local capacity has been exceeded.

**Funding**

Depending on the nature and scale of the event, particular funding arrangements may be available.

Managers should be familiar with their state/territory natural disaster relief schemes (and approval processes for activation), as well as other local, state/territory, Commonwealth, corporate, philanthropic and charitable funding sources. Chapter 18 further describes financial sources such as insurance and Natural Disaster Relief and Recovery Arrangements.

Managers should also be familiar with funding arrangements relating to non-natural disaster hazard types/events.

Depending on the impact of the event, and the event profile—the corresponding political and media interest in the event—additional resources may be made available.

**Management systems and processes**

Effective and efficient recovery programs and services require sound management systems and processes. Commitment to this is vital, given that the establishment of these systems and processes may place an administrative burden on organisations at critical times. The current emergency management environment reflects an increased focus on accountability and transparency, which gives added impetus to this management task.

Some of the key types of information that will need a supporting system and sound process include:

- reporting—a daily report may be required in the early time after a disaster to
inform others of the situation and the preparations and planning that are undertaken, the capacity to respond, and any strategic or resourcing issues identified (systems such as Australasian Inter-service Incident Management System or the Incident Command System might be used)

- operational logs—these record tasks and are generally a record of actions, telephone messages and decisions made, including time and date
- record keeping—of the minutes of meetings, copies of adapted plans, activation advices, media requests and responses
- resource requests—tracking and management; knowing where and how to obtain resources, where resources are and what they are being used for (including audit trail of who used the resources each day); and returning resources at the end of the recovery phase
- financial structures: ensuring cost codes are established correctly and that the team is advised of the correct accounting codes; monthly financial reports that are verified as correct (there may be differences between reporting grants distributed and operational expenses)
- human resources—travel arrangements (car bookings, flights etc), rosters and deployment history; roles and responsibilities and management structure, including daily meeting with team leaders and other key partners (these meetings may later move to weekly and/or monthly); insurance for staff and volunteers
- child protection and security.

Considerable investment has occurred within some organisations on information systems that track impacts and services and lead to evaluation of effort. Because recovery is associated with multiple agencies and corporate entities, there may be conflict under privacy legislation if individual and group management data are shared between entities. As a priority, management systems and processes should be considered as part of the planning effort and not left to post-event development.
Information and communications management

Communication management is the method through which information is communicated to the community, other recovery workers and stakeholders. The management task is to identify what needs to be communicated, to whom and when, and to develop information gathering, processing and dissemination channels. The information that needs to be communicated in the recovery process depends on the characteristics of the event in terms of type, location, severity and effects on the community. Chapter 5 explains this aspect of recovery management.

Convergence issues

During a disaster a range of issues might simultaneously emerge and must be addressed. These include political and organisational demands, ministerial or VIP visits, the media, the management of goodwill (such as donations of money, goods and services) and other emerging convergence issues.

Political and organisational demands

Elected representatives expect as much information as possible and as soon as possible. This creates demands on organisations working in a multi-agency environment, particularly in regard to the sharing of information with other organisations. Concerns include which communications are authorised for internal or external distribution, as well as timely processing and approvals through internal organisational hierarchies. Awareness of information privacy and security provisions is also critical. In addition, decisions from elected representatives may be announced and will then need to be implemented within short timeframes (which may have strategic and community recovery process implications that will need to be managed).

Ministerial and VIP visits

It is likely that there will be visits to the affected area and a high level of interest in the recovery process from VIPs from government and a range of other agencies. A number of issues need to be considered by the recovery manager involved with, or responsible for hosting, such visits.
Effective briefings should be provided, and should include accurate and up-to-date information about estimated losses, assistance programs and financial assistance packages. This ensures that any information relayed to the affected community or the media is accurate, which reduces the risk of falsely raising expectations (such as about assistance measures) and reduces the risk of embarrassment. Some pre-visit briefing is also desirable to ensure that the visitor is well informed of the necessary information prior to arrival.

Briefing of any visitors should detail the current state of the community, including the various emotions they may be experiencing and identification of any existing sensitivities. Visitors should have a clear understanding of emergency management arrangements and protocols.

Clearly brief visitors on the potential impact of their visit and their subsequent role in the recovery process. In particular, it should be emphasised that any information provided must be accurate—the effects of inaccurate or ill-founded information on an affected community may reinforce the impact of the event.

In the case of a disaster affecting more than one geographic area, take care to ensure that communities are treated equitably and visits are arranged accordingly.

**Goodwill management**

Many individuals are moved to do something for those in need following an emergency. The convergence of goodwill includes the giving of money through public appeals, donations of goods and services, and the emergence of spontaneous volunteers. Considerations in managing appeals and donations of goods and services are described in Chapter 18.

The large number of spontaneous volunteers who offer time and skills in an emergency can be overwhelming for an organisation and may affect its ability to deliver its core business during and immediately after an emergency. The core principle for effective management of spontaneous volunteers is that the people affected by the emergency are the first priority.
Other references/resources:
The Spontaneous volunteer management resource kit (FaHCSIA & Australian Red Cross 2010) offers ideas for the development of a framework, including how volunteers might fit into existing arrangements, the scale of volunteer response, standards for induction training and management, clear pathways for volunteering, a draft communication strategy and suggested processes for managing volunteers at particular stages post-emergency.

**Media**

Convergence also occurs with media outlets. Managing the recovery process involves proactively engaging the media and managing this relationship. The media is a vital link to the community. Chapter 5 outlines the role of the media in the communication process.

When multiple media crews arrive at a recovery scene, they may not be aware of the needs of community. Strategies that can be employed to form effective relationships with the media include:

- planning regular media briefings
- setting boundaries to enable healthy community recovery and to protect the privacy of individuals
- briefing media on what their presence means—privacy and sensitivity
- briefing recovery staff on media management
- preparation for media interviews.

Recent studies have discussed some of the drivers for the media, including the purpose and goals of their coverage of disaster and the ethical questions they faced (Centre for Advanced Journalism 2009, p 6). Although there are widely accepted journalism ethics and codes of conduct, emergencies can cause highly aroused and emotionally motivated behaviour (Gordon 2006, p 18), which changes the routine way of operating.

The affected community can be impacted by the media—or empowered—depending on their experiences with journalists, photographers and camera crews.
**Other issues**

There may be other emerging issues that it is important to manage. For example, immediately after a disaster when the media attention is high, people may visit the affected area to see and experience what has happened. *Disaster tourism* is a phenomenon that the recovery manager may need to manage. The recover manager may need to assist if the community feels that it is being intruded upon or if people in the affected community do not have adequate privacy or respect from disaster tourists. Police and other emergency services may assist with this if asked.

**Post-event legal inquiries**

Some time, perhaps several years, after the event, legal processes may review the causes of, and response to, the event. Legal proceedings can impact upon the recovery process immediately and in the long term.

Immediately after the event investigators, police, social scientists and agency investigators may collect evidence for legal proceedings. This may involve moving about the area of immediate impact to take photographs, interview affected people, cordon off areas and conduct scientific tests. Police will take the lead role and may restrict access to a disaster-affected area, particularly if people have died or if there is suspicion that the event has been caused by criminal activity, such as a deliberately lit fire.

In the long term, people affected by the event, as well as relief and response workers, may be required to give evidence before tribunals, enquiries or courts.

A coroner’s inquest may be held to investigate the cause of a fire or disaster and to formally establish the identity and cause of death of any person who has died as a result of the disaster.

A royal commission or other special inquiry may be established to review the management of, and response to, an event. The terms of reference are set by the government and may be very broad to allow a wide-ranging review of all aspects of the preparation for, response to and recovery from a particular event.

Legal proceedings may be brought by the police if a person or organisation is alleged to have committed a criminal offence that has contributed to the disaster. Criminal
proceedings will usually be heard before a judge and jury and will lead to a fine or imprisonment if the defendant is found guilty.

Civil proceedings or a claim for compensation may be brought by people who have suffered financial losses due to the disaster, or, more commonly, by insurers who have paid out claims. Civil proceedings are usually heard without a jury, and the defendant or the insurer may be required to pay damages. Civil proceedings can take many years to finalise and may impact upon a community’s ability to move forward from the disaster event.

Other references/resources:

Legal assistance and community recovery after the 2009 Victorian bushfires: the Bushfire Legal Help response (Victorian Legal Aid 2010) describes the collaboration of the Victorian legal profession’s peak bodies to provide free legal assistance to bushfire victims and their communities.
CHAPTER 14
Management structure

Management of the impact of an event and the recovery process is concurrently conducted at the individual, household, community, local, regional, state, national and international level as appropriate to the event. Disasters that have a relatively small impact may result in the establishment of a local community recovery committee supported by recovery task groups made up of agencies and community representatives working in all or a few of the social, built, economic and natural environments. Disasters that are large have typically involved the establishment of taskforces or authorities at state/territory government level; with recovery task groups at that higher level (for management of social, built, economic and natural environment recovery) and community recovery committees (at local or regional level) with some form of community reference group or local community consultation groups.

Central to this is the recognition that local community participation is pivotal in the development and implementation of all recovery activities before and after an event.

Implementing effective recovery arrangements requires a well-coordinated approach across various levels of government in conjunction with the not-for-profit sector and the private sector. This chapter describes some of the structures that may be put into place in order to facilitate this coordination. The terms and descriptions used here are purposely broad and each disaster-affected community and coordinating body will need to work through the names, purpose, role and responsibility of any structure that emerges or is put in place.

Pre-event recovery structures

Recovery is an integrated part of the broad emergency management structures. Emergency management structures exist in every jurisdiction at local, regional, state, national and international levels.

Emergency management structures need to accommodate and value the important work of existing community organisations and groups and programs that may emerge, and need to spontaneously undertake recovery work. They also need to include these groups in the pre-event emergency management structure. This is part of a comprehensive emergency risk management process.
Post-event recovery operational structures

Management of recovery services, information and resources should, whenever possible, occur at the local level—supported by specialist advice—and be based on a capacity building model (see Chapter 4). If the recovery needs exceed the capacity of the local level, regional, state, national and international support may be required.

Recovery is most effective when managed by either a recovery committee or an identified recovery coordinator (supported by a recovery committee). Recovery committees and coordinators assess the consequences of an event and coordinate the rebuilding, restoration and rehabilitation of the social, built, economic and natural environments of the affected community.

The first action is to develop a community recovery action plan to detail priorities, resources allocation and management. The recovery action plan provides the strategic direction and operational actions required to facilitate a successful recovery at all levels.

All events are dynamic and recovery structures should be based on needs reflected in the community.

Common management structures

Management structures that are commonly used in recovery are:

- recovery committees
- recovery task groups
- local community consultation groups.

Government, non-government and private industry involvement includes:

- state/territory and local government committees
- national-level committees
- international arrangements
- public-private partnerships.

A range of not-for-profit organisations are also integral to effective recovery, through
contributing to development of policy and practice, and particularly in the provision of a range of services throughout affected communities.

**Recovery committees**

A recovery committee is the strategic decision-making body for recovery. Recovery committees provide visible and strong leadership and have a key role in restoring confidence to the community through assessing the consequences of the emergency and coordinating activities to rebuild, restore and rehabilitate the social, built, economic and natural environments of the affected community.

A recovery committee might comprise:

- personnel from agencies that are not specifically designated as members of emergency management committees
- local representatives of participating agencies (government, non-government and private sector) who have the ability to provide specific services
- members of the community (whether in an advisory role or not).

Tasks of the recovery committee may be to:

- guide decisions about priorities, resource allocation and management
- develop and maintain a recovery action plan/community recovery plan with an agreed exit/transition strategy
- monitor and coordinate the activities of agencies with responsibility for the delivery of services during recovery
- ensure that relevant stakeholders, especially the communities affected, are involved in the development and implementation of recovery objectives and strategies and are informed of progress made
- provide appropriate end-of-recovery reports
- ensure the recovery is in line with the national principles of disaster recovery and the state/territory guidelines.

To support their activities, recovery committees may form recovery task groups and
community consultation/recovery groups.

Recovery task groups

Recovery task groups are groups of agencies with specific expertise in a particular recovery environment that are formed to provide specialised support and advice on particular operational or policy issues that require expertise and detailed consideration.

If the nature, size or complexity of the recovery operation is significant, recovery task groups may also be used to coordinate the activities of their member agencies, on behalf of the recovery committee.

Recovery task group membership is generally determined by the recovery committee or appropriate state/territory authority. Membership is flexible and can comprise representatives from:

- government
- non-government organisations
- businesses and community groups from the affected area.

Terms of reference are based on need at the time of the event.

Local community consultation groups

Local community consultation/recovery groups are usually established to enable members of the local community to meet and provide input and guidance to the recovery process.

Local community consultation groups might comprise:

- people affected by the event
- representatives from local organisations
- elected representatives.

Local community consultation groups should be facilitated and supported by the recovery coordinator or a member of the recovery committee.

The community consultation group:

- represents the community in the recovery process
• facilitates dialogue between the recovery committee/coordinator and the community so as to regularly advise on issues of concern
• works with the recovery committee/coordinator and task groups to tackle specific issues
• assists coordination of recovery initiatives undertaken in the community.

**East coast bushfires, Tasmania, 2006**

This case study is an example of the non-government organisation sector and all three levels of government working together to facilitate the voice of the community.

The Affected Area Recovery Committee (AARC) was set up to feed community information to a Community Recovery Reference Group, which was made up of one community representative from each of the local communities affected by the fires. Each of these representatives engaged with and represented their local communities.

The AARC identified that the local government involved had been stretched. The AARC wanted to provide resources to support leadership of the community recovery. In a novel approach, a Disaster Recovery Coordinator (DRC) was appointed to provide executive support to facilitate priorities for the Community Recovery Reference Group recovery and to feed back into the AARC. This position was:

• funded through Natural Disaster Relief and Recovery Arrangements
• supported by local government through provision of an office and administrative support
• under the auspice of the Australian Red Cross.

Advantages of this model were that the:

• DRC was someone the community felt it could trust to articulate its concerns to the AARC
East coast bushfires, Tasmania, 2006 (continued)

- DRC came from outside the region so didn’t represent just one locality within that particular local government
- DRC brought disaster recovery and community development experience, including the recognition that the community might not want to replace (or might not be best served by replacing) what was there before
- position was established five months into the recovery operation and after 10 months had made sufficient progress to enable transitioning out of the role to local facilitation of the Community Recovery Reference Group (Australian Red Cross 2006).

Local and state/territory government committees

Local government plays a key role in recovery at the community level, based upon state/territory emergency management arrangements. The Australian Local Government Association also contributes at the national level to emergency management policy and planning, including recovery.

The greater the impact of a disaster, the more support may be required, and so local recovery arrangements may be supported by regional, state or national agencies.

Committees at the state and territory level guide and support recovery policy and planning, and also ensure resourcing of recovery activities. These committees generally comprise representatives of all levels of government and key agencies from the non-government sector.

High-level management structures

One response to the breadth of the recovery process has been the emergence of new recovery management structures in the aftermath of specific events. In most instances these are high-level government structures ... While not a new phenomenon, these structures appear to be more prevalent as various jurisdictions promote a whole-of-government approach to recovery, particularly for large-scale events. These high-level...
structures are often able to focus the attention of government and the wider community on the issues of those affected by an emergency. They may also be able to influence decisions on a wide variety of issues, ranging from redevelopment of infrastructure to the development of tourism strategies in the areas affected.

The fact that these high-level management structures are generally not recognised in existing recovery arrangements can lead to a period of uncertainty, with a lack of clarity regarding responsibilities or relationships between these high-level structures and the normal recovery management system. It is critical that the affected community balances this approach with high-level involvement and ownership of the management of the recovery process. This may best be achieved through local leadership of any recovery process.

A further consideration in the use of taskforces and high profile leadership of recovery is the impact of their withdrawal at the point perceived to be the end of the recovery process. This is a critical point in any recovery process and has proven to be smoothest when services have been provided through a framework of local involvement and utilisation of existing structures from the outset (Coghlan 2004, pp 89–90).

**National-level committees**

At the national level, committees exist to guide and support strategic recovery policy and planning. The National Emergency Management Committee’s Recovery Subcommittee reports to the National Emergency Management Committee, which reports to the Ministerial Council of Police and Emergency Management. Other committees that support the development of recovery in Australia include the:

- Australian Government Disaster Recovery Committee
- Australian Health Protection Committee
- National Counter Terrorism Committee Recovery Policy Working Group
- Natural Disaster Relief and Recovery Arrangements Stakeholders Group
- Disaster Recovery Sub Committee of the Community and Disability Services Ministerial Advisory Committee.

The Disaster Recovery Sub Committee of the Community and Disability Services
Ministerial Advisory Committee comprises representatives from each of the state and territory community service departments, together with representation from the Australian Government (Attorney-General’s Department, the Department of Families, Housing, Community Services and Indigenous Affairs, and Centrelink) and the Australian Red Cross (in an auxiliary role). This subcommittee has played a significant role in shaping the recovery agenda in Australia during the past 20 years, and supports and is supported by a National Recovery Consultant.

Agreements for Commonwealth support during an emergency are currently provided in the Australian Government Disaster Response Plan (COMDISPLAN) and Defence Assistance to the Civilian Community (DACC) arrangements. The Australian Defence Force has been used where disasters are large in scale and impact. Coordinated through the Attorney-General’s Department’s Emergency Management Australia, deployment of the Australian Defence Force has occurred for disaster relief, humanitarian assistance and logistical support. Assistance provided under DACC provisions are managed using COMDISPLAN arrangements. The provision of DACC assistance is underpinned by a set of principles that are considered each time a request is made to the Commonwealth, and is based on the Commonwealth being satisfied that the jurisdiction’s resources and capability are likely to be inadequate and/or exhausted in response/community recovery operations (that is, assistance under DACC is the exception, not the rule). Assistance under DACC is classified in six categories and is either for emergency (Categories 1–3) or non-emergency situations (Categories 4–6). Generally, any requests for Commonwealth assistance should focus on the outcome for which the jurisdiction is seeking assistance. The relevant Australian Government agency will identify the appropriate arrangement/s that apply.

International arrangements

There are also plans in place for offshore events that affect Australian residents and require their repatriation. Existing structures are used at a state/territory level, with coordination and assistance from the Australian Government (involving different departments, depending on the event; for example, Department of Foreign Affairs and Trade, AusAID). These events often involve dispersed communities and require methods of maintaining communication among affected people. Examples of events include the
Bali bombings in 2002 and the 2004 Indian Ocean tsunami.

One arrangement is the Australian Government Plan for the Reception of Australian Citizens and Approved Foreign Nationals Evacuated from Overseas (COMRECEPLAN). The aim of COMRECEPLAN is to outline the arrangements for the reception into Australia of Australian citizens and permanent residents, and their immediate dependents, and approved foreign nationals evacuated from overseas.

The Bali bombings in 2002, in which 88 Australians were killed and many injured, were the catalyst for the development of arrangements such as the:

- National Response Plan for Mass Casualty Incidents Involving Australians Overseas (OSMASSCASPLAN), which provides an agreed national framework for government-managed operations in response to mass casualty events involving Australians overseas.
- Australian Mass Casualty Burn Disaster Plan (AUSBURNPLAN), which details the response and recovery arrangements for an incident resulting in mass casualties with burns.

These national plans interface with state and territory emergency management plans and local recovery operational plans.

**Assisting people returning to Australia after an emergency**

In July 2006 the Department of Foreign Affairs and Trade led the activation of COMRECEPLAN to evacuate Australian citizens and other approved nationals from potential danger in Lebanon. COMRECEPLAN is used to assist in the repatriation of injured and non-injured Australians.

Emergency Management Australia oversaw the reception arrangements into Sydney and Perth, where evacuees arrived over 10 days. Emergency Management Australia requested the assistance of New South Wales and Western Australia, which activated their disaster management plans (with state disaster coordination centres facilitating the coordination of reception centres/points), involving government, non-government, local, state and Commonwealth agencies catering for registration, on forwarding of people, temporary accommodation, health and any other required assistance.
Public-private partnerships

Government is not the only provider of services. Public-private partnerships are integral to recovery planning and management. The private sector plays a critical role in building and sustaining community resilience. It is embedded in the affected community in the form of electricity providers, insurance companies, the banking sector, telecommunications, private media, retail outlets, private health providers, private education providers, major employers and so on. It is important to engage these providers to support whole-of-community recovery.
CHAPTER 15
Human resources

Managing recovery is dependent upon competent people who are willing to work in disrupted and non-ideal circumstances, often engaged in stressful duties. These people—the human resources—whether paid or voluntary, need to be supported and managed appropriately to ensure consistent and effective services are provided to the affected communities, often over an extended period of time.

Many services, agencies and people are required to contribute to the recovery process. Some have specific jobs that only last a short time; others are involved for long periods, but in different ways. Some of these workers will be community members who were employed to provide services in their community prior to the disaster; others may be from outside agencies, or volunteers sourced from any location. Indeed, managers may find themselves having to respond to disasters when it might not be ‘what they signed up for’. Organisational training, role clarity and capacity building is essential.

Regardless of the way they are recruited to the recovery process, workers who are well trained, well supported, flexible, secure in their professional identity and secure in their environment provide the best possible opportunity to minimise the trauma of the post-disaster experiences of people.

Plans for the management of human resources during recovery must be in place prior to a disaster event to ensure smooth deployment of services in an often pressurised environment.

The recovery system itself develops in response to the specific disaster on the basis of existing plans and community need. As recovery moves past immediate survival and physical needs towards the medium and longer-term, consideration of a community development approach to recovery work that focuses on sustainability of the community may emerge.

This chapter considers the issues in managing paid and voluntary staff in the disaster context, and the ongoing human resource considerations pre- and post-disaster, including:

- the work environment (being part of the recovery system, recovery worker characteristics and stressors)
• employer responsibilities and strategies (occupational health and safety, employee assistance programs)
• management role (staff selection, recruitment and deployment, the transition from response to recovery)
• management strategies (supervision/staff support, rostering, briefing, debriefing, other personnel policies, mechanisms such as Memorandums of Understanding [MOUs], funding sources and strategies, and medium to long-term recovery—community development workers)
• development strategies (training, exercising, succession planning)
• volunteers.

The work environment

The complexity, intensity and dynamics of the disaster context may erode, challenge or obscure a number of professional issues for service providers. Consequently, it is important that managers and service providers be particularly conscious of the physical and emotional requirements of staff.

After disaster, communities have to coordinate three separate systems:
• pre-disaster organisations (with their own tasks and traditions)
• the recovery system coming from outside
• the new organisations emerging from the disaster.

Each of these systems has an essential part to play. Competition and conflict may occur unless these systems communicate, share ideas and work together with mutual respect.

Being part of the recovery system

For a time communities are much closer after a disaster. Feelings and attitudes are magnified as many people feel the same things at the same time and reinforce each other. This can be extremely supportive but can also trigger cycles of enthusiasm, disillusionment and despair. Grief, anger and depression can affect a whole community,
making decision making harder and creating further challenges for the recovery worker.

For affected people, the recovery system not only represents help but also the difficulties and frustrations of the disaster. They view it as a whole and may hold one part responsible for the deficiencies of another. Coordination and efficiency of the recovery system are not only necessary for its own functioning, but provide a powerful symbol of the recovery process itself.

Recovery worker characteristics and stressors

The issues confronted by individuals and communities, and the knowledge and skills needed to navigate the post-disaster community environment, are considerable. The irregular and stressful nature of disaster recovery work requires skills additional to those required to provide specific services under normal conditions.

Most recovery workers are affected in some way and at some stage by involvement in a disaster. They may show few or many of the possible responses to disaster outlined under ‘Psychosocial impacts on individuals’ in Chapter 7. Workers involved in service provision following an event need to be capable of dealing with these stressors.

... staff must have an understanding of trauma, managers need to be skilled and knowledgeable in supporting their staff and themselves to deal with vicarious trauma and self management, and reducing cumulative stress over long periods of time ...

We’ve found that often things like operational briefings and debriefings can be enough for some people, others need group psychological briefings, and others just need a day off to have a massage. The provision of a range of services at different times over the course of the recovery is really important. Not just the intense ‘response’ period. We still have staff over two years on from the fires fully immersed in recovery work. Support systems are just as important now as they were in the immediate aftermath (pers. comm., Kirsten Jenkins, Bushfire Recovery Coordinator, Nillumbik Shire Council, Victoria, 16 March 2011).

