



Assessing Resilience and Vulnerability in the Context of Emergencies: Guidelines

Acknowledgements

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Advice on Emergency Recovery Management Planning
Further advice on emergency recovery management planning is available from the
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from the Victoria State Emergency Service.

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Introduction

Definition

Resilience is the capacity of a group or organisation to withstand loss or damage or to recover from the impact of an emergency or disaster. Vulnerability is a broad measure of the susceptibility to suffer loss or damage.

The higher the resilience, the less likely damage may be, and the faster and more effective recovery is likely to be. Conversely, the higher the vulnerability, the more exposure there is to loss and damage.

Intended Users

These guidelines are for use at local and community levels by municipalities, agencies and organisations, as well as by the community itself. They are intended to assist in determining the resilience and the vulnerabilities of the local community in terms of the risks which they face.

This document is directed in the first instance to managers and planners from local government and agencies at community level.

However, it can be used by community members themselves if they are engaged in emergency prevention or response or recovery activities. It can also be used by emergency managers from any level of community or organisational level as well as by emergency management agencies.

A Collaborative Approach

Resilience and vulnerability assessment is one aspect of community profiling and local emergency management planning. This process should work closely with, and take into account, the Community Emergency Risk Management program conducted by the Victoria State Emergency Service, in conjunction with each municipality.

Purpose

A resilience and vulnerability profile is an integral part of effective planning to manage the consequences of an emergency. With a resilience and vulnerability profile it will be possible to:

- Identify the **strengths** of particular areas, communities or groups, in terms of resources, skills, networks and community agencies. These strengths and local capabilities may be used and further developed to minimise the negative consequences of an emergency. Prevention and preparedness activities, as well as recovery activities can be supported.
- Identify **vulnerabilities** of particular areas, communities or groups, so that these can be managed in terms of prevention and preparedness activities, response activities and recovery programs. By identifying risks and vulnerabilities prior to an event, local managers will have the opportunity to plan to avoid or to minimise the negative consequences of emergencies and disasters.

These guidelines have been developed for municipalities and local agencies, for use at a local government catchment level, to:

1. Ensure that in an emergency management context they can identify individuals, families and groups who may be at greatest risk or most threatened by hazards.
2. Ensure that needs which may arise after emergencies can be planned for, either in terms of prevention, priority attention in life threatening situations, or assistance to support recovery from an emergency or disaster.
3. Identify local and community strengths — which may include resources, skills, information and networks — which can be used to develop and sustain resilience.
4. Ensure that in the context of wide area and other types of emergencies (if the physical, social and commercial infrastructure and arrangements are temporarily disrupted) local government and agencies can work to ensure that communities and individuals have access to information which will assist their levels of resilience.
5. Support municipal emergency management processes and provide support and advice for municipalities in emergency management planning.

Assessment

Resilience and vulnerability assessment is a necessary component of effective emergency management planning. However, it is unlikely that any assessment, or community audit, will capture every potential need or identify every person who, in some circumstance, may be exposed to a risk or to the possibility of some loss.

After an emergency it will be necessary to scan the affected area, through information campaigns, outreach programs, letterbox drops and other methods, to identify people who require assistance.

Any resilience and vulnerability analysis needs to be conducted with sensitivity and proper regard to people's privacy and their right not to provide information. There are also legal and other requirements to maintain proper standards of confidentiality when dealing with information from the public.

Using these Guidelines

These guidelines are just that: guidelines. They are structured around a set of lists, which may act as checklists or prompts for further analysis, and are not exhaustive. Each event is unique and will generate its own set of vulnerabilities. Each individual, family and community is different and may be vulnerable, or have resilience, in different ways. These lists are prompts to be applied with due regard for the complexity of our communities and the dynamic nature of emergencies and disasters. These lists may be used as a checklist to which you can add or subtract as is necessary, for the requirements of your community.

Conducting a resilience and vulnerability analysis is not an end in itself. The purpose is to highlight issues, needs and concerns and to work to effect change — to improve resilience and/or to reduce vulnerability.

