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Natural disaster preparation and response: issues for state housing authorities

authored by

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ACRONYMS

ABS	Australian Bureau of Statistics
AGO	Australian Greenhouse Office
AHURI	Australian Housing and Urban Research Institute
AS/NZS	Australian Standards / New Zealand Standards
AusDIN	Australian Disaster Information Network
BoM	Bureau of Meteorology
BTE	Bureau of Transport Economics
COAG	Council of Australian Governments
COMDISPLAN	Commonwealth Government Disaster Response Plan
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DISPLAN	State Disaster Plan
DLGHS	Department of Local Government, Housing and Sport, Northern Territory
DPWH	Department of Public Works and Housing, Queensland
EMA	Emergency Management Australia
FEMA	Federal Emergency Management Agency (US)
GIS	Geographic Information Systems
ICA	Insurance Council of Australia
IPCC	Intergovernmental Panel on Climate Change
KPI	Key Performance Indicators
MoU	Memorandum of Understanding
NDRRA	National Disaster Relief and Recovery Arrangements
NEMCC	National Emergency Management Coordination Centre
NGO	Non-Government Organisation
NHQ	Natural Hazards Quarterly
SES	State Emergency Service
SHA	State Housing Authority

EXECUTIVE SUMMARY

Natural disasters and emergencies are those rapid onset events that result in death, injuries and damage to property and require a government response to facilitate recovery. The most significant natural disasters in Australia are bushfires, floods, storms and cyclones. The most comprehensive data available indicates that the total annual economic cost of natural disaster events exceeds $1.14 billion (BTE 2001). In Australia, the reporting of disasters refers to those extreme events which result in over $10 million in damages. Reference to emergencies usually denotes those more common but far less damaging events where the costs are under $10 million.

Disasters and emergencies can have huge consequences for individuals and communities, impacting on the environment and even across regions, and causing injury and sometimes deaths as well as extensive damage to property and infrastructure. While natural disasters have always occurred in Australia, it is generally accepted that climate change, population growth and other demographic shifts have accentuated the risks faced by populations. In particular, the risk of increased bushfires in southern parts of Australia has been attributed to warmer and drier weather in recent decades while urban growth in coastal areas has exacerbated the dangers of exposure to cyclones, storms and floods.

In Australia, the Commonwealth, state, territory and local governments have established detailed planning and response procedures that are enacted once a disaster takes place. Usually the State Emergency Services (SES) and the police take the lead in orchestrating any response. In many disasters and emergencies, there is a need to provide emergency shelter, temporary forms of housing, repairs to damaged property and welfare support for households affected. It is for these reasons that the government lead agencies entrust State Housing Authorities (SHAs) to perform a range of duties to assist.

While there is considerable understanding of the procedures that are used in disaster management, there is a gap in knowledge with respect to how key actors engage in planning and response activities and negotiate the complex array of tasks required. The empirical data collected entailed interviews and focus groups with SHA tenants and staff involved in the response to the Canberra bushfires 2003, Cyclone Larry in far north Queensland 2006 and the NSW coastal storms and floods 2007. The key findings from the project incorporate three themes concerning: the experiences and lessons from the past; the planning stages to prepare for disasters; and the forms of response and recovery.

Lessons from the past

Research both from abroad and within Australia identifies the most effective ways to prepare for and respond to these events. There is a consensus that an all-hazards, multi-agency approach encompassing all levels of government, the private sector, NGOs and communities is the best way to address the complexities of disaster. In practice, agencies involved in disaster management have to address the technical and welfare aspects of planning and response; for example, the deployment of risk assessment protocols, early warning systems and, in the response stage, modes of welfare delivery including: evacuation procedures; temporary accommodation; and financial support. The key lessons that have been learned from recent events such as Hurricane Katrina, the Great Hanshin-Awaji Earthquake in Japan and the floods that affected the British Midlands in 2007 are that preparations and planning protocols inevitably underestimate the scale and complexity of the activities and resources required to respond effectively. Previous disasters are critical for adding to people's

understandings of disaster but there is much variability in individual and institutional knowledge. Recent experiences of disaster in different SHAs present opportunities to improve policy and practice. For example, recent events indicate that effective communication and command structures need to be sufficiently flexible to enable agencies working on the ground to engage in quick decision-making. In practice, this requires agencies to be explicit about their responsibilities and for staff to communicate information without adding additional layers of bureaucracy. In addition, SHAs need to be cautious of waning momentum after a disaster and to implement lessons learned.

Planning Issues

There is a need to resist the temptation to adopt formulaic procedures and understand that effective response requires an appreciation of the complexity of the tasks required and the need for inter- and intra-departmental collaboration with other agencies. For SHAs, establishing protocols with the construction industry, insurance sector and temporary accommodation providers is an important component of planning. Also, the preparation of appropriate templates and databases can streamline administrative processes such as data collection and dissemination once a disaster is declared. It is essential too, that they are up to date so that disaster damage is properly recorded and emergency staff can be contacted. Preparations also involve steps to maintain institutional knowledge. The high turnover of staff can often mean that important insights gained from practical experience are lost. Training in the form of workshops and scenario exercises is one way to limit the loss of this expertise. Planning also requires budgetary systems that facilitate quick decision-making. As far as possible, there needs to be scope for staff to exercise autonomy and make decisions that are appropriate on the ground. For this reason the chain of command needs to be transparent and widely publicised in advance to avoid duplication and excessive bureaucracy.

Responding to Disasters

Once a disaster occurs there is often a sense of confusion accentuated by the complexity of having to respond to competing demands. For SHAs, the responses usually relate to organising repairs and temporary accommodation, but can include welfare support and financial assistance for public housing tenants and other households. When disasters occur, there is need for unambiguous command and control systems to be in place so that operatives are aware of their roles. The most effective ways to engage in a recovery therefore require clear communication protocols that include regular briefings and information-sharing. Contact and recovery centres located in areas of greatest need are viewed as the optimum way to deliver assistance. They can also reduce bureaucratic impediments that undermine decision-making and impede action. The need for adequate financial resources is essential for the response stage and any shortfall can accentuate the strain experienced by staff and the quality of assistance. Tensions can be exacerbated when administrative functions are undertaken unnecessarily. Measures to develop teamwork and the sharing of responsibility can also help in meeting the challenges.

Finally, the research has revealed how SHAs perform critical functions in natural disasters and other emergencies. Their expertise both in property maintenance and in welfare support enables SHAs to operate as key agencies in a ‘whole of government’ approach. However, it is inevitable that there will always be a tension between the planning and the response stages. While planning is essential, the experiences from the three case studies indicate that successful responses can never be predetermined, but require the initiative and skills of key agencies on the ground. Policies that are developed to enhance the performance of SHAs in disaster management need to take account of this reality.

1 INTRODUCTION

This report is the final output of a research project undertaken by the AHURI Southern Research Centre to guide SHAs in natural disaster preparation and response. It presents the findings collated from case study investigations into how SHAs managed three different disaster scenarios including coastal storms and floods in NSW in 2007; the Canberra bushfires in ACT in 2003; and a tropical cyclone (TC Larry) in far north Queensland in 2006.

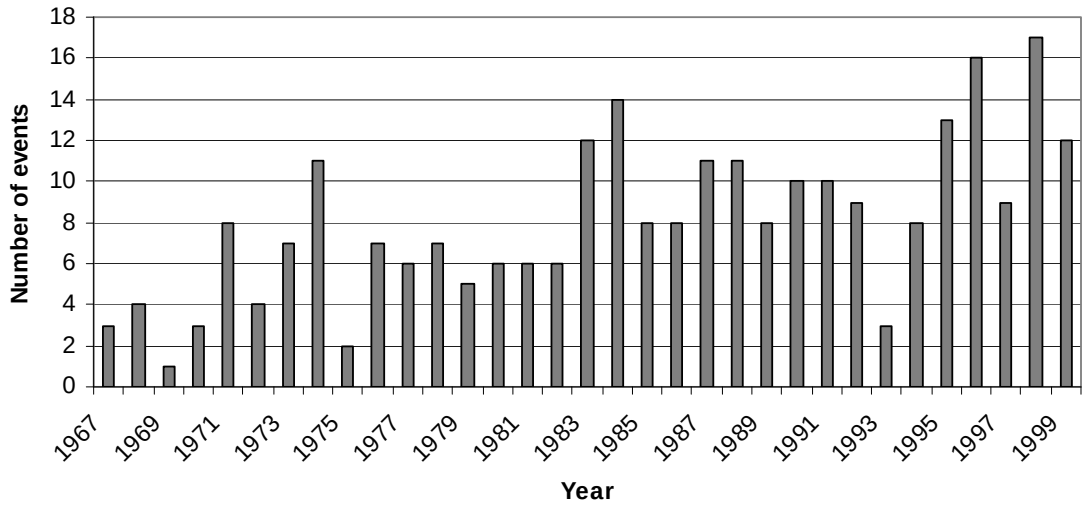
It begins by providing a summary of the discussion of natural disasters, international literature review, and Australian government policy context (all provided more fully in an earlier Positioning Paper), as well as a reiteration of the project's aims and objectives. Chapter 2 details the methods and data collection techniques used to answer questions posed in the three case study investigations. Chapters 3–5 then present the case study results so as to reflect the research project's thematic organisation in terms of previous experience and lessons learned; planning and preparation; and response and recovery. Chapter 6 concludes the research findings and sets out the key issues identified throughout the project.

1.1 Natural disasters

Natural disaster is a term used to describe a rapid onset event that jeopardises life and causes damage to property and the environment. In government reports, the term refers to events where the costs exceed $10 million. The impacts of natural disasters are considerable and require a multi-agency response from government agencies and communities. The most significant types of natural disaster occurring in Australia are bushfires, floods, storms, cyclones and storm surge (earthquakes, tsunamis, meteorite strikes and landslides are relatively infrequent and/or less costly).

Natural disasters directly affect individuals, households and communities, sometimes for prolonged duration and/or extending across several regions. The impacts and their significance vary but floods, severe storms and tropical cyclones are usually the most costly in terms of damage caused, while bushfires result in the greatest loss of life.

Figure 1: Number of natural disasters in Australia 1967–1999 exceeding $10m



Source: BTE 2001

The most accurate and comprehensive data used to measure the total annual economic cost of natural disasters for Australia relate to the period 1967–1999

(adjusted to 1999 dollar terms) and calculate a figure in excess of $1.14 billion (BTE 2001; COAG 2004). There was an annual average of eight natural disasters which had costs exceeding $10 million in this period, but often 12 or more such events occurred each year in the late 1990s. See Figure 1 (reproduced from the Positioning Paper).