Recovery managers also need to take care of themselves. There is a high level of expectation put on managers from front line staff, and sustainable practices are critical.
In choosing appropriate staff for recovery work, it may be useful to consider that recovery workers:

- who are understanding, caring, patient, informative, encouraging and supportive to disaster-affected people are the single most important influence in helping people resume their lives and in minimising adverse consequences
- need an ability to stand apart from emotional encounters with the community and not to take issues beyond their control personally
- need a high level of team skills for work with their colleagues
- should have consolidated their core professional skills, and have a clear understanding of their place in the recovery system as a whole, of their own job and of their organisations’ tasks and responsibilities—a disaster is not a training ground for inexperienced workers
- should be secure in their professional identity, otherwise the uncertainty of the disaster situation and its consequent stresses may seriously undermine their confidence and capacity to deliver the relevant service
- should be secure in their roles in their agencies or organisations—the nature of recovery work necessitates time spent out in the field, away from the normal working environment: workers cannot function effectively or provide the time required if they are anxious about their positions or feel that their agencies are ambivalent towards them being away; work roles should permit a degree of flexibility
- need to adopt flexible working styles and, allowing for the unexpected, be prepared to improvise strategies for the delivery of services, and be empowered to make the best decisions at the time
- are likely to be required to travel and work out of hours in less than optimal conditions
- must be prepared to accept the limitations of what can be achieved during disasters and be willing to work within agreed hours and rosters—taking time away from emergency sites is a vital element of sustainability and in managing vicarious trauma and fatigue.
Employer responsibilities and strategies

In a disaster, staff are employed for construction, logistics, housing, financial assistance, essential services repair, health and psychological wellbeing activities, and natural environment protection and restoration, and may be recruited on short-term contracts or seconded from the private or public sector for the duration of the emergency.

As a consequence of a disaster additional staff may be required to enable agencies to meet their responsibilities. In determining additional staffing requirements, the demands of recovery operations, as well as the ongoing operational needs of the organisation, should be considered.

The most common mistake in determining staffing requirements is to underestimate the duration of recovery operations. The recovery process may be lengthy and some services may be required for a period of months, while others may be required for years after the event. Overloading of staff will occur if adequate arrangements have not been made to perform their normal duties. This will exert enormous pressure on recovery workers to finish their tasks prematurely and return to day-to-day agency tasks.

Occupational health and safety

Employers have an obligation to provide a healthy and safe work environment for their staff, including contractors and volunteers. A safe and risk-free environment is fundamental to this requirement, and includes:

- the handling, storage or transport of plant (machinery) or substances (any material—liquid, powder, gas)
- the physical work spaces
- training or supervision and information on safe work practices
- facilities or mechanisms for the welfare of workers.

Prolonged disasters will deplete existing staff teams and create significant occupational health and safety challenges.

Given the potential for a high-stress environment and the possibility of fatigue, it is important that appropriate rostering and breaks, briefing and debriefing occur to ensure
staff wellbeing is maintained and that workers are kept informed in regard to the overall recovery process.

**Employee assistance programs**

Workers should also be alerted to any employee assistance programs available. These are work-based intervention programs designed to enhance the emotional, mental and general psychological wellbeing of all employees and include services for immediate family members. Recovery workers may find that this service provides preventive and proactive interventions for the early detection, identification and/or resolution of both work and personal problems that may adversely affect performance and wellbeing. Existing employee assistance program providers, however, may not have the experience or training to deal with disaster impacts. It is important that assistance is appropriate, particularly where support for trauma or vicarious trauma is required.

Some organisations offer peer support and mentoring programs for workers who deal with trauma or vicarious trauma.

**Other references/resources:**

For more information about employee assistance programs, see the website of the Employee Assistance Professional Association of Australasia (www.eapaa.org.au).

**Management role**

Each disaster and its impact on communities is unique. The issues faced during recovery will vary, depending on the scale of the event, the number of people involved, and how quickly the community can recover and return to daily activities. The basic issues confronting the recovery manager include staff selection, recruitment and deployment, and the transition from response to recovery.

The recovery managers manage the recovery process on behalf of the nominated lead recovery agency, taskforce or authority. It is essential that people in these roles demonstrate high-level management skills and are given the necessary financial
authority and management autonomy to effectively carry out their role. The recovery manager needs an understanding of recovery issues in general and those specific to the event and an understanding of the management role and the tasks required, including those discussed in the other chapters in Section D.

A checklist for managing people in the recovery environment is provided in Appendix 13, and a template of a recovery manager role statement is provided in Appendix 14.

**Staff selection, recruitment and deployment**

Recruitment procedures could be drafted prior to an emergency and modified where necessary to suit the disaster event. These may include:

- contracts
- job descriptions
- disciplinary procedures
- benefits.

Recruitment and deployment policies and procedures must be framed to ensure rapid implementation at the time of need. Procedures for deployment need to include procedures for the start, duration and the finish of deployment and all necessary communications.

**The transition from response to recovery**

The transition from response to recovery requires:

- engaging the local community, as well as regional and national communities
- establishing the recovery committee or other governance structures
- a clearly stated mission and purpose of recovery services that is communicated to the community and significant stakeholders
- consideration of the service methods that are best for the particular event
- consideration of how those services should be provided
- consideration of which people/agencies are best equipped to provide the necessary services
consideration of how and when recovery services should be withdrawn.

Management strategies

To address the ongoing recovery needs of the community, management needs to strategically consider rostering, briefing, debriefing, mechanisms such as MOUs, identifying and sourcing funding, and the engagement of community development processes.

Supervision/staff support

In addition to the usual requirements of occupational health and safety and industrial legislation, the following specific issues require consideration in managing workers in a disaster recovery context:

- awareness of stress indicators
- well-developed structures regarding roles and responsibilities/accountability, with the capacity for flexibility (that is, regular team meetings and management of expectations between manager/workers)
- flexibility of conditions to allow staff time off/time out
- clearly delineated boundaries on worker responsibilities
- professional supervision (task and process, regular and planned)
- access to ongoing training
- personal and team debriefing, utilising appropriate processes and models
- regular briefing and debriefing of key operational and community issues.

Rostering, briefing and debriefing

Recovery staff should be briefed and debriefed prior to, and at the end of, each shift in order to proactively address issues relating to the high stress environment. Briefing includes time for staff to talk about their experiences during the shift and advice on any issues managers need to convey to the next shift.

Managers should note any stress responses and, if necessary, arrange or recommend further debriefing or assistance. Assistance might be provided within existing organisational
structures or as an additional resource for staff in the recovery structure. All staff with a supervisory role during disasters should be trained in briefing and debriefing processes. Provision for debriefing all senior managers should also be undertaken.

To minimise the effect of stressors, recovery staff should be rostered for shifts of reasonable duration. They should not work beyond their shift time and must leave the service area for rest and recreation. This includes managers.

At the cessation of recovery services, an operational debriefing of all staff (and individual debriefing where required) enables recognition of positive outcomes and identification of challenges over the duration. Relevant information or outcomes can be used to inform future planning.

Other personnel policies

Other policies and procedures that need to be considered include overtime and in lieu arrangements, leave arrangements, personal expenses, standby policies and debriefing arrangements. They will ideally be prepared in advance of an event and changes implemented if necessary.

Memorandums of understanding

Disaster recovery is not a single agency issue. It requires cooperation and teamwork to coordinate agencies that do not normally work closely together. This joint service delivery is enhanced if MOUs are in place and understood by the relevant agencies well before an emergency occurs. For example, MOUs between adjoining local government areas can allow for staff assistance between neighbouring areas. These can also be useful for private industry, public-private partnerships, state/territory governments and the Australian Government, and international cooperation.

Funding sourcing and strategies

An effective means of progressing identified priorities for services, activities, projects or programs has been through the provision of state/territory, local government, community, philanthropic or corporate funding. Identifying and managing this is a key function of the recovery manager.
Medium to long-term recovery—community development workers

As the community recovery process progresses, the community will become more able to lead its own recovery with the ongoing support of government and non-government agencies and private industry. One way to ensure a community development approach (and thereby facilitate sustainable recovery outcomes) is to employ community development workers. A template of a role description is provided in Appendix 15.

It is critical to appoint relevant personnel as early as possible in the recovery process. When appointed early, community development workers are more readily able to form effective partnerships and working relationships with the affected community. The closer their appointment to the time of the disaster, the more readily they are accepted within the community. Conversely, for those appointed a number of weeks after a disaster, it has proven far more difficult to establish the necessary rapport. However, this can be addressed if community development officers are integrated with the community recovery committee prior to commencing community development duties.

Based on generic community development principles and the national principles for disaster recovery, it is most effective for community development workers to be employed by the agency as close as possible to the affected community. Generally, this will be either the local government responsible for the affected area or a non-government organisation with a relevant service delivery role in the affected community.

Funding and employment of community development workers through non-government organisations or service clubs has proven particularly successful in situations where a worker has been employed to manage or facilitate a specific project, or to work with a particular sector or the disaster-affected community (for example, employment of a project worker by an industry group to address the needs of workers in that particular industry).

In general terms, the employment of community development workers should follow established best practice in human resource management. However, the rapidly changing and politically sensitive environment often generated by a disaster can put pressure on human resource and recovery management personnel to quickly appoint suitable people to the role.
Importantly, it is not only community development workers that do community development work. In recovery, environment officers do community development work and operational staff also feed in to the community development process when working with traumatised residents. Dealing with traumatised residents who are bereaved and may have suffered significant loss is not the same as dealing with difficult people or situations.

**Development strategies**

**Training**

Many professional staff are not involved in disaster management in their day-to-day work. For such people to be able to contribute effectively in an emergency, it is important to include disaster management in routine training programs and/or organisational professional development.

Specialised courses for disaster management professionals are provided in Australia by government bodies, universities, regional organisations, non-government organisations and international organisations. Courses specific to community recovery are provided by the Australian Government through the Australian Emergency Management Institute and by some state/territory governments, non-government organisations and universities.

**Exercising**

Exercising offers multiple agencies the opportunity to work together to fine-tune their disaster management response and/or recovery systems. There are numerous ways to conduct exercises. When developing an exercise there are a number of considerations (such as the exercise objectives) that will determine the exercise design (for example, discussion or role-playing), the exercise development process (involving agencies in the design), the agencies that will take part, and the review and evaluation (to capture and learn from the experience). One benefit of an exercise is the development of relationships between people who will work closely together in a time-compressed environment requiring trust and flexibility in the event of a disaster.
Succession planning

During an emergency key recovery staff may be unavailable for deployment, and succession plans should be in place for this. Colleagues might also be affected by the emergency as part of the affected communities—hence, staff with designated roles may be unavailable to fulfil their roles. Designated staff might also be on leave.

Agencies can assist their staff to manage during disasters by:

- including community recovery work in their broad strategic or work plans
- ensuring that involvement in community recovery activities is included in job descriptions for relevant positions
- providing basic awareness in orientation and training plans for all staff
- training a pool of staff in detailed designated community recovery roles
- ensuring that several staff members are able to implement the agencies’ designated roles to allow for staff who are absent or affected during disasters
- supporting staff who may wish to develop their disaster management skills through formal training
- establishing effective debriefing processes during and following involvement in disasters.

Volunteers

Volunteers are likely to play a significant part in any recovery operation, particularly after large-scale, highly publicised disasters. There are likely to be two types of volunteer—people who are affiliated with a specific organisation (such as service clubs, community agencies and other non-government organisations) and members of the public who offer their services after the event has occurred.

Volunteers who are affiliated with an organisation will be directed by that organisation and are likely to have specific skills to undertake previously assigned roles. Examples of this are the many volunteers with agencies such as the Red Cross and the Salvation Army, who are involved in activities such as catering, registration and personal support.
and who are trained for their allocated tasks.

Volunteers from the general public who offer assistance on an ad hoc basis can also be of great benefit to the recovery process, but require more careful management.

Issues to be considered include individual skills, community and individual needs, supervision, identification, and provision of support in the form of accommodation, transport, catering, debriefing and insurance. The most effective method of managing volunteers is often through the appointment of a volunteer coordinator.

If well managed, volunteers can be a great asset to the recovery process. They undertake activities from personal support and catering through to the clearing of properties and rebuilding activities. Their efforts need to be well coordinated to ensure that their time is used as productively as possible. In recent events some of this coordination has been assisted by the use of the internet and social media (for example, the Volunteer Emergency Recovery Information System (VERIS) has been used in South Australia and Volunteering Queensland has coordinated offers and requests for volunteers using the internet).

Other references/resources:
The Spontaneous volunteer management resource kit (FaHCSIA & Australian Red Cross 2010) offers ideas for the development of a framework to manage volunteers.
SECTION E: ACTIVITIES

Key points:

- The activities/services/programs/projects in recovery are supported or delivered in response to community need.
- Facilitating community processes, coordinating multiple agencies and integrating the four environments are critical to achieving sustainable community recovery.

This section discusses the activities, programs, services or projects that might be supported or facilitated as community recovery progresses. Where possible, these may be provided by existing service providers within the community (as discussed in Chapters 4 and 12).

The terms services and activities are used interchangeably in some chapters. They are not meant to imply that specific recovery services need to be implemented, but that recovery activities may occur—and may be provided by existing services. In the natural environment chapter, activities/projects/programs are more accurate descriptors of what is provided.

Activities in community recovery are described using the framework of the four integrated environments, and accordingly these chapters can be read in conjunction with Section C, in which disaster impacts are discussed.
Effective social recovery is critical to recovery in all other environments and is essential to ensure future community sustainability.

Recovery activities begin spontaneously within a community and it is the role of recovery agencies to provide structure and resources to support, integrate and coordinate these spontaneous efforts.

This chapter outlines the range of social recovery activities and services that address aspects of safety, health and psychosocial wellbeing. These activities may focus on a particular location and be implemented through various means of service provision, including virtual activities. They may need to take special account of geographically dispersed communities following a disaster, as well as people within a community who may require support but are not immediately apparent.

Appendix 6 offers a checklist for recovery managers working in the social environment.

**Guidance for developing activities and services**

The national principles for disaster recovery in Chapter 3 offer guidance for the provision of all recovery activities and services, including those designed primarily for the social environment.

It is important to acknowledge the lack of research data to guide psychosocial interventions following disasters. In the absence of such data, recovery plans must be developed on the basis of experience and international consensus. Ideally, however, any plans should be supported by the available research as far as possible. To this end, 20 of the top experts in disaster research and recovery from around the world collaboratively reviewed the literature and identified five empirically supported principles to guide intervention efforts in the early to mid-term stages post-disaster (Hobfoll et al. 2007). The five principles are concerned with:

1. promoting a sense of safety
2. calming (providing reassurance, strategies to reduce worry, fear, distress)
3. enhancing 'self-efficacy' and 'community-efficacy', giving people a sense of control over positive outcomes
4. promoting connectedness, encouraging support networks, helping people to feel part of their community

5. instilling a sense of hope and optimism for the future.

Ensuring that these five principles underpin recovery planning increases the chances of effective individual and community recovery.

Recovery plans need to have agreed timelines and outcomes to enable monitoring and evaluation.

**Developing social recovery activities and services**

Effective recovery is strongly influenced by very practical issues such as food, housing, jobs and financial security. As a general rule, the more the community can be supported to rebuild the social and physical infrastructure, to return to their jobs and schools, and to regain financial stability, the greater the benefit for their wellbeing and recovery process.

In the immediate phases of relief and early recovery, agencies can make proactive decisions about supporting the community’s anticipated social needs. These decisions will be based on knowledge and experiences from previous disasters, coupled with a sound understanding about the consequences of the disaster on that community and its capacity to meet its own needs. The social impacts are discussed in Chapter 7.

Recovery needs evolve and change, so recovery practice needs to be directed by ongoing needs assessment, monitoring and action research evaluation processes. Recovery activities and services should be developed through a community-led process (see Chapter 4) that has the local communities’ needs and future aspirations, their capacity to address those needs and aspirations, and additional support required at its hub.

When planning social recovery activities and services, recovery agencies should understand the pre-existing conditions of a disaster-affected community, including the:

- socioeconomic disadvantages or strengths within the community
- location and access to existing services
• minority and/or excluded groups
• local community organisations, services, formal and informal networks, and representative structures to be used for the provision of relief and recovery activities
• developmental aims and aspirations of the community into the longer-term recovery activities and the plans for transition into developmental work
• community development work (including emergency preparedness) already being undertaken
• history of emergencies and incidents in the area that may reduce people’s ability to cope.

Recovery agencies should also consider:
• the nature of the emergency (for example, whether there is likely to be a criminal investigation [terrorism, mass murder, arson or malevolent intent, technological failure] or civil legal proceedings)
• the scale, impact and public perception of the emergency
• communities of interest.

**Community-led social recovery**

The term *community-led* emphasises a community-driven approach that strives to achieve strong community participation in all levels of planning, implementation and evaluation of recovery processes. Community-led social recovery processes fundamentally aim to support self-help and strengthen the resources, capacity and resiliency already present within individuals and communities.

Achieving community-led recovery may be challenging when:
• local, trusted community leaders have died or left the area as a result of the disaster
• communities of interest with diverse competing needs are involved
• affected individuals are widely dispersed
• marginalised or minority groups are excluded from community decision-making processes
• some people are more vulnerable than others to the impacts of a disaster.

Effective community engagement and strong facilitation processes are required to ensure communities can determine their own needs and shape the recovery programs and activities.

For more information about community development processes, see Chapter 4.

Social environment recovery activities—overview

Individuals and communities have inherent strengths, assets and resources, which should be recognised, valued and used in all aspect of emergency management practice. Social recovery processes seek to support communities by building upon those strengths, and by viewing people as *survivors* in charge of their own lives, not as *victims*.

Following a disaster, affected individuals and communities may require the provision of specific recovery activities and services. When developing activities it is important to identify people who are, or may become, the most vulnerable to the impacts of disaster to ensure their needs are determined, addressed and prioritised. All recovery activities should be integrated and coordinated to ensure that appropriate referral mechanisms are established.

Effective recovery relies on people being able to access accurate and timely information. For information on designing effective recovery communications, see Chapter 5.

Table 16.1 provides an overview of possible recovery activities and services (with a focus on psychosocial needs, which include aspects of the built, natural and economic environments) and compares them with the myths and assumptions that are often made about what people need after a disaster.
Table 16.1: Overview of social recovery activities and services typically provided in comparison with common myths and assumptions of what disaster-affected people need  
Source: Sally McKay

<table>
<thead>
<tr>
<th>Myths and assumptions of needs</th>
<th>Actual needs</th>
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| People need protecting from reality  
Too much information is unhelpful | Based on experience and evidence from previous emergencies, recovery services should address a range of needs of affected individuals and communities and continue on from relief services to:  
|provide timely and accurate information  
• through a variety of community communication channels, which can include social media, broad media, newsletters, community and spiritual leaders, places where communities ordinarily congregate, sporting and community groups.  
Information can be provided about:  
• the extent of impact of the emergency  
• what is happening and being done by agencies  
• future disaster risk mitigation, such as cleaning up hazards, planning for mould and rot after floods, self-care techniques  
• potential health and sanitation issues  
• potential longer-term emerging issues and likely future effects and how to mitigate  
• the relief and recovery activities and services that exist and how to access them, such as evacuation centres, recovery one stop shops and outreach services  
| reconnect people with their families, friends and community networks  
| through registering through the National Registration and Inquiry System, call centre numbers, evacuation or relief centres  
by assisting with repatriation for interstate and international emergencies, and registration through outreach visits  
by minimising the duration of isolation experienced as a result of the emergency [timely reconnection of affected people to existing community networks]
## Activities

### Myths and assumptions of needs (unsubstantiated)

- People need protecting from reality
- Too much information is unhelpful

### Actual needs

Based on experience and evidence from previous emergencies, recovery services should address a range of needs of affected individuals and communities and continue on from relief services to:

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<thead>
<tr>
<th>People need protecting from reality</th>
<th>reconnect people with their families, friends and community networks (continued)</th>
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<tbody>
<tr>
<td>by minimising dislocation of community members by assisting people to stay as close to their affected properties as possible</td>
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<tr>
<td>by providing access to relevant local community services, as well as the new relief and recovery activities and services</td>
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<tr>
<td>by providing choices through a coordinated service system and referral to appropriate services as required</td>
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<tr>
<td>Disaster-affected people need someone to ‘make it better’</td>
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<td>Disaster-affected people cannot look after themselves</td>
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<td>empower people to manage their own recovery and to access practical assistance</td>
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<td>by providing ongoing access to basic needs through local distribution of material aid or cash grants, water, food, clothing, personal requirements, requirements for pets, livestock needs</td>
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<tr>
<td>by maintaining safety and ongoing access to emergency and transitional shelter</td>
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<td>through assistance in interim and longer-term accommodation requirements</td>
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<tr>
<td>through ready access to recovery activities and services</td>
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<tr>
<td>through access to grants and financial assistance through cash programming, personal hardship grants, income support, emergency appeals</td>
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<tr>
<td>through employment programs, such as clean-up programs</td>
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<tr>
<td>through legal services, insurance, financial counselling, building advice, primary industry or business assistance</td>
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<tr>
<td>Counselling is required for disaster-affected people</td>
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<td>provide engagement and emotional support at individual, family and community levels</td>
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<td>through empathetic listening and establishing what individuals want and need</td>
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<td>through calm engagement (to lower states of anxiety)</td>
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<td>through openness, honesty, sensitivity</td>
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## Myths and assumptions of needs (unsubstantiated)

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<tr>
<th>Myths and assumptions of needs</th>
<th>Actual needs</th>
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<tbody>
<tr>
<td>Counseling is required for disaster-affected people (continued)</td>
<td>Based on experience and evidence from previous emergencies, recovery services should address a range of needs of affected individuals and communities and continue on from relief services to:</td>
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<tr>
<td>All disaster-affected people have a need for specialised mental health services</td>
<td>• through non-judgmental assistance</td>
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<td>• by developing greater understanding about human responses to emergencies and techniques for self and family care</td>
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<td>• by recognising and acknowledging the impact on individuals and communities</td>
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<td>• through psychosocial support—group and community activities can include ceremonies, neighbourhood barbeques, school activities, community recovery planning forums, spiritual events, social sporting events, planning for remembrance activities, virtual forums: all these types of social engagement provide opportunities for people to tell their experiences, address the issues arising from the disaster, build a greater sense of future safety; they suit community needs and stages of healing</td>
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<td>• through special programs for children and young people</td>
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| Affected people and communities need to go back to ‘normal’ quickly | Recovery services can encompass raising community awareness and promote tolerance, community education and community development initiatives that address a range of issues such as: |
| Disaster-affected communities never recover | • preparedness and disaster risk reduction activities that assist in building community resiliency towards future disasters and develop future protection actions |
| | • recognition that recovery is a long-term [years], complex and exhausting process for affected individuals, and that their world views may change in small or large ways |

|                      | assist people to maintain a balance, come to terms with their reality and move forward into a new, changed reality |
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SECTION E: Activities

Myths and assumptions of needs
(unsustantiated)

Actual needs

Based on experience and evidence from previous emergencies, recovery services should address a range of needs of affected individuals and communities and continue on from relief services to:

<table>
<thead>
<tr>
<th>Affected people and communities need to go back to ‘normal’ quickly</th>
<th>Assist people to maintain a balance, come to terms with their reality and move forward into a new, changed reality (continued)</th>
<th>• education and advice during the reconstruction phase regarding ways to improve resilience of buildings and infrastructure to withstand future disasters</th>
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<tbody>
<tr>
<td>Disaster-affected communities never recover (continued)</td>
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<td>• health promotion activities</td>
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<td>• livelihoods programs that assist in re-establishing household income and/or developing new, more sustainable financial opportunities</td>
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<td>• adaptive change processes that support future socioeconomic opportunities.</td>
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Social environment recovery—categories

Activities and service delivery depend on the nature and scale of the event and the pre-existing and new (resultant) community needs and aspirations.

Recovery activities and services in the social environment are developed in the following categories:

• safety and security

• shelter, including accommodation in the short, medium and long term

• health, including medical, allied health and clinical services, public health (water, sanitation, hazardous materials, food security, mental health support and health promotion activities)

• psychosocial support, including individual and community activities and services.

Safety and security

Loss of life, injury, loss of shelter and threats to safety as a result of a disaster all impact on an individual’s and/or a community’s sense of safety and security. For example, the ongoing threat of aftershocks following a major earthquake can unsettle people and further destroy or make unsafe homes and buildings. For more information, see Chapter 7.
Social order and strong governance provide the sense of safety that people require to reduce their anxiety about the future. Aspects of civil order are primarily addressed by state/territory or federal (in the case of terrorism and offshore disaster) police forces and are not covered in detail here.

Social recovery activities to address safety and security may include:

- provision of timely information about safety, protection issues and mitigation actions to address emerging safety and wellbeing issues (also covered under ‘Health’ below)
- demolition and/or securing of damaged buildings (see Chapter 17)
- support during restoration of essential services and transport
- emergency and/or temporary shelter, accommodation and housing
- security services, which may be required in and around evacuation and relief centres and for overseeing the distribution of cash grants
- protection issues for children who as a result of the disaster are orphans or separated from their families and require care
- maintenance of safe working environments, as well as safe environments for vulnerable people (for example, ensuring ‘working with children checks’ for all workers).

**Shelter**

A paramount concern for displaced people is to have safe, alternative accommodation when their homes have been damaged, destroyed or are inaccessible due to contamination or ongoing hazard threats, or if they are visitors from other towns/states or overseas countries. Access to basic living needs such as food, water, clothing and money are also required for people to feel secure.