As part of this emergency management activity you might look at the renewal and development possibilities in an area. This applies particularly after an event, when it is important to move forward, rather than to simply try to repair the damage. Recovery may offer opportunities which would otherwise not occur.

Checklist

1. Has a vulnerability study been conducted?
2. Has a resilience assessment been undertaken?
3. Are the results current?
4. Are the results useful?
5. Should new studies be conducted?
6. How can you divide your area up into localities/areas which are useful for social and community analysis?
7. What data is available?
8. What additional data or information will be required?
9. Have appropriate data sources been identified?
10. What methods are most appropriate to achieve practical results in assessing resilience and vulnerability?
11. What risks does your area face?
12. Are there individuals, groups of people, services or areas that are particularly susceptible to risks?
13. Are there resources, services, skills or networks within the community which can be built on to optimise resilience and to reduce vulnerability?
14. What action has been taken on the findings about vulnerability?
15. What action has been taken on the findings about resilience?
16. Has the local emergency management plan been updated?
17. Has a schedule to review the analysis of resilience and vulnerability been set?

When looking at individual, group and community issues, there are broad principles which are relevant to managers and planners which support resilience and reduce vulnerability.

Supporting Community Involvement

The affected community will expect to contribute to their own recovery and, if denied an opportunity, may establish their own structures and processes to achieve that end. Supporting community involvement is therefore paramount. Successful management of the consequences is not possible without community commitment and involvement.

The following list comprises broad categories of the types of assistance and support which individuals and groups may require after a significant emergency or disaster. They are a way of thinking about service provision in management and operational terms rather than simply in terms of the particular assistance measure.

Information

- Information and advice about assistance measures and how to access them, as well as eligibility conditions and application procedures.
- The normal bio-psychosocial reactions which can be expected and how people can deal with these reactions in themselves, members of their family and their community.
- Information about how to make sense of the event in terms of its cause and fitting it into their 'view' of the world.

Resources

- Financial assistance for eligible parties to help restore losses. This may include grants, loans and insurance, where appropriate.
- Physical goods, such as temporary accommodation, essential household items, temporary public transport, tools and other items.

Management Capacity

- Time and opportunity, for example, to undertake recovery activities.
- Physical capacity, which may include the support of other people, machinery or support where there is a particular need.
- Access to services, for example, through establishing transport systems, locating service centres close to affected areas or access to translators, interpreters or other language and media services.
- Expertise, for example, access to specialist services, such as tradesmen, financial counsellors and other professional services.

Support

- Personal support, for example, outreach services, personal advisers and counsellors, specialist support services, advocates and gatekeepers.
- Community support, for example, community development officers.

Involvement

- Consultation in developing and implementing assistance and recovery programs.
- Encouragement in making a contribution to policy and program development.
- Engagement in monitoring and auditing the progress of recovery.

It is useful to set out community issues in these terms because it places them in a management and operational framework. Issues of resilience, vulnerability and need are expressed in terms in which they can be operationalised and dealt with in a practical way.

Vulnerable Groups

Who is Vulnerable?

Certain groups of people may have special needs after an event. There are groups which are traditionally accepted as being vulnerable. However, it is important to understand that the aged, for example, are not vulnerable because they are aged. They may be vulnerable *because* they may have, say, reduced mobility or sensory impairments. These may be impediments that other people share.

Equally, some vulnerabilities may be countered in part by strengths and other capabilities. The aged, for instance, may have a greater life experience to draw from; experience in local issues or strategies; they may have a wide network of family and friends; they may have a personal strength drawn from many years of battling through life.

The groups listed below are generalisations. The list is not exhaustive; it attempts to broadly group areas of possible need. But more importantly, the list can be read as an indication that there may be a potential need or vulnerability which should be addressed in emergency management planning.

This list is also directed at individuals or small groups. There may be larger socioeconomic categories or groups whose potential or actual strengths and weaknesses should be assessed. Farmers, small businesses, local groups or associations may all have special and significant needs that separate them in some clear way from other members of their community.

Equally, communities and agencies may be vulnerable to loss and damage from emergencies. A similar process of assessing elements of vulnerability and resilience and evaluating capability can be undertaken for communities and agencies.