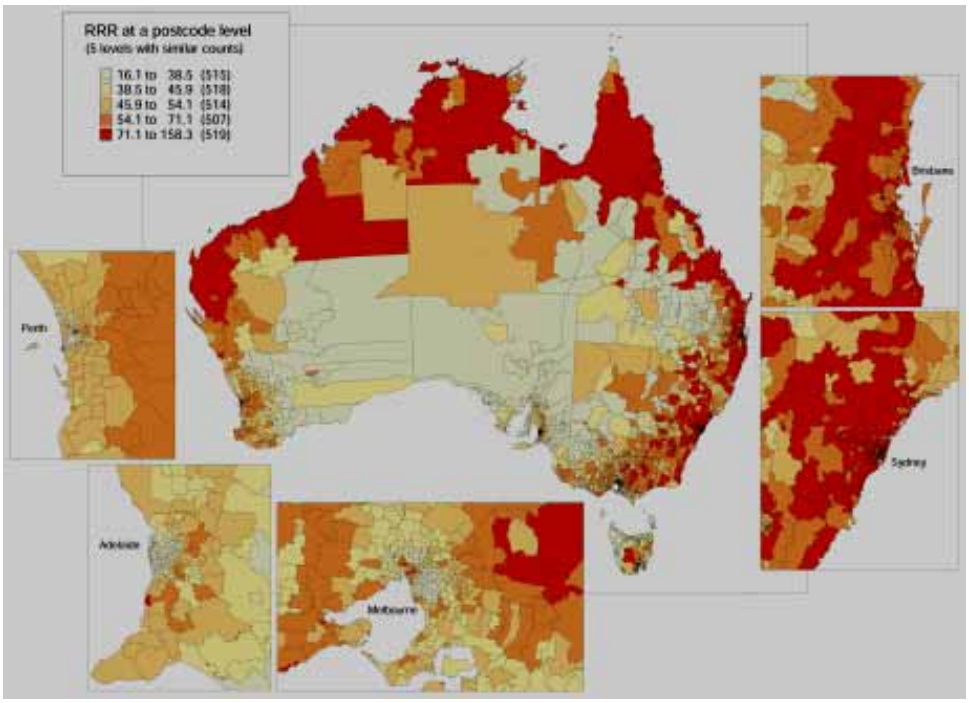
Each state or territory is more prone to some types of natural disasters than others. For instance, cyclones are especially prevalent in the belt across northern Queensland, northern Western Australia and the Northern Territory. Records indicate Tasmania, Victoria and the ACT as worst hit by bushfires. The coastal regions of Australia are also affected by seasonal floods and storms which occur most often as a result of cyclones in Queensland and with east coast lows off New South Wales, Victoria and Tasmania.

1.1.1 Demographic Changes

Australia's population is expected to increase as a consequence of both migration and natural growth. By 2051 the national population will be approximately 30 million people, whereas currently it numbers just over 21 million (ABS 2008). The increase in population is predicted to impact most significantly in the urban and coastal regions of eastern Australia.

Demographic changes will be attended by an increase in the numbers of people at risk of events such as cyclones, storm surges and flooding. Continued growth at the urban fringe may also exacerbate exposure to bushfires. An analysis of these and other natural hazards in Australia (NHQ 2000 cited in Newton et al., 2001) maps the risk rating for all postcode areas based on cumulative data for damage to buildings. See Figure 2 (reproduced from the Positioning Paper).

Figure 2: Relative risk ratings for Australia by postcode



Source: NHQ 2000 in Newton et al. 2001

1.1.2 Climate change

The threat of natural disasters is expected to increase as a result of climate change in Australia as they are more often hydro-meteorological rather than geological events. Research indicates that the frequency of high temperatures and rain downpours has increased in recent years (Alexander 2007). The latest predictions based on modelling suggest higher risks in the future of more intense tropical cyclones in coastal regions (CSIRO 2007), and increased rainfall in the north-western regions and a decrease in rainfall in the south-eastern regions of Australia (Hennessy et al. 2007) with possibly longer drought periods and hence a greater risk of bushfires. The expected rise in sea level will add to the risks faced by populations living near coastlines, many of whom are already subject to events such as tropical cyclones, floods and storm surge. The conclusions reached by the IPCC (2007) and Hennessy et al. (2007) are that climate change will necessitate improved disaster management policy. The specific concerns raised include needs for additional floodplain protection, urban drainage and sewage infrastructure investment. However, there is recognition among the key stakeholders that the use of integrated assessment methods and evaluation practices, as well as tools of mitigation and adaptation, can enhance disaster management planning (Allen Consulting Group 2005; IPCC 2007).

1.1.3 Agencies involved in disaster management

Australia has an extensive and detailed approach to addressing problems of disaster. Planning and response can involve all tiers of government and working through their agencies with different organisations, NGOs, volunteers, news media, research organisations, universities and local communities and households (EMA 2004). Housing agencies have an important role because of the high and increasing risks of damage to residential property. SHAs are often required to provide emergency relief to private householders as well as social housing tenants affected by natural and other disasters. Chapters 3–5 provide detailed case study investigations of their roles in three disasters caused by bushfires, cyclones and coastal storms and flood. In each disaster, SHAs performed critical roles in providing emergency accommodation, repairs to residential property and welfare support to communities affected. It is also recognised within state and territory governments that SHAs have sufficient housing stock, staff resources and institutional knowledge (as well as a social responsibility) to play key roles in planning for and responding to disaster.

1.2 International literature review

In recent years there has been a growing recognition of the need to invest more resources in the planning stages prior to the occurrence of any disaster or emergency event. As part of the planning stage, research (Pearce 2003; Perry and Lindell 2003) identifies the importance of focusing on vulnerability rather than specific hazards. In practice, such preparation stresses the need for more proactive measures including use of land-use policies, multi-agency information-sharing and engagement with communities. Table 1(reproduced from the Positioning Paper) notes these changes in disaster management strategies.

There is also more consideration of the changing vulnerabilities of different social groups as well as the risk of particular hazards in specific geographical locations. For example, the impact of disaster can be worse for people based on their gender and ethnicity as well as for those more obviously vulnerable groups such as the poor, elderly and disabled (Phillips and Morrow 2007). The notion of resilience is often used to convey how well or not individuals and communities might manage in a disaster. It relates to their capacity to prepare for and respond to disasters quickly and effectively, and is determined by their ability to learn from past experiences and to reduce risk.

Table 1: The shift in natural disaster management strategies

From	*To*
Hazards	Vulnerability
Reactive	Proactive
Single agency	Partnerships
Science driven	Multi-disciplinary approach
Response management	Risk management
Planning for communities	Planning with communities
Communicating to communities	Communicating with communities

Source: Pearce, 2003

The other significant development is the adoption of a generic approach in disaster management. It is used across governments in working with communities and NGOs, and combines the promotion of resilience (in, for example, sustainable development) with preparations to manage all types of hazard. Disasters are thus distinguished less between their supposedly natural and non-natural forms (such as technological crises and terrorism) and seen more as socially produced. There are four main components to managing any disaster. They are mitigation which includes activities such as land-use planning and the use of building codes to reduce risk; preparedness or planning undertaken to boost organisational capability; immediate response to protect life and property in an event; and recovery with both short- and long-term interventions.

Table 2: Principles of good practice in disaster management

Views disasters as both quantitatively and qualitatively different from accidents and minor emergencies
Highlights a continuing planning process rather than the production of an end-product, such as a written plan.
Adopts a multi-hazard rather than a single-hazard focus, and is generic rather than agent-specific
Builds on the notion that what is needed is a model that focuses on the coordination of the emergent resources, rather than trying to impose some kind of command and control
Focuses on general principles rather than specific details
Assumes potential victims will react well, instead of badly, during the emergency time of major crises
Emphasises the need for intra- and inter-organisational integration in the process
Encourages appropriate actions by anticipating likely problems and possible solutions or options
Builds on social-science research findings derived from systematic data rather than personal anecdotes or 'war stories'
Includes all four time phases of the planning process (that is mitigation, preparedness, response and recovery) rather than a single phase.

Source: Quarantelli, 1997

Successful disaster management is also predicated on innovations in technology that may enable more effective risk assessment as well as warning and communications systems. Geographical information systems have become increasingly important in all stages of disaster from planning to recovery. Other tools include the effective use of public and private insurance, policy based around research, education and training, legislation, and economic instruments (Handmer and Dovers 2007). Still, the tenets of good disaster management have been identified in many post-disaster studies, and

Quarantelli (1997) provides a useful summary; see Table 2 (reproduced from the Positioning Paper).

International evidence indicates how the impacts of a disaster and the subsequent responses can reinforce and even accentuate social inequalities, as seen in Kobe and New Orleans. Householders affected by disaster want to re-establish normal routines as quickly as possible and to return to their homes. Yet the complexity of the tasks involved and excessive bureaucracy are cited as major impediments to the delivery of a quick and adequate response when rehousing affected communities. Evacuations and relocation can require surrounding regions to act as 'receptor states' for evacuees; SHAs must usually work together with governments at various levels as well as with their agencies, other organisations and communities (often marked by differences and conflict); and significant new construction and developments also need to be instituted. However, there is a need to avoid good polices being undermined by the pressure to act too fast or by the many other, frequently unforeseen but intense difficulties, that can eventuate in situ. Table 3 (reproduced from the Positioning Paper) summarises some of the key lessons for SHAs in disaster management.

Table 3: Summary of lessons for SHAs in natural disaster management

Phase	***SHA specific features***
Mitigation	SHA housing in low-risk areas; appropriate zoning, planning and building regulations; construct to best standards; SHA tenants informed/assisted; sensitivity to socio-economic differences in vulnerability; effective hazard assessment, warning and communication systems; innovative insurance.
Preparedness	Appropriate policies and procedures, continuous planning cycles and regular training exercises; links to all tiers of government, their agencies and other organisations; information provided to tenants and other households; community involvement; inventory of emergency shelters and accommodation with proper capacity, resources and staff.
Response	Evacuation/transport suitable for young families, disabled, elderly, pets and personal affects; adequate provision of the best types of temporary to long-term accommodation/rental assistance; proper coordination/communication across government, its agencies and other organisations; optimise key role of volunteers and emergent actors; extend local–regional network of support.
Recovery	Damage assessment, maintenance contracts, repairs and reconstruction; capacity to locate displaced populations close to social networks and places of education/employment; include the community as well as planners and developers in reconstruction; understand land and housing markets; rebuild differently in better locations and implement mitigation measures.

Much of the literature on disaster management is proscriptive too in that it seeks to provide a critique of existing practices and then recommends what is deemed to be more effective planning that allows for better responses. This critique is valuable, but only a limited amount of the literature is sociologically based and little seeks to explore more precisely the experiences of key actors involved in disaster management. Even less is specifically concerned with housing (and none of the literature examined here focused on social housing). Some of the issues which require further analysis include the problematic aspects of planning for and responding to disaster. Questions arise, for example, as to how organisational tensions are addressed, and what might be the competing pressures that staff grapple with when responding to such complex events.

1.3 Australian Government policies

The Australian Commonwealth Government takes a lead role in planning for and responding to disasters. Its main agencies are Emergency Management Australia (EMA) and the National Emergency Management Coordination Centre (NEMCC) which maintains the national strategic policy known as the Commonwealth Government Disaster Response Plan (COMDISPLAN). The Commonwealth Government provides Natural Disaster Relief and Recovery Assistance (NDRAA) and other financial support in the event of a disaster. It also resources a disaster information portal (AusDIN) and funds agencies such as the Bureau of Meteorology and Geoscience Australia.

State and territory governments are responsible for disaster management in their own jurisdictions. In the case of a major event, state and territory governments can apply for additional resources from the Commonwealth. Each state has developed its own policies for planning and response. The various SHAs all have an important role, particularly in relation to the provision of temporary rehousing, and are represented on intergovernmental response groups within each state. In Victoria, Tasmania, South Australia and the ACT, the SHAs are located within human services departments, while in NSW and Western Australia they operate as departments. In Queensland, the SHA is located within the Department of Public Works and in the Northern Territory it is based in the Department of Local Government and Sport. The organisational structure of each state and territory government to a large extent determines the role and function of each SHA when disasters occur. Still, the institutional capacity within each SHA, including expertise and knowledge as well as physical resources, usually means that in any disaster, which requires the provision of temporary or permanent housing, they perform a lead role.

The 770 local government municipalities across Australia also provide a response, though their work, especially in remote areas, is often constrained by their limited resources. It is common for local government to assist in clearing up the damage caused and to liaise with local community agencies and the public. In overall terms, the arrangements for natural disaster preparation and response in Australia are extensive and quite well resourced. Disaster management plans are reviewed on a regular basis at all levels of government and staff are usually well prepared for when events arise. However, whenever they do occur, disasters of all types as well as many other emergencies always provide significant challenges for government agencies.