Ensuring displaced households and individuals have appropriate shelter (accommodation) is a key to ensuring their safety and commencing their recovery. Accommodation arrangements may range from short term to long term.

The type of accommodation provided depends on the remaining undamaged, accessible
and appropriate infrastructure, as well as on the level of demand and the availability of alternative accommodation options. It may also depend on people’s circumstances. If they are travelling they may need assistance to get home, or they may need assistance to get to other family members elsewhere. Chapter 17 discusses planning and specific issues regarding buildings.

Available housing stock is in short supply in Australia, and it may be that short-term, medium-term or transitional accommodation may not be able to be sourced within the local area.

The majority of displaced people choose to stay with family and friends wherever possible. These types of immediate and ongoing living arrangements can place pressures on displaced and host families through co-existing in shared and/or cramped environments for extended periods. What is lost in these make-do situations is the space and opportunity for privacy, quiet reflection and absorption of experiences, and the resumption of usual roles within family structures.

Spontaneous offers of accommodation in caravans, granny flats and spare rooms of homes often occur in high-profile disaster events. Planning needs to determine the agency that will take responsibility for managing and coordinating these offers to ensure that all accommodation meets consistent standards of safety and suitability for the duration of the displaced person’s stay.

Most people whose homes have been destroyed or significantly damaged prefer to return to their house blocks or farms to be as close as possible to their home sites, livelihoods and communities. Returning home after an evacuation period can be stressful and traumatic because lives may have been lost, homes destroyed or damaged, landscapes changed or familiar points of reference gone, and physical evidence of the disaster may still exist.

If people’s homes are cordoned off for a long period of time as a result of a criminal investigation or contamination, consider how to support people to return home. For example, when residents in Manhattan near the World Trade Centre were allowed to go home after the 9/11 attacks, the American Red Cross deployed personal support teams into apartment blocks to assist with the transition.
Recovery managers should:

- keep accurate and up-to-date records of where people relocate and their contact details
- organise emergency accommodation in conjunction with local agencies, and preferably arrange for transitional or longer-term accommodation on home sites of those people whose own homes are not habitable
- if people need transport, consider how this may occur
- ensure privacy is respected and maintained at all times
- establish a referral mechanism for psychosocial support (if appropriate).

Additional support and assistance may need to be provided to a proportion of the population who may find it difficult to make decisions and adapt to new circumstances.

**Emergency and short-term accommodation**

Emergency shelter provides security and personal safety, protection from the climate, and enhanced resistance to ill health and disease. It is important to human dignity and in sustaining family and community life as far as possible in difficult circumstances (Sphere Project 2004).

Where events cause dislocation from or destruction of the primary place of residence, it is important to provide access to safety and shelter as soon as practicable. Therefore, according to local arrangements, the primary task is either to establish evacuation/relief centres or to identify and source alternative accommodation options. Emergency accommodation is usually planned for within local recovery plans and organised and provided locally. It is often provided by friends, family, community, business or government and non-government organisations.

Additional resources need to be provided to support the conditions of emergency accommodation through the provision of short-term supplies of water, food, hygiene goods, medications, personal needs such as glasses and walking frames, clothing, bedding and other necessities.

Accommodation may be provided in evacuation/relief centres, hotels, motels, caravan...
parks, houses, transportable accommodation units, flats and so on. Catastrophic events may require the provision of tents or camps established by the army, or the provision of shelter modules via international humanitarian agencies, such as the Red Cross.

Following the cessation of the provision of emergency accommodation services in the immediate/relief phase, affected people may continue to have urgent accommodation needs, due to limited housing options and resources.

The timeframe for providing emergency accommodation can range from days to weeks. It is usually planned for the relief stage, but in some cases emergency accommodation has transitioned into medium term or interim accommodation. This has occurred due to limited alternative options, when housing and accommodation services are unable to meet demand.

**Interim/medium-term accommodation**

Depending on local arrangements and/or state/territory arrangements, disaster-affected people may receive assistance to access interim accommodation if their primary place of residence is destroyed or damaged by an emergency event and is not habitable. Interim accommodation can be in a house, flat, caravan or similar and can continue for extended periods of weeks, months or longer prior to permanent housing becoming available. In some cases interim accommodation may transition into permanent housing.

Interim accommodation can also be provided by friends, family, community, business or government and non-government organisations.

**Permanent housing**

Permanent housing includes the range of normal housing options (for example, owner-occupied homes, rental properties, public housing or equivalent). Options for specific households and individuals may differ to the pre-emergency state.

People may need assistance to make decisions about rebuilding, or selling and relocating.

**Health**

Health response and activities [including the details of medical and health services and arrangements] are fully covered within each state/territory health plan, which is usually a subset of the emergency plan, so they are only briefly described here to inform
recovery agencies. Although the recovery manager is not responsible for provision of health activities/services, close liaison and coordination is important.

In keeping with local health plans, where additional primary health care is identified as a need, field clinics may be established and staffed by registered general practitioners, nurses and paramedics. Additionally, clinical health services may be provided in the home or through outreach services.

**Clinical health services**, including general practitioners and other allied health providers, hospitals and rehabilitation services, may need to provide a range of services including:

- immediate and ongoing care for those affected or injured by the event
- management of individuals or groups that may have been exposed to hazards (such as chemicals, dust or smoke), suffered traumatic injuries (such as burns or blast injuries) or are traumatised by their experiences
- continuity of health services for those who are reliant on ongoing medical care within hospitals and community settings (for example, ongoing disease treatments, prescriptions, wound dressings, dialysis)
- monitoring and medical support for the response and recovery workforce.

**Public health services**, which have a preventative focus and provide community information on health and safety assistance, are usually provided by the relevant local, state or territory agencies, and cover a range of activities including:

- communicable disease issues—surveillance and review of morbidity that may be occurring in the community and subsequent implementation of interventions such as vaccine programs, if, for example, there is an increase in diagnosis of influenza or hepatitis A
- health protection/environmental health—air quality, food and water inspections and advice (for example, to boil water, water tank quality, disposal of spoilt food stores, review of food preparation procedures in welfare centres)
- inspections and review of sewerage and other contamination issues that may impact on the health of the community
health promotion activities, such as information and advice about heat stress, clean up, health hazards (such as mould and asbestos), and other activities that aim to enhance self-care and prevention of later hazards in recovery.

**Psychosocial support**

The impacts of a disaster on the physical, economic and emotional state of people, as outlined in Chapter 7, are variable. Psychosocial support commences spontaneously within communities following a disaster. Disaster-affected people receive assistance from their families, friends, colleagues and community organisations.

Government and non-government organisations can provide individualised and community development programs to build community wellbeing. This is termed the *psychosocial recovery response*.

Whatever type of psychosocial service model is implemented, remember that individualised support programs need to be closely tied to community development programs so that support services can move smoothly between individuals, groups and the community as required.

Psychosocial activities throughout the phased continuum of recovery range from providing early relief via personal support services to addressing the emerging medium- and longer-term recovery needs (such as supporting families to function, helping people to return to work and school, bereavement support, livelihood-orientated activities, recreation, social, spiritual, cultural and sense-making activities). Some of these are described in this chapter; others are covered in Chapters 17, 18 and 19, which consider the built, economic and natural environments.

*Psychosocial support activities should be planned for whole communities, focusing both on individual and community needs, and on their resources to cope and recover. Such activities can help individuals, families and communities to overcome stress reactions and adopt positive coping mechanisms through community-based activities (IFRC & International Federation Reference Centre for Psychosocial Support 2009, p 31).*

Psychosocial support can also be used as an entry point to the affected population and as a platform for all other recovery environments.
Figure 16.1 illustrates individual support activities (such as single points of contact with people, service coordination and case management) and community support activities (such as relief and recovery centres, community recovery committees and community development activities). All these types of activities encompass the psychosocial recovery response.

The model shown in Figure 16.1 follows the ‘umbrella of care’ proposed by Raphael (1986) and uses processes for developing the social infrastructure to deliver the ‘whole person’ care required to effect recovery from a disaster (Gordon 2004b).

**Psychosocial services following a disaster**

Psychosocial activities and services for recovery are provided for:

- individuals and households
  - psychosocial support (for example, psychological first aid, personal support services, childcare services, registration, information, bereavement, spiritual care etc)
  - practical support (transport, access, communication, accommodation, personal needs, water, food, clothing)
  - information
  - health
- community development activities/projects—a range of very simple, low-cost community development options provide the foundation for the establishment of a meaningful disaster recovery program (for example, assisting in re-establishing social connections and functionality through group and community activities, including neighbourhood barbeques, street meetings, school activities, community recovery planning forums, spiritual and social sporting events, ceremonies, planning for remembrance activities, virtual forums, impromptu displays etc).

The remainder of this chapter describes the background to the provision of these types of services, and details some services.
**Individualised coordinated support**

**Community support**

- Targeted recovery programs
- Relief & recovery services
- Community development programs
- Centre based work & outreach

**Vulnerable groups**

- Neighbourhood and/or common interest group

**Individual**

**Household**

**Neighbourhood**

**Community**

Figure 16.1: Psychosocial recovery—balancing individuals, households, neighbourhoods and communities

Other references/resources:
The Psychosocial Support in Disasters website (www.psid.org.au) details further information on psychosocial support in preparedness, response and recovery for both health professionals and the general public.

**Individuals and households**

A number of terms are commonly used in Australia as part of the spectrum of psychosocial activities, including psychological first aid, personal support services and mental health intervention or referral. (Although it is important for recovery workers to be aware of the providers and referral processes for accessing mental health services for community members as needed, this field is a specialist field and is only described briefly within this handbook.)
The 2009 Black Saturday bushfires in Victoria provided an opportunity to implement a three-tiered training and intervention program to mirror and enhance the implementation of the Victorian Psychosocial Recovery Framework (DHS 2005, 2009). These tiers reflect differing levels of support required for increasingly more problematic reactions to trauma:

- Level 1 activities/services are aimed at the broad community in the immediate aftermath of a disaster and include things like personal support services and psychological first aid delivered by a range of appropriately trained emergency relief and community members
- Level 2 services are delivered by primary care workers to individuals in need
- Level 3 interventions are delivered by specialist mental health workers to people who require mental health support.

This handbook focuses on Level 1 activities and outlines a range of programs that might be implemented at individual and household levels.

**Personal support services**

In Australia the term personal support services refers to the specific role within the social recovery workforce, which provides a diverse range of practical assistance coupled with psychological first aid for the immediate and early recovery needs of individuals, families or groups of disaster-affected people.

Personal support services can be provided by a wide range of personnel from government and non-government agencies and local communities. These personnel can be employees, trained volunteers or trained local community members who have the capacity and interpersonal skills to support people in distress. These personnel do not provide counselling or psychological services but should be able to recognise people with these needs and refer them to the appropriate service providers.

Specifically trained personal support personnel provide support at a range of sites, including:

- evacuation/relief and recovery centres/one stop shops
- call centres
disaster sites (if it is safe to do so), such as mass casualty events, train or aeroplane crashes, bridge or tunnel collapse etc

• reception or assembly points (airports, evacuation holding locations in central business districts, hospitals etc)

• community information forums (neighbourhood or community meetings)

• social events (barbeques, memorials, anniversary events etc)

• centres for overseas repatriation (airports etc).

Support is also provided through outreach programs. Some of the service provision considerations for the different sites are detailed in Chapter 12.

**Psychological first aid**

Psychological first aid is a key component of psychosocial support, and provides a set of skills to underpin the effective provision of psychosocial support services. It is an evidence-informed approach based on commonsense principles of support to promote normal recovery, and includes helping people to feel safe, connected to others, and calm and hopeful; facilitating access to physical, emotional and social support; and enabling people to be able to help themselves (Hobfoll et al 2007; IFRC & International Federation Reference Centre for Psychosocial Support 2009; Brymer et al 2006).

The goals of psychological first aid are to:

• reduce distress

• assist with current needs

• promote adaptive functioning

• get people through periods of high arousal and uncertainty

• set people up to be able to naturally recover from an event

• assist early screening for people needing further or specialised help

• reduce subsequent post-traumatic stress disorder.
Community leaders and other key members of the community can be trained in the principles and delivery of psychological first aid to ensure that an appropriate response is immediately available within the community and to allow community members to work alongside emergency support workers to manage community needs.

Other references/resources:
For further information on Psychological First Aid see Psychological First Aid – An Australian Guide (APS and ARC, 2011).

Practical assistance as a component of personal support services

Personal support personnel and key recovery agencies can provide, or ensure access to, a wide range of practical assistance. Practical assistance is usually available through evacuation, welfare, relief and recovery centres and through outreach programs and can include:

- information about what has happened, services available and plans that are in place
- access to available communication, such as telephones, satellite services, free internet access
- comfort and reception
- referral to other agencies
- reassurance and security
- material aid (food, water, toiletries, hygiene kits, bedding, clothing)
- time away for families
- child minding
- child/aged care services
- transport
- advocacy, legal aid, insurance
- pet care
Designing individual and household psychosocial support programs

Several issues need to be taken into account when designing and delivering personal support services:

- the majority of disaster-affected people are not used to using welfare or social services and may find it difficult to approach, access or fully utilise emergency relief and recovery services
- some people may need specialist support that is not readily available or may require a complex mix of services to meet their needs
- in identifying the need for individualised support services, recovery planning needs to consider the impact the event has had on local service providers and any disruption to their usual service delivery, and their capacity to meet the disaster need—there may be the need to develop strategies to counter the disruption and augment the availability of local community services to meet the surge demand
- individualised support programs can graduate in intensity from self-accessed information to personal support services and to coordinated service delivery and case management approaches.

Key components in the delivery of individual and household psychosocial support programs include:

- ease of conduit
- consistency of delivery
- accessibility
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- seamless service
- single point of contact.

Community development activities/projects

Many recovery-specific services are provided through relief and recovery sites (see ‘Implementation of services/activities’ in Chapter 12). The activities below build on these operational recovery structures at the community level, primarily through utilising and complementing the community development activities, networks and services that exist within an affected community.

Depending on the community’s capacity to recover, in some circumstances it may be necessary to provide additional resources to support the community development component of the recovery process.

Community development programs can alleviate the expected escalation of health and socioeconomic issues, including the continued loss of productivity and economic hardships. Community development processes can assist all levels of government and other key recovery agencies to interact productively with local disaster-affected community groups throughout the recovery process and build closer relationships.

Throughout the medium- to long-term community recovery processes, disaster preparedness and risk reduction activities must be included to assist in building community resilience towards future disasters. Undertaking these activities during a recovery process is highly applicable because disaster-affected people are often highly motivated to learn new protective actions. These activities also help to build feelings of control in the event of another disaster.

Other references/resources:
For further information on community development in recovery, see the Australian Emergency Manual Community development in recovery from disaster [EMA 2003].
Additional resources

Community development programs are generally funded by the relevant state/territory community services department, often with the support of the Australian Government Natural Disaster Relief and Recovery Arrangements (EMA 2011).

Funding can support local agencies to facilitate community development programs and/or to employ community development officers to facilitate a range of activities that will enhance the recovery of individuals and the broader community.

Managing community development projects

Community development programs can be managed by local government or lands councils, local community organisations or state/territory community services departments. The decision about the management of these programs is often related to local presence, community trust and capacity to manage.

Although local governments in some areas across Australia can ably support or lead recovery processes and activities, not all local governments are similarly resourced, skilled or knowledgeable about community disaster recovery processes. For some local governments their focus on recovery may be primarily on restoring the built infrastructure at the possible expense of psychosocial community needs.

In addressing community needs, the following tasks need to be undertaken as part of the management of a community development process:

- identify community needs by working with the communities to develop their local community recovery plans—this includes continuing to assess the local communities’ evolving recovery needs and future aspirations, their capacity to address these needs and aspirations, and additional support required
- identify the most vulnerable groups within the communities and address strategies to meet their needs
- assist community organisations to identify the effects of the disaster on the organisation and their community
- understand the capacity and capability of each organisation post-event and
supplement the organisation with support, assistance with rebuilding and, if required, measures for variation to funding agreements

- identify key community leaders
- initiate and support key committees and working groups
- scope, develop, implement and evaluate opportunities for adaptive change processes that support future socioeconomic opportunities
- assist in accessing information and resources
- assess, monitor and evaluate the overall recovery process.

To be sustainable, understanding communities and utilising community development within disaster recovery processes need to take into account issues in facilitating adaptive change processes and social justice.

**Using existing services and networks**

Following a disaster event when social networks and communications systems may have been destroyed, significantly damaged or impaired, disaster-affected people may have become disconnected from their usual support systems and networks. These socioeconomic networks may require support to regain their functionality to be able to reinstate an effective or stronger level of community connectedness.

Equally, new networks may emerge (for example, a bereaved community or a locally affected residents group). Community development activities need to engage emergent groups to enable their activities to become more integrated within recovery processes.

Many local networks/agencies are significantly overwhelmed following a disaster and have a small resource base, and their staff may have been impacted by the disaster. This can result in local networks/agencies struggling to meet their ordinary business, let alone the escalation of needs arising from a disaster.

Socioeconomic networks need to be actively engaged and supported throughout the recovery process. If existing community services and networks have been used in the relief and recovery phase to provide psychosocial projects or activities, the transition and exit strategies for recovery activities is simpler and more direct. However, if additional
recovery service systems have been constructed, more careful planning for the transition back to the existing services (or exit) is required.

Examples of community networks that may take an active role in supporting community development recovery activities include:

- volunteer emergency services (for example, the Country Fire Authority, State Emergency Service, Australian Red Cross, Salvation Army, Lifeline)
- community development associations
- religious and spiritual organisations
- economic and tourist bodies (farmers’ organisations, chambers of commerce)
- school, parent and educational organisations
- environmental groups (for example, Landcare, Green Cross Australia, employment initiatives)
- service clubs (for example, Rotary, Lions Clubs, Apex, Probus, Returned & Services League, Country Women’s Association)
- arts and historical groups
- sporting clubs and community recreation groups
- emergent networks based on the disaster itself (for example, the bereaved community, the hospitalised and the displaced).

In addition, do not underestimate the power of informal networks, such as those at pick up and drop off points at schools (or the school bus stop), shops/supermarkets/malls, in parks where people walk their dogs, stock saleyards, football fields and sporting venues, cafes or around the water coolers in workplaces.

**Examples of community development psychosocial activities**

Well-facilitated group meetings can support community groups and members of the community to become more engaged in strategically thinking about their longer-term recovery needs and how they would like to address their own needs with support.

To address the important recovery issues of family and community interaction, the
organisation of social activities has proven very effective. Neighbourhood barbeques and local social events that make use of the arts, music, theatre or sporting activities all provide opportunities for people to mix, tell their accounts of events and work cooperatively to plan future events. Practical activities such as fence building or weed clearing can also include a social component, and may be attractive to people who would not necessarily attend a ‘social’ event.

Other references/resources:
For a description of a range of activities, see the *State emergency relief and recovery plan: Part 4, Emergency management manual*, Victoria (State Government of Victoria 2010).

**Groups and people with specific needs**

There may be a range of specific target populations and special needs groups within communities. This section highlights some of these groups, but every community is different and these groups must be identified through knowledge of the community and a needs assessment process.

**Gender-specific interventions**

In recognition of the different needs of men and women, some initiatives are categorised by gender. This may be particularly important for males, who may find it difficult to acknowledge problems, to ask for assistance and to make use of naturally occurring support networks.

Examples of these types of social recovery activities for men include:

- **men’s sheds**, which encourage men to work on projects that will have real and practical benefits for themselves and their community and at the same time provide opportunities to talk over their issues with others, seek advice and get help
- **tool libraries**, which are a practical and tangible way for men to receive assistance with tools that have been lost or damaged during an emergency
- **locally organised events** relevant to the men in an area affected by an emergency,
such as sporting and leisure activities and other outdoor pursuits.

For many women sharing their experiences is one of the most important aspects of their personal recovery. Programs that focus on ways in which women can interact, learn and share experiences are vital and may include:

- rural women’s networks
- locally organised events relevant to the women in an area affected by an emergency, such as pampering weekends, gardening groups, women’s health information sessions
- support groups that facilitate the sharing of stories and experiences.

### Children and young people

Additional needs of children and youth that need to be considered in recovery management include:

- recognition that children and youth are uniquely vulnerable following an emergency event and require targeted and specialised support to ensure the best opportunity to achieve a successful recovery
- children are not little adults and should not be managed in the same way as the adult population
- there is not a one size fits all approach to emergency recovery planning for children and youth. Emergency recovery plans must consider the developmental stage of those affected
- there is a lack of advocacy for children and youth in the emergency management arena
- children and youth are able to contribute to the recovery planning process [State Government of Victoria 2010, p 4-35].

The importance of family and community support in helping children and young people overcome the impact of their experiences cannot be overstated. Parent information sessions that provide advice and information to parents on ways to support their children
can be beneficial.

Education departments are generally responsible for the management and coordination of school activities that specifically address recovery of children and youth.

Local schools are key community organisations that can provide support to the younger members of the community. Engaging with schools and education facilities to gauge the level of impact on the young people in a community and involving these key stakeholders in development of plans and activities ensures that young people are cared for after a disaster.

It may be useful to provide:

- information to school and childcare centres
- newsletters to explain the activities and supports that are available and the possible effects on younger children
- resources that are age appropriate for use in school classroom activities and, if required, projects targeted to this group.

Support for children and youth is needed both during and after school. Involving school holiday programs and mobile playgrounds in recovery activities has been beneficial in previous events.

Other references/resources:

Resources targeted at children are available on the Australian Red Cross website (www.redcross.org.au) and the Australian Child & Adolescent Trauma, Loss & Grief Network (www.earlytraumagrief.anu.edu.au).

Culturally and linguistically diverse communities

Non-English speaking people may be especially vulnerable to prolonged impacts following a disaster by virtue of their inability to communicate well with emergency and relief workers, and their difficulty accessing information that helps them to make sense of the event and its aftermath. Different cultures approach and react to disasters in different ways. This can potentially cause tensions in the broader community if these
reactions are not understood by others. It may mean that minority groups in the community can feel left out, marginalised and misunderstood if they do not understand or cannot relate to the recovery processes put in place by the government and other organisations. They may also feel unable to express and manage their grief or distress in their usual ways. Refugees and asylum seekers can be particularly vulnerable, especially if they have suffered extreme hardship and trauma in their countries of origin.

Recovery managers should be aware of the different cultural groups in their communities and should ensure that appropriate recovery services are made available to meet their needs. However, it is also important for emergency management agencies to be cognisant that many of these communities demonstrate great resilience because they often possess a range of experiences and skills in dealing with emergencies—so recovery managers should draw on the community’s competencies during community recovery.

Other references/resources:
Useful toolkits and field guides relating to culturally and linguistically diverse communities and disaster include:

_A practical reference to religious and spiritual diversity for operational police_ (Australia New Zealand Policing Advisory Agency 2010)

_Emergency relief centre management guidelines for CALD communities_ (Maribyrnong City Council 2011)

_Managing the impact of global crisis events on community relations in multicultural Australia: background report_ (Bouma, Pickering & Halafoll 2007).

**Indigenous communities**

Indigenous communities have their own beliefs and values around disaster events, how to respond to them and how to manage the reactions of others in their communities. How community members who have perished are dealt with has particular potency. Recovery and coronial processes, as well as the media approach to naming and identifying victims, require diplomacy and consultation to protect the community from further trauma. It is important that the needs and wishes of Indigenous communities are thoroughly assessed
and a concerted effort made to work with the community to support these needs.

**Aged**

Members of the aged community can be incredibly resilient but in other cases are particularly vulnerable during a disaster. For example, in the gas crisis in Victoria in 1998, older people were much more able and accepting of the lack of heating, hot water and cooking facilities than the young. Their experiences in a series of events such as wars, the Depression, bushfires, floods and droughts, which demanded great self-reliant resources, gave them the strength to deal with unusual circumstances. People who are older, however, may be isolated, frail, suffering from chronic illness or dependent on others for transport, meals and self care. Some older people may have lived in the community all their lives and suddenly be put in a position of needing to relocate, in addition to losing a lifetime of memorabilia and familiarity. Recovery workers need to quickly establish who these people are and where they are located in the community and link them into aged care services that can help them re-establish a sense of safety and security as quickly as possible. In the same way that children and youth may be brought together to help them talk about and process their experiences of the disaster, it may be helpful to organise groups of aged people to get together and share stories and information.

**Displaced/dispersed people**

Planning arrangements at local and regional levels must be conscious of the responsibility to support recovery activities for emergencies that occur outside their boundaries (for example, in another municipal district or region, interstate or overseas). Plans should include provisions to ensure equity of emergency recovery services in such circumstances.

**Support for the bereaved**

People who are bereaved are an example of a vulnerable group that needs specialised support and attention.

The bereaved group will include surviving family members who directly experienced the emergency event and family members who did not, so plans need to be made to identify
extended family members who may not be local to the community of impact. Counselling services should also be identified to assist with grief and bereaved communities.