The aged (particularly the frail)

In terms of mobility and physical capacity.

The very young

In terms of managing their own lives and recovery and in terms of understanding the event.

The disabled (intellectual, psychiatric, and physical)

In terms of managing their own recovery and in getting access to information and resources.

The poor, or people with limited resources to meet essential needs

In terms of having the financial and physical resources to achieve recovery or to protect themselves against loss through, for example, insurance.

Non-English Speakers (NESB)

In terms of understanding the potential risks and in gaining access to information.

The socially isolated

In terms of having family or friends that can provide personal and physical support.

The physically isolated

In terms of having easy, cheap and fast access to resources, or in terms of being able to call on assistance from other members of the community or from agencies.

The seriously ill

In terms of already being in need and having a very low capacity to carry out protective or recovery activity.

People dependent on technology-based life support systems

In terms of being dependent on systems over which they have no control.

Large families

In terms of complex family needs and dynamics and increased costs for prevention and recovery.

Single parent families

In terms of having to manage a range of demands with limited support.

Workers at risk from machinery or equipment failure

In terms of potential severity of injury.

People with limited coping capacity

In terms of low or reduced capacity to manage life events.

People with inadequate accommodation.

In terms of being already in straitened circumstances and with existing high levels of need and support.

Those on holiday and travelling (Australian), (particularly those in tent and caravan resorts)

In terms of being absent from their own communities and resources.

Tourists from overseas

In terms of being in unfamiliar environment with little knowledge of how to access resources and support.

People with marginal coping capacity

People with limited personal capacity to deal with stress and disruption, with limited economic resources or who have previously experienced significant stress, trauma or loss in their lives. This group may already be on the margins of successful life management or day-to-day coping by loss, damage or threat to life, safety, property or income caused by an emergency or disaster, and the new disaster may disrupt them even more.

People affected by an emergency

In terms of needs (medical, psychological, material, etc) generated by the event.

Changes to Vulnerabilities

It is important to understand and include in the vulnerability assessment that vulnerabilities and needs may change over time.

Needs may differ significantly (in terms of numbers of people and the urgency of the need) between those which occur after a few hours, and those which emerge after days or weeks. For example, the loss of water supply may be trivial for an hour or two, but over an extended period it has the potential to affect the whole population in a critical way.

The time of year may also be an important factor in assessing vulnerability. Loss of heating in summer is less significant than it is in winter. Loss of refrigeration in winter may be critical than in summer.

Once a vulnerability assessment has been undertaken the results will identify special needs which can be directly addressed as part of the local emergency management planning process. The results of the assessment should directly inform process of planning, prevention and preparedness and may be made available to individuals, groups, communities and agencies to assist them with their local activity.

Loss, Damage and Needs

While there are wide variations in the types of losses which individuals, groups and communities may suffer, the following list indicates the common types of potential losses and damage. These include:

Safety

Threats of death or injury.

Home/Shelter

Threats to safe, appropriate accommodation.

Health/Well-being

Threats to short to long-term well-being, in terms of physical health and psychological and emotional well-being.

Food

Threats to an adequate and uncontaminated supply of food.

Contaminated Water

Threats to adequate and uncontaminated supply of water.

Sewage and Waste Disposal

Threats to a continued safe disposal of waste and an avoidance of environmental health risks.

Social links

Threats to the networks and links which sustain daily community life, which provide a sense of order and meaning and which allow access to support and services.

Information

Threats to sources or outlets of information about existing or emergency management services.

Access

Threats to transport systems and utilities as well as to physical infrastructure, such as roads and bridges.

Income/economic opportunity

Threats to the capacity to earn a livelihood through the loss of employment, loss of customers or the loss of assets.

Priorities

A possible priority of needs includes:

Sustaining life (including people on life support machines)

Essential medical facilities, medical equipment and 'hospital in the home', medicines.

Sustaining physical well-being

Accommodation, food, water, clothing, etc.

Sustaining mental well-being

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 resource supplementation.

Assisting people who have resources adequate to manage their own recovery

Access to assistance measures.