1.4 Research aims and objectives

The premise for this research proposal is that SHAs will be required to engage more fully in natural disaster and environmental emergency planning and response activities because of the impacts of global climate change on human life, private property and social infrastructure. Existing research indicates that plans can never fully prepare us for disaster but risk management strategies are an effective policy instrument for minimising impact while optimising the effectiveness of responses.

The overall aim of the project is to provide guidance for SHAs and to assist them in preparing for and responding to natural disasters and other environmental emergencies. To achieve this aim, the project has the following objectives:

- → To outline the strategies currently in place in Australia for disaster management at all levels of government and by agencies including SHAs.
- → To identify from others' experiences of such events in Australia and abroad the lessons that might be learned and of use to SHAs.

- To identify the most effective policies and practices for use by SHAs in preparing for and responding to such events.
- To identify the networks linking different organisations and communities that can optimise how SHAs prepare for and respond to such events.
- To set out the best approaches and measures to use in preparing for and responding to such events in a guide for use by SHAs in Australia.

The Positioning Paper has addressed the first two of these objectives by providing a detailed summary of current practices in Australia and a review of international literature on disaster management. Empirical research was required to complete the research project. The last three objectives are addressed through an investigation of three case studies incorporating the main types of natural disaster and environmental emergency that have featured in different parts of Australia in recent years.

The next chapter builds upon the overview of disaster management literature and the role of government that has been summarised thus far. It provides details of the case study locations, the research questions and the conceptual themes that form the basis of the analysis.

2 RESEARCH METHODS AND DATA COLLECTION TECHNIQUES

This chapter provides details of the research methods and data collection techniques that were deployed for the three in-depth natural disaster case studies set out herein.

2.1 Methodology

The key methodological questions that informed our approach concerned: the parameters of the investigation; and the appropriate ways of collecting and interpreting data. For example, what aspects of practice should be examined? Who are the appropriate individuals to interview? How should the collected data be interpreted? Our approach was to select events that have had a significant social impact and required a specific housing agency response. The aims of the project required us to identify a range of individuals who had practical experience of disasters and could discuss some of the management challenges in preparation and response. We established a three-fold categorisation of data relating to previous experiences of disaster management, current planning procedures and recovery practices for the analysis of the data we collected (see section 2.3).

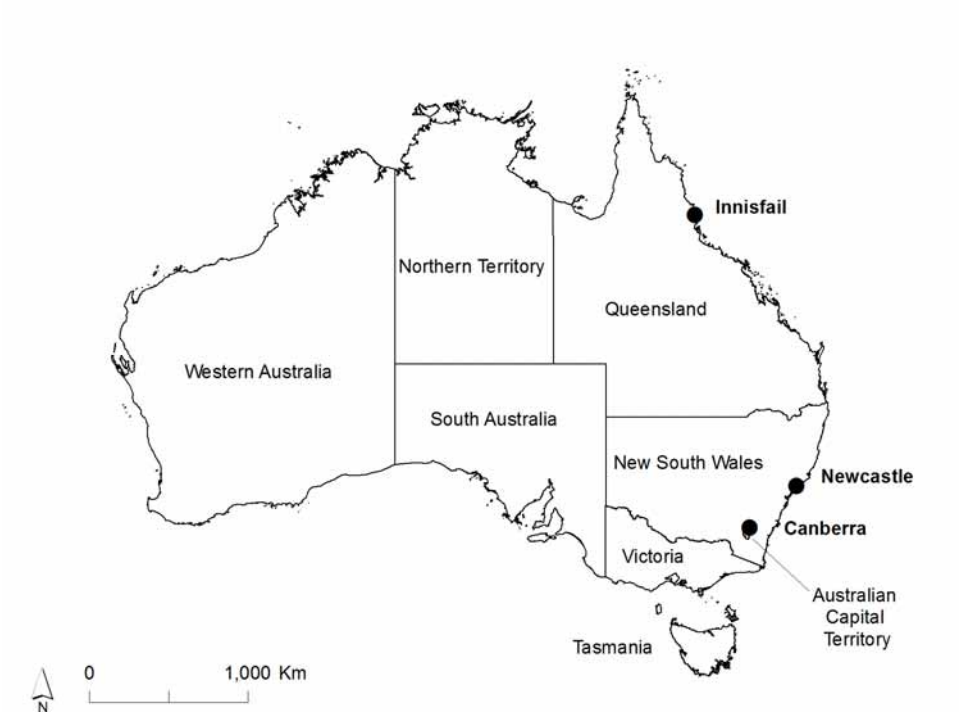
2.2 Case studies

2.2.1 Coastal storms, NSW

On the 8th June long weekend in 2007 heavy rains, gale-force winds and subsequent flooding affected much of the NSW coast. The areas most impacted ran from Sydney Metropolitan Area through the Central Coast and Lake Macquarie to the worst hit, which was the Hunter region, and with record rains falling in the urban centre of Newcastle. The event resulted in nine deaths as well as damage to 2375 properties owned by Housing NSW and located across an extensive geographic area. Then, following thunderstorms on 9th December 2007, again on a long weekend, Western Sydney experienced widespread disruption including major storm damage to 550 Housing NSW properties mostly located in Blacktown (but with no reported fatalities). The financial costs to Housing NSW simply for the property damage sustained with these two events are estimated at $4.6 million and $2.9 million, respectively. The total cost of the June 2007 storms alone in NSW is put at $1.35 billion by the Insurance Council of Australia.

Housing NSW owns and manages approximately 145 000 properties in the state. At a corporate level, Housing NSW functions as a state department under a Director-General with key offices including Governance & Regulation and within that, Business Continuity and the Risk & Insurance Group. At an operational level, Housing NSW has four Divisions with several Areas within each and then a number of local offices. It was mostly at this level that Housing NSW staff dealt with the evacuation of tenants, provision of emergency support such as temporary accommodation, and organisation of repairs including the total re-roofing of some properties as well as tree-lopping, tying tarpaulins, water extraction and carpet removal. In both these events, Housing NSW worked closely with other agencies to manage the disaster through a Disaster Recovery Centre, as required under the NSW disaster plan DISPLAN, but Housing NSW tenants and some others (private renters and home-owners) also made effective use of the Department's Housing Contact Centre. Also, in the second event, a taskforce (the Blacktown Storm Recovery Taskforce) was established similar to the Southern Sydney taskforce that was set up in response to the Sydney hailstorms in 1999.

Figure 3: The three case study sites in Australia



Source: Geoscience Australia

2.2.2 Canberra bushfires, ACT

The Canberra bushfires that occurred on 18th January 2003 resulted in the deaths of four people, 440 injuries and the loss of 488 houses and 90 community and commercial properties on the western fringes of the city. The total financial cost of damage is estimated at $350 million. Over 5000 people were evacuated to emergency centres and the housing department played a pivotal role in assisting households and repairing and renewing properties.

Following the 2003 Canberra bushfires, a special determination was made to establish a new temporary priority category for the allocation of public housing so as to assist Housing ACT in this role. The ACT government also established a Recovery Taskforce that was responsible for establishing a recovery centre that included community services, planning and land management agencies. Five years later and Housing ACT and Community Recovery (together) are still providing support to the tenants who resided in the rural villages that were almost completely destroyed during the bushfires. One village has now been rebuilt and another is under construction.

2.2.3 Cyclone Larry, far north Queensland

Cyclone Larry struck the far north of Queensland on 20th March 2006. The damage from the cyclone spread over an area of over 17 000 kilometres and impacted on a population of over 30 000 people south of Cairns. The municipality that suffered the most damage directly from Cyclone Larry was Innisfail, but other residential areas badly affected were on the Atherton Tablelands. The cyclone was initially thought to be a category 5 system with wind speeds of over 280 kilometres per hour. While the damage was extensive, the cyclone moved quickly along its trajectory and therefore had less of an impact than Cyclone Tracy which destroyed much of Darwin in 1974. The estimated cost of Cyclone Larry is put as high as $500 million (Queensland Government 2007). The aftermath demanded a major relief effort with volunteers drafted from neighbouring states and territories to assist. The recovery was managed

by the Operation Recovery Task Force headed by General Peter Cosgrove. The public service component of the recovery was undertaken under the auspices of the Operation Management Group (Cairns) and the State Disaster Management Group (Brisbane). There were as many as 19 000 houses requiring repairs with insurance bills amounting to over $369 million. In the initial stages, recovery was provided through 13 'one stop shops', although this was later reduced to just two.

The SHA for Queensland is the Department of Housing, formerly situated within the Department of Public Works and Housing (DPWH). It currently employs over 1000 people and manages in excess of 50 000 dwellings.

2.3 Data collection techniques

Each case study entailed: an assessment of current policy and practices; new data drawn from interviews with key housing and disaster and emergency management professionals; focus group meetings with operative staff to discuss the immediate and longer-term lessons that can be learned for future practice; and focus group meetings with tenants affected by an extreme event such as a natural disaster or environmental emergency. Senior housing officers in each location were contacted and oversaw the selection of interview and focus group participants to ensure that a wide range of viewpoints and experiences were represented.

The fieldwork for the project was undertaken in the months of November and December 2008. Between 4–6 days were spent in each location, a period of time which enabled us to engage intensively with the SHA, its work culture and practices, and to become known among the relevant staff and tenants who were later interviewed on-site at the SHA offices.

During the course of the research, we asked our respondents to concentrate not so much on what they thought should happen but more on what actually did happen. By taking this approach, we are able to bring to the fore the subjective experiences of those who were involved, and aimed to avoid repeating the post hoc rationalisations that understate problems, in attempts to convey a logical narrative of order and control.

Coastal storms NSW

Semi-structured interviews and a focus group together involved a total of nine housing department staff from the Housing NSW Sydney and Newcastle offices. All of them had been involved in preparing for and/or responding to the flood and storm events in NSW in 2007 except for one (an environmental manager who was then working in local government in Sydney but has since commenced in a similar role with Housing NSW). Another eight participants identified as Housing NSW tenants affected by the Newcastle floods in 2007, some of whom were also members of the Hunter/Central Coast Tenants Advisory Council, attended the resident focus group meeting.

Bushfires, Canberra

Semi-structured interviews and a focus group were held variously with a total of eleven housing department staff working from the ACT's Belconnen area housing office, all of whom were involved in preparing for and responding to the Canberra bushfires in 2003. Some of the staff focus group discussants attending were property and maintenance contractors. Four other participants, all of whom lost their homes in the bushfires, attended the resident focus group meeting

Cyclone Larry, far north Queensland

Semi-structured interviews and a focus group took place variously with fifteen housing staff from Queensland Department of Housing regional offices including Cairns, all of whom were involved in preparing for and responding to Cyclone Larry in 2006. One person attending the housing staff focus group meeting was a community recovery officer then with the Queensland Department of Communities. Four participants who are housing tenants and were directly affected by Cyclone Larry in 2006 attended the resident focus group meeting.

2.4 Thematic analysis

The approach to eliciting and then analysing data encompassed three thematic areas: experiences and lessons from the past; planning protocols; and responses to disaster. A decision was made to integrate the data to minimise repetition within each case study.

The three themes for analysis are set out in Table 4. It also identifies the key issues and main questions pursued in this research, and their linkages across the themes, as well as the sources of data and methods used. The first theme, concerning the experiences and lessons of disaster, was designed to probe the extent to which individual understandings and current practices are embedded within institutional knowledge. The second theme entailed planning, and here the aim was to focus on the practical steps agencies could undertake when preparing for disasters and to identify effective organisational structures. The third theme focused on the actual responses to disaster and here we asked our interviewees and focus group discussants to reflect on their own involvement in such events.