Recovery coordinators need to maintain close liaison with the police and the coroner’s office to ensure clear communication about support services is available to bereaved groups.

Bereavement services are usually led by identified agencies within the state and territory recovery plans and are important to support individuals and families bereaved as a result of an emergency.

Services may include:

- one-on-one and family counselling
- bereavement support groups
- delivery of an annual commemorative event, including consultation and input from the bereaved community.

**People who are temporally separated from, or have lost, their companion animals**

Companion animals can help people to maintain their social, emotional and physical wellbeing. Companion animals are significant partners in many people’s lives.

Increasingly, research shows that companion animals can also contribute to the recovery and maintenance of both physical and mental health.

Recovery managers should:

- recognise that restoring animal–owner links in the aftermath of evacuation is an important aspect of social recovery and return to normalcy
- recognise that the grief from loss of companion animals can be as equally powerful for some people as other losses, and this should be recognised in access to services and remembrance activities
- work with local authorities (local councils) and animal welfare agencies (for example, the RSPCA)
• take the opportunity to use volunteer support to coordinate this service.

In addition, loss of stock and native animals can cause distress in both children and adults.

**Cultural and spiritual factors**

Recovery managers should be aware of and respect the cultural and spiritual world views that shape many communities’ views of the disaster (for example, Indigenous communities across the Top End have powerful Dreaming stories about cyclones and floods (Berendt & Berendt 1988]). The disaster may be considered ‘God’s will’ by some faiths. Individuals, however, may find themselves challenging their previously held faith/beliefs.

Cultural and spiritual symbols and rituals can provide an essential dimension to the community recovery process. Rituals and symbols provide something that is familiar and comforting in times of uncertainty and change. Commemorative events and memorials can assist the community to interpret and share their emotions and collectively make sense of the disaster, and can translate their experiences into commemorative events and memorials.

Commemorative services can also be a powerful form of a community’s expression of tolerance and support, particularly in the aftermath of a malevolent disaster, such as mass shootings or terrorism.

Communities identify symbols and rituals (for example, spontaneous floral tributes at or close to the sites of a disaster, and probably beginning in the immediate aftermath). Recovery managers need to consider that these symbols may be identified pre- or post-disaster. If these are recognised, supported and coordinated as part of the recovery process, which is owned by the community, they will provide the focus for cultural and spiritual activities.

Remembrance activities must recognise that all people are affected and have equal rights to participate in planning commemorative events or permanent memorials. Memorialisation has traditionally honoured a society’s dead, so there is a tendency to focus upon the bereaved. Recovery managers should facilitate processes that are sensitive to the wishes of the bereaved, but that are inclusive of all people affected by the disaster (Nicholls 2006; Eyre 2006, Richardson 2010).
These activities assist in the long-term integration of the emergency or disaster into the history of the community. Often these activities can be conducted on anniversaries or other significant community occasions.

Social recovery via a regional arts project

Tropical Cyclone Ului crossed the Queensland coast just north of Mackay in March 2010. It tracked across the coast and was caught in the hinterland at the small township of Eungella. The immediate effects were that up to 50,000 households were without electricity for as many as 12 days. This area was flooded two years previously, so the community was anxious about the events that occurred.

After initial assistance measures, including support from local non-government organisations, the emergence of a group of people who were homeless or at risk of becoming homeless was identified. The medium-term activity included the partnering of two organisations (Red Cross and Lifeline) to case manage this group, to expedite any rebuilding with them and to engage with the community in relation to its experiences of the cyclone.

This engagement occurred primarily through women’s arts and crafts groups and some one-off visits to small townships for lunch at local hotels. The partnership of the two organisations received a regional arts grant, with the support of the local council, to continue an arts project within the community.

This case study illustrates community development that started with the emergence of a small group of people at risk of homelessness and developed into a regional arts project that ran until December 2010. Through development of a multi-agency management group and engagement with the council, the community is better prepared for coming cyclone seasons and support has been offered to a variety of groups and people to continue to assist their recovery.
CHAPTER 17
Recovery in the built environment

As indicated in Chapter 8, the complex character of the built environment is highly regulated and legislated, has a mix of public and private service providers, and has evolved over a long period of time so that it incorporates facilities built to different standards. Ownership of elements in the built environment brings another layer of complexity. Parts of the environment may be owned by multinational companies, individuals, government, community groups and all manner of other entities.

Recovery of the built environment provides opportunities to build to meet the needs of the future environment. Recovery is likely to be staged to recognise the changing needs of an evolving and emerging community landscape. Reinstatement must be done in a way that benefits the community, and with a degree of flexibility that recognises that it happens within a dynamic environment.

Recovery of the built infrastructure is always a support function for community recovery. It supports the recovery of the social, economic and natural environments of the community.

An important distinction in the built environment is the term restoration. The restoration of an essential service does not necessarily mean the recovery of the infrastructure supporting the service. Restoration of an essential service may mean ‘patching’ infrastructure or using temporary solutions. Restoration allows community life, individual life or services to resume, thereby assisting the recovery process.

Through partnership and cooperation, the aim of recovery of the built environment is usually to provide facilities and services to support and benefit the community’s requirements. All recovery activities need to be undertaken in an orderly fashion and in a safe manner.

The environment in which recovery takes place is characterised by:

- relationships between the huge range of stakeholders, which have strong importance
- necessary engagement with the right people at the right time
- all parties working towards the same objectives, which requires careful and constant communication
the priorities of each party to the process, which can often be competing and opposing—particularly where a profit requirement exists for private entities that are operating alongside a government imperative

• cooperation and compromise, which are required because of differing drivers and priorities

• facilitation (rather than direction) of individual agencies and companies undertaking their roles in recovery—this is required for the overall recovery of the built environment.

Recovery also has impacts into the future:

• relationships built during recovery can lead to resilience of the community and its facilities

• experience of an event should guide future planning of land use, emergency management or community development. It is important to evaluate whether community facilities have performed well in the event and to ensure that lessons learned are taken into the future.

**Build back better**

The *build back better* principle underpins recovery in the built environment. *Build back better* encourages consideration of sustainable practices, which means investing in planning, designs, materials and community-led processes that enable reconstructed assets, buildings and homes to be more resilient in the face of disaster.

**Areas for community recovery in the built environment**

Communities articulate many needs through recovery committees, and many of these may need to be supported.

Consideration of recovery of the built environment may involve:

• energy (production and supply)—electricity, gas, fuel

• transport—roads, airports, rail, ports, public transport
• communication systems—telephony (landline, public and mobile), radio networks, media networks (emergency broadcasters, community, commercial), data/SCADA (supervisory control and data acquisition), information technology, internet access, communication infrastructure, messaging about recovery
• utilities—water, sewerage, drainage, waste disposal and recycling (controlled and uncontrolled)
• commercial—retail (supermarkets, stores), banks/automatic teller machines, restaurants/food outlets, fuel outlets, building supplies, chemist shops/pharmacies, food producers (bakeries etc), pubs, mechanical and vehicle repairers
• public facilities (public and private)—hospitals and medical facilities, aged care facilities, childcare, morgues, prisons, schools, police stations, fire stations, ambulance stations, State Emergency Services stations, places of worship (churches, mosques etc), public toilets
• recovery operations—warehousing (building materials, food, donated goods, equipment), security
• accommodation—motels, hotels, housing, caravan parks
• animal welfare—wildlife, veterinary facilities, shelters/kennels, yards, feed, carcass disposal/disposal of animal products (milk, eggs etc), burial pits
• rural—fencing, crops, farm dams, water decontamination, pasture conditioning, irrigation, machinery, sheds and buildings
• government administration—council offices, recovery centres, state government
• recreation—sporting clubs, community group halls (scouts etc), public spaces (parks etc).

Key steps to begin the work that needs to be undertaken include:
• understand what needs to be done to recover
• identify external constraints and internal organisational restraints
• prioritise tasks
• put in place short-term/interim fixes
• identify the resource and material requirements
• strategic planning (including longer-term recovery outcomes).

These steps are outlined in Appendix 17. The implications and interactions are illustrated through the identification of some of the challenges or obstacles, key tasks for service providers or recovery committees, and the critical issue of communication. The iterative process of establishing and re-evaluating priorities through monitoring and review means that these key elements do not flow as a linear sequence. In addition, all issues have a time implication and prior planning and identification of critical path disruptions can make a significant difference (Brunsdon et al 2004).

**Teamwork**

The diversity of elements, ownership and interconnectedness within the built environment requires close and deliberative teamwork. Relationships must be built and nurtured to enable sound decision making where there is overlap between activities or conflict between priorities. This is the case even in the recovery of small communities.

Key aspects to keep in mind to enable this include:

• the common goal—the benefit of the community
• articulated and understood needs of all parties
• articulated and understood expectations of all parties
• articulated and understood strengths and capacities of all parties.

**Synergies**

In developing strategies for the recovery of the built environment, some activities are closely connected and rely on completion of tasks by other agencies or companies. For example:

• the provision of power, water, telecommunications and access are often interconnected
• where deaths have occurred, recovery operations must be tailored to the requirements of recovery workers dealing with (for instance) identification of victims, crime scene investigations, coronial enquiries and collection of evidence
• builders, insurers, regulators (including local governments and the Environment Protection Authority) and recovery workers dealing with environmental hazards and debris clearance must work together to achieve their outcomes.

A declaration of a disaster or emergency can cut through many bureaucratic requirements to accelerate the responses of government agencies. It is important to consider whether or not a declaration has been made. Arrangements for a declaration are in place at state/territory level. For specific requirements, see individual state emergency management plans.

**Aspects of recovery of the built environment**

**Make safe**

Each step in recovery is complex. Unless carefully managed, this complexity can compromise safety and security. Throughout recovery, therefore, it is important to maintain normal safety measures and procedures (for example, electrical isolation procedures, ensuring that only appropriately qualified people perform work).

The term *make safe* implies many different activities and can include:

• classifying structural soundness
• establishing safe areas by removing hazards
• maintaining health, public health and safety standards
• obtaining emergency services clearances to enable access
• isolating electricity and gas etc to ensure that hazards don’t arise
• managing access and egress routes
• receiving suitable sign-off
• requesting domestic and industrial consumers of gas, water and electricity to shut
off their equipment to preserve limited supply. This may be difficult where consumers’ facilities have been extensively damaged, or where the consumers have been evacuated.

**Provide essential services for those who are working on site**

Recovery operations make extra demands on the already impaired infrastructure. Some aspects that must be considered as support for recovery workers include:

- utilities and staging areas for receiving deliveries and assembling components
- accommodation
- power for tools, computers etc
- essential services (water, food, shelter, latrines, sanitation)
- psychological first aid [support] where the environment may lead to exposure to stressful situations
- medical first aid
- fuel for vehicles and fixed plant
- communications.

Energy supplies, such as electricity, gas and liquid fuels, will be restored to the distribution systems in a systematic manner, taking into account pre-determined priorities and agreements. Some households may be self-sufficient and have a reduced reliance on external supplies.

**Clean up**

A significant volume of damaged material must be removed prior to the construction of new facilities. In many cases this operation must be performed to restore amenity to the community.

Clean-up operations include:

- removal of debris and other matter:
  - debris removal—green waste, building waste
• removal of rotting food from shelves and refrigerators in commercial establishments and houses (both attended and unattended)
• removal and disposal of hazardous substances (for example, asbestos-containing material, dust from fluorescent tubes)
• removal of enviro-hazards (for example, oil or chemical spills, copper and arsenic, treated timber, lead, silt, flood debris which may become a future fire risk)
• disposal of carcasses from pets or agricultural animals—this may require special disposal and environmental health officers should be consulted for appropriate areas and requirements
• processing waste—grinding, compacting, recycling
• disposal of medical waste, including pharmaceutical waste—this may require special supervision and disposal at secure sites (consult environmental health officers)
• managing and removing debris that presents a safety hazard to the community and may require special steps to remove (for example, glass in school playgrounds)
• handling, safety and regulation
  • a need to take care with removal, handling and disposal of hazardous substances (for example, lead or asbestos-containing products)
  • calculating the logistics of moving the waste and debris—transport and heavy equipment within built-up areas and high traffic levels at the disposal site may impact communities
  • consulting the Environment Protection Authority (obtain sign-off) for some disposal processes
  • assigning landfill and burial sites—these may have to be new sites and would be subject to permissions and approvals
  • obtaining specialist services/contractors/expertise
• obtaining suitable sign-off at the commencement of the work or on completion of debris removal—the requirements for these may vary for different services, and in different jurisdictions
• disinfecting water-damaged facilities and other areas where there is concern about continuing health and amenity of the facility
• maintaining normal safety measures through all operations
• site-specific issues
• work performed on and around heritage-listed facilities may require special permissions
• working in an environment affected by coronial matters—where there are deaths associated with the event, or crime has been associated with the event, the access to the site may require clearance from police or coronial staff.

Collecting information for damage/needs assessment

Collection of information from the community is required at a number of times during recovery and by many agencies and companies participating in the recovery (see ‘Needs assessment’ in Chapter 12). This information is used to monitor the demands on the services needed in the recovery. However, the community can be inundated by requests for information and become resentful of it.

When managing data, recovery managers should consider that:
• central point for information dissemination and collection can be helpful—this permits everyone involved in the recovery to access and supplement the information
• a centrally held register of people who have been part of the recovery effort and who offer professional advice can facilitate information sharing
• partnerships are required so that data collection is sensitive to the affected community.
Issues that may arise include:

- Subject matter experts are required for some assessments—some of these come from the private sector through volunteer registries or professional associations: the nature, location, extent and timing of the event determines the range of experts required.

- Structural checks may be required for buildings—in residential buildings to determine whether people can live there, or in commercial buildings to determine whether people can work there.

- Earthquake engineering is a particularly specialised area of structural engineering and care should be taken to ensure that assessors have the required expertise.

- It is sometimes not clear whether empty buildings have been assessed, but a national system for marking properties that have been assessed is in place—it indicates whether or not assistance is required, whether there are deaths associated with a property, or whether temporary shelter is needed.

- Data on damage sourced from the media may be distorted—media outlets, however, often have resources such as helicopters that may be used for some qualitative data collection (this requires a suitably qualified person to accompany the media representative).

- Any and all agencies can be involved in data collection, so partnerships and coordination are critical.

Assessments may be categorised into three separate activities:

- Initial assessment (within the first few hours)—assessment activity could be airborne, such as via the use of a helicopter, and provides a general overview of the extent of the damage.

- Rapid impact assessment (within the first 24 hours)—assessment activity could be ground based (for example, divide the affected area into sectors when driving the street and use multidisciplinary teams to ensure efficiency and best resource allocation in mapping needs).
detailed assessment (within the first 72+ hours)—this is needed to develop detailed recovery strategies. Depending on the type of disaster, further impacts or changing circumstances, further assessment may be necessary.

**Complexities of collecting and processing data**

Information collected may be required by a range of agencies, and may include data on:

- power
- water
- gas
- fences
- roads
- rail
- communication networks (exchanges etc)
- hazard footprints, locations
- displaced people
- food supplies and food and merchandise supply chains
- alternative access points
- damaged residential and commercial buildings
- damaged hospitals
- dam walls.

Analysis of the data may also be complicated by the following issues:

- properties that are empty at the time of assessment present problems—is an empty house normally occupied but the occupier is temporarily out? Has the occupant been evacuated or injured so that the building will remain unoccupied for some time? (Has it been assessed? Will it require power?)
- professional advice will be given and this has risks associated with it—arrangements must be made about professional indemnity for these professionals
organisations and individuals often have competing priorities and differing agendas, which may impact on speed and depth of analysis

interpretation of data may be affected by the detail collected—some collectors may provide more rigorous data than others

accessibility—flooding, fallen trees or fire damage may make it difficult to access some facilities: in some cases, permission must be obtained to enter private land to access a facility; in addition, privacy issues and inability to exchange information between agencies can cause delays to planning and permit provision, or even ownership claim

resources required for processing data may be considerable—resource-sharing between recovery agencies or organisations may help

data are collected in a range of forms and formats—media (paper, electronic), database set-ups and even interpretation of key phrases may vary from one dataset to another.

Reconstruction

Reconstruction activities carry complications beyond regular building and development activities. Impacted communities, regulations and systems in flux, and relationships between organisations all have a bearing on how the reconstruction takes place. Planning for and implementation and monitoring of reconstruction are affected by the environment in which they take place. Some of the key issues that may arise in each phase are considered below.

Planning for reconstruction

In spite of the urgency of reconstruction, it is vital that proper planning takes place.

In relation to the community, planning involves:

- community consultation, which is crucial in ensuring that a ‘place’ is built back that people will want to be in and live in—the area needs to be capable of nurturing a community after the event and subsequent reconstruction
- prioritised and staged reconstruction, which may mean that temporary fixes are
provided first, and more detailed solutions prepared and developed over a longer period—this may apply to accommodation, medical, schools, pump stations, sanitation and other facilities

- the range of private and public agencies that are involved in the ownership and operation of many community facilities—partnerships are required for effective recovery

- consideration of location—in some cases, the place where the community is situated may have contributed to the scale of the event—an important planning issue is whether or not to rebuild in the same place.

In relation to **assessment**:

- knee-jerk reactions to the damage (and therefore approaches to the assessment) can be more severe in the first instance than at a later time—this can mean that early planning for rebuilding is difficult or awkward

- insurance assessors from different companies can make completely different assessments, which may lead to community unrest—this can be mitigated if assessors meet with recovery staff before assessments are done, and regularly during the assessment phase, to ensure that uniform standards are applied

- damage to facilities is often hidden, and sometimes inexperienced assessors can miss it.

In relation to the **environment**, planning involves:

- the need for carefully discussed plans for redevelopment to address exposure to future environmental risks (especially after storm surge events, floods and bushfires)

- consideration of the environmental impacts of new infrastructure, which might create new risks and vulnerabilities—planning may also need to provide for underground power supplies, erosion control, or environmental, heritage and Aboriginal and Torres Strait Islander site assessment.

In relation to **regulations and frameworks**:

- temporarily lax planning regimes may allow buildings and structures to be built that reinstate pre-disaster vulnerabilities/threats—in addition, house repairs
might not have to meet new building codes, whereas rebuilding is usually to the new standard.

- decisions need to be made regarding the tenet of ‘build back; build back better; and build back better plus’—this will inevitably involve input from insurance providers.
- underinsurance and low damage write-offs may place a significant burden on building owners—post-disaster inflation means that insurance companies can write-off a building with little damage: under these circumstances the onus is on the owner to arrange and supervise any repairs.

**Specific issues regarding reconstruction of buildings**

Appropriate standards for reconstruction may not always be clear. Buildings must conform to the current building regulations at the time of their construction. Over time, these regulations may change. This can cause difficulties for owners, insurers and financiers. In addition, supervising the reconstruction may bring other problems.

In relation to approvals and planning:

- many people may not be aware of the need to apply for building approval for major repairs and may try to start major repairs without approval—in the confusion of clean up and general construction activity, their work may go unnoticed.
- although temporary repairs to give some amenity are accepted in the early stages of recovery, some temporary repairs may become incorporated into the final structure without approval.

In relation to staffing:

- the staff required to approve and inspect building and construction will be swamped with work—there will certainly be a need to boost staff levels during the recovery phase.
- volunteers may be required to show that they are appropriately qualified.
- volunteers in the building industry, who, for instance, have travelled to another state or geographic area to be part of the reconstruction, may assist with reconstruction while not being familiar with the requirements for the particular.
area—some training or explanation may be required to ensure that all building industry personnel have the appropriate understanding of the requirements of reconstruction relating to the specific location.

Other considerations include:

- Insurance companies may insist that the reconstruction only replaces what was damaged with similar construction—in many cases this construction is known not to work and, clearly, better reconstruction is called for to avoid future claims. Discussions with all the companies involved can help achieve an understanding that some improvement in structural performance is called for in all damage, and local building regulations/codes may override what insurance companies require.
- In some places, salvaged material presents issues because it can be readily obtained and used for makeshift shelters that may become inappropriately permanent.
- Partially damaged buildings that have been written-off, are privately owned and are uninhabited can cause problems at a later stage—these buildings will deteriorate in time and can present a significant problem to community safety in future events.
- Consequential water damage to a partially damaged structure (after assessors have made their final assessment) may increase the extent of the work to be accomplished and lead to a mismatch between needs and budgeted work.

**Reconstruction of heritage buildings**

Where buildings are heritage listed there are constraints on demolition or reconstruction works. Matters can be complicated where heritage lists are changed in the aftermath of events. In some cases the community will recognise that particular buildings have heritage value only after they are threatened. There may be community pressure to update the heritage list. Recovery operations may also have to engage the community in addressing heritage listing. The definition of a heritage building needs to be carefully considered and any additions to the list made in a systematic manner.

A strategy is required to fund the repair and redevelopment of heritage buildings. If the community restrains a building owner’s options for recovery, then the community should
be prepared to contribute to the extra costs incurred in the redevelopment in order to keep the original character of the building intact.

**Implementation of reconstruction**

Undertaking the reconstruction can prove complicated in the post-emergency environment. An array of issues may arise after careful and detailed planning has been done—many of them unforeseen at the time of planning and related to the evolving environment in which a disaster-affected community finds itself. Recovery managers need to be flexible and responsive to the evolving needs of the community.

**Community members**

The demography of the community may complicate normal processes of construction work. Considerations for recovery managers may include age groups in the affected populations, languages, and cultural issues including value systems and priorities attached to recovery activities.

Ideally, the use of local contractors should be considered where at all possible. This injects work opportunities back into the community and makes use of the local experience and knowledge.

Educating the community members in what they should expect to see in resilient construction can build confidence in the completed works even if good supervision is not available.

Where possible, the community should be involved in setting recovery priorities.

**Delays in construction**

Commencement of reconstruction can be delayed by:

- the nature of the event and the damage (for example, earthquake repairs should not be commenced until all aftershock activity has ceased—often more than six months after the original earthquake)
- the availability of building resources (for example, shortages in materials [such as scaffolding] and labour [trades with appropriate qualifications and experience in the work]).
Budgetary constraints can further delay reconstruction. There is often post-disaster inflation due to pressures of work, cost of deployment or other factors and this may limit the affordability of reconstruction.

**Processes**

In reconstruction, normal processes of tendering, awarding work and contracting should be followed. Appropriate and accountable processes should be used.

It is important that the skills required in recovery are identified and continually reassessed so that capabilities within the existing (and imported) workforce match requirements. Education and training must be used to address any mismatch between the skills required and those available.

**Monitor and review**

The needs of a recovering community change all the time. Monitoring is necessary to ensure that the recovery effort is still addressing their needs.

The changing nature of recovery means that:

- staged reinstatement may be needed to deliver some quick but temporary outcomes that address the immediate needs (with later work required to address longer-term needs)
- plans may need to change to meet the changing needs
- at all stages, time should be set aside to reflect on the decisions that have been made and to make sure that they provide the best solutions—in some cases, rushed decisions are not necessarily the best ones
- communication (both by listening and talking) is important with all stakeholders—this includes the recovery committee, one’s own organisation and organisations with which partnerships have been forged to accomplish recovery activities.

Appendix 7 offers a checklist for recovery managers working in the built environment.
Disaster recovery processes are often a time of strong reflection when new choices and learning can occur. The sensations of disorientation and disequilibrium following a disaster can enhance individual and community abilities to address change and adopt new learnings.

Recovery processes can support disaster-affected people to come to terms with their different life circumstances and move forward into a new, changed reality, which may in time provide new socioeconomic opportunities (in keeping with the build back better model). Appendix 8 offers a checklist for the development of an economic and financial recovery plan for an affected community.

**Opportunities in economic recovery—adaptive change**

Economic recovery programs that assist affected communities to explore alternative and more viable economic opportunities can greatly assist in building future sustainability. The recovery process is an evolving one in which community circumstances and economic needs change over time. Planning around economic recovery needs to respond to these needs.

Understanding the economic wellbeing of the affected community before the disaster event will support the planning of appropriate economic recovery interventions. For example, in strong economically sustainable communities, recovery support may be minimal; for declining communities recovery support may mean examining various options to establish alternative economic models.

Economic recovery should commence immediately. Recovery managers need to advocate for a greater understanding by all stakeholders that events that have resulted in significant impact upon the local economy present new opportunities that require longer-term recovery support.

Decisions regarding the economic environment made in the short and medium term impact on the longer-term economic recovery. Giving priority to local resources wherever possible should begin early. Early messaging around strategies to counter the impact of donated goods may prevent waste and a secondary impact on local businesses (cash and vouchers for local business support should be given preference over donated goods).
Short-term payments of grants and cash programming enable localised economic stimulation, while longer-term economic recovery needs to be driven through community planning to develop strategic and sustainable solutions.

Chapter 9 describes direct, indirect and intangible economic impacts.

**The importance of livelihoods**

Residents and households, along with business enterprises (supported by public infrastructure, community facilities, the natural environment and government), are all dependent on their livelihoods.