Assessing Resilience

There are a number of factors which help individuals, families, groups, communities and agencies to minimise the consequences of disasters. These include supporting both preparedness activities and sustaining recovery activities.

Identifying and assessing positive factors which support resilience gives emergency planners and managers the opportunity to further develop resilience to increase the 'disaster resistance' of the population.

Factors Which Support Resilience

These include:

Shared community values, aspirations and goals

This includes a shared and positive sense of the future, a commitment to the community as a whole and agreement of community goals as well as a shared culture.

Established social infrastructure

This includes information channels, social networks and community organisations, such as sporting and social clubs.

Positive social and economic trends

This includes a stable or growing population, a healthy economic base.

Sustainability of social and economic life

This includes a capacity for the community to weather disruption.

Partnerships

Partnerships between agencies, between community groups and between commercial enterprises or any combination of these may bring innovation, sharing of experience, knowledge and resources and common goals. This applies particularly where the partners play a dominant role in the social and economic life of the area, such as towns dominated by a particular industry or economic activity.

Communities of interest

This exists where a group covers a wide area and is otherwise socially diverse, but still shares a common area of interest, skill or expertise. This includes communities bound together by faith and religious commitment as well as less formal groups, such as business or commercial associations or sporting or recreational clubs.

Established networks

Clear and agreed and stable links between people and groups facilitate the exchange of information as well as the sharing of resources and the commitment of skills, time and effort to planning and preparedness.

Resources and skills

The resources and skills available locally may be directly relevant to emergency management planning, preparedness and for community support if an emergency does occur. These can be identified by the type of resource or skill, its amount, cost, availability and location. Where useful resources or skills do not exist then they may be developed or promoted as part of preparedness activities.

Assessing the Hazard

The hazard agent itself will influence vulnerability and resilience. It will, in part, dictate appropriate preventative measures, as well as the types of losses and needs which may occur, and therefore the types of assistance measures which may be required.

There is no precise way to define in advance whether a particular event will be a disaster or emergency. This will require professional judgment at the time and will have to take into account factors such as:

- The severity of the loss suffered by the community
- and**
- The capacity of the community to support itself and to manage its own recovery.

Experience in Hazard Management

The types of events which the emergency management system has dealt with in recent years include:

- Floods
- Bushfires
- Storms
- Road accidents
- Criminal shootings
- Murder
- Bombings
- Landslip
- Financial institution collapse
- Child abuse (where it has affected many families in a small, localised community over a long period)
- Public health issues
- Animal disease
- Drought and other environmental problems which require personal and community support.

Hazard Factors

Hazard factors which may be considered include:

Predictability

Can the timing or location of the event be predicted (to allow prevention activities or protective action)? Is it seasonal, or confined to one area?

Speed of onset

How much warning will there be? How much time is available to move people and property to safety?

Destructiveness

How destructive is the hazard? How much of a threat of death and injury does it pose?

Duration

For how long will the hazard persist?

Frequency

How often does the hazard occur?

Area or Extent

How much area will be affected? Will there be an area from which other resources and support can be drawn?

Number of people affected

How many people will be affected?

Assistance

What assistance will be required if the event occurs? What opportunities are there for self-protection, such as insurance?

Data Sources

There are a range of sources available which have information about the demographic, socioeconomic and other aspects of community life and structure. Not all these data sources will be equally useful. Some may become dated, and some may charge for access to information, and for others there may be confidentiality restrictions.

Sources include:

Local

- Municipal surveys for planning and development purposes.
- Surveys and other research by specific agencies, such as General Practitioners, hospitals.
- Commercial and farming associations, such as business associations and the Victorian Farmers' Federation.
- Agencies, for example:
 - Victoria Police
 - CFA members
 - Meals on Wheels
 - VICSES
 - Supported accommodation and other service providers
 - Royal District Nursing Service
 - Infant Welfare Centres
 - Ethnic and Koori Support Agencies
 - Community Health Centres
 - Community Mental Health Centres
 - Churches and other religious bodies.
- Local knowledge, for example:
 - Storekeepers and publicans
 - School teachers.
- Databases, such as:
 - Home and Community Care databases
 - Meals on Wheels databases.