The interviews and focus group meetings were digitally recorded to ensure an accurate capture of data. They were also then transcribed to ensure that the full details and range of perspectives provided by both staff and tenants in the interviews and the focus groups were available for a thematic analysis. As a whole, the data collected provided a rich source of empirical material that added to the other examples gleaned from the international literature review (provided in the Positioning Paper).

Each of the three case studies provided an example of a disaster where SHAs fill a pivotal role, especially in the aftermath with their provision of support to public housing tenants and private renters and owners made homeless. The links between policy and practice, and new insights into disaster management in Australia, in particular, were pursued. These case study findings are explained more fully over the next three chapters and with their organisation by theme.

Table 4: Research themes and methods of data collection

Research themes and questions	*Data*	*Methods*
Experience and lessons from previous natural disasters and/or environmental emergencies 1) From the perspective of social housing organisations and the housing industry: what lessons can be learnt from previous responses to natural disaster management in Australia and abroad?	Emergency Management Australia Disaster database ***International Literature with a focus on:*** Hurricane Katrina US 2005 Sheffield Floods UK 2007 Kobe Earthquake Japan 1995 ***Australian Literature with a focus on:*** QLD Cyclone Larry 2006 ACT Bushfires 2003 NSW Coastal storms 2007	→ Interviews with key policy makers, focus group meetings with operational staff and tenants in 3 Australian case studies. → Review of international Literature → Review of Australian Literature
Planning for natural disasters and/or environmental emergencies 2) What is the most appropriate role for Australian SHAs in natural disaster management and environmental emergency preparation? 3) What are the organisational and budgetary issues that need to be addressed in planning a disaster and emergency response? 4) How can SHAs provide practical assistance to tenants to help households prepare for natural disaster or environmental emergency? 5) What is the appropriate network of organisational relationships that SHAs need to forge with other agencies in the preparation for disasters?	Literature review e.g. Council of Australian Governments 2002 Report (natural disasters high level officials' group) Bureau of Transport Economics 2001 Report (economic costs of natural disasters)	→ Interviews with key policy makers, focus group meetings with operational staff and tenants in 3 Australian case studies. → Review of international Literature
Responding to natural disasters and/or environmental emergencies 6) What are the most effective forms of response for SHAs following an emergency or disaster? 7) What are the networks of relations and command structure that are best suited to a disaster response? 8) What are most significant risk factors that impact upon disaster responses and how can these be minimised? 9) What are the most appropriate financial mechanisms for SHAs to enable an effective response?	Existing strategies prepared by SHAs, social housing agencies and the housing industry State, territory and Commonwealth reports Academic journals	→ Literature review → Internet search engines. → Interviews with key policy makers, focus group meetings with operational staff and tenants in 3 Australian case studies.

3 EXPERIENCES AND LESSONS FROM PREVIOUS DISASTERS

Chapters 3, 4 and 5 discuss the data gathered from the three case studies in accordance with the themes set out in Table 4. Here, in Chapter 3, the institutional knowledge acquired from previous disasters and informed by policy and practice in Australia and overseas, is examined in the context of the views of case study participants.

3.1 Learning from the past

The occurrence of natural disasters is devastating but also provides opportunities to learn lessons for policy and practice. This process though is complex. Post-disaster research suggests that policy learning is highly subjective, and most likely to happen only after extreme events (Birkland 2006; O'Brien and Read, 2005), and its implementation is largely determined by the political will to effect change (Gerber 2007; Tierney 2006, 2007). Indeed, while individuals and organisations are often effective learners, the application of knowledge at an institutional level continues to be most important for making any real progress in the practices of disaster management (Handmer and Dovers 2007; Quarantelli 1997).

The case studies investigated here indicate that it is disasters of greatest size or proximity that are most often remembered and had a subsequent influence, including upon SHA policy and practice, and especially if their impacts are felt directly. Housing staff in all three cases referred to the most major and recent of natural disasters, including the Indian Ocean tsunami and Hurricane Katrina. For example, a senior staff member in Queensland stated:

> 'Hurricane Katrina provided a wakeup call for us all, it made us all think about the mistakes that were made and how we could ensure our response was a good one. If we had not had Hurricane Katrina, I think complacency would have set in and we would have been less effective in our response'.

As expected, the endogenous events (of NSW coastal storms and floods, Cyclone Larry in Queensland and the Canberra bushfires) had each had the most definite, tangible impact on SHAs as well as those households and communities then affected. Another senior housing officer in Queensland commented:

> 'Before Cyclone Larry, there was a fair amount of tokenism. Procedures were very structured and bureaucratic. Disaster planning policy has [since] changed. We now recognise the need to be flexible'.

The case study results also revealed in detail the critical roles played by SHAs in the management of natural disasters. All the interviewees and focus group discussants were cognisant of the significant functions performed by SHAs in conjunction with governments and other agencies, but also stressed the constraints in terms of what might have been learned or enacted from previous incidents.

3.2 The roles of SHAs in managing natural disaster

Housing and housing agencies are critical in the event of a natural disaster. They have central roles both in the sense of social welfare and human services provision and with respect to the physical infrastructure and its management as an asset which might get damaged. In the three case studies SHA staff and tenants referred to many different aspects of disaster management, including the planning and preparation already deployed in their work as well as their own responses to recent events. In

addition to the discussions about various disaster mitigation tools (such as risk mapping and insurance) and about different policies and practices (most often in relation to communication and coordination), participants mentioned some of their own organisation's most recent and relatively novel developments. They included efforts made, for example, in incorporating the possible impacts of climate change within a sustainability approach, and in implementing a generic approach to disaster management with a general, structured but purpose-built toolkit.

In particular, the case studies revealed that the personnel and institutions of the SHAs investigated here all had variable experiences of disaster. The common thread that linked the respondents from each case study was their shared imperative to manage such events better in the future. However, within each case study there were also obvious conflicts with the competing demands they faced, a widely noted division between the two primary roles performed by the agencies, and both strengths and weaknesses in their working with other agencies and industry sectors such as housing and construction and insurance.

3.2.1 The differing experiences of disaster

Variations in understanding of disasters and capacity for their management within SHAs were evident from interviewees' responses. For example, housing staff in the ACT worked with colleagues seconded from Queensland in the aftermath of the Canberra bushfires and subsequently commented on what was perceived as a greater capacity for disaster management. As one housing officer stated:

> 'We learnt how important … institutional knowledge is … In Queensland where they deal with cyclones on a regular basis, they are able to maintain this knowledge. For us, because these events occur very infrequently it is difficult to embed knowledge. In ACT there was no expectation of anything so large in scale, residents were unprepared. In Queensland there is a more realistic understanding of the risks of natural disasters'.

Likewise, the relative differences between SHAs in their experiences of particular types of disaster were evident here. These three case studies are important for looking at the specific (hydro-meteorological) phenomena that are most relevant to Australia, but they also revealed how understandings of disasters and preparations for their management are highly subjective and limited by an event typology as well as the actual location of the SHA and the different histories of both the individual personnel and each of the institutions. Thus some senior staff made references to their memories and practical experiences in events, including the Newcastle earthquake and Cyclone Tracy. Others commented on how seasoned staff took knowledge away with them when departing, whereas new staff (often commencing well after the disaster in question had occurred) tended to lack understanding, empathy or rapport. As one project officer in Queensland noted:

> 'Loss of institutional knowledge is something that affects all agencies over time. Staff turnover means that much of the experience is lost. Training can make up for some of this but it is not the same as the knowledge learnt from those who go through it themselves'.

On the other hand, some of the participants demonstrated depth as well as breadth of knowledge and experience. They articulated the complexities of disaster including, for example, the problems of definition and qualitative differences in scale. One senior officer in NSW reflected on that state and its SHA's preparedness for various possible scenarios, but was still looking to past events in Australia and overseas as key reference points:

> ‘Are we actually prepared enough for a catastrophe? … I don’t think we’re ready for that yet. At a major, major scale it’s not clear who does what. Say a FEMA [Federal Emergency Management Agency overseeing the response to Hurricane Katrina] kind of thing ... something like the Hawkesbury-Nepean [flooding] ... I’m not sure where we [Housing NSW] would slot in. So there’s still work to be done there… Previously, in Australia, Cyclone Tracy is a classic example… and the pandemic scenario’s got to be considered as well. It’s not just natural disasters… A fire, for example, in one of our high-rise buildings or offices would totally disrupt our business continuity and be an internal disaster for us but not necessarily for anyone else. We would incur all the costs. Nobody knows what would happen in that situation’.

3.2.2 The dual roles of SHAs

The international literature on disaster management does not focus on social housing providers. Therefore, the unique position of SHAs in a natural disaster is not well recorded or analysed. In particular, the case study investigations here revealed SHAs to have two main functions which they must continue to perform even during a disaster. These dual roles are divided between managing property and managing people, and come into increasing conflict during a disaster. The distinction was made explicit by a senior staff member in relation to his housing agency:

> ‘Housing NSW is like a local authority and housing is its utility, and so it is distinguished from other services. Its policy is focused on looking after the utilities and infrastructure more than the human side of housing and tenants’.

In the focus groups housing officers and other staff mentioned the criticisms that arose from their dual roles and the perception (held mostly by the tenants) of a bias in their work towards protecting the physical assets. In the ACT, for example, housing officers, but also property inspectors and maintenance contractors, had been especially subject to criticism. One maintenance contractor observed that ‘… it was said by some that we were too property-focused and not people-orientated enough’. Yet, they also saw their work as involving ‘… not just bricks and mortar but also a community role in helping people adjust. We had to help people adjust to the trauma and not just think of our work as a technical exercise or property management’. Thus the conflict which ensued from these competing demands could hinder any immediate response effort as the Housing ACT senior property manager also makes clear:

> ‘We got some flack from people living in properties when our inspectors turned up to view the properties that were partially damaged. Some felt we should have been more people-orientated at the early stages and not focus on the properties. There was a tension between our need to be welfare-orientated and our need to gather technical information so that we could begin the task of recovery’.

3.2.3 Working with other agencies and sectors

In managing both the welfare of people and the maintenance of housing stock, SHAs are obligated to work with an array of agencies and industry sectors in the wake of a disaster. The staff interviewed therefore made frequent reference to their relationships with other human services providers, including NGOs and community organisations as well as the various levels of government and their agencies. Internal and external (that is, intra- and inter-agency) communications and coordination were most often cited as areas of key importance but also for possible improvement with, for example, the clarification of roles and the formalisation of arrangements being mentioned.

The two industry sectors identified by case study participants as most critical were the housing and construction and insurance sectors. The repairs and new builds that necessarily follow fast on the heels of a disaster entwine SHAs with the workings of the housing and construction industry. The case study interviewees and focus group discussants therefore noted the benefits of having good relations with these workers and businesses, and they recommended with insights from the past, the value of practices such as negotiating widely and agreeing on scheduled prices and bonuses in contracts beforehand. There were also unavoidable pitfalls though, such as the dependence on materials and labour and having to compete in the marketplace (sometimes avoided with linkages to other government departments such as QBuild). However, in NSW, as one respondent stated: 'You can't just order a company like BHP back into production when they're closed for the holiday'. Similarly, a manager there commented:

> 'With asset repair, the contractors' capacity to get anything done is effectively also ours, by default. That is, we are just as dependent as they are on accessing parts and sub-contracting labourers. I mean, you can have plenty of carpet in stock, for example, but it's no good without any carpet-layers on hand… It's all about asset repair!'

With the insurance sector, likewise, the senior SHA staff stressed the need to have arrangements already in place. In the event of a disaster insurers were best involved from the very start. Previous experience suggested that optimum outcomes were the result of insurance assessors and adjustors understanding the organisation's scoping of any outstanding jobs and raising work orders, and being involved in assessing and agreeing on the work's progress, processes of prioritisation, expected standards of quality, and the costs of repair.