In Australia, as well as internationally, all possible steps are normally taken to alleviate the human suffering that arises from an emergency event. Fundamental to the dignity of individuals is the right to earn an income through employment or operation of a business to assist them to recover from crises; that is, support for their livelihoods (SEEP Network 2009, p 7). (This right is articulated in many international conventions and documents, including the Universal Declaration of Human Rights (1948), the Declaration of Philadelphia by the International Labour Organization (1944), the United Nations Charter (1945), the International Covenant on Economic, Social and Cultural Rights (1966) and, most recently, in the preamble to the United Nations Millennium Development Goals (2005).)

Being able to work in paid employment or to run a business profitably empowers affected individuals and motivates communities to regain charge of their lives by meeting their own needs as they best see fit. Increasingly, recovery managers are recognising the need for rapid, tailored support for the livelihoods, enterprises and economies affected in the wake of a crisis. This is often done in parallel with emergency efforts to meet basic human needs for shelter, water, food and health services. In the past, economic recovery assistance has been viewed as a later-stage activity. However, disasters such as the Indian Ocean tsunami have illustrated that an economy continues to function during a crisis, albeit at a reduced or shrinking rate of growth. Affected populations require sources of income—at a minimum to survive, and at best to thrive once again.
Guidelines for economic recovery

The following guidelines for economic recovery and the supporting strategies provide a framework for planners, managers and workers to assist the recovery of affected communities.

Economic recovery from emergencies and disaster is most effective when the national principles for disaster recovery (outlined in Chapter 3) are considered in conjunction with the following guidelines:

- Economic recovery strategies are an integral part of the overall recovery management process.
- Coordination of all recovery programs is needed to support and enhance the economic structure.
- It is important to recognise that affected people need to re-establish their means of making a living to enable them to manage their own recovery.
- Response and recovery actions actively support the recovery of business and industry.
- The best outcomes are achieved when business and industry is returned to activity as early as possible.
- Adaptive change is adopted in light of previous knowledge of the sustainability of business and communities, and strategies.
- Business and/or industry representatives must participate in economic recovery decision making.
- It is important to retain skilled workers in the affected area through paid employment.
- It is important that measures are taken to mitigate the impacts of future disaster on business continuity.

An example of a post-disaster economic strategy that a community might adopt is:
To support the affected community to come to terms with its different life circumstances and move forward into a new, changed economic reality, which may in time provide new socioeconomic opportunities (in keeping with the build back better model).

The following examples provide suggestions for economic recovery following a disaster.

Management strategies

Examples of specific management initiatives are to:

- formulate short-term business survival strategies
- identify all aspects of the economic impact of a disaster and continue to assess, analyse and monitor to inform the level of support required by community
- plan (from the beginning) for the transition back to mainstream service provision
- establish and maintain communication channels between community, business, industry and government representatives in the community
- proactively seek and involve investment and technical assistance parties from within and outside affected communities
- facilitate a reference group (or subcommittee of the recovery committee, or working group), where appropriate, that is representative of business, industry and employee groups—these may be specific to the recovery process, but ideally they would tap into previously existing business/industry structures in the community/region
- ensure communication strategies incorporate information around economic recovery support to the broader community
- support and facilitate the development and maintenance of partnership arrangements to enhance economic activities
- establish positive images to attract visitors when appropriate
- report information on the effectiveness of the economic recovery program to all stakeholders
• develop risk management assessments for the economic recovery program
• avoid duplication of services and identify gaps
• maintain confidentiality and privacy principles
• ensure monitoring, evaluation and reporting processes are embedded in all economic recovery activities.

**Service delivery strategies**

Examples of specific service delivery are to:

• develop a comprehensive list, including contact details, for all available and accessible financial and economic services for disaster-affected people (for example, government agencies, banks, insurance companies)
• ensure the broader recovery workers know the range of services available and appropriate referral processes
• facilitate the provision of financial assistance measures in a timely, fair, equitable and flexible manner
• provide material aid where it is appropriate (for example, to isolated properties or remote Indigenous communities)
• facilitate the provision of financial counselling and management services
• ensure economic and financial services and/or information are coordinated and provided by a variety of means and use the existing communication networks within communities
• provide community awareness on how to source information regarding the validity of goods and services being offered by businesses seeking opportunities within the disaster-affected localities.

**Enabling initiatives**

Examples of other initiatives are to:

• encourage response agencies to implement procedures to support economic
recovery (for example, local employment program for clean up)

- support and promote opportunities for sustainable economic recovery
- actively work/negotiate with financial institutions on behalf of affected people and businesses
- advocate for the return of evacuees into the affected area as soon as possible when the environment is safe
- procure goods and services via local businesses and tradespeople wherever practical (for example, use local electricians for power safety checks and repairs, encourage agencies to employ local residents and to purchase resources and services locally)
- value and build on the local capacities of services that support economic activities (for example, childcare services and non-profit groups)
- build on local/regional/state/territory industry and business organisations and their networks (for example, home business network, tourism boards, chambers of commerce)
- encourage the community to buy locally through known and trusted businesses
- facilitate the creation of work placement projects (for example, clean-up activities) to provide short-term paid employment to retain skilled workers in their current location while they await their former place of employment to recover and re-open
- facilitate the provision of government grants, appeal distribution and charitable payments as financial, rather than material, assistance in support of economic and local business recovery.
Severe Tropical Cyclone Larry—economic impacts

Severe Tropical Cyclone Larry crossed the coastline of Far North Queensland on 20 March 2006 causing widespread damage to an area of more than 17,000 square kilometres. A great deal of preparation and public notification took place prior to the impact, enabling the minimisation of damage and the recording of an extraordinarily low injury toll and no deaths attributed to the cyclone. The damage to property was considerable and the impact was strongly felt upon the economy of the region and the lives of its people.

‘Employment, a social and community well-being issue, also became a significant economic question in supporting the economic viability of the region’. Businesses and individuals had access to what was then called Natural Disaster Relief Arrangements including concessional loans. This was accompanied by a variety of employment support programs, designed firstly to enable employers to pay a viable wage to their work force and secondly, under special employment programs to afford meaningful cyclone recovery related work to the unemployed, notably, those who might have expected seasonal employment if the cyclone had not intervened.

These employment programs met a dual need—to provide jobs in the region and to provide a workforce for reconstruction. A year on, employment in the region has been sustained despite the impact of the cyclone on the economy and is now once again solid.

The impact on primary producers—banana plantations, sugar cane, dairy, timber, tree crops, aquaculture and tourism industries were all severely adversely affected by Cyclone Larry. A year later the economy is back on a viable and self-sustaining footing, with some sectors such as retail and rental enjoying a boost to their business. However full recovery still lies in the future for many businesses and some long-term casualties remain such as producers of tree crops, where their trees have been destroyed and new trees will take a number of years to produce cash crops (Operation Recovery Taskforce 2007, pp 6, 15, 16).
Financial services

The purpose of financial assistance measures is to support those in need, while encouraging appropriate personal responsibility. Resilience and preparedness (such as appropriate and adequate levels of insurance) are encouraged.

The recovery of communities from the effects of emergencies and disasters is assisted by a range of financial measures, which provide a source of funds to businesses, local and state/territory governments, householders and the community to assist with and promote recovery. These sources include insurance and may also include government-provided natural disaster relief and public appeals (depending on the severity of the event). Assistance may also be provided by banks (for example, the suspension of mortgage/loan repayments and provision of financial counselling and advice), and the Australian Taxation Office has developed a Disaster Response Framework.

Communities should be encouraged to explore their own resources, and to plan and be prepared for an emergency event. Changing community expectations and the political landscape have historically impacted on the provision of financial services.

Overseas studies have found that:

*the higher the socioeconomic level, the more likely households and businesses are to recover to pre-disaster levels. Similarly, those who are better integrated into economic and social networks will recover faster. Conversely, those with fewer resources get less attention from aid organisations and get it later in time (Olshansky 2005, p 14).*

The need for financial assistance measures such as insurance, Commonwealth and state/territory government assistance and appeals are critical after disaster because of the effect on people’s employment and income stream—more commonly referred to in the international humanitarian assistance literature as livelihoods.

Livelihoods

A livelihood comprises the capabilities, assets (material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base |Chambers
disaster affected populations have overwhelmingly identified livelihoods as their greatest recovery priority. An evaluation of the Disasters Emergency Committee involvement in the 2001 Gujarat recovery effort [in India] noted that, ‘People constantly emphasised the need to restore livelihoods rather than receive relief and expressed some frustration that outsiders did not listen to them on this point’ … Similar findings in Indonesia … Nicaragua … Iran … and Haiti … affirm at a global scale the importance people give to restoring their capacity to earn a living (UNDP, ISDR & IRP 2010, p 10).

The effects of disasters often mean that people cannot readily return to earning an income through self-employment, casual or permanent employment, small business, agriculture production and so on. In some case the loss of livelihoods may be sustained for a long time. The prevailing economic conditions at the time, people’s skills transferability and their stage in their careers may also be barriers to easily finding other ways of earning a living.

The usual safety nets [such as income support through Centrelink] can assist eligible clients, and in response to some disasters, governments have provided income support for small businesses, self-employed people and primary producers. Other forms of financial support (such as gifts through appeal funds) can also assist.

Depending on the level of government support available, grants may be available (for example, through Rural Finance and small business departments). Financial counselling, business planning, whole farm planning, and incentives for adaptive farming and business practices are increasingly available within recovery processes.

Disaster recovery processes are often a time of strong reflection when new choices and learning can occur.

Livelihoods programs that support long-term sustainability can provide facilitated processes for people to review their livelihoods and assess their future directions. For example, following the foot and mouth disease outbreak in the United Kingdom in 2000, many dairy farmers were paid compensation for dairy herds that were destroyed, and they were unable to recommence farming for more than a year. After they had restocked and commenced dairying again, several farmers said that if they had been provided with financial planning, market advice and support to review their choices, it would have been
a good time for them to leave farming and make new life choices.

Livelihoods programs that assist affected people and groups to explore alternative opportunities through learning new skills, developing new markets and/or value adding to their products can greatly assist in building the sustainability of livelihoods.

Financial assistance—insurance

Insurance is the primary means of gaining financial compensation for the cost of restoration. The major types of insurance cover are for home and contents, income protection, and property and business interruption.

Home and contents policies usually provide replacement and reinstatement insurance, which covers the cost of repair and replacement of damaged property and contents. The less common indemnity policies take account of the age and condition of the items insured. If buildings and/or contents are underinsured, the settlement amount from the insurer is less than the cost of replacement. There is also a need to be aware of the policy exclusions (that is, the risks not covered).

Commercial insurance is designed to cover many of the risks, including damage or loss caused by disasters, which are faced by business, including coverage for buildings, vehicles, equipment, stock, plant, and fixtures and fittings, as well as business interruption. Adequacy of insurance cover should be reviewed regularly.

Insurance Council of Australia

The Insurance Council of Australia assists affected people to navigate and negotiate the insurance process. A central goal is to build and maintain a high-level coordination capability to be employed following a disaster. The strategic intent of this objective is, first, to increase the effectiveness of individual efforts for insuring disaster victims and, second, to improve and simplify liaison with state and federal government emergency response systems.

The Insurance Council of Australia has produced the Industry Catastrophe Coordination Plan to guide the implementation of effective coordination and communication measures following a significant disaster.
Financial assistance—Commonwealth and state/territory government assistance

Although the states and territories have primary responsibility for emergency management, the Australian Government recognises it has a role in supporting the states and territories to respond to disasters and in some circumstances may provide financial assistance to aid recovery efforts. The primary mechanism for providing this support for natural disasters is through the Natural Disaster Relief and Recovery Arrangements, a cost-sharing mechanism between the states/territories and the Australian Government. The reimbursement rate on eligible disaster events is 50% to 75%, subject to certain expenditure thresholds for states and territories. Under some cost-sharing arrangements, local governments may be able to attribute some of their costs back to the state/territory.

The Australian Government may activate other payments to assist individuals following a major disaster. When activated, claims for Australian Government payments are lodged with Centrelink.

Other references/resources:
State, territory and Commonwealth government websites provide further information about financial assistance. In particular, the Australian Government’s Disaster Assist website (www.disasterassist.gov.au) provides information on assistance for current and previous disasters, and includes web links to other organisations that can provide assistance.

Natural Disaster Relief and Recovery Arrangements

The main objectives of the Natural Disaster Relief and Recovery Arrangements (NDRRA) are to relieve the financial burden on states and territories of natural disaster relief and recovery efforts and to facilitate the early provision of a comprehensive range of relief.
and recovery measures to disaster-affected communities.

The NDRRA Determination sets the terms and conditions for the provision of assistance, which is provided by means of a partial reimbursement of state or territory expenditure on eligible relief and recovery measures.

The Determination does not mandate the measures a state or territory can provide in response to a disaster—it merely prescribes which measures are eligible for partial reimbursement. Implementation of measures, means tests limits and the dollar value of assistance are determined by the states and territories within NDRRA parameters. Details on relief and recovery assistance available following a particular disaster can be obtained by contacting the relevant state or territory agency.

Other references/resources:
Further information is available on the Natural Disaster Relief and Recovery Arrangements page of the Emergency Management in Australia website (www.ema.gov.au).

Eligible disaster relief and recovery measures

State or territory disaster relief and recovery measures that may be eligible for NDRRA funding include:

- personal hardship and distress assistance
- restoration or replacement of essential public assets
- concessional loans, subsidies or grants to primary producers
- concessional loans, subsidies or grants to small businesses
- concessional loans/grants to needy individuals and voluntary non-profit organisations
- personal and financial counselling
- community recovery funds (to assist severely impacted communities to restore social networks, functioning and community facilities, with expenditure aimed at community recovery, development and capacity building for the future).
Other measures may include exceptional costs associated with severe disasters. It should be noted that not all relief and recovery measures are activated with respect to each disaster.

**Grants**

In more significant disaster events, states and territories often provide a range of personal hardship and distress assistance. This is immediate financial or in-kind assistance for people who do not have, or cannot access, their own financial resources to meet immediate needs for food, clothing and shelter. Additional grants may be available for essential contents and structural repairs to homes for low-income people who meet certain eligibility criteria.

Other bodies that are responsible for administering various types of financial assistance include Centrelink and Rural Finance.

**The Australian Taxation Office**

The Australian Taxation Office supports taxpayers, businesses and tax agents through its disaster response framework. Mechanisms include appropriate and timely arrangements to relax tax obligations and provide tailored assistance to people when they are ready to attend to their tax matters. During the Victorian Bushfires, for example, some key responses included:

- allowing lodgement deferrals of activity statements or income tax returns without penalty
- allowing additional time to pay tax debts without incurring general interest charges
- initially stopping correspondence to affected areas
- fast-tracking refunds
- providing dedicated liaison to provide authoritative advice in compressed timeframes to the main charitable entity, the Victorian Bushfire Appeal Fund.

**Financial assistance—public appeal funds**

The Australian community has, historically, come to the aid of people affected by disasters through monetary donations to public appeal funds. Although this generosity
cannot be assured in the future, and should not be part of a contingency plan, local authorities, non-government organisations or the media may initiate public appeals in a coordinated manner. State and territories often have in place arrangements for the collection and distribution of appeal funds, which may be undertaken with philanthropic/charitable partners. Informal financial assistance may also emanate from such groups.

Similarly, community appeal funds can evolve (such as a mayoral fund appeal or funds coordinated by religious, regional, philanthropic or humanitarian agencies for large-scale emergencies). A number of appeals often run concurrently, and experience shows that there is a need for procedures for handling public appeal funds.

If communities wish to provide assistance, they should be strongly encouraged to express their sympathy and empathy for disaster victims through monetary donations. It is more empowering for people to receive cash grants so that they can choose what they most need to support their own recovery, which can also assist in stimulating the local economy. The key message is that cash is always preferred because it can be targeted to meet immediate needs.

Other references/resources:
_Economic and financial aspects of disaster recovery_ (EMA 2002a) provides detailed information on the establishment, management and administration of public appeals, and also lists the likely losses to which public appeal funds may be applied and the information to be included in an appeal application.

### Donated goods and services and material aid

Material aid is the provision of essential goods that have been destroyed or made inaccessible by an emergency event. Material aid typically includes sanitary items and toiletries, bedding, clothing, furniture, personal items and other necessary items. They may be requested or they may be unsolicited donations or supplies.

It is essential to ensure that agencies and organisations involved in the management, coordination and service delivery of material assistance undertake this community-based service in a planned, coordinated and adaptive framework.
One concern about the donation of goods and services is the quality and usefulness—
together with the cost attached to receiving, sorting, distributing and storing them and, in
the case of loaned goods, the cost of making good or returning them to the owners.
Recovery managers should be mindful that donated goods may reduce the capacity of
people affected by disasters to manage their own recovery, and may reinforce
dependency and undermine self-esteem, dignity and resilience (State Government of
NSW 2010, p 30).

Material aid may have a direct impact on the local economy (through the loss of income
for local businesses). A key lesson learned in disaster is the imperative to have pre-
positioned messaging and a philosophy about donations. Governments and recovery
managers must have a clear philosophical understanding of the need to limit and target
particular goods (Cole forthcoming).

Australian guidelines relating to donated goods recommend the following principles
(Cole forthcoming):

- The needs of disaster affected people and communities must always be the first
  consideration
- Where the need for public assistance is identified, donation of money should
  always be the preferred option
- A clear and transparent communication process should be used to inform workers
  (government and non government), the community and the media about how best
  to assist the people and communities affected by disaster
- Donation of material goods must be managed through an equitable, efficient and
  coordinated system
- A review which is inclusive of recipients’ views of the donated goods program,
  should occur after every disaster
- Policy about donated goods should be encapsulated in national, state/territory and
  regional/local policy and planning.
Black Saturday and pallets of toothbrushes

Immediately after the 2009 Black Saturday bushfires in Victoria, 25,000 pallets of material aid were donated and delivered to metropolitan Melbourne. Semi-trailers and individuals arrived in the fire-affected areas, having driven from interstate, and on arrival looked for food and accommodation—and warehousing and materials handling equipment to offload the goods. The donated goods were not sorted or categorised.

The role of the media in relation to material aid cannot be underestimated, but they can provide a conduit for misinformation or ill-informed requests for goods. A caller to a radio station stated that no toothbrushes were available. Later that day 25 pallets of toothbrushes—or approximately 100,000 pieces—were donated. It took 18 months to distribute them even though these items were required immediately after the event.

Public-private partnerships

Public-private partnerships can capture the goodwill that exists in the private sector and its willingness to be part of the recovery process. They do not include the normal procurement that enables services to be provided and they do not necessarily involve exchange of money. An example is the provision of goods or services following a disaster by a private enterprise to a relief agency that is covered by a memorandum of understanding.

These partnerships can increase capability to respond in a timely manner, and can provide a mechanism to assist the smooth provision of services.

Partnerships in the recovery environment can provide:

- corporate in-kind support
- information to the community
- information to the disaster recovery committee on damage assessments, community needs and the effectiveness of recovery actions
- human resources
• construction contracts (for example, supply of heavy lift or specialist equipment, loan of equipment and staff to assist in the immediate response, deployment of engineers to undertake damage assessments, deployment of reconstruction and building trades professionals)
• supply (for example, the provision of catering)
• maintenance
• accommodation
• grants/appeals management
• supply of credit (to other businesses to allow them to resume operating, or to customers)
• health and community service professionals
• fuel supply and distribution.

In preparing and planning, it is useful to consider the public-private partnerships that can be established prior to an event to assist with contingency planning. Traditionally, corporate support has been a spontaneous response to an emergency event, and needs to be negotiated after an event, taking into account the needs of a community.

For partnerships that can be established as part of preparedness and planning, consideration should be given to:

• identifying goods and services that can be procured through this means
• establishing and identifying accredited/licensed/certified suppliers, and seeking indicative costs to avoid cost inflation/profiteering post impact (for example, to provide food and supplies to individuals at recovery centres)
• including local suppliers in recovery efforts where possible—issues to consider include the potentially impeded capacity of local suppliers to deliver due to the disaster
• establishing links between non-regional and local suppliers to retain local employment
• establishing links between non-regional and local suppliers that are able to
continue or re-commence trading, to keep money in the community

- documenting partnerships between suppliers—use of non-regional suppliers needs to be handled with some sensitivity for local suppliers.
CHAPTER 19
Recovery in the natural environment

The impact of a disaster on the natural environment can have a profound impact on community recovery, including economic functioning. Recovery management is increasingly expected to take account of sustainability concerns in policy and activities. These involve more emphasis on issues such as biodiversity protection, sustainable use of land and water resources, greenhouse gas emissions (including land use aspects) and pollution (Dovers 2004). Chapter 10 outlines some potential impacts of disasters on the natural environment, within a framework of the components of air, water, land and soil, and plants and animals. This chapter presents some key questions for determining the activities and interventions that may be necessary to enable recovery of the natural environment, along with examples of recovery activities.

Post-incident environmental assessment procedures exist. They are well developed for bushfire/wildfire incidents in the United States, where they are known as BAER—Burned Area Emergency Rehabilitation. This approach has been used following bushfires in Victoria in 2003, 2006/07 and 2009 and is being piloted in the Australian Capital Territory and New South Wales. Some of the principles and procedures could apply in recovery of the natural environment for a range of disasters or emergencies.

The BAER approach uses pre-planned teams of appropriate staff to make assessments, and to develop and implement recovery plans post-incidents. In some cases team members are part of the incident management team or emergency coordination centre as environmental advisors/planners. These teams commence their work before the incident has finished, which is an important point to consider when taking action—recovery planning for the natural environment starts before the disaster event has finished (that is, during the response phase).

When recovering the environment, the focus and principles need to be on ecosystem resilience and maintenance of ecosystem processes. If the incident is particularly damaging (for example, acid sulphate soils or flooding), species-level recovery is likely to be costly and often impractical, and a triage approach may be needed. Landscapes that are fragmented and disturbed (prior to the incident) may need special attention and approaches post-disaster because the potential losses (and gains) are great.

A disaster may or may not necessarily have negative consequences for an ecosystem and
the likely threats to the system need to be evaluated. Impacts that are part of the environment (in that they fulfil an ecological role) may be beneficial to certain ecosystems. Further, as environments have many species that have varying niche requirements, impacts may be beneficial for some plants and animals, while only negatively impacting on a few. Not only are species affected differently, but the severity of the impact on a species population may depend on the life stage (for example, whether the population is reproductively mature or not) or age of the population. It is important to work with ecologists, biologists, scientists and other professionals in the field of the natural environment in the recovery phase. They can provide the specific detail of impacts on the natural environment and provide advice. Agencies representing these disciplines need to be part of the local recovery committee structure.

Some attention is needed for competing outcomes of other recovery (social, built and economic) activities. Often there is a high level of activity post-disaster to restore infrastructure services, and ‘normal’ environmental considerations may be bypassed (for example, seeking vegetation clearance approvals). Although quick action is essential, good environmental practices, if built into the process beforehand, can still be applied.

Community-led priority setting, based on pre-incident priorities, assists in decision making, along with risk management frameworks (Standards Australia 2006). It is also critical to compare pre-disaster conditions with environmental aspirations (objectives). Where possible, safeguards and strategies to avoid the same issues from occurring again should be built into the recovery phase, and post-disaster preventative/sustainability planning commenced.

The natural environment has historical and spiritual meaning for Indigenous people and communities, and, as such, the protection and preservation of the natural environment is of paramount importance. In the management of recovery from emergency or disaster, it is important for agencies and communities to respect and recognise the unique meaning that place has for many Indigenous communities and to seek their advice about the most respectful way to treat the impacts of disasters.

**Risk management**

Risk management provides a structured, systematic approach to decision making. The
Australian Standard for risk management is Risk management—principles and guidelines (Standards Australia 2009). The handbooks Emergency risk management applications guide (EMA 2000) and Environmental risk management—principles and process (Standards Australia 2006) have been published in support of these processes. Both handbooks are written for planners working to manage the risk prior to a disaster. The processes, principles and considerations in these handbooks can equally be used in managing the risk of the impacts of disaster.

Special features of environmental risk management

Environmental risk management is complex because of the complexity of the natural environment.

The large number of ecosystems and organisms, the way they interact with one another and their surroundings, create a high degree of complexity and introduce significant uncertainty ... Decisions often involve long time spans and assumptions about projected impacts, such as effects on future generations. Because of the difficulty in making accurate projections in these circumstances, decisions must often be made when there is still significant scientific uncertainty about potential outcomes (Standards Australia 2006, p 6).

Principles of ecologically sustainable development

Ecologically sustainable development (ESD) is “development which aims to meet the needs of ... today, while conserving our ecosystems for the benefit of future generations” (Ecologically Sustainable Development Steering Committee 1992).

The National strategy for ecologically sustainable development includes three core objectives and seven guiding principles.

The Goal is:

Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.

The Core Objectives are:
to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations

• to provide for equity within and between generations

• to protect biological diversity and maintain essential ecological processes and life-support systems.