Regional, State and National

Australian Bureau of Statistics

Phone: (03) 9615 7755

Freecall: 1300 366 323

Census data

1996 census data. This is available down to collector district level which typically comprises a small number of houses.

Community profiles

These are available for a range of areas including municipalities, postal areas and suburbs.

Information includes language spoken at home, ethnicity, religion, dwelling structure and education.

Socioeconomic Indexes for Areas (SEIFA)

There are five indexes which summarise the relative socioeconomic conditions of an area:

- Urban index of advantage
- Rural index of advantage
- Index of disadvantage
- Index of economic resources
- Index of education and occupation.

This allows comparison between areas and standard areas include local government area and postal area.

Victorian Council of Social Service (VCOSS)

130 Little Collins St

Melbourne 3000

Phone: (03) 9654 5649

Fax: 03 9654 5749

Victorian Association of Community Information Centres

136 Exhibition Street

Melbourne 3000

Phone: (03) 9650 5322

Disability Resources Centre

381 Burnley Street

Richmond 3121

Phone: (03) 9428 8911

Ethnic Communities Council of Victoria

Statewide Resources Centre

217 Church Street

Richmond 3121

Phone: (03) 9427 1300

Initial Assessment

First it is necessary to decide and to be able to justify the elements being examined. These include:

Hazard

Although many hazard impacts result in similar consequences, such as injury and the loss of residence, there may be differences between them. Bushfires, for example, usually offer less warning time than floods and may totally destroy houses. Floods, however, cause damage but are unlikely to result in the total loss of a residence.

Locality

Each locality has unique characteristics and may have vulnerabilities and strengths in a different combination to others. It is therefore important to clearly define the area being assessed.

Scale

The size of the area chosen is also important. A large area may combine smaller areas which have little in common and will therefore skew results if aggregated data is used. Scale also applies to the level of aggregation of data — that is, the extent to which it may be useful to generalise about an area.

Demographics

An analysis may be undertaken for a particular group within a given area. The results of this analysis will be useful only for that group of people.

Further Assessment

Second it is necessary to identify and agree on the sources of data and the methods used to acquire information.

These can include:

Local Experts

Discussions with people who are prominent in community affairs can frequently give special insights. Such people include police, doctors, VICES personnel, municipal personnel, RDNS nurses and Meals on Wheels providers. This is a cheap method to gain special insights.

Focus Groups

Groups from the community, people with special interests or expertise or community leaders can meet to discuss and assess issues of vulnerability and resilience. This method often yields insights but is not particularly rigorous and will not identify in a thorough way all needs. This process is not time consuming, is relatively cheap and is useful in scoping a locality or large area.

Census Data

Census data can be a powerful tool for identifying the special characteristics of areas down to a few hundred houses. It can be conducted quickly and relatively cheaply. However, the data gradually becomes dated and will only give a picture of an area but does not identify individuals or small groups.

Surveys

Surveys requesting data may be distributed to residents. This is expensive and time consuming but gathers a lot of information. However, it is still likely that it will not identify all people in possible need.

Questionnaires

Distributed with service providers, such as Meals on Wheels or RDNS nurses, this method also collects a lot of data but is expensive and time consuming.

Outreach Programs

Post event outreach programs are a very useful technique for identifying losses and needs. Properly organised, this can be conducted quickly and efficiently.

Group Surveys

Surveys, discussions or questionnaires to social groups, such as football clubs, professional and commercial associations, such as chambers of commerce, service clubs and farmers' associations can provide useful snapshots of an area and a community.

Remember: No set of data is likely to be complete.
All data needs to be kept up to date. Information is most useful if shared.

Further Sources of Advice

Department of Human Services

www.dhs.vic.gov.au/emergency

Emergency Management Manual Victoria

Department of Justice, Victoria

www.justice.vic.gov.au

Disaster Recovery Manual

Emergency Management Australia

Risk Management AS/NZS 4360:1999

Standards Australia

Community Emergency Planning Guide

Emergency Management Australia



STATE GOVERNMENT OF VICTORIA