Where and with whom SHA staff most liaised both inside and outside the SHA influenced how they saw the management of natural disasters unfolding in the future. Those senior housing officers working close to the corporate sector, legal and governance and/or in risk management were aware too of the increasing role that insurance will most likely continue to play in disaster mitigation. Staff who worked with local government and the construction industry tended to identify developments in environmental sustainability, such as improved building codes, materials and practices as having central roles in the future.

3.3 Constraints to successful disaster management

The desire to learn from past disasters and to implement change can be constrained or in some cases overlooked (and sometimes quite soon after an event) even though preparedness could one day, yet again, prove to be critical for SHA staff and tenants. Housing officers in all three cases remarked on how the momentum of disaster management was soon dissipated and noted the dangers of complacency. In NSW a senior project officer observed from years of experience in the field:

> 'There's that initial 'Oh, we should do something about this' and then it fades into oblivion … out of sight out, of mind ... But really, it's about keeping that momentum going. This [disaster policy and practice] is an important part of what we do, and even though we don't have events every day, we do need to know what to do and how … for when it happens'.

In fact, many of the SHA staff implied that they were at first not well prepared when commenting on how they had been obliged to learn 'on the spot'. With the ACT case study one housing officer commented: 'we learnt a lot on the job' and another stated

that they were '… not aware of recovery functions elsewhere in the organisation … we had to make it up as we went along; we soon learnt though what worked.'

In NSW an area manager and a senior project officer both made explicit comments on disaster planning and management. They identified problems with upper management and corporate practices, when suggesting, respectively: 'There's no proper framework … it is still not core business' and 'There's a lack of understanding of where it all fits in… they don't understand its relevance. There's a lot of work still needed around changing the corporate culture'.

The lessons of disaster management often remain elusive despite the best intentions. It was also disappointing for SHA staff that so little progress could appear to have been made even after what were deemed to have been relatively successful response efforts. A major factor identified here was the institutional failure within SHAs to record the lessons learned and to implement in policy and practice those procedures, which by default, had been piloted and found effective. For example, as one senior housing officer in NSW soon realised:

> 'We hadn't documented anything from our previous disasters, e.g. [sic] the Sydney hailstorms. We just didn't have a shred of paper … we had to reinvent the wheel [and] still are reinventing the wheel to some extent … even after the Hunter [storm and flood event in 2007]'.

3.4 Summary

The experiences of previous extreme events and the lessons learned are of critical importance for informing policy and practice in disaster management. However, from the perspective of SHAs, there is great variation both in the individuals' and the organisations' understandings of different disasters and in how such knowledge might be implemented (if ever). The retention of institutional knowledge was also an issue.

SHAs continue to address the different aspects of disaster preparation and planning and of response and recovery. The attendant complexities are discussed with further details provided in Chapters 4 and 5. Overall, the roles of SHAs are split between their duty to care for tenants and others in need of housing and their obligations to maintain and repair housing stock.

Close ties to both the housing and construction and the insurance sectors continue to be increasingly important for SHAs. There are also opportunities here for exploring positive relationships and strategic developments in the pursuit of disaster mitigation by SHAs. There is a powerful imperative for SHAs to anticipate and cope with disasters better in the future, and past events provide opportunities to progress current policy and practice. However, while staff are dedicated to achieving the best possible outcomes, there are also some inhibiting factors. Although successful response efforts were recounted, tendencies toward a loss of momentum and complacency were noted. The failure at an institutional level to record and implement the lessons of previous disasters, and a lack in terms of the political will, corporate understanding and commitment of resources (often decided elsewhere), also characterise how SHAs have handled disaster management issues to date.

Photograph 1: Housing damaged in Innisfail Queensland 2006

Source: Bob G. Burton

4 PLANNING FOR DISASTERS

In the previous chapter, the lessons from past disasters were discussed. It noted both the opportunities and the impediments to disaster management, ranging from aspects of preparation and planning through to response and recovery. The most significant lessons relate to the necessity of setting aside adequate and sufficient resources to ensure that planning and training has traction. In this chapter, we begin with a discussion of the most appropriate role for SHAs in the preparation stage and the organisational and budgetary issues that need addressing.

4.1 Managing complexity

We were keen to probe our informants' views of the role of the SHA and how SHAs interact with other directorates. Without exception, we learned that the complexity of responding to disasters and emergencies requires a whole-of-government response. This said, staff working in housing agencies took the view that SHAs are a very particular kind of agency which have the acumen to offer specialised services, both providing accommodation to the households affected and addressing their welfare needs. We also heard that SHAs have technical know-how to provide property maintenance and inspection services following a disaster. Indeed, it is SHAs' competency in both welfare provision and technical knowledge that explains why state governments are entrusted to play major roles in both the planning and recovery stages of a disaster. In the remainder of this chapter we examine in some detail how SHAs prepare for such events.

4.2 Anticipating disasters

Interviewees identified the importance of detailed planning prior to any natural disaster or other emergency eventuating. However, there were contrasting views as to the most appropriate forms in which this planning should be undertaken. According to some of our interviewees, the planning stage should concentrate on how individuals and agencies coordinate their responses. Their concern was that without clear planning, the risk of staff overlapping in operational duties would increase. On the other hand, there was also an anxiety that an over-zealous planning regime could result in an over-bureaucratic response which stymied innovation and 'on the spot' decision-making.

The tension between 'control' and 'autonomy' was recognised as inevitable when any disaster materialised. An area manager involved in the planning stage for cyclones in northern Queensland was aware of this tension and pointed out that: 'It is vital that people involved in assistance are clear as to their roles and responsibilities, otherwise confusion can quickly set in'. In the ACT, a housing officer suggested the need for different managerial approaches in the planning and delivery stages: 'A horizontal approach is required in the planning stage but in the actual implementation of a plan a more top-down command structure is required'.

One housing officer for the Queensland SHA took the view that disaster management practices require a balance between two competing pressures:

> 'There is a tension between planning and flexibility, you need to plan but not let this get in the way of making flexible decisions on the ground. You don't want to get caught out by not preparing well enough in advance. If you are to have a plan, everyone needs to know their role'.

Another officer based in northern Queensland noted that planning can often be 'tokenistic' and 'bureaucratic' and suggested instead a need to be 'flexible' when

preparing responses. Typical of the viewpoints we heard in all three case studies was a NSW housing officer's explanation of what planning should entail. That person defined the role of planning in the following way:

> 'It's making sure we know how we go about things operationally … the order of things. Our work in a disaster seems to be 'business as usual' – the normal, standard delivery of work – but in a very condensed fashion, in a short time frame. You have to acknowledge in your planning that you're going to need those extra resources whether that's physical or analysts or whatever. So to do that you need to increase your resources to deliver'.

This interviewee makes the important point that planning can only be effective if matched by resources when plans have to be implemented. In other words, planning is not simply a formulaic exercise but an activity that requires the allocation of adequate funding and staff commitment.

We were keen to find out, more precisely, how planning had been undertaken and to what effect. In discussion, the respondents identified what they deemed key areas of practice which are detailed further below.

Photograph 2: The impact of Cyclone Larry.

Source: Bob G. Burton

4.2.1 Data management

The storage of data and the way that information is made accessible was judged particularly important. Consider for example, the comments from an interviewee (with a responsibility for information technology) from the ACT. He notes such problems arising at the outbreak of the Canberra bushfires:

> 'The recovery centre based at Lyons was not geared up to run a major IT connection so in the first few days, there were lots of phone calls and paperwork. The ACT Government's IT networks were not accessible. This

> meant that data we had was not being updated. The housing department did not therefore have an accurate list of properties available. There were inconsistencies in matching data sets on what properties we had and who was living in them'.

The same interviewee made the specific point that the planning stage requires steps to ensure that the relevant data will be readily available when needed and this is best done by having these records stored in various locations:

> 'We learnt that there needs to be a definitive list of property records and that these need to be kept in different locations, should access be restricted to locations in the future … We now recognise that people who have expertise may not be around when an emergency breaks out'.

In collecting data, it is important that members of staff are aware of two pressures: the need for control and the need for flexibility. A planning approach needs to factor in these two competing objectives here and as becomes clear in the discussion in section 4.2.2 on budgeting issues.

The role of information technology in preparing for disasters was deemed especially important. We heard how in the ACT, the bushfires in the first few days of the event had a significant impact on the power supply in Canberra. As a result, the IT systems within the housing department were no longer accessible. As one IT officer commented:

> 'The bushfires created major problems for accessing information stored on databases. The whole of Government's IT centre had to rely on a back-up emergency generator as the main power supply was cut off. To conserve power, a decision was made to cut off the power to the housing data. Clearly there was a failure of communication, the centre not knowing how important this data was. The emergency data was not big enough to meet all the needs we had'.

Furthermore, the power failure required the ACT housing department to rely on paper records with much staff time wasted undertaking laborious tasks which otherwise might have been avoided. Similar sets of problems were encountered in NSW, following the coastal storms and floods. There one area manager remembered that 'there were many Excel spreadsheets but people didn't know what they wanted … We needed to get in some experts in data analysis'. Again in NSW, another housing officer responsible for IT noted:

> 'There was a problem with having too many people involved with the data that we were reporting from. Data was missing from some of the work orders. If I am reporting on something that's worth millions of dollars I want to know the data is accurate. There were too many fingers in the pie. The situation to avoid is having two different people running what are two different sets of data because you are going to get different data every time. It doesn't matter what you do … you only need one person to do the reports.'

At the heart of effective planning are strategies for IT operations that minimise the risks of data collection overload for staff. In fact, the issue of collecting too much information was also perceived as a problem in the early days of Cyclone Larry, as a Queensland housing officer makes clear:

> 'We had to report to the manager with details of what decisions we had made and by week four we had adapted our database so that we had a good system in place but it took time to get it right and sort out the unnecessary data collection activities'.

The importance of being able to input, manipulate and retrieve data accurately and efficiently was evident in such comments, but other interviewees responsible for identifying and contacting staff once a disaster is imminent (in the case of extreme weather events) made similar observations. In particular, we heard in all three case studies of the need to ensure that accurate records of staff are kept up-to-date and accessible. In the ACT with the outbreaks of the bushfires staff volunteers were required for office duties over the weekend. The task of calling operatives to find out their availability was the responsibility of one officer who informed us that she made as many as 106 phone calls to ask staff to return to work over that weekend. The same problem was noted in other states. One interviewee commented that when the 2007 storm and flood event first hit across coastal NSW, the housing managers 'were doing backflips trying to get resources such as staff, ringing all over the state'.

Another aspect of data management that was mentioned by the housing staff we interviewed concerned risk information, assessment and management. Geographical information systems (GIS) in particular now provide a key component in most approaches to disaster planning and were referred to by some interviewees in this context. For example, GIS was seen as a useful tool with a large and as yet untapped potential that was only just now beginning to be used within the state housing sector. One NSW housing officer commented on it in relation to knowing about and managing data on:

> '… the standard of housing stock, its susceptibility to damage … the locations and those at high risk, whether it is sea-level rise and low-lying properties, flood events or bushfire events. So I believe we're starting to do that in terms of putting risk profiles to homes but it probably is something that needs to be embedded into our long-term asset planning and which would need to involve all the divisions and teams and not just a corporate response – certainly in terms of being able to respond and having systems and networks in place.'

The software's flexibility and capacity was signalled by the officer (with experience also in the environmental sector) who suggested that its use in the future might range from identifying, mapping and assessing hazards in different locations, and providing information on property types and conditions for this purpose, through to facilitating the interface with other agencies as well as tenants in the event of a disaster. The utility of GIS was also noted in its organisation of data at various scales down to the street address and with a capacity to be sorted quickly or built up using overlays.