The Guiding Principles are:

• decision making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations

• where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation

• the global dimension of environmental impacts of actions and policies should be recognised and considered

• the need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised

• the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised

• cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms

• decisions and actions should provide for broad community involvement on issues which affect them.

These guiding principles and core objectives need to be considered as a package. No objective or principle should predominate over the others. A balanced approach is required that takes into account all these objectives and principles to pursue the goal of ESD (Ecologically Sustainable Development Steering Committee 1992).
Ecologically sustainable development and marine pests

In the case of marine pest incursions, pests often become established before they are detected, and in most cases are unable to be eradicated. There is normally no concept of recovery. In certain circumstances, pests may be detected early enough, or may be confined within a restricted area, which enables eradication to be attempted. When implementing interventions for marine pest incursions, public benefits should be maximised and intervention not applied unless there is a clear case [or likelihood] that benefits exceed costs.

An example of a marine pest in Australia is the incursion of black striped mussels into the Port of Darwin. Some interventions (for example, the use of poison or biocide to kill the mussels) will result in collateral environmental damage for which there may be a recovery process. Long-term effects of serious marine pests (which are usually prolific ecosystem engineers) are normally an irreversible change in the ecosystem community structure and lead to the formation of a new order of biological assemblage [pers. comm., John Barker, Marine Policy Officer, Department of Sustainability and Environment Victoria, 8 March 2011].

Guiding questions and principles of natural environment recovery

The natural environment is a complex area where ill-considered treatments may cause further damage. The consequences of acting or not acting need to be considered. After a disaster, there may be action that is unavoidable in order to make repairs to infrastructure (for example, releasing sewage into the sea at Christchurch after the earthquake in 2011). Prior to implementation of any recovery treatments, a recovery plan that considers environmental risk management [Standards Australia 2006] needs to be prepared.

When working to provide programs and activities to recover the natural environment, some key questions can inform a course of action. Figure 19.1 illustrates these questions and is followed by a detailed explanation of the processes.
Figure 19.1: Key questions to assist with determination of recovery actions for the natural environment
Establish the context—key questions

The key questions in Figure 19.1 can be considered in the context of environmental risk management. Any recovery activity needs to be preceded by a risk assessment (to identify, analyse and evaluate risks), which considers its impact on each of the natural environment’s intrinsically interconnected components. Considerations may also be framed in terms of ecological services as mentioned in Chapter 10.

**Question:** what has happened to the natural environment as a result of the disaster/emergency/incident?

• **Action:** initially the action is to investigate, monitor and evaluate the impacts. The natural environment is a highly complex system. Some aspects of the environment might continue to function well, but others may be devastated. Consideration should also be given to how the environment reacts over time. For example, air quality immediately after a bushfire may be bad, but soon recovers, but river water quality and biodiversity may be severely impacted for many weeks or longer.

**Question:** can the natural environment adequately recover on its own in an acceptable timeframe?

• If the answer to this question is ‘yes’, the natural environment will adequately recover on its own in an acceptable timeframe, and no specific recovery activity needs to be undertaken (a valid treatment option).
  
  **Action:** continue to investigate, monitor the impacts (immediate and future) and evaluate the ability of the natural environment to cope.

• If the answer is ‘no’, the natural environment cannot adequately recover on its own.
  
  **Action:** identify, analyse and evaluate the risks to the natural environment. (See ‘Identify risks’, ‘Analyse risks’ and ‘Evaluate risks’ below.) In order to do this, criteria for evaluating the risk need to be established.

Other questions that might assist in answering the question include:

• what was the state of the natural environment and how was the natural environment progressing (refer to the relevant State of the Environment report)?

• how is it now functioning?
can it be fully functional again?
• do we need a different plan to achieve effectively functioning ecosystems?

Some guiding objectives that might be appropriate to the process of answering these questions and establishing the context after disaster include:

1. avoid or prevent environmental harm
2. reduce or minimise environmental harm
3. mitigate the effects of environmental harm
4. offset any environmental harm.

**Question:** what are the criteria against which the risk to the natural environment is to be evaluated?

Decisions may be based on operational, technical, financial, legal, social or natural environment or other criteria.

For example, from a legal perspective, the criteria against which the risk is to be evaluated may be based on Australia’s key national environmental law—the *Environment Protection and Biodiversity Conservation Act 1999*—which is designed to protect nationally significant matters.

*Under the legislation, any action likely to have a significant impact on these matters needs to be referred to the federal environment department for assessment.*

**Examples of activities that might need to be assessed**

- Building a new road through a listed threatened ecological community, to replace a road that was washed away during the flooding.
- Bulldozing debris in a World Heritage Area or known critical habitat of a threatened species.
- Dredging a heavily-silted port following floods (Australian Government 2011).
Identify risks

Identify the risks (threats and opportunities) that result from the disaster and impact on the natural environment and ecosystem services.

Questions that might need to be considered include:

- is there an impediment to the environment recovering on its own (for example, contaminated soils or bare soils at risk of weed invasion might prevent regeneration of indigenous species, which can result in reduced agricultural productivity)?

- is a priority environmental function (or an ecosystem service) now absent and unable to recover quickly, such that you need to steer or hasten the recovery process (for example, contaminated and reduced water supplies after a fire because the damage to the catchment has reduced the capacity of the landscape to filter the drinking water)?

- is there an opportunity to improve the natural environment where the previous status was degraded?

Analyse risks

Analyse the extent of the risks to the natural environment (the likelihood and the consequence of risks) so that a level of risk can be estimated:

- how big are the risks?

- are the risks tolerable?

Evaluate risks

Making decisions about the ability of the natural environment to cope depends on pre-established assessment or evaluation criteria and objectives.
Evaluate the risks in order to prioritise treatment options:

- what risk treatments are required?
- should the management of these risks be prioritised?

**Treat risks**

Treatment options include actions to:

- monitor and observe
- prevent or avoid environmental harm
- reduce or minimise environmental harm
- mitigate the effects on the environment and community
- offset the damage.

Table 19.1 gives examples of options or strategies for treating risk in the natural environment (under the components of air, water, land and soil, and plants and animals).

Options and strategies for treating risk can be assessed in terms of:

- **Their potential benefits**
- **Their effectiveness in reducing losses**
- **The cost to implement the option(s); and**
- **The impact of the control measures on other stakeholder objectives, including the introduction of new risks or issues** (Standards Australia 2006, p 47).

Often decisions are made in light of comparison of the cost (dollar and environmental) and economic impacts.

Some activities will have benefits for many natural environment components. For example, fencing to exclude livestock from key areas can improve native vegetation recovery (by reducing grazing impacts), improve water catchment qualities (through less faecal material in waterways), reduce risk of soil erosion (more vegetation cover equals less sediment run-off) and, in the longer term, impact on maintenance of water quality.
An action to treat risks—and the benefits of action

During the Eyre Peninsula bushfires of 2005, loss of fences led to stock encroaching on areas of native bush that were environmentally sensitive. The issue was managed by re-establishing fences to contain and look after stock. A side benefit of this quick action was that it provided protection for native vegetation. Later in the recovery process agreements and a grants program were put in place between the Department of Environment and Heritage and local communities to fence off heritage areas specifically to protect the native vegetation.

Monitor and review

Rapidly changing circumstances post-disaster require ongoing investigation, monitoring and evaluation. In light of this, the risk management process should be reviewed regularly to ensure the risk treatment plans/recovery plans remain the best option.

Communicate and consult

To attain maximum effect, it is important to ensure engagement by all aspects of community and all levels of government, and a broad range of subject matter expertise as the risk management process or the recovery planning proceeds.

The natural environment is a highly complex area to assess and engaging the appropriate expertise is essential. In Australia management and governance of the natural environment is conducted by a mix of public and private and non-government organisational entities, with varying standards and regulations. Engagement with these is critical to any natural environment recovery activity.

Activating the recovery committee

In 2003 in the Macedon Ranges, Victoria, a fire incident occurred and was contained. Twelve months later a serious weed problem had emerged. The recovery coordinator recommended that even small incidents should have a recovery committee, which includes community members. By involving the community at the time, the networks are established and this is beneficial if issues arise in the future.
Table 19.1: Examples of recovery activities (risk treatment options) in the natural environment listed by natural environment component

<table>
<thead>
<tr>
<th>Air</th>
<th>Water</th>
<th>Land and soil</th>
<th>Plants and animals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monitor/observe</strong></td>
<td>Emissions [source] air monitoring program</td>
<td>Flora/fauna surveys</td>
<td>Soil stability and erosion potential surveys</td>
</tr>
<tr>
<td></td>
<td>Ambient [community] air monitoring program</td>
<td>Drinking water sampling program</td>
<td>Soil contamination assessments and environmental and health risk assessments</td>
</tr>
<tr>
<td></td>
<td>Personal [recovery worker] air monitoring program</td>
<td>Recreational water body sampling</td>
<td>Topsoil capability for regeneration of flora</td>
</tr>
<tr>
<td></td>
<td>Deposition [fall out] monitoring program</td>
<td>Natural water body sampling program</td>
<td></td>
</tr>
<tr>
<td><strong>Prevent/avoid</strong></td>
<td>Aerial incendiary practices</td>
<td>Keep people out of a contaminated waterway so people don’t end up eating fish from that particular waterway</td>
<td>Implement hygiene protocols to prevent spread of disease to/within the natural environment (for example, boats might be prevented from dropping anchor in an area infested with marine pests)</td>
</tr>
<tr>
<td></td>
<td>Whether or not to put a hazardous materials fire out—let it burn out and get the oxygen out or stop it burning so it doesn’t contaminate the air?</td>
<td>Remove oils, fuels etc from wrecked vehicles etc</td>
<td>Keep livestock out of sensitive areas by fencing (to avoid grazing impact, improve recovery of plants)</td>
</tr>
<tr>
<td></td>
<td>Extinguish fires</td>
<td>Recycling of wastes to minimise discharges or impacts on water resources</td>
<td>Hygiene protocols</td>
</tr>
<tr>
<td></td>
<td>Let certain fires burn to minimise ground-level impacts on environment</td>
<td></td>
<td>Controlling where machinery goes so it doesn’t impact on certain/threatened species</td>
</tr>
<tr>
<td></td>
<td>Prevent dust lift off by stabilising land/use of fencing, mulching etc</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manage wastes to prevent emissions</td>
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<td></td>
</tr>
</tbody>
</table>
### Prevent/avoid (continued)

- Manage pesticide applications to prevent spray drift
- Temporary relocation of native fish species (e.g., Barred Galaxias, Macquarie Perch) to safe refuge
- Replacement of nesting boxes where they are a part of a monitoring or research program (e.g., for Leadbeater’s Possum at Lake Mountain, Brush-tailed Phascogale at Kinglake)
- Supporting the welfare of fire-affected wildlife

### Reduce/minimise

- Treat air emissions (e.g., apply water sprays, filters, containment) to reduce the volume and/or render the emission less harmful
- Minimise impact on the environment through response techniques/practices
- Minimise exposure to humans and animals by keeping them away from the area where the air is contaminated
- For oil spills—use booms, filters (e.g., all actions after the Gulf of Mexico oil spill in 2010 aimed to minimise damage)
- Rehabilitating control lines minimises the potential for erosion
- Control of introduced predators at key sites to protect threatened species and livestock
- Conduct works to minimise the potential for invasion of weed species to ground made bare from wildfire and along waterways

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</tr>
</tbody>
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## Chapter 19 | Recovery in the natural environment

### Air

**Render harmless**
- Limit the exposure of people and animals to areas of air contamination
- Decontamination of plants, animals, buildings, equipment
- Provision of suitable protection and safety for recovery volunteers

**Mitigate the effects**
- Composting practices for disposal of carcasses—less impact on the water table
- Wildlife rescue
- Temporary habitat construction and feeding
- Cleaning of rain water tanks, replacement water supplies and filtration

### Water

**Filter contaminated water to remove suspended solids, chemicals, biological hazards**

### Land and soil

**Interventions between hillsides and creeks (such as straw/wire) to stop hill creep and sedimentation in creeks**

### Plants and animals

**Translocate key (eg highly threatened) species to safer refuge (including into captive breeding facilities if necessary) to ensure survival of the species (eg Murray Hardyhead, Yarra Pygmy Perch, plus the previous examples of Barred Galaxias, Macquarie Perch)**

**Replacement of protective fencing around threatened plants to exclude browsing and grazing animals such as rabbits, deer and kangaroos**

**Offset the damage**
- Where an event causes irreversible damage to high-priority vegetation, selecting a separate patch of land for restoration or deferring activity in a logging coupe may be an acceptable offset
### Offset the damage (continued)

<table>
<thead>
<tr>
<th>Air</th>
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</table>
| Provision of artificial nesting boxes can provide temporary habitat for displaced animals (shelter from weather and predators, provide safe breeding etc)
High-priority vegetation that has been devastated by a bushfire—select a separate patch of land for reforestation (or perhaps a logging coupe) over a period until the initial area has recovered |
Bellevue Hazardous Waste Fire, 2001

The hazardous waste facility fire at Bellevue, Western Australia, on 15 February 2001 has been described as the biggest hazardous materials fire in Australian history. Hundreds of thousands of litres of mixed hazardous waste were burned. The dense smoke plume rose into the sky and travelled towards the central business district of Perth. Local residents were evacuated. More than two million litres of water were applied to extinguish the fire. During the fire decisions had to be made to manage environmental impacts and recovery. Initial clean-up costs were about $5.6 million.

Air: air monitoring was not possible during the fire; however, air monitoring units were set up around the site in the days after the fire to determine the hazards to public health. Swabs were taken of nearby properties to test for contaminated fall out. Significant community concerns arose relating to possible contamination. Testing of soils, sheep wool and other environmental media was undertaken over an extended period.

Water: run off from the fire entered street drains that went under a primary school and led towards the Helena River. Damming of drains protected the river during the incident. Hundreds of thousands of litres of contaminated water had to be pumped from drains after the fire and all drains had to be thoroughly decontaminated.

Ground water: the firefighting water, contaminated with chemicals, sank into the ground water. A significant monitoring program over a number of years determined the spread of the three ground water contamination plumes, which were heading towards the river. About nine years after the fire, a reactive membrane was installed to intercept the plume and protect the river.

Soil: a large amount of contaminated soil was removed from the site and surrounds, and a large contaminated site investigation was undertaken to determine any risks and limitations on land use.

Waste: a specialised drum shredding and waste collection machine was designed and constructed. Six months after the fire, the drums were
Bellevue Hazardous Waste Fire, 2001 (continued)

processed and the waste encased in concrete, painted in impervious paint and disposed of in a class 4 land fill.

Social impacts: there was significant and extended media coverage and a resultant stigma to the suburb name. A Parliamentary Inquiry was conducted and made numerous recommendations. A dedicated Pollution Emergency Response Unit was set up to monitor air emissions during hazardous materials incidents. A health register was set up for those possibly exposed to the fire. *Four Corners* (2002) aired its ‘Too hot to handle’ program a year after the fire.

Economic impacts: the company received the majority of Perth’s hazardous liquid wastes. The only other facility was shut down by the government in 2003, resulting in waste having to be transported at least 800 kilometres for disposal. Property values in the suburb were affected. Increased regulation of hazardous waste and chemical industries was introduced.

Natural environment recovery—Lower Eyre Peninsula, 2005

11 January 2005—a wildfire burns more than 83,000 hectares in one day, crossing from one side of Eyre Peninsula to the other and consuming nearly everything in its path.

Tragically, nine lives were lost. More than 42,000 livestock perished, more than 90 homes were destroyed and nearly $17 million worth of primary production was lost. The total estimated bill was more than $100 million.

The Department of Primary Industries South Australia [PIRSA], along with a major collaborative approach across government and community, responded to the needs of the community with an organised, prepared and equipped response team with established protocols, systems and personnel.

PIRSA responded to the immediate needs of primary producers and landholders. Teams immediately assisted landholders in assessing stock and destroying animals. Local livestock agents were quick to coordinate transport
Natural environment recovery—Lower Eyre Peninsula, 2005 (continued)

and agistment for surviving animals. The Minister for Primary Industries offered grants ($2 million in total) to assist landholders in paying immediate costs, and funds were made available within 24 hours of their announcement.

Within two days of the bushfire, the hot north winds returned and the second major issue arose with extreme wind erosion events moving soil from the exposed land.

In the short- to medium-term recovery phase, landholders were overwhelmed with the list of things to do to prepare their properties for the return of agisted livestock and the coming cropping season. They were also dealing with the emotional and physical trauma of the fire.

State government agencies provided a comprehensive range of support. ‘Getting started’ workshops were delivered within the first month after the bushfire. These focused on preparation for return to productive agriculture as well as rebuilding. Information assisted landholders to think about the opportunities, not the losses [rethinking fencing locations, reassessing livestock priorities, managing biodiversity return]. According to participants, the most valuable element of the workshops was ‘looking after yourself and your family’.

While working with response and recovery, a long-term re-establishment support program was developed. In a collaboration between PIRSA, the Eyre Peninsula Natural Resources Management Board, Department for Environment and Heritage, Department of Water, Land and Biodiversity Conservation and the Australian Government, a two-year program of support was developed and funded through the state government and Natural Heritage Trust Program. The package recognised the potential opportunity to increase sustainability, viability and resilience of the affected communities.

The program focused on providing a facilitated approach to assist landholders in their longer term, strategic planning while recognising the continued levels of stress and trauma. Grants to assist landholders to develop a business plan and access grants to implement projects to assist in long-term sustainability and viability were also available.
CHAPTER 19 | Recovery in the natural environment

Restoring the landscape—the Goulburn Broken region, 2009

The Goulburn Broken catchment covers 2.4 million hectares from just north of Melbourne to the Murray River. The catchment has dryland agriculture, intensive irrigation and public land, and is home to more than 200,000 people, including major urban centres at Seymour, Benalla and Shepparton.

On 7 February 2009 fires started at Kilmore and the Murrindindi Mill. The fire, now known as the Black Saturday bushfires, was contained on 5 March. A total of 255,417 hectares were burned and 173 lives lost. The aftermath of the fire posed a serious challenge to the ability of the catchment community and agencies responsible for natural resource management to deal with the assessment, planning and restoration of the fire-affected areas.

Responding to the fire, identifying the assets destroyed or at risk on private land and waterways, and developing response plans was the task confronting the Goulburn Broken Catchment Management Authority (GBCMA), along with its partner agencies in private and public land management. At the core was the need to rebuild engagement with the community and to start the long process of restoring ecosystem function.

In the immediate post-fire period the main task was to reconnect with the community and to begin the job of reinstating critical assets on public and private land. GBCMA worked with state and federal agencies to get financial support for the recovery program. The Community Environment Fire Recovery Coordinating Committee was established with representatives from all the agencies and groups contributing to the fire recovery effort to coordinate the natural resource management recovery work. Landcare networks and groups and the Department of Primary Industries (DPI) were the first to engage with the community. In the post-fire period DPI and Landcare ran a series of field days on issues that were foremost in the minds of landholders. These were held at strategic locations across the burned area to maximise the opportunities for community participation. These were the catalyst for the later rapid uptake of works on private land. Landcare groups
and support staff coordinated the volunteer clean-up program. The Landcare groups assisted agency staff to advise and implement service delivery opportunities. They were a critical conduit for information flow to and from the community and in engendering community support for operational tasks. Landcare was at the forefront, managing some very sensitive issues around illegal clearing and providing much-needed leadership. The coordinating committee focused on urgent rehabilitation works prior to the onset of winter, and then on specific flora and fauna requirements (for example, assessing impacts on fire-sensitive plant species, and re-establishing nesting boxes for Leadbeater’s possums). A major focus was on controlling the impacts of pest plants and animals, as vast areas of new ‘invade-able’ land were opened up by the fire.

In the 12 months after the fire, more than $6 million was committed to recovery operations. All landholders in the burned area were contacted or had access to specialist advice and community support. More than 800 hectares of critical habitat has been protected and works have been carried out to translocate or create critical elements of habitat for 15 threatened species. Weed control has been carried out on 400 hectares. Some 500 volunteers assisted more than 50 landholders to address immediate issues such as fence recovery, tree planting, woody weed control, erosion control and nesting box installation. The magnitude and rapidity of the response was only possible because of the investment in human and social capital in the catchment.

The recovery program has been funded through Landcare, Caring for Our Country and state government programs.

Appendix 9 offers a checklist for recovery managers working in recovery of the natural environment.
Other references/resources:

Regional natural resource management strategies provide benchmarks and insight into perceived current conditions. Some have methodologies for decision making and tools for prioritising treatment options.

Standards Australia publications cover the processes, principles and considerations for planners working to manage risk prior to a disaster and the risk of the impacts of disaster. See Risk management—principles and guidelines (Standards Australia 2009) and Environmental risk management—principles and process (Standards Australia 2006).

To evaluate environmental losses and benefits from flooding, see ‘Rapid appraisal method for assessing the environmental effects of flooding’ in Disaster loss assessment guidelines (EMA 2002b, p 65).

Annotated guiding principles for post-tsunami rehabilitation and reconstruction (UNEP & GPA 2005) offers a conceptual comparison for an approach to protect and preserve ‘place’ following the impacts of a disaster.
SECTION F: APPENDICES

How to use the checklists

Every emergency event affects communities in different ways depending on the community prior to the emergency, the size, duration and impact of the emergency, and the post-emergency response and recovery management. The checklists in this section are broad and generalised, and offer some thoughts and considerations. Further impacts, strategies, issues and management considerations are outlined in corresponding chapters.

The information in the specific service-type checklists (Appendices 10–13 and Appendix 16) and in the role statements (Appendices 14 and 15) is generic and intended as a starting point. Each jurisdiction/agency/organisation may have specific operating procedures and requirements. Comprehensive planning for evacuation, relief and recovery centres, outreach and the management of people is usually undertaken at the local/municipal and regional levels. Cross-boundary planning and sharing of resources might also be considered.
APPENDIX 1
National principles for disaster recovery

NATIONAL PRINCIPLES FOR DISASTER RECOVERY

SUCCESSFUL RECOVERY RELIES ON:

- **understanding the context:**
  Successful recovery is based on an understanding of the community context.

- **recognising complexity:**
  Successful recovery acknowledges the complex and dynamic nature of emergencies and communities.

- **using community-led approaches:**
  Successful recovery is responsive and flexible, engaging communities and empowering them to move forward.

- **ensuring coordination of all activities:**
  Successful recovery requires a planned, coordinated and adaptive approach based on continuing assessment of impacts and needs.

- **employing effective communication:**
  Successful recovery is built on effective communication with affected communities and other stakeholders.

- **acknowledging and building capacity:**
  Successful recovery recognises, supports and builds on community, individual and organisational capacity.

APPENDIX 2
Acknowledgments

Key individuals involved in the redevelopment of this handbook are listed in the acknowledgments at the front of this document. The following individuals also contributed to the redevelopment of this handbook through workshops held at the Australian Emergency Management Institute and personal communications; Phillip Astle, Brian Balwin, John Barker, Bruce Bayley, Sophie Beeton, Dina Bellwood, Robyn Betts, Collene Bremner, Mark Brooking, Susie Burke, Allan Cassidy, Matthew Cocker, Andrew Coghlan, Pauline Cole, Jason Collins, Kevin Cooper, Vicki Cornell, Paul Cotterill, Adrian Cully, Carmel Daveson, Michael Dickinson, John Duggan, Hugh Eagling, Michael Eburn, Alan Edwards, Ronnie Faggotter, Emma Fitzclarence, Adam Fitzgerald, Gary Fuller, Wendy Graham, Jennifer Haigh, Steven Hallam, Daniel Healy, Ian Heinreich, Susan Henry, Cheryl Jenkins, Kirsten Jenkins, Ian Jennings, Adriana Keating, Heather Kempf, Helen Lamont, Fleur Leary, Trevor Leverington, Vicki Linton, Cait McMahon, Graham Manson, Silvia Merlino, Graham Miller, Ross Pagram, Judy Parker, David Parsons, Stephen Platt, Ken Raine, John Rossiter, Philip Smurthwaite, Michael Snell, Karen Spence, Paul Thorn, Jane Tovey, Kerry Webb, Kate White, Alastair Wilson.

The following organisations enabled their employees (above) to contribute to the redevelopment of this handbook. They are gratefully acknowledged for their time, expertise and willingness to share in order to further the practice of recovery in Australia.

Attorney-General’s Department
Australian Government Department of Agriculture, Fisheries and Forestry
Australian Government Department of Defence
Australian Government Department of Education, Employment and Workplace Relations
Australian Government Department of the Environment, Water, Heritage and the Arts
Australian Government Department of Families, Housing, Community Services and Indigenous Affairs
Australian Government Department of Health and Ageing
Australian Government Department of Resources, Energy and Tourism
Australian Government Department of Sustainability, Environment, Water, Population and Communities
Australian Government, The Treasury
Australian Multicultural Foundation
Australian Protection Authority
Australian Red Cross
Blue Shield Australia
Building Services Authority, Queensland Government
Centre for Risk and Community Safety, RMIT University
Centrelink
Dart Center for Journalism and Trauma
Department for Child Protection, Government of Western Australia
Department of Communities, NSW Government
Department of Communities, Queensland Government
Department of Environment and Conservation, Government of Western Australia
Department of Environment and Natural Resources, Government of South Australia
Department of Environment and Resource Management, Queensland Government
Department for Families and Communities, Government of South Australia
Department of Human Services, Emergency Management Branch, State Government of Victoria
Department of Premier and Cabinet, State Government of Victoria
Department of Primary Industries and Fisheries, Queensland Government
Department of Public Works, Queensland Government
Department of Sustainability and Environment, State Government of Victoria
Department of Transport and Main Roads, Queensland Government
Department of Transport, Queensland Government
Disaster Recovery Sub Committee, Northern Territory Government
Emergency Management Australia
Emergency Management NSW
Emergency Management Queensland
Fire and Emergency Services Authority of Western Australia
Insurance Council of Australia
Maribyrnong City Council, Victoria
Metro Trains Melbourne
Municipal Association of Victoria
Nillumbik Shire Council, Victoria
NSW Department of Trade and Investment, Regional Infrastructure and Services
Primary Industries and Resources SA
QR National
Rail Corporation NSW
Regional Development Victoria
SA Water
SP AusNet, Victoria
Strathewen Community Renewal Association Inc
Tasmanian Ports Corporation
Telstra Corporation Ltd
Timber ED, Western Australia
The University of New South Wales
Victorian Bushfire Reconstruction and Recovery Authority
Victorian Employers’ Chamber of Commerce and Industry
Western Australian Local Government Association
APPENDIX 3
Checklist—undertake pre-event recovery planning

This checklist corresponds to Chapter 11, ‘Preparedness and planning’.

**Identify emergency risk**
- Access emergency risk register for the relevant jurisdiction/area/region, if completed.
- Take information from the process to inform the development of recovery planning.
- Identify community strengths.

**Engage key/relevant stakeholders**
- Based on risks identified, engage key stakeholders, including community representatives, local government, and government and non-government agencies.
- Provide them with details of risk assessment and request that they consider the potential impacts of this assessment on their community and area of responsibility.

**Coordinate all-hazards pre-event planning**
- Assemble the key stakeholders and facilitate discussion around identified risks and community recovery planning.
- Ensure that key stakeholders have emergency activation capability and procedures, and operational capacity.
- Establish escalation procedures.
- Agree and assign roles and responsibilities.
- Develop a process for activating and implementing an integrated emergency recovery plan for each of the four environments for the relevant jurisdiction.
- Gain endorsement of recovery plans from stakeholder organisations.

**Exercise, evaluate and review**
- Plan and undertake exercises to test activation procedures, and stakeholder contingency planning.
- Collectively evaluate outcomes of exercises, identifying successes and opportunities for improvement in recovery planning and request that stakeholders also review their agency-specific emergency contingency planning.
APPENDIX 4
Checklist—undertake community recovery management/coordination

This checklist corresponds to Chapter 12, ‘Operationalising community recovery’, and Chapter 15, ‘Human resources’.

Keeping pace with the evolving situation

☐ Immediately establish liaison with incident controller and if possible locate a senior recovery officer in the emergency coordination centre.

☐ Ensure initial and ongoing impact assessment data feed into recovery programs and processes.

☐ Continuously review and analyse community needs for service provision planning.

☐ Establish processes for information from all avenues (public meetings, call centre or recovery centre feedback, debriefings) to feed into planning cycle.

☐ Adapt community recovery plans in accordance with the evolving or changing community needs and priorities.

Engaging and empowering the affected communities

Ensure regular and ongoing engagement with affected persons.

☐ Provide leadership, facilitation, support and empowerment.

☐ Create opportunities for community leaders to evolve.

☐ Create opportunities and support for affected persons and communities to lead and manage their own recovery.

☐ Allow communities to self-identify.

☐ Negotiate and agree on the prioritised tasks based on community needs and requirements, including short-term/interim fixes.

☐ Build trust through respectful listening and understanding.

☐ Establish active feedback processes and opportunities, including community recovery committee.

☐ Maximise the availability of information to affected persons.

Managing people

☐ Provide strong, clear and responsive leadership.

☐ Ensure safe operating conditions for recovery personnel and community.

☐ Ensure that workloads are sustainable by establishing management structures, delegating responsibilities and utilising ‘spans of control’.

☐ Ensure that recovery workers, managers and volunteers have defined work times and adequate rest breaks.

☐ Ensure that briefings occur for all oncoming personnel.

☐ Ensure that debriefs are conducted at the end of each shift to ensure capture of information as well as defusing personnel.
Provide opportunities for formal defusing and ongoing emotional and psychological support for recovery personnel.

Avoid convergence by providing clear information and direction as to how non-impacted persons might help.

Develop a strategy to manage politicians and VIPs.

Managing resources

- Ensure legislative, statutory and regulatory requirements are observed.
- Identify resources and material requirements, including supply chains.
- Avoid convergence by providing clear information and direction as to what and how voluntary resources might help.
- Establish systems for recording offers of assistance (human resources and material).
- Identify staffing needs early and enable rapid recruitment.
- Ensure that all staff have appropriate skills and qualifications and relevant authorisations.
- Ensure that funding is provided immediately for essential services restoration.
- Ensure that all expenditures are recorded.

Managing information and communications

- Ensure that data collection and management systems are established as soon as possible and maintained.
- Ensure that information is continually provided to:
  - affected community members
  - recovery personnel
  - recovery management team
  - recovery management partners and stakeholders
  - organisational hierarchy (managing up)
  - elected representatives.
- Form partnerships with media and use their resources to disseminate information.
- Ensure that information:
  - is relevant
  - is timely
  - is clear
  - is best available
  - is targeted
  - is credible
  - is consistent
is coordinated
is provided in multiple methods and media
provides opportunity for feedback
is repeated as appropriate.

Create opportunities for two-way communication through:
- meetings
- workshops
- surveys
- telephone, email and web sites.

Ensuring coordination and integration

Provide coordination of activities and stakeholders to ensure that:
- services and facilities are restored based on community needs and priority
- resources are utilised efficiently
- clear roles and responsibilities are established and adhered to
- deficiencies and opportunities are identified quickly.

Establish a recovery management centre.
Establish and work with recovery committees to plan and develop longer-term strategic and sustainable recovery outcomes.
Consider establishing management groups for each of the four environments (social, built, economic, natural) as required, based on nature of event and impact assessments.
Ensure that all four environments are integrated and coordinated, acknowledging the interdependencies between them.
APPENDIX 5
Checklist—recovery management/operational

This checklist corresponds to ‘Implementation of services/activities’ in Chapter 12.

Immediate
☐ Conduct immediate impact/needs assessment (0 to 3 days)
  ☐ obtain briefing from incident controller/recovery coordinator/senior recovery liaison officer
  ☐ what has happened?
  ☐ capture as much information on community impact as possible from the incident control centre
  ☐ what has been the impact on individuals and families?
  ☐ what are priority needs (for affected community and recovery operations)?
  ☐ what needs to be done to prevent further damage?
  ☐ what hazards exist?
☐ Contact and alert recovery support staff.
☐ Activate and brief relevant partners/stakeholders from social, built, economic and natural environment agencies/organisations.
☐ Establish data collection and management systems.
☐ Establish communications systems with affected persons.
☐ Establish community information development and distribution systems.
☐ Ensure that systems are in place to manage the wellbeing of recovery personnel.
☐ Provide clear information and advice to media and non-impacted persons on how they can help.
☐ Establish a management structure, determine/assign responsibilities and define reporting processes.
☐ Implement actions to address priority needs.
☐ Communicate planned actions to affected communities, recovery management team, stakeholder organisations.

Short to medium term
☐ Review immediate actions
  ☐ are priority needs being met?
  ☐ were any missed in immediate assessment or have new ones emerged?
☐ Continue short- to medium-term impact/needs assessment (coordinated and using multi-agency deployment)
  ☐ what are evolving short- to medium-term needs?
☐ Allow evolution of, and engage with, community leaders and decision makers and discuss longer-term governance and planning.
What plans/programs/relationships/activities/groups existed before the emergency event that might contribute to the recovery effort?
Implement outreach programs if required.
Ensure that persons displaced from ‘home’ communities are provided with mechanisms and strategies to re-engage with their ‘home’ communities.
Coordinate an ongoing impact assessment process through multi-agency deployment.
Develop a strategy to avoid excessive or unwanted services.
If necessary, establish processes and systems for managing donations of monies and goods and offers of help.

**Long term (ongoing)**
- Conduct review of short- to medium-term activities
  - are priority needs being met?
  - were any missed in immediate and short-term assessment or have new ones emerged?
- Continue the needs assessment process to inform planning, support and service provision.
- Empower and support affected communities to manage their own recovery. Consider providing executive and administrative support and specific expertise as required.
- Advocate on behalf of affected communities to government and authorities for financial and resource support.
- Establish ongoing information provision.
- Communicate planned actions to affected communities, recovery management team, stakeholder organisations.

**Transition**
- Work with affected communities to determine appropriate timing and processes for transition from recovery to normal services.
- Ensure services are in place to support ongoing needs of affected persons.
- Identify to government and organisations long-term changes in the community environments resulting from the emergency event (for example, population or industry changes).
- Communicate planned actions to affected communities, recovery management team, stakeholder organisations.
APPENDIX 6
Checklist—social environment

This checklist corresponds to Chapter 6, ‘Overview of effects on the community’, Chapter 7, ‘Effects in the social environment’, and Chapter 16, ‘Recovery in the social environment’.

Components
The social environment includes considerations of:
• safety, security and shelter
• health
• psychosocial wellbeing.

Partners/stakeholders
Partners/stakeholders in the social environment include:
• affected communities
• response agencies
• state and Australian Government (health and human services, communities, education, housing, public health)
• non-government organisations (Red Cross, Salvation Army, voluntary organisations and service clubs)
• local government
• health authorities, doctors, community health
• representatives of sectors or groups—ethnic, rural, social and sporting clubs
• media.

Community recovery operational activities
Immediate
☐ Conduct immediate needs assessment.
☐ What has been the impact on individuals and families?
  ☐ how many affected?
  ☐ mortality and injury?
  ☐ potential for psychological/emotional trauma?
  ☐ displacement?
  ☐ loss of property?
  ☐ loss of pets/companion animals?
  ☐ isolation?
  ☐ individuals or groups with special needs?
APPENDIX 6 | Checklist—social environment

- What are priority needs (for affected community and recovery operations)?
  - safety?
  - water, food?
  - psychological first aid?
  - emergency accommodation?
  - personal needs?
  - reuniting families?
  - material and financial?
  - transport?
  - health/medical?
  - communication?
  - information?
  - community meeting spaces and connectivity?
  - culturally specific needs?

Short to medium term
- Conduct short- to medium-term needs assessment.
- What are evolving short- to medium-term needs?
  - psychosocial support?
  - temporary accommodation?
  - material and financial support?
  - health/medical?
  - communication?
  - information?
  - assistance with recovery processes (eg grants, insurance, clean up)?
  - community meeting spaces and connectivity?
  - culturally specific needs?
- If required, implement outreach programs.
- Ensure that displaced persons are connected and able to re-engage with their ‘home’ communities.
- Provide psychosocial support mechanisms.
- Provide support and resources to enable people to access services, including interpreters to cater for cultural and linguistic diversity, resources for people with mobility, vision and hearing impairment, and for people with a cognitive disability.
- Consider the needs of tourists and persons from interstate and overseas.
Ensure that planning and implementation of services and activities maintain an awareness of cultural implications for various groups.

- If established, coordinate the management and operation of recovery centres.
- Monitor and manage public health advice, safety and disease control.

**Long term (ongoing)**

- Are food and water supply secured?
- Is safety and security adequate?
- Do all displaced persons have access to private, self-contained accommodation?
- Are personal health and clinical services restored?
- Are public health issues adequately managed?
- Ensure that persons with special needs have not been forgotten in planning processes.
- Establish systems for ongoing psychological/emotional support for affected persons.
- Ensure the redevelopment of social networks and connections.
- Establish ongoing information provision.
APPENDIX 7
Checklist—built environment

This checklist corresponds to Chapter 6, ‘Overview of effects on the community’, Chapter 8, ‘Effects in the built environment’, and Chapter 17, ‘Recovery in the built environment’.

Components
Built environment can be classified broadly as:

- infrastructure that supports essential services:
  - transport—roads, rail, bridges, ports, airports, public transport
  - energy—power, gas, fuel
  - communications—telephone (fixed line and mobile), internet and data, radio and television
  - utilities—water, sewage, drainage, sanitation, waste and recycling
- rural infrastructure
  - rural—fencing, sheds and buildings, produce handling, irrigation
  - animal welfare—shelters, pounds, veterinary facilities, stock containment
- residential infrastructure
  - residential buildings—domestic homes, hotels/motels, caravan parks
- commercial/industrial infrastructure
  - distribution infrastructure—food and merchandise
  - commercial and retail—shops, banks, food outlets, hardware and building, fuel outlets, white goods, pharmacies
- public building and asset infrastructure
  - public facilities—hospitals, doctors’ surgeries, aged care, schools, police and emergency services stations
  - community buildings—halls, churches, cultural and historic, sporting clubs
  - government administration—council and government offices
  - recovery infrastructure—evacuation, relief and recovery centres, warehousing of donated goods.

Partners/stakeholders
Partners/stakeholders in the built environment include:

- affected communities
- municipal councils
- road and rail authorities and operators
- public transport operators
- energy suppliers and retailers
- water and sewage authorities and retailers
• communication operators
• health and education authorities
• building control authorities
• professional bodies (e.g., architects, engineers, building surveyors)
• others as required (dependent on emergency event and local needs).

**Community recovery operational activities**

**Immediate**
- Conduct immediate impact/needs assessment (0 to 3 days).
- What components/services are working/not working?
  - What are priority needs (for affected community and recovery operations)?
  - safety?
  - water, food?
  - emergency accommodation?
  - transport links?
  - health?
  - communications?
  - power, gas?
  - recovery management centres?
  - public facilities?
  - animal management facilities?
- What needs to be done to prevent further damage?
- What hazards exist?

**Short to medium term**
- Conduct short- to medium-term impact/needs assessment.
- What are evolving short- to medium-term needs?
  - transport, including public transport?
  - food and material distribution infrastructure?
  - power, gas, communications?
  - drainage, sewage?
  - temporary accommodation?
- Can services be reinstated quickly?
- What temporary solutions/‘work-arounds’ can be implemented?
- Complete ‘make safe’ operations.
Re-establish retail/commercial facilities essential for community wellbeing or recovery activities.

Identify/re-establish community buildings/facilities essential for recovery activities and social connectivity.

Manage resourcing and ensure supply chains.

What additional resources will be required:
- by the affected communities?
- by recovery operations?

Are supplies available—locally? regionally? nationally?

Are contractors available—locally? regionally? nationally?

Long term (ongoing)

Identify opportunities to improve infrastructure and services during reinstatement.

- Are damaged or destroyed services or facilities still relevant/appropriate to the community?
- Are there opportunities to upgrade infrastructure?
- Are there opportunities to establish new facilities and services?
- Where possible, restore services and infrastructure to be sustainable and more resilient to future events.

Prioritise and re-establish transport:
- roads, rail, bridges, ports, airports, public transport.

Ensure energy supplies and communications are adequate and stable.

Reinstate utilities.

Re-establish commercial, retail and distribution infrastructure.

Re-establish public facilities and community buildings.

Facilitate restoration of residential buildings.

Support the restoration of government administration facilities.

Support the restoration of rural infrastructure and animal welfare.

Review and establish long-term recovery infrastructure where necessary; for example, long-term community hub.
APPENDIX 8
Checklist—economic environment

This checklist corresponds to Chapter 6, ‘Overview of effects on the community’, Chapter 9, ‘Effects in the economic environment’, and Chapter 18, ‘Recovery in the economic environment’.

Components
Each component may be directly or indirectly affected and the impacts might be tangible or intangible. Economic environment components include:

- residents and households
- public infrastructure, community facilities and the natural environment (essential services such as water and sanitation systems, electricity, gas, telecommunications and transport)
- business enterprises and supply networks (retailers, distributors, transporters, storage facilities and suppliers that participate in the production and delivery of a particular product); other networks including peak bodies, not-for-profit sector etc
- government.

Partners/stakeholders
Partners/stakeholders in the economic environment include:

- affected communities
- local industry and business
- industry bodies (e.g., chambers of commerce, farmers’ federations, tourism associations, manufacturers)
- government agencies (Attorney-General’s Department, Centrelink, Australian Taxation Office)
- local government
- Insurance Council
- banking and finance operators
- charitable organisations
- others as required (dependent on emergency event and local needs).

Operational activities
Immediate

- What are priority needs (for affected community and recovery operations)?
  - emergency cash grants?
  - access to banking and finance?
  - facilitation of insurance claims?
  - management of appeals donations?
  - information?
Appendix 8 | Checklist—economic environment

- Identification and support to businesses and employers?
- Establish arrangements for collection and management of donated monies.

**Short to medium term**
- What are evolving, short-term needs?
  - Support with insurance claims?
  - Access to employment?
  - Renegotiation of loans?
  - Assistance with grant applications?
  - Support with rebuilding contracts?
  - Support to small, medium business?
- Restore banking and other financial services as soon as possible.
- Reopen businesses and restore community services.
- Establish arrangements for management and distribution of donated monies.
- Set up business assistance facilities as required.
- Assess employment issues.
- Establish a communications strategy to support local businesses to re-establish or remain open.
- Work with the insurance sector to ensure coordinated response by insurance companies and address adequacy of cover for reconstruction.
- Develop a fast-track insurance processing system and address insurance issues.
- Liaise with the recovery committee to develop a strategy to maximise use of local resources during reconstruction and establishment activities.
- Identify transport and information technology/communications needs and prioritise reconstruction activities to meet community business and manufacturing continuance requirements.
- Facilitate, where required, new mutual aid agreements between authorities and contracts with suppliers.
- Support small to medium enterprise (e.g., advice, referral to a business advisor etc).
- Re-establish retail/commercial facilities essential for community wellbeing or recovery activities.
- Manage resourcing and ensure supply chains.

**Long term (ongoing)**
- Identify opportunities to improve the local/regional economy and services during restoration.
  - Are damaged or destroyed businesses still viable and appropriate to the community?
  - Are there opportunities to upgrade business infrastructure?
Are there opportunities to establish new businesses and services?
Where possible, restore business and infrastructure to be sustainable and more resilient to future events.
Prioritise and secure supply chains.
Re-establish commercial, retail and distribution infrastructure.
Ensure the equitable, accurate and timely distribution of donated monies.
Support the restoration of rural infrastructure.
Reassess employment and livelihood issues.
Explore need and opportunities for ongoing local business support network.
Communicate planned actions to affected communities, recovery management team, stakeholder organisations.
APPENDIX 9
Checklist—natural environment

This checklist corresponds to Chapter 6, ‘Overview of effects on the community’, Chapter 10, ‘Effects in the natural environment’, and Chapter 19, ‘Recovery in the natural environment’.

Components
Natural environment components include:

- air
- water
- land and soil
- plants and animals.

Partners/stakeholders
Partners/stakeholders in the natural environment include:

- affected communities
- government agencies (parks, conservation and land management, stream management, environmental protection agencies)
- local government
- Landcare, ‘Friends of’ and environment groups
- wildlife rescue services
- catchment management authorities
- others as required (dependent on emergency event and local needs).

Operational activities

Immediate

☐ Conduct risk management.
☐ Make an immediate impact assessment.
☐ What are priority needs for the natural environment?
  ☐ containment of contaminants?
  ☐ rescue of wildlife?
  ☐ emergency erosion stabilisation?
  ☐ emergency action for threatened species?
  ☐ management of stormwater runoff?
  ☐ restoration of habitat?

Short to medium term

☐ Ongoing risk management process with continuous monitoring.
☐ What are evolving short- to medium-term needs?
Appendix 9 | Checklist—natural environment

☐ clean up of contaminants?
☐ rehabilitation of damaged areas?
☐ ongoing care and management of endangered species and injured wildlife?
☐ response operations damage restoration?
☐ ecological impact assessments?
☐ management of ongoing erosion?
☐ prevention of further contamination—weeds invasion, fungal disease from response/recovery operations?
☐ restoration of social amenity?
☐ recovery of damaged natural resources?

☐ Restoration of social amenity elements essential for community wellbeing.

Long term (ongoing)

☐ Identify opportunities to improve the natural environment during reinstatement.
  ☐ Are there opportunities to improve/upgrade amenity and/or ecosystems from previously degraded conditions?
  ☐ Are there opportunities to restore natural environment elements to be sustainable and more resilient to future events?
APPENDIX 10
Checklist—outreach

This checklist corresponds to ‘Implementation of services/activities’ in Chapter 12.
Outreach support may be an important component of recovery to both fully assess the impact of
the event and to ensure all community members have access to core recovery information and
services available.
If it is going to be used, outreach should generally commence as soon as access is made available
to affected areas and the purpose of the use of an outreach program should be clearly articulated.

Actions

Consider the following actions when using an outreach approach in disaster recovery.
☐ Activate designated outreach manager/organisation.
☐ Obtain briefing from recovery manager on:
  ☐ nature of emergency
  ☐ area or impact
  ☐ objectives of proposed outreach program.
☐ Confirm purpose, objectives and activities of outreach program.
☐ Consider multi-agency outreach teams.
☐ Assemble and brief outreach management and operational staff.
☐ Establish mapping systems (geographic, property).
☐ Establish data collection, collation and distribution systems.
☐ Inform communities about the outreach program.
☐ Prepare contingencies for communicating with non-English speakers and people with
  communication disabilities.
☐ Ensure safety issues for outreach teams are identified, communicated and managed.
☐ Assemble resources for outreach teams:
  ☐ vehicles
  ☐ printed information
  ☐ water.
☐ Establish rosters.
☐ Undertake briefing and debriefing of outreach field teams.
☐ Provide information and feedback to recovery management team on:
  ☐ extent of damage to residential buildings
  ☐ community needs
  ☐ individual specific needs
  ☐ identification of high-needs persons/households.
☐ Provide referral to specialist services as required.
☐ Ensure ongoing support for outreach staff.
APPENDIX 11
Checklist—evacuation emergency relief centre

This checklist corresponds to ‘Implementation of services/activities’ in Chapter 12. Evacuation centres and emergency relief centres are established to provide for the basic life needs of people displaced and/or impacted by emergency events. They should provide basic services and enable self-management. In many instances persons displaced by emergency events prefer to find accommodation with friends and families and consider these centres as a last resort.

Basic life needs
Basic life needs include:
• sustenance—water and food
• shelter
• safety and security
• information
• first aid
• personal support
• registration.

Location considerations
These centres will have limited activation time and should be pre-determined and established. Location of pre-planned centres should consider likely hazards (flood, fire, hazardous materials etc), population, services, capacity and facilities.

Minimum facility requirements
☐ Accommodation—appropriate to population catchment.
☐ Access—to the centre, within the centre.
☐ Parking—appropriate to population.
☐ Communication—telephone (fixed and mobile), computer networks and internet, television and radio.
☐ Catering—kitchen facilities, fridges and freezers.
☐ Toilets and showers.
☐ Children’s areas.
☐ Companion animal management.
☐ Management facilities—management, administration and staff rest areas.
☐ Security.
Possible facility equipment requirements (stored on site or available at short notice)

☐ Bedding.
☐ Tables and chairs.
☐ Water and food.
☐ First aid equipment.
☐ Information boards—white boards, pin boards, flip charts etc.
☐ Signage—for centres and services.
☐ Personal requisites for attendees.
☐ Power boards and leads.
☐ Emergency lighting.
☐ Companion animal management equipment.

Possible administration equipment requirements

☐ Keys and access codes.
☐ Laptop computers with mobile connectivity.
☐ Printers, photocopiers, fax machines.
☐ Mobile/satellite telephones (and chargers).
☐ Contact lists.
☐ Prepared administrative paperwork (eg operating guidelines, centre information handouts, log books, report forms, registration forms, staff roster forms, records of offers of assistance, records of requests for assistance etc).
☐ Staff roles and orientation information.
☐ Data storage devices for computers with plans and templates.
☐ Stationery supplies—pens, markers, tape, paper, note pads, staplers, hole punches, folders, display boards, pins, magnets.
☐ Staff identification—vests, name/identification badges.
☐ Maps.
☐ Personal protective equipment and supplies [note: if stored on site or in kits, many of these items will need to be checked/replaced annually].
☐ Document security and management.