4.2.2 Budgeting

Since interviewees identified the imperative of having adequate resources, it was necessary to investigate the ways in which the budgetary arrangements were understood and what financial issues came to the fore in the planning stages.

Participants' comments indicated that organisational and budgetary matters have to be in place so that appropriate action can be undertaken quickly with the minimum amount of bureaucracy. Much of the work of responding to disasters entails providing financial relief and immediate cash handouts to households affected, and so the importance of preparing in advance measures to expedite cash relief to the victims was emphasised. Budgetary authority for staff to make 'on the spot' decisions was seen as essential in order to avoid delays. Consider the comments from a Queensland housing officer who moved up to Cairns for a month as a volunteer to join the relief effort. She noted how things in the initial stages were difficult as the data spreadsheet to record ex gratia payments that had been developed was 'rather ad hoc and cumbersome. It all had to be reorganised. We did not have an accurate list of

where tenants were and it was not until the third week that things became more streamlined'.

In NSW a housing officer set out in precise terms why budgetary issues are so important in any planning stage.

> 'The cost of repairs is huge and an extraordinary component which needs inclusion in any forward budgeting but this raises questions about how to account for it, capture these costs, record them and identify them? For example, staffing, room, vehicle and equipment hire'.

It can be discerned from these viewpoints that user-friendly databases are essential for recording expenditure and maintaining up-to-date records of available resources such as staff and property. Any data collection tasks that are superfluous to the task required risk slowing down the recovery effort. But it was also stressed here that budgeting for disasters needs to be understood and accepted as part of 'business as usual' and merged seamlessly into the business continuity, asset management and any other planning cycles of SHAs.

4.2.3 Training

We were also keen to probe what additional resources are required to assist the planning stages. It was then further revealed that in addition to the simple allocation of more funding there were the issues of where and how any such investments might best be directed. Several aspects of disaster management were identified as requiring more resources. For example, it was felt that training is an area that could benefit from more funds. An interviewee from NSW identified such matters in terms of training, and asked:

> 'On budgetary issues, are we allocating funds to ensure that people are skilled and that our planning knowledge is not lost? Are we training people up on the ground? Is it in our induction service? ... And what about the corporate sector … what sort of training do they get in this area?'

Or, as another Housing NSW manager asked: 'Are we training up the best people with the right skills?'

We were particularly interested in the work that is being undertaken in NSW to invest resources in the development of a comprehensive toolkit to minimise the bureaucratic demands for staff when emergencies do arise. We heard how the toolkit was in the process of development but would identify planning and preparation as the first of four stages for responding to a disaster and include a series of checklists, information sheets, and protocols and procedures for designated staff in the housing department.

Training can play a role in addressing tensions that occur when staff are under extraordinary pressure. One issue reported to us in all three case studies was the divide between the staff that continued to perform normal duties and those specifically designated to deal with the emergency. Consider the following comments from an officer in the ACT:

> 'There was a tension between those who carried on providing our normal range of services and those who were actually responding specifically to the emergency. I guess this is inevitable but those who did their normal work had a vital role in that they freed up others. All the contributors were important'.

Such distinctions in the roles and functions of SHA staff are unavoidable and permit those specialisations in service delivery that are necessary for the most successful disaster management. They reflect the differences already noted too in distinguishing the agencies' provision of human services from their asset maintenance role, but they

also suggest the distinction alluded to between the operational and corporate sectors within SHAs. For example, housing officers in NSW made critical comments on the handling of the Blacktown event. Hence, they noted that good management in times of crisis '… needs brave leadership and a positive engagement with others that is quick and with confidence'. However, another officer has also commented that it was 'very easy to see that there was going to be an enormous problem in the Hunter / Central Coast event just purely because of size and circumstances.' On the other hand, the Blacktown storm was more 'insidious' and so:

> 'Yes … the media coverage [in Newcastle] clearly was broadcasting the pandemonium at the time but remember there was a big boat parked on the beach. The Blacktown event on the other hand was not truly identified (particularly the size) because there was not the publication and clarification of the potential damages. I personally did not even know there had been a hailstorm which was that severe until the following Monday when I was asked to assist with some information. So essentially I'm saying that it was more a whole-of-government lack of understanding [or] urgency that the event had caused more damage than had at first been stated. Hence the delay in setting up a government taskforce which was done in February. This was eight weeks after the event took place. Yet Housing at the time was responding in the best way possible to fix its assets and assist clients.'

The same officer comments that consistency in training is desirable but notes that a capacity to sense the urgency of some events is also needed. Likewise, such planning and preparations are most effective when across the sector or 'whole-of-government'. Thus the comment suggested in light of a subsequent review and redevelopment of protocols in NSW:

> 'It's also training of new executives … This [disaster planning and preparation] has never been incorporated into any sort of corporate training. Some GMs' [General Managers'] levels of understanding of the critical [nature] of the situation was probably lacking. And initially, they soon found out pretty quickly [but] there can be several weeks before there is a realisation of the impact at the corporate level'.

Training can be very useful for providing the particular requisite skills in areas such as data management, or for making decisions on emergency sheltering, evacuation and housing provision which need to factor in the socio-economic circumstances of those affected. It therefore might extend to some of the other staff such as operatives and property specialists as well as the most senior and corporate staff who must usually provide strong and effective, but also understanding, leadership in a disaster. Again, a generic approach might prove most useful in building a resilience as well as specific skills in disaster management while lessening potential internal conflicts and rapid and flexible responses when necessary.

4.2.4 Inter-agency networks

In relation to planning, staff prioritised the need to build organisational relationships with other directorates and professionals before any disaster so that these ties can be relied upon when an event occurs. As one interviewee from NSW stated:

> 'It is really important to develop good contacts with contractors and trades-people. In the last major storms, the SES [State Emergency Services] could not cope with the callouts and so we had to rely on our contractors … And so we have formalised that relationship too'.

Just as important as maintaining contacts across directorates was the need to arrange full and proper agreements with private sector contractors. When disasters occur they are especially effective in keeping down the costs of repairs and rebuilding, and for minimising the opportunities private sector firms have to inflate their prices unreasonably. In all three case studies, pre-arranged contracts with private sector contractors were seen as important. In NSW the establishment of broad 'multi-trades' contracts were highly recommended. As one participant there observed:

> 'Having the multi-trades contracts is good because you have more control and access to resources state-wide and a greater resource base compared to a single contractor who might have to go in line with any other contractor for a certain resource. So there's that large capability to draw on resources from other parts of the state if they need that … and to coordinate different trades-people'.

Competing for goods and services in the marketplace is increasingly common even for SHAs and at times of crisis. Contracts and other formal arrangements can then also prove useful. For example, in the ACT a maintenance contractor noted that while the SHA:

> '… did not have an in-house contractor we did have arrangements with private sector companies. Most of the repairs were done well but on the occasions when there was poor quality, we were able to address this through our Service Level Agreements with builders'.

It is precisely in this context where the security of formal contracts is valued. However, some flexibility is also desirable and thus might be anticipated. Indeed, in areas such as workplace safety and insurance it was also suggested that putting arrangements in place before a disaster was most useful for avoiding later complications. It could also help prevent the difficulties that arise between agencies and other operatives with the competing demands of disaster management. As the NSW housing officer further stated:

> 'You've got to be flexible and be able to step outside the contract at times as well … Payments go out the window and so to hang onto your trades people you pay a premium because otherwise they'd go to the private jobs which pay much more… and then there's the poaching of labour even between agencies as well as over to the private sector'.

4.2.5 Individual and institutional knowledge

In terms of planning, there was recognition that collective knowledge and expertise can easily fade in the period following a disaster. Experienced staff with first-hand knowledge leave and the new, incoming or inexperienced officers need to be supported. The issue of assisting such new staff (or staff without experience) was perceived as difficult, as one of the housing officers in the ACT noted: 'Looking back I can now recognise that there is only so much one can do to prepare staff and volunteers for a disaster event. But this said, there are practical things that can be done to minimise problems'.

An ACT officer suggested that the best way to maintain institutional knowledge was to concentrate less on formal routinised training sessions and more on 'hands-on practical scenario enactments'. A particular gap in knowledge that she felt demanded more attention was in relation to the trauma experienced by those who lose their homes. Consider her comments below:

> ‘It is difficult to appreciate just how upset people were unless you saw it for yourself. People were in shock and it was important that we listened to how people felt even if this took up our time. We were fortunate in that we had trained counsellors on hand from the Salvation Army to help out at the recovery centres’.

Likewise, a Housing NSW staff member saw planning and training sessions as essential and especially in a face-to-face format for the following reasons: ‘Staff need to get to know each other because they will be reliant upon each other. Even if not the first point of contact they could well be called in to help elsewhere as staff members are brought in to work off-line and relieve others’.

The other aspect of institutional knowledge and its attrition was the need to document the lessons learned. SHA staff generally felt that planning and preparation for future disasters is based on the proper recording and transmission of past and recent experiences. It includes aspects too, they suggested, of better budgeting, training and networking, but also conducting and implementing research.

The less-often discussed component of such work relates to the planning and preparation undertaken with social housing tenants. SHA staff agreed that there is a dearth of action at present but a whole raft of things that could be done. For example, tenants and staff in the three case studies saw value in providing educational material (visual as well as literate) in the department’s quarterly magazine or sign-up kits, and as handouts from other agencies. Similarly, activities at tenant forums, housing department barbeques and elsewhere were seen as missed opportunities to build links with communities.

SHA staff and tenants generally suggested practices such as participating in Neighbourhood Watch or checking on neighbours, and they mentioned forms of practical assistance with information sheets, a welcome kit for new tenants, DVDs and CDs as well as newspaper lift-outs. In an emergency, they recommended communicating through the radio, and even using sirens. Seasonal exercises were suggested, for example, with bushfire season, using community organisations as well as schools, to inform tenants and the community about the risks of disaster and how to be prepared.

Photograph 3: Damage arising from the Canberra bushfires 2003

Source: Geoscience Australia

4.3 Summary

Our discussion with staff who experienced the disasters in the three case studies provided us with valuable insights about the challenges of planning ahead. To summarise, best planning practice requires the broad mobilisation of sufficient resources – a reliance on abstract planning protocols is insufficient. This said, while planning is important, it can only assist so far. There is risk that an overly formal or mechanistic planning approach could lead to staff underestimating the complexity of the tasks that confront those engaged in any recovery. While this risk needs to be noted, planning can help assist the tasks of coordination and communication across all levels of government, NGOs and other organisations, and the private sector.

Some of the most important planning challenges arise from the fact that the momentum for managerial reform can quickly dissipate after the collective memory of a disaster starts to fade. While general principles about planning are helpful, the variation in responsibilities and activities need to factor in how each SHA is positioned in relation to other state departments and their functions, such as public works, construction and maintenance.

In making plans and preparations in cases of a disaster, SHAs can benefit from having clearly defined roles and responsibilities (avoiding any gaps or duplications in activity). Also important are good working relations with other agencies (including through the establishment of both MoUs and regular inter-agency training exercises) and with insurers and contractors (having, for example, multi-trade contracts that are flexible enough to ensure building repairs will be made to a reasonable standard and on time despite negative externalities).

Practical planning assistance can be achieved through a toolkit of formal procedures identifying key personnel, pro forma documents ready for final preparation as media releases, information sheets (for staff and for tenants) and checklists; macros already set up and ready for data input and retrieval; itineraries of vehicles and equipment (owned and for hire) as well as contact lists for the relevant staff, detailing their skills,

and availabilities state-wide and nation-wide; and lists of motel and emergency accommodation as well as accurate records of housing properties and tenants. Assistance in preparations made with tenants is of a more practical nature and could comprise dissemination of information and related activities.