Management considerations

☐ Traffic and parking management.
☐ Welcome and orientation.
Security and safety.
- Purchasing and petty cash management.
- Cleaning and waste management.
- Animal management.
- Catering.
- Special needs support.
- Childcare support.
- Staff management.
- Volunteer support and management.
- Management of donations and offers of support.
- Communications with emergency coordination centre/recovery liaison/recovery management centre.
APPENDIX 12
Checklist—recovery centre

This checklist corresponds to ‘Implementation of services/activities’ in Chapter 12.
Recovery centres can provide support to affected communities in the restoration of their emotional, social, economic and physical wellbeing, and can facilitate the provision of services. A range of services can be collaboratively based in the same facility and may vary according to the impact of the disaster but usually consist of:

- information
- material and financial aid
- temporary accommodation
- access to services such as insurance, building advice etc
- access to government agencies
- psychosocial wellbeing services
- meeting places.

Location considerations
These centres can be pre-planned; however, they will have a longer lead time and will be most effective if established within easy reach of affected communities. Locations should consider accessibility to affected persons (transport, proximity to service centres etc) and facility attributes. In major events these may be long-term facilities. Public facilities that have established ongoing usage may be unsuitable. Consideration might be given to accessing/renting offices or similar facilities in suitable locations.

Minimum facility requirements

- Accessible to affected population.
- Accessible to mobility impaired people.
- Long-term occupancy.
- Kitchens.
- Toilets.
- Parking.
- Heating and cooling.
- Access to communications.
- Reception area.
- Private and secure management spaces.
- Comfortable and private meeting/counselling spaces.
- Comfortable rest areas.
Possible facility equipment requirements

- Tables and chairs.
- Comfortable lounges and chairs.
- Information boards—white boards, pin boards, flip charts etc.
- Signage—for centre and services.
- Power boards and leads.
- Emergency lighting.
- Kitchen requisites.

Possible administration equipment requirements

- Laptop computers with computer networks/mobile connectivity.
- Printers, photocopiers, fax machines.
- Fixed line and mobile telephones (and chargers).
- Contact lists.
- Prepared administrative paperwork (eg operating guidelines, centre information handouts, log books, report forms, registration forms (visitor and staff), staff roster forms, records of offers of assistance, records of requests for assistance etc.
- Staff roles and orientation information.
- Data storage devices for computers with plans and templates.
- Stationery supplies—pens, markers, tape, paper, note pads, staplers, hole punches, folders, labellers etc.
- Staff identification—vests, name/identification badges.
- Maps.
- Document security and management.
- Safe.

Management considerations

- Welcome and orientation.
- Car/bike parking facilities.
- Security and safety.
- Work space needs and allocation.
- Coordination of recovery activities.
- Sharing and coordination of data and information.
- Purchasing and petty cash management.
- Cleaning and waste management.
☐ Catering.
☐ Special needs support.
☐ Staff management and support (including food, water and rest).
☐ Volunteer support and management.
☐ Management of donations and offers of support.
☐ Communications with emergency coordination centre/recovery liaison/recovery management centre.
APPENDIX 13
Checklist—managing people

This checklist corresponds to Chapter 15, ‘Human resources’.

**Preparedness**
Recovery operations will be most successful and the impact on staff will be minimised where staff involved:
- have been involved in training and exercising
- are operating in their normal area of expertise
- have clear role statements and operating guidelines
- have clear and supportive management.

**Operations**
For occupational health and safety:
- consider appointing a safety manager
- ensure safety issues are identified and managed and communicated
- establish appropriate duty times
- establish clear roles and responsibilities.
For staff involved in the emergency event:
- consider the needs of staff personally affected by the emergency event.
Establish formal and informal arrangements for supporting the wellbeing of recovery staff, including:
- operational briefing and defusing
- mentoring
- food, water and rest breaks
- shorter than normal duty times
- team meetings
- manager briefings on likely impacts and staff needs
- organisational employee assistance programs
- private counselling.

**Briefing and debriefing**
Undertake briefing sessions for all oncoming staff and at regular intervals during recovery operations. Briefings should include:
- overview of the nature and of the impact of the emergency
- overview of recovery purpose and operations
- detail of specific activities (relevant to the area of operations)
☐ identification of persons in charge, organisations and people involved in the operations site
☐ the actions that have been taken to date
☐ the actions that are planned for the future
☐ the actions that are required in this shift period
☐ the resources that are available and not available
☐ methods and timing of communications
☐ staff arrangements (eg shift times, breaks, additional support etc)
☐ time for questions.

Debriefing is important to:
☐ ensure that information is gathered and passed on to oncoming staff
☐ ensure that staff going off duty have an opportunity to defuse and wind down before leaving the operations site.

**Post-recovery**

Consideration should be given to:
☐ allowing a reasonable rest break after conclusion of emergency involvement (days)
☐ briefing managers and co-workers about likely staff impact and needs
☐ reducing workload and expectations for a few weeks
☐ backfilling and supporting roles
☐ facilitating emergency staff get-togethers, recognition and ‘thank you’ events
☐ facilitating and enabling ongoing emotional and psychological support.
APPENDIX 14
Recovery manager role statement

This checklist corresponds to Chapter 15, ‘Human resources’.

The recovery manager manages the recovery process on behalf of the nominated lead recovery agency. It is essential that this person demonstrates high-level management skills and is given the necessary financial authority and management autonomy to effectively carry out this role.

The manager’s role involves:

- an understanding of recovery issues in general and those specific to the event being managed
- an understanding of the role and the management tasks required, including those discussed in Section D.

Role

- Facilitate the acquisition and appropriate application of material, staff and financial resources necessary to ensure an effective response.
- Ensure that appropriate strategies, policies and procedures are in place to support all staff, not just those deployed by agencies.
- Contribute to the resolution of community and political problems that emerge during the recovery process.
- Ensure the maximum level of community involvement in the recovery process.
- Contribute to the resolution of community and political problems that emerge during the recovery process.
- During non-disaster periods increase recovery awareness and promote as much planning as is feasible.

Tasks

- Organise and manage the resources, staff and systems necessary for the immediate and longer-term recovery.
- Advocate on behalf of the affected community with government departments, voluntary agencies, community groups, industry, business, local government and government departments in order to achieve the most effective and appropriate recovery.
- Liaise, consult and, where necessary, coordinate or direct voluntary agencies, community groups, local churches, local government and government departments in order to achieve the most effective and appropriate recovery.
- Mediate where conflicts occur during the relief and recovery process.
- Develop a close and positive working relationship with key individuals and groups in the affected community.
- Be partially distanced from the immediacy of the event and consider the overall recovery process in establishing priorities and anticipating future requirements (ie strategic management).
Knowledge

Understand and fully appreciate the importance of:

- the emergency management arrangements in the area
- involving the affected community in all aspects of the recovery process
- getting reliable information out to affected people, politicians and government departments as a matter of priority and maintaining an information flow once established
- meeting the physical, as well as the personal, support needs of affected individuals and communities
- debriefing and supporting recovery workers
- the limits of decision-making powers and any other operating constraints
- knowing who the decision-makers are within other organisations
- having recovery plans and systems in place prior to a disaster.

Skills

High-level skills are required in:

- planning
- problem solving
- time management
- public, group and individual communication
- decision making
- monitoring
- evaluation
- negotiation/bargaining
- consultation
- personnel management
- information management.

Personal attributes

The personal qualities of a recovery manager are critical to the capacity to facilitate an effective recovery process. Paramount among desirable qualities is:

- a firm but participatory management style
- an ability to work in a confused and rapidly changing environment and still deal with complex problems
- a high degree of energy and resilience to stress
- the capacity to engender confidence among staff and the affected community
• a quick and agile mind that can determine the most effective use of frequently limited resources
• a strong belief in the rights and integrity of individuals
• a sensitive and honest approach to people and work demands
• political insight and intuitiveness
• an entrepreneurial approach to work with demands and problem solving (i.e., the person should be self-activating, flexible and result-orientated).
APPENDIX 15
Community development worker role statement

This checklist corresponds to Chapter 15, ‘Human resources’. Although there are a number of generic roles and responsibilities for community development workers, there are also a number of issues specific to the recovery context. In particular, the community development role in disaster recovery may need to use different processes from regular community development, requiring a more reactive approach than in some settings. Refer to Community development in recovery from disaster (EMA 2003) for further information.

Role
To identify, assess and plan to meet the needs of the affected community.

Tasks
To facilitate:
- a process of community consultation
- prioritisation of the needs to be addressed
- provision of services to affected individuals, families and the community
- availability of timely and accurate information to the whole community in multiple formats
- sharing of information between all key stakeholders and the employing body
- availability of culturally appropriate services to families and individuals
- community participation, self-determination and self-healing
- identification and use of existing and emerging community communication networks
- use of local services where possible
- community wishes in regard to rituals, symbols and anniversary events.

To effectively address these tasks it is imperative that one of the first tasks undertaken by community development workers is to develop a work plan for their role in the affected community. Key components of the work plan include appropriate strategies, activities, timelines and performance indicators to meet the objectives.

Skills
Community development work in a disaster-affected community is invariably a complex task, and requires a high level of maturity, together with highly developed interpersonal and organisational skills. In addition to these fundamental requisites, the following skills should also be sought:
- demonstrated understanding of community development principles
- well-developed mediation and conflict resolution skills
- group facilitation skills
- capacity to interact and work with a broad range of groups within the affected community
- good report writing skills
• appropriate information technology skills
• ability to work independently, under limited supervision and as a member of a team within a broad range of contexts
• creativity, flexibility and initiative.
APPENDIX 16
Checklist—community recovery evaluation

This checklist corresponds to Chapter 12, ‘Operationalising community recovery’.

There are key considerations for evaluation processes in recovery.

☐ What is your evaluation for (i.e., its purpose—efficiency, effectiveness, appropriateness and/or process evaluation)? For example, it may be to inform ongoing and future interventions.

☐ What sources of feedback and documentation will you use to evaluate the delivery of community recovery services?

☐ What methods will you use (i.e., the general approach—formal and informal, quantitative/qualitative, longitudinal study, development of appropriate tools)? For example, will you use debriefs and questionnaires, surveys, data analysis, community involvement/ownership?

☐ What is the range of evaluations (i.e., the effects of the intervention/program for individuals/groups/community conducted in conjunction with other services/interventions)?

☐ How will you keep evaluation process flexible to respond to the changing competencies of the community?

☐ What are the ethics considerations—who conducts the evaluation? In a sensitive post-disaster environment when you conduct evaluation, who oversees it? Who makes decisions regarding the ethics questions?

☐ What objectives or principles are you measuring against?

☐ Evaluation tools should be in place at the outset (through databases).

☐ How independent is the evaluation process? Does it need to be independent?

☐ Ensure stakeholders are included (victims, emergency services, business communities, general community).

☐ What feedback will be appropriate for the community—type, timing?
This checklist corresponds to Chapter 17, ‘Recovery in the built environment’.

The table (adapted from Brunsdon et al 2004, p 168) describes the basic functions of recovery, together with the major issues at each stage and the tasks that are normally undertaken. It can be used at a number of different levels, and may be useful in directing overall recovery, recovery of a single service (eg electricity) or even an aspect of a single service (eg provision of drinking water standpipes).

The process of starting a new or modified system requires supervision and careful testing and may require cooperation from other stakeholders. Where the opportunity for testing is low, generally a higher level of supervision is required.

The modified system of service delivery must be monitored to ensure it can continue to meet its objectives. This should occur at each stage described in the table. Over time, if the nature of the community changes, or the system is not performing satisfactorily, adjustments or changes to meet demands on the system must be made.

<table>
<thead>
<tr>
<th>Key recovery stages/elements</th>
<th>Issues/challenges/obstacles</th>
<th>Tasks/key drivers</th>
<th>Communicating, monitoring and review</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understand what needs to be done to recover</td>
<td>Moving from initial impact assessment to the much more detailed assessment requires a change in focus</td>
<td>Undertake site assessment/inspection</td>
<td>Establish and maintain information and records systems (leg timelines, logs, as-constructed drawings)</td>
</tr>
<tr>
<td></td>
<td>Establish the extent of the problem</td>
<td>Establish who the relevant stakeholders are</td>
<td>Communicate with stakeholders</td>
</tr>
<tr>
<td></td>
<td>Is the hazard preventing us doing our job on the site itself?</td>
<td>Establish the communications network between site deployment activity and relevant stakeholders</td>
<td>Establishing the roles in the recovery committee</td>
</tr>
<tr>
<td></td>
<td>Establishing the communications network between site deployment activity and relevant stakeholders</td>
<td>Continually monitor and reassess the problem/situation</td>
<td></td>
</tr>
<tr>
<td>2. Identify external constraints</td>
<td>Safe access (physical damage, emergency services, cordons)</td>
<td>Establish the interdependency relationships with other parties</td>
<td>Open up communication in a meaningful way with all the other people who are involved</td>
</tr>
<tr>
<td></td>
<td>Legislative, statutory and regulatory requirements</td>
<td></td>
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</tbody>
</table>

APPENDIX 17

Stages/key process elements in recovering the built environment
<table>
<thead>
<tr>
<th>Key recovery stages/elements</th>
<th>Issues/challenges/obstacles</th>
<th>Tasks/key drivers</th>
<th>Communicating, monitoring and review</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Identify external constraints (continued)</td>
<td>Crime scene, coronial complications</td>
<td>Establish a budget or source of funding/resourcing  Open accounts and lines of credit with suppliers (local where possible)</td>
<td>Continually monitor presenting constraints and adjust own actions/activities as necessary  Manage, monitor and review financial status  Inform recovery committee of current status of works</td>
</tr>
<tr>
<td></td>
<td>Financial constraints</td>
<td>Understand relevant requirements and seek relevant permissions/exemptions where required</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Logistical (material, labour) constraints</td>
<td>Source information regarding environment (maps, reports, advices)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environment (geographical, topographical, meteorological)</td>
<td>Identify and negotiate a safe access route (road, rail, airborne, waterborne)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Establish additional resource sources as necessary [material, labour—eg volunteers, Australian Defence Force, paid volunteers, surge staff capacity, other sources of additional labour]</td>
<td></td>
</tr>
<tr>
<td>3. Prioritise tasks</td>
<td>Identify immediate constraints</td>
<td>Compromise, cooperate, set agreed priorities</td>
<td>Communicate agreed priorities with own organisations and other stakeholders (especially the recovery committee)  Communicate immediate successes</td>
</tr>
<tr>
<td></td>
<td>Other stakeholders may have conflicting priorities</td>
<td>Identify, and negotiate with, appropriate stakeholders [with the authority to make the decision] to assist with priority setting</td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX 17 | Stages/key process elements in recovering the built environment

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<tbody>
<tr>
<td>3. Prioritise tasks (continued)</td>
<td>Retain focus on community needs/requirements (end goal)</td>
<td>Identify opportunities for ‘quick wins’</td>
<td>Monitor the priorities set by the recovery committee and change/adapt to those as appropriate</td>
</tr>
<tr>
<td>4. Put in place short-term/interim fixes</td>
<td>Manage expectations [stakeholders]</td>
<td>Identify stakeholder requirements</td>
<td>Reinforce and continually monitor agreed priorities with own organisations and other stakeholders (especially the recovery committee)</td>
</tr>
<tr>
<td></td>
<td>Maintain operational and public safety standards for interim/short-term fixes</td>
<td>Train and equip personnel [eg personal protective equipment/inductions] Carry out immediate tidy-up operations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obtaining materials</td>
<td>Identify supply chains and material providers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waste management [eg prescribed materials, environmental, bio-hazards]</td>
<td>Collection and disposal of waste material</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contractor resources [own, additional]</td>
<td>Consider accommodation and transport for staff and contractors [including labour hire]</td>
<td></td>
</tr>
<tr>
<td>5. Identify the resource and materials requirements</td>
<td>Obtaining materials</td>
<td>Identify supply chains and material providers Access supply lines</td>
<td>Conduct environmental scan Report on changing dynamic of, and priorities in, the environment</td>
</tr>
<tr>
<td></td>
<td>Availability of appropriately skilled resources</td>
<td>Train and equip personnel [eg personal protective equipment/inductions] Consider accommodation and transport for staff and contractors [including labour hire]</td>
<td>Provide regular status reports to recovery committee</td>
</tr>
<tr>
<td></td>
<td>Availability of key material</td>
<td>Maintain accessibility of appropriate resources [skills, material]</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 17 | Stages/key process elements in recovering the built environment

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<tbody>
<tr>
<td>5. Identify the resource and materials requirements (continued)</td>
<td>Financial/budget constraints</td>
<td>Plan for redundancy/contingency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incompatible industrial awards/agreements</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Changing dynamic of the environment</td>
<td>Adapt plans to accord with other players in recovery effort</td>
<td></td>
</tr>
<tr>
<td>6. Strategic planning—including longer-term recovery outcomes</td>
<td>Review recovery goals and objectives, and realign where necessary</td>
<td>Include all stakeholders in the longer-term strategic planning process Liaise with essential service peak providers and bodies to ensure common goals and standards</td>
<td>Provide appropriate advice to recovery committee for liaison and engagement with the community regarding their accommodation, service and cultural needs</td>
</tr>
<tr>
<td></td>
<td>Project approval processes</td>
<td>Seek approval at appropriate stages (e.g. permits, exemptions etc)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There may be a market shift</td>
<td>Align the built environment plan with other parts of the recovery effort</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Political/community priorities and expectations</td>
<td>Engage with those in the political/community environment (at all levels)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relocation and repopulation of community</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Major unplanned capital works program for which special funding needs to be obtained</td>
<td>Source funding and put a long-term budget in place</td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX 17 | Stages/key process elements in recovering the built environment

#### Key recovery stages/elements

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Strategic planning— including longer-term recovery outcomes (continued)</td>
<td>Liaise with insurance companies (or representatives) to ensure common goals and standards</td>
<td>Liaise with insurance companies (or representatives) to ensure common goals and standards</td>
</tr>
<tr>
<td>Strategic planning implications— repair versus replacement</td>
<td>Work with local, regional and national recovery managers</td>
<td>Work with local, regional and national recovery managers</td>
</tr>
<tr>
<td>Insurance cover provisions [or lack of]</td>
<td>Identify interdependencies between us and other parts of the recovery effort</td>
<td>Identify interdependencies between us and other parts of the recovery effort</td>
</tr>
<tr>
<td>Legal issues</td>
<td>Vague delineation of responsibility</td>
<td>Vague delineation of responsibility</td>
</tr>
<tr>
<td>Build back; build back better; build back better plus</td>
<td>Identify roles and accountabilities of infrastructure advisory groups/subject matter experts</td>
<td>Identify roles and accountabilities of infrastructure advisory groups/subject matter experts</td>
</tr>
<tr>
<td>7. Matching internal priorities with external considerations</td>
<td>Priorities of other areas of the recovery effort and the recovery manager on behalf of the community</td>
<td>Priorities of other areas of the recovery effort and the recovery manager on behalf of the community</td>
</tr>
<tr>
<td>Seeking agreement on matters of priority (noting that these may well change over time from those initially agreed)</td>
<td>Identify interdependencies between us and other parts of the recovery effort</td>
<td>Identify interdependencies between us and other parts of the recovery effort</td>
</tr>
<tr>
<td>Vague delineation of responsibility</td>
<td>Ensure safety standards are adhered to</td>
<td>Ensure safety standards are adhered to</td>
</tr>
<tr>
<td>Priorities of other areas of the recovery effort and the recovery manager on behalf of the community</td>
<td>Ensure time out and reflection breaks are taken</td>
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</tr>
<tr>
<td>Staff fatigue/roster management</td>
<td></td>
<td></td>
</tr>
<tr>
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<tr>
<td>------------------------------</td>
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<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>8. Formalising works programs and carrying out design work</td>
<td>Planning approvals involve regulatory considerations</td>
<td>Include scenarios and anticipated consequences within organisational recovery plans</td>
</tr>
<tr>
<td></td>
<td>Resource consent needs to be subsequently applied for if there is an ongoing environmental effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technical resources (especially design consultants)</td>
<td>Provide access to technical resources that can stay involved over the period of the recovery program/plan</td>
</tr>
<tr>
<td></td>
<td>Ongoing access to resources (materials, skills, and key/specialist items)</td>
<td>Secure appropriate stores of key/specialist items that are likely to be difficult to source in quantity at short notice</td>
</tr>
<tr>
<td>9. Organising and managing contracts for the physical works</td>
<td>Shortage and/or limited capacity of contractors (both specialist and general building contractors) Additional project management capability may be required</td>
<td>Involve construction and related contractors (who may not have standing/ongoing contracts) in planning to enable them to identify and understand the demands involved</td>
</tr>
<tr>
<td></td>
<td>Tender requirements and processes Contractual/procurement arrangements</td>
<td>Assess tender applications and award contracts</td>
</tr>
<tr>
<td></td>
<td>Material supplies</td>
<td>Secure supply chains and material providers</td>
</tr>
<tr>
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</tr>
<tr>
<td>9. Organising and managing contracts for the physical works (continued)</td>
<td>Staff resourcing</td>
<td>Consider accommodation and transport for staff and contractors (including labour hire)</td>
</tr>
<tr>
<td></td>
<td>Financial constraints</td>
<td>Train and equip personnel (e.g., personal protective equipment/inductions)</td>
</tr>
<tr>
<td></td>
<td>Security of staff and materials</td>
<td>Financial constraints</td>
</tr>
<tr>
<td>10. Commission works and finalise program</td>
<td>Obtain certificates for final use of built things (e.g., occupancy certificates)</td>
<td>Handover</td>
</tr>
</tbody>
</table>

**Key recovery stages/elements**
- 9. Organising and managing contracts for the physical works (continued)
- 10. Commission works and finalise program
## ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AARC</td>
<td>Affected Area Recovery Committee</td>
</tr>
<tr>
<td>ACT</td>
<td>Australian Capital Territory</td>
</tr>
<tr>
<td>CALD</td>
<td>culturally and linguistically diverse</td>
</tr>
<tr>
<td>COMDISPLAN</td>
<td>Australian Government Disaster Response Plan</td>
</tr>
<tr>
<td>COMRECEPLAN</td>
<td>Australian Government Plan for the Reception of Australian Citizens and Approved Foreign Nationals Evacuated from Overseas</td>
</tr>
<tr>
<td>DACC</td>
<td>Defence Assistance to the Civilian Community</td>
</tr>
<tr>
<td>DRC</td>
<td>Disaster Recovery Coordinator</td>
</tr>
<tr>
<td>ECC</td>
<td>Emergency Coordination Centre</td>
</tr>
<tr>
<td>ESD</td>
<td>Ecologically sustainable development</td>
</tr>
<tr>
<td>GBCMA</td>
<td>Goulburn Broken Catchment Management Authority</td>
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<tr>
<td>H1N1</td>
<td>Human Swine Influenza</td>
</tr>
<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>NDRRA</td>
<td>Natural Disaster Relief and Recovery Arrangements</td>
</tr>
<tr>
<td>OJD</td>
<td>Ovine Johne’s Disease</td>
</tr>
<tr>
<td>PIRSA</td>
<td>Department of Primary Industries South Australia</td>
</tr>
<tr>
<td>PPRR</td>
<td>prevention, preparedness, response and recovery</td>
</tr>
<tr>
<td>RIA</td>
<td>Rapid Impact Assessment</td>
</tr>
<tr>
<td>VIP</td>
<td>very important person</td>
</tr>
</tbody>
</table>
REFERENCES


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APS and ARC (Australian Psychological Society and Australian Red Cross), 2011, Psychological First Aid – An Australian Guide, Australian Psychological Society and Australian Red Cross, Melbourne, Victoria.


CSMAC (Community Services Ministers’ Advisory Council), 2004, *Review of community support and recovery arrangements following disaster*, Department of Family and Community Services, Commonwealth of Australia, Canberra.


DSE (Department Sustainability and Environment), 2005, *Effective engagement: building relationships with community and other stakeholders*, Department of Sustainability and Environment, Victoria.


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Handmer, J & S Dovers, 2007, The handbook of disaster and emergency policies and institutions, Earthscan, Sterling, VA.


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Tovey, J P, 2008, ‘Whose rights and who’s right? Valuing ecosystem services in Victoria, Australia’, 33 (2) *Landscape Research* 197.


After Cyclone Ului hit Eungella, Queensland in March 2010, Mirani State Emergency Service members took this owner to survey his crushed caravan. “This was my home” was all he could say. Photograph by Lynda McManus

The Grampians, a beautiful and popular national park in eastern Victoria, was ravaged by bushfires at the end of 2005. Like a “Phoenix from the Ashes”, nature rebuilds itself despite the devastation. Not much colour, but beauty amidst disaster. Photograph by Marten Jak, Emjay Technology Systems

Traralgon South Kitchen Opening, 19th March 2010
The Traralgon South Kitchen was funded by the Victorian Bushfire Appeal Fund after it was nominated as a priority project by the local Community Recovery Committee in the Community Recovery Plan. Photograph provided by the Victorian Bushfire Reconstruction and Recovery Authority

Strath Creek Hall and Pioneer Reserve, 2nd February 2011
Local community celebrate start of works at Strath Creek Hall & Pioneer Reserve following the Black Saturday bushfires. Photograph provided by the Victorian Bushfire Reconstruction and Recovery Authority
Community Recovery

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