5 RESPONDING TO DISASTERS

This chapter examines the housing departments' various responses in the aftermath of disaster. Some of the issues we consider relate to how SHAs deemed themselves to have been most effective, but also include those where their responses may have been undermined. As noted in the previous chapter, adequate and effective uses of budgets, data management, training and IT are essential in preparing for any disaster. They are also critical in the responses made. Therefore, they appear again here in the discussions of networks, communications and organisational structures, and in the analysis of how SHAs worked with other agencies in the provision of support services as well as accommodation, and progressing from initial responses toward recovery.

5.1 Networks, communications and organisational structure

Once a disaster is underway SHAs can sometimes be perceived as being marginalised by other agencies. This perception should not be viewed as necessarily problematic. The police and emergency services, for example, are expected to be the lead agencies in such an event. Alternatively, senior actors and authorities can also take a lead role (as when a task force is formed through the Department of Premier and Cabinet) but we heard that this can be less effective as disaster management runs the risk of becoming politicised with each agency unsure of its precise remit.

It should not be a source of concern that some of our interviewees reported a tension between the uniformed services (such as police and fire services) and the white-collar welfare services (such as social services and housing departments). One interviewee from Queensland pointed out the tensions that exist between agencies:

> 'There is a hierarchy that is explicit but not formally stated which is the uniformed services who are in charge on the ground and make the big key decisions. We are next in line along with other welfare agencies'.

However, local knowledge is a vital resource when responding to disasters and other emergencies. It is therefore good practice for any volunteers from outside the area (for example, seconded housing and other agency staff as well as NGO and community members) to take their instructions from experts with local knowledge. Furthermore, there is a lot that can be done to assist those agencies and individuals; for example, orientation guides that include maps and other material can be prepared in advance.

There is a direct relationship between the network of relations and the effectiveness of communication. Our interviewees were clear that the ability to provide an effective response is very much dependent on clear methods of communication and protocols. Consider the comments of a housing officer from NSW on the need to develop systematic protocols when providing support to the community.

> 'It is highly intensive but the best results involve staff telephoning and door knocking to effect a quick response then sending follow-up letters with explanations of what happened and advice or directions about progress or repairs, safety issues or accessing rental abatements, and with a focus on the aged and disabled'.

We noted in the preceding chapter how institutional knowledge can dissipate after a disaster with the high turnover of staff typical in many government agencies (including housing) exacerbated by subsequent trauma. When undertaking a disaster response it is expedient to capitalise as far as possible on staff with previous experience so that their 'insider' knowledge can be disseminated to others. We learnt that there are effective ways of doing this, for example, regular briefings (often at the start of each day). There does not need to be anything complex in the way these briefings are

enacted. In Queensland, we heard for instance that the method was very straightforward and entailed ‘a white board in the recovery centre to monitor our work and the decisions we had to make’.

In terms of strategy, housing staff took their lead from intergovernmental committees specifically established once the disaster was declared. A housing officer, in Queensland explained:

> ‘We took our direction from the disaster committee that met regularly in Cairns. This involved various directorates from across government to ensure coordination. The Commonwealth declared it a national disaster and brought the army to assist. The response was good; people were able to get assistance’.

The desire for accurate information exchange was evident from the data we collected. For example, a maintenance contractor for ACT was one of many who explained the need for unambiguous information, a sense of order and purpose:

> ‘Looking back it was clear that communication was essential; nothing annoyed the public more than us giving out conflicting messages. People were prepared to deal with bad news but no one wanted to be fobbed off’.

Likewise in NSW the housing staff found some of the other agencies most effective in the area of communications and coordination. As one housing manager stated: ‘The police were fantastic coordination agents. They deal with stress so well and their senior staff are so skilled … [They] coordinated the agencies and the media …professionally’.

Photograph 4: Property damage Canberra bushfires 2003

Source: Geoscience Australia

5.2 Emergency accommodation and recovery centres

A feature of all three case studies was the use of Disaster Recovery Centres, so-called ‘one-stop shops’ and Housing Contact Centres where those who had been affected could access support services. The recovery centres were regarded as a

highly effective mode of delivery. Tenants we interviewed appreciated that their needs could all be addressed from one location. They were, in the words of one tenant then living in Innisfail, Queensland, 'a brilliant idea'. For staff involved in service delivery, the recovery centres enabled a pooling of expertise and minimised bureaucratic delays. However, it can take a few days for recovery centres to streamline their activities and achieve effectiveness. As one housing officer working in the ACT noted:

> 'The recovery centres were a lifeline to the community and though there was some irritation initially, perceptions changed once we were able to provide support and services'.

In Innisfail, the epicentre of Cyclone Larry, a recovery centre based at the magistrate's court was initially inundated with people seeking assistance. When it first opened its doors, according to housing staff, as many as 700 people had congregated in a queue and so the staff at the centre were inundated in the first few days. However, after a few initial problems accentuated by inadequate telecommunications, the centre was soon able to provide the necessary assistance. We heard from respondents how, for example, arrangements were made to store householders' belongings in containers, ex gratia payments were made so people could purchase essentials, and temporary accommodation was arranged.

One of the major roles provided by SHAs in a disaster or emergency is in assisting their tenants and other households to secure temporary accommodation. In practice, housing staff need to make arrangements with the operators of motels, caravan parks and other temporary housing often at very short notice. The task of providing this level of support is very time-consuming. SHAs in all three case studies were adept at performing this role and had adopted practices to minimise disruption for tenants. We heard how staff had deployed tactics to speed up paperwork and developed strategies to ease the transition for householders who need this form of accommodation. Housing staff also established a good rapport with the owners of caravan parks and motels whom they in turn relied on to help house clients. An observation by a housing officer from the ACT provides an example of some of the views collected:

> 'We had a great amount of assistance from caravan parks and motels. Some people were assigned permanent housing but most had to live in temporary accommodation'.

The opinions of tenants provide further evidence of the success of housing agencies. For example, in the ACT, a tenant who lost her home stated: 'I was impressed with the way the housing department responded. I could not fault them'.

The recovery centres set up by the state governments were widely seen as the best way to manage the aftermath of the disasters. Housing all the relevant professionals and volunteers in one location was an effective way to deliver services and streamline the bureaucracy. Decisions could be made 'on the spot' and without the delay of waiting for authority further up the line.

Yet, while all staff valued the recovery centres, there was nonetheless a considerable strain generated by the volume of activity and tasks. We heard just how taxing it was working in these centres. Therefore, in the ACT and Queensland, the staff were assisted by the decision to deploy counsellors and welfare professionals to provide them with specialist support if required. The importance of responding to this psychological strain was identified by many staff interviewed at all three locations. For example, one NSW housing officer asserted that: "People often forget that the staff, their families and homes might be affected too, and that they may not be able to come to work … get traumatised ... and need time off'. With the very busy Housing Contact Centre there, the usual temporary accommodation evening telephone service became

a ‘24/7’ service for three to four weeks. Although very effective, these services, like the administrative, technical and other support provided, depended on staff putting their lives on hold and volunteering to work ‘off-line’, away from home and for prolonged hours, including over nights and weekends.

Photograph 5: House damaged in Blacktown NSW 2007

Source: SevereStormsAustralia

A feature of these centres is that different professional groupings are required to work together and share information. To avoid confusion and unnecessary duplication, it was felt by many of our interviewees that each agency needed to be clear about their roles and responsibilities. Typical of the comments were those made by a housing officer in NSW:

> ‘We need to make sure our critical partners understand what we do … and the implications for us. We need to formulate Memoranda of Understanding … and strengthen partnerships’.

The intense pressures and potential for confusion and yet further crisis are most evident at the peak of an intense event. In a disaster’s aftermath though, different vulnerabilities emerge. Other types of damage including, for example, the incident’s psychological impacts (which in turn require particular approaches to deal with them), also then become apparent.

5.3 From response to recovery: the aftermath

Following the initial impact of a disaster, energy and resources are focused on establishing networks, communications and organisational structures, and providing emergency accommodation and contact and recovery centres. Then, with the shift from response to recovery, the complex aspects of disaster come to the fore. In this aftermath appear the very real vulnerabilities of socio-economic dependence and emotional disruption. The usual structures of command and control are also fissured with the need to manage conflicts between corporate and operational functions and differences in issues of funding.

5.3.1 Vulnerability and welfare issues

As part of their normal range of duties, SHAs provide a range of welfare support services to tenants. For example, dealing with neighbourhood disputes, repairs to the property and community engagement activities. In practice, many tenants living in public housing perceive the housing department as their first port of call when problems arise. As discussed in the Positioning Paper, public housing tenants are especially vulnerable when disasters occur. Welfare issues therefore immediately surface with a disaster.

Many public housing tenants, for example, do not have home contents insurance and a high proportion of them have special needs. In fact, housing staff emphasised their roles as welfare providers when noting how SHA funding policy was focused most on the maintenance of physical infrastructure. In NSW they also stressed that they had no extra funds to assist with human services delivery, which was essential. Instead, they could only refer tenants to other agencies for assistance with transport or food vouchers. And so a senior staff member there stated:

> 'There's room for more holistic funding support to allow State Housing Authorities to access funds to help with costs of temporary accommodation or rental abatement … perhaps even replacing tenants' property. With housing policy, all possessions are the tenants' responsibility… to be insured… In a disaster scenario they've lost everything but as social housing tenants are already needy … yet we're supposed to turn our backs on them in their hour of need?'

When a disaster occurs, public housing tenants will often call the department for support and there is an expectation that their needs will be addressed quickly. Of course, disasters often mean that housing management staff are unable to prioritise their normal range of duties, which can be very frustrating for some tenants, especially the most vulnerable. It is therefore not unusual for housing tenants to become very distraught when disasters occur and it is important that housing staff are sensitive to how their roles are perceived. One of the issues that came up in the focus groups with tenants is the expectation that everyone is treated fairly. Staff acknowledged this reality too. Consider the recollection of a maintenance contractor in the ACT and his observations in the immediate aftermath of the bushfires.

> 'In the recovery centres, it was clear that many people were angry that some people appeared to be getting quicker responses. Some people wanted to vent their anger on the bureaucracy for what had happened. Most of us understood this reaction'.

In Queensland, housing officers explained the support roles required when a disaster takes place and the demands generated. As one stated:

> 'I found that I spent a lot of time providing emotional reassurance to tenants affected. It is easy to underestimate the impact of these events at a psychological level. It was necessary that we conveyed our empathy especially as many tenants were elderly and vulnerable. It was important that we let them know things were going to be okay after what had happened'.

This sense of problematic issues arising long after the event was most evident when we interviewed tenants. In the ACT for instance, we heard from tenants that there was considerable consternation that one of the rural locations, Pierces Creek, would not be rebuilt. This was a location in which 17 houses were burnt down and only one remained intact. Many of the tenants were forestry workers and they were disbursed afterwards.

This said, tenants were generally most appreciative of the response and recovery efforts in all three case study locations. Consider the ACT tenant who lost her home in the bushfires: 'The emotional trauma was intense and the housing staff did well in recognising the need to respond to this. They brought in counsellors and other qualified people'. On occasions the effect of what had happened was not immediately clear, even to the operatives there. It was only after a considerable time lag that housing staff became fully aware of the emotional devastation, as evident in the following transcript.

> 'The extent of the trauma was not initially realised and we copped some flack from tenants when our building inspectors came to investigate the damage to properties. Some tenants complained that we should have shown more concern about their welfare'.

5.3.2 Issues relating to command and control

We have emphasised the need in the planning stage to ensure that communication channels are carefully designed, noting a desire for more horizontal forms of communication. However, in the period following a disaster, there was considerable support for a clear chain of command. In this respect, the role of senior management is especially important, not only for providing a schedule of activity, but also protecting staff from becoming engulfed in issues that are likely to distract them from the most pressing tasks. We learned how in each case study, senior staff took action to minimise the administrative overload and burden of duties so that staff could prioritise their work. In NSW we heard from a housing officer involved in the recovery on how: 'It helped that we were freed up by management temporarily waiving expectations about daily reporting and other administrative workloads'.

Those we interviewed in Queensland supported the command structure. One officer reflecting on the recovery stage welcomed the fact that:

> 'Previous protocols went by the wayside, we relied on a clear command and control approach but this was affected by the availability of resources. We used our housing system, started off with an Excel spreadsheet to record processing of people who were assisted. It meant that we could keep tracks on the 900 people or so people we helped'.

In NSW too, a participant at the staff focus group noted the importance of having the appropriate level of leadership:

> 'The divisional and area coordinators are critical and they are the people that have to maintain the momentum, and also make sure that the work that gets done on the ground, that they're allowed to do that work in terms of service delivery'.

This same officer elsewhere reiterated: 'The key role for management is to ensure that the staff can do their jobs by having the head office and corporate section back off'. The extreme environment also added to the pressures during the NSW disaster. Its intensity impacted on people but generated a sense of urgency: 'Forget chasing arrears, or KPIs … if it's non-storm forget it! And you've gotta recognise the duress that both the clients and staff are under at this time too'.

While a command structure was seen as the best way to minimise replication, the actual disaster and the ways it set in motion an array of responses can make it difficult to establish a sense of order and control. Consider the following comments from a Queensland housing officer which convey this sense of complexity. She noted that:

> ‘In some ways our initial response was quite confusing. There were a lot of people in the recovery committee meetings, up to ten, Salvos, Council etc. When we organised a plan we set out our own role. In addition to the cross-departmental meetings, we had our own contingency housing team meeting’.

A similar sense of unease was conveyed to us from the case study sites in the ACT and NSW. One senior officer involved in the Hunter storms and floods was adamant about reducing pressures on already overloaded staff and ‘… relieving the pressure to do your administrative work at the local or service delivery level’:

> ‘Yeah, take that away from them. The last thing they need to do is worry about that ‘back office’ stuff because they’re probably in crisis themselves… probably quite stressed … a huge volume of work and quite distressed clients to deal with. So that’s the last thing they need to worry about’.

Photograph 6: Flooding in Branxton NSW 2007

Source: Daniel Conway

As we have already conveyed here, the pressure on staff in responding to a disaster is immense. One of the remaining issues aligned with command and control concerns related to distribution of funds. We were keen to hear whether there were any financial constraints that impeded the recovery effort of SHAs. The situation in NSW appeared to be more fraught than in either the ACT or Queensland. In NSW, there was a view from the participants that their department was not compensated adequately for the costs of delivering a response.

SHAs are effectively self-funded and so do not have any automatic right to receive reimbursement from Treasury. SHAs have to carry the costs of damages incurred in a disaster; these are often borne at the affected location and taken from within the area budget. Even when funds are received from Commonwealth sources such as Natural Disaster Relief and Recovery Assistance (NDRRA) they remain within the state’s consolidated funds rather than going directly to the affected SHA. One Housing NSW

interviewee noted with the Hunter coastal storms and floods in 2007 that the costs of repairs to damaged property and loss of income are still being borne:

> 'It is a huge cost to us. With the Hunter [event] the costs were about four and half million dollars for damages but also half a million in lost income on top of that just because of the rental abatements'.

In Queensland and ACT we did not pick up the same degree of anxiety from staff about the availability of funds. In fact, we were told that there was no shortage of monies made available for dealing with the disaster. As one housing officer in the ACT stated: 'We were fortunate in that we had the rental income and revenue to spend as required. It was just a question of keeping all the records'.

5.4 Summary

Two observations can be made here. First, responding to a disaster inevitably entails seeking to reconcile conflicting demands. Differences exist, for example, between responding quickly and collecting important data and information. Too much time spent on data collection and bureaucracy can impede an effective response. On the other hand, without accurate data, staff will have difficulty in making judgements about what actions to prioritise and will also fail to impart to the relevant ministers, the media and the public, including the tenants, any sense of the progress made (and which allays panic). Likewise, the conflict between providing social welfare and maintaining physical assets is closely interwoven.

Second, we learned that in the actual recovery period, a hierarchical structure for communication and chain of command was deemed appropriate. Here a contrast can also be made with the period before a disaster when a flatter command structure is regarded as more apt. The role of senior management in any disaster event is especially important. They set the culture for the housing team and need to operate as effective communicators both internally, but also in relation to other directorates involved in the response. Critically, they can also protect staff that have been deployed on the ground by temporarily waiving expectations about their daily reporting or other administrative workloads.

6 CONCLUSION

This Final Report has drawn on interviews and focus group discussions in three locations to explore how SHAs have responded to natural disasters and emergencies. It has sought to explore: the lessons learned from previous responses; the challenges that arise in the planning stage; and the tensions that surface when responding to disasters. This concluding chapter provides a summary of the findings from the project and the key policy issues that arise.

6.1 Research findings: overview

The literature review summarised has highlighted some of the most significant challenges that can arise from natural disasters and emergencies. The impact of these events can result in a loss of life and damage to property and infrastructure. In Australia an average of eight natural disasters with costs exceeding $10 million occur each year, and while there might then be as many as fifty emergencies in total, these natural disasters alone cause by far the most damage with an annual cost to the nation of over $1.14 billion (Blong 2005; BTE 2001). The chances of incurring significant damages to property and loss of life have increased in recent years with the growth in population living in vulnerable coastal locations and on the urban fringe. Recent drought conditions and warmer temperatures mean that areas of southern Australia are at greater risk of bushfires, while communities living in tropical or other coastal regions remain vulnerable to the effects of cyclones and storms. In response to these increased risks, the Commonwealth, state and territory governments across Australia have put in place detailed planning and response procedures to deal with disasters and emergencies. Technological innovations have led to the development of new tools and practices with, for example, early warning systems, building codes and practices and land-use risk assessment and statutory planning procedures. In general, disaster planning and response strategies in Australia emphasise the importance of 'whole-of-government coordination' and adequate funding as the basis for effective intervention. Within this approach SHAs usually play a prominent role that includes providing specific support to public housing tenants and when necessary offering assistance with accommodation to all households affected.

The empirical component of the study entailed three case studies in which SHAs had a major role in providing assistance. These were: the Canberra bushfires, 2003; Cyclone Larry in far northern Queensland, 2006; and NSW coastal storms and floods, 2007. Interviews and focus group discussions were used to capture the views of SHA staff involved in the planning and response stages to these disasters and the views of householders who were affected.

The key findings from the empirical research were organised and then analysed in an approach encompassing three thematic areas.

6.1.1 Learning from the past

The disasters that have occurred in recent years, such as the Kobe earthquake of 1997, Hurricane Katrina's damage to New Orleans and the floods that affected the British Midlands in the summer of 2007, have provided Australian governments with a new impetus to engage in planning procedures to minimise the impacts of disaster. In all three case studies, SHA staff noted the need to move away from 'tokenistic' planning routines to a more engaged approach that enables agencies to respond more effectively. The key lessons learnt from past experiences are: that SHA need to prepare both a welfare and technocratic response to disasters. This requires staff and resources to provide assistance in areas such as temporary accommodation, practical

assistance and repairs for householders whose homes have been damaged and the disbursement of ex gratia payments if required in the immediate aftermath. The need for a quick response requires SHAs to minimise the bureaucratic procedures that can impede effective recovery but ensure that information and key data are accurate and readily accessible. Furthermore, it is almost inevitable because of the complexity of the tasks required, that tensions and conflicts will arise when SHAs respond to disasters. The best way to minimise these conflicts is to ensure that clear communication protocols are in place with a chain of command that is widely understood by all operatives. The establishment of recovery centres or 'one stop shops' is widely accepted as a very effective way to deliver services following a disaster.

6.1.2 Planning issues

The complexity of planning for a disaster and the need to address a set of welfare and practical issues present significant challenges for staff working within SHAs. For example, there is a tension between the need for detailed preparation and the necessity of enabling agencies working on the ground to make decisions based on local knowledge. Put simply, planning for disasters and emergencies needs to be flexible enough for innovation to take place, but at the same time provide, in advance, a set of guidelines that can be utilised.

Planning entails a range of activities, including data collection to ensure accurate record-keeping, but here too it is imperative that a balance is struck to ensure that only necessary data is collected to minimise delays once a disaster takes place. It also requires training and practical exercises to ensure that staff are aware of procedures and the pitfalls that can arise when disasters occur. Training is also a way to maintain institutional knowledge. This is especially important as the high turnover of staff can quickly dissipate organisational learning. Yet while training is of vital importance, it can be less ineffective if it becomes perfunctory and repetitive.

Adequate planning requires sufficient budgets and resources both in financial terms and in respect of staff commitment. Furthermore, reporting systems have to be in place to enable staff on the ground to make quick decisions. One especially effective way of preparing for disasters is the use of prepared toolkits and templates for staff to adapt once a disaster is underway. Innovative work being undertaken in NSW provides a useful model for other states to adopt.

The most effective planning is when steps are taken to establish clearly defined roles for personnel and clear lines of communication with other agencies involved in disaster planning. There is also considerable work that can be undertaken with private agencies such as building contractors and the owners of motels and caravan sites to minimise delays when a disaster takes place.

6.1.3 Responding to disasters and emergencies

The complexity of responding to disasters or emergencies brings to the fore a different set of challenges to the planning stages. SHAs are required to respond in a variety of settings that usually encompass temporary accommodation, repairs and welfare support to householders affected. The degree to which SHAs can be effective depends on the planning stages that establish procedures to empower key staff to make decisions based on local knowledge and circumstances. This said, the large volume of work in responding to a disaster often means that the most effective form of communication is a 'command and control' system. The best way to deliver a response is through the establishment of a recovery centre where SHA staff can work alongside colleagues from other directorates to offer a range of services that will be required.

The use of recovery centres, while viewed as effective, require skilful management to avoid duplication and superfluous bureaucracy. In each of the case studies it was apparent that the response stage often begins with the first few days being especially onerous for staff and a period in which agencies are required to make many decisions. Yet the organisational learning in this stage provides the platform for streamlined forms of provision and the calibration of services for those receiving support.

Each of the case studies make explicit the realities for staff required to respond to disasters. It was apparent that the demands are taxing and can lead to significant strain. The fact that disaster management now requires a holistic approach that incorporates a range of actors across different directorates makes it imperative that adequate support is provided for staff.

6.2 Policy issues

This research project has provided a wide-ranging discussion on how SHAs can provide assistance in natural disasters and environmental emergencies. The evidence collated shows how SHAs' roles encompass a plethora of activities involving welfare and technical expertise and inter-agency collaboration. The review of international literature and research in Australia undertaken for this project suggests a comprehensive approach is best suited for service delivery when disasters take place. In terms of policy, a number of key findings emerge from this project. First, the best forms of planning for disasters need to be transparent, locally based and properly resourced. Care should be taken to ensure that the tension between 'top down' control mechanisms and the need for autonomy is addressed.

Second, the high level of stress in managing complex tasks presents major challenges for SHAs and it is apparent that staff involved are required to collect detailed information and take decisions quickly. Templates and toolkits prepared in advance offer a practical way to ease the pressures on staff in the course of their duties.

Finally, recent disasters and the prospect of climate change reinforce the need to commit sufficient resources for disaster management. It is apparent from international research studies and the lessons learned from case studies in Australia that adherence to a planning framework alone is an insufficient instrument to deliver an effective response. The best form of intervention is one in which the procedures are adequately resourced and flexible enough to enable staff to operate according to local circumstances.

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