



Rebuilding a stronger, more resilient Queensland



The capacity
to prepare for,
withstand, respond
to and recover
from disasters

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Section 1

ROAD CLOSED



A local resident sits outside his home surrounded by flood waters on 6 January, 2011 in Rockhampton (Source: Getty Images).

Section 1: overview

Purpose

Queensland's reconstruction and recovery after the devastating weather events of 2010-11 presents a unique opportunity to rebuild a stronger, more resilient Queensland. It offers a chance to enhance the resilience of our communities, economy and environment and to build a better Queensland.

The Queensland Government and its reconstruction and recovery partners, are committed to enhancing the disaster resilience of the State – ensuring we are prepared for future events, we respond appropriately when they occur and we rebound after an event.

The purpose of this paper is to provide:

- an overview of resilience in a disaster management context and initiatives that have been implemented at an international, national, state and local level to build disaster resilience
- details of the strategic resilience projects being delivered throughout Queensland in response to the disaster events of 2010-11.



State Emergency Services in service: Central Queensland (Getty Images)

Background

During the summer of 2010-11 Queensland experienced a series of natural disasters that will long be remembered. The floods that devastated central and southern Queensland coupled with the destruction wrought by Severe Tropical Cyclone Yasi resulted in the entire State being declared disaster affected and the tragic death of 37 people.

The Australian and Queensland Governments have committed approximately \$6.8 billion to rebuilding the State. To monitor and co-ordinate the Government's program of reconstruction and recovery the Queensland Reconstruction Authority (the Authority) was established on 21 February 2011.

The Authority operates under the auspices of a comprehensive and integrated recovery and reconstruction plan for the State – *Operation Queenslander: The State Community, Economic and Environmental Recovery and Reconstruction Plan 2011-2013*. Its mission is to 'reconnect, rebuild and improve Queensland, its communities and economy'. This is supported by four strategic objectives, two of which specifically focus on resilience:

- build a resilient Queensland and support resilient Queenslanders; and
- enhance preparedness and disaster mitigation.

As part of Operation Queenslander, six lines of reconstruction were also established to co-ordinate key aspects of the reconstruction and recovery effort:

1. Human and Social
2. Economic
3. Environment
4. Building Recovery
5. Roads and Transport
6. Community Liaison and Communication.



Volunteers turn out in force to clean up West End, Brisbane (Source: The Sunday Mail).

To support implementation, sub-committees were convened for each line of reconstruction that drew membership from across the not-for-profit sector, industry, the private sector and tiers of government.

Much of Queensland is well on the way to recovery. The majority of our infrastructure has been re-opened, the economy and the environment are recovering and communities are rebuilding. Our ability to rebound quickly from recent events is illustrated in **Table 1** below.

Disasters are a feature of the Queensland environment and scientific evidence indicates that with climate change the frequency of more extreme weather events is likely to increase in the coming years.

It is imperative our response to the events of 2010-11 is used to enhance the resilience of Queensland and it is critical all Queenslanders continue to develop a shared understanding of the part they play in developing their own disaster resilience and that of the communities in which they live.

International experience has shown communities develop resilience when the people most likely to be exposed to hazards invest in their own preparedness.

Table 1: Damage impact and recovery statistics

	November 2010 – March 2011	As at 9 September 2011
Roads	9,170 kilometres of Queensland's state-owned road network affected	8,482 kilometres of Queensland's state-owned road network recovered
Rail	4,748 kilometres of Queensland's Rail network affected	4,596 kilometres of Queensland's Rail network recovered
Bridges and Culverts	89 state-owned bridges and culverts with major damage	89 state-owned bridges and culverts with major damage recovered
Schools	411 Queensland schools affected	411 Queensland schools operating from original location
National Parks	138 National Parks closed due to natural disaster	123 National Parks re-opened
Premier's Disaster Relief Appeal	More than \$276 million donated to Premier's Disaster Relief Appeal with more than \$251 million distributed to individuals.	
Personal Hardship and Assistance Grants	More than \$42 million has been paid to individuals, families and householders.	
Small Businesses, Primary Producers and Not-for-Profit Organisations Grants and Loans	More than \$121 million in grants has been paid to small businesses, primary producers and not-for-profit organisations and more than \$12 million in concessional loans to small businesses and primary producers.	
Sport Flood Fight Back Scheme	More than \$13 million in funding for infrastructure and/or equipment to assist organisations to re-establish sport and recreation services.	



The capacity to prepare for, withstand, respond to and recover from disasters

Section 2: resilience in disaster management

Defining Resilience

Disaster resilience is ‘the capacity to prevent, mitigate, prepare for, respond to, and recover from the impacts of disasters’¹. Building resilience enhances our ability to minimise the effects of future disaster events on our communities, economy and environment. It also means we efficiently and effectively cope with the impacts of disasters when they do occur. Resilience is a dynamic quality and is usually developed and strengthened over time, it builds upon rather than replaces existing strengths and arrangements.

Building disaster resilience is about improving the capabilities of individuals, families and communities, as well as that of businesses and governments. Integral to this is strengthening partnerships between communities, the not-for-profit sector, industry, the private sector and tiers of government. For many in the community an important aspect of this is planning ahead to reduce disaster risks and produce co-ordinated and effective efforts during disaster events.

Betterment – Build Back Better

In some circumstances the resilience of **a resource may be enhanced through a significant improvement or step change in the nature of that resource, this is called betterment**. The *Natural Disaster Relief and Recovery Arrangements Determination 2011* describes betterment as the repair or replacement of an asset, usually buildings or roads, to ‘a more disaster resilient standard than its pre-disaster standard’². Building back better enhances a resource’s immunity to natural disasters. Consequently the impact of future disaster events on the community is substantially reduced.

Betterment should not however be limited to infrastructure alone as it can be demonstrated or applied to rebuilding the social and economic fabric of disaster affected communities.

“It’s always good to visit **Theodore**, you come away feeling good about people... Self starting Theodorian’s always have two or three options to solve a problem – showing the Reconstruction Authority and the government how the town can be helped rather than waiting to be shown.”

Former Authority Chair Major-General Mick Slater.



Flooding at Theodore, where all residents were evacuated.
(Source: R. Maccoll, Courier Mail)

Theodore has been flooded three times in the last 12 months. It was completely evacuated in December 2010 – the first time a Queensland town had been totally evacuated. However, Theodore is a community that won’t stay down for long. The trick in the face of varying obstacles over the years has been to keep the response local. The community spirit, resilience and response to the latest disasters bears this out.

As the town was being evacuated a purpose built website, www.theodorebuilds.com.au was established to allow evacuees to see what was happening and inform those in the wider community. Later it became a source of advice and information for communities. “We like to fix things ourselves and not wait for the government to come in and save us. We don’t let anything stand in the way of our community’s progress,” said resident Fleur Anderson.

In April, the town was flooded for a third time. The entire town and surrounding district worked together to re-establish their community and economy in just under three months. This is testament to Theodore’s resilience³.

¹ Council of Australian Governments, National Partnership Agreement on Natural Disaster Resilience, 2009.

² Australian Government, Natural Disaster Relief and Recovery Arrangements Determination 2011.

³ B. McMahon, Heads Above Water, QWeekend, Courier Mail, July 2011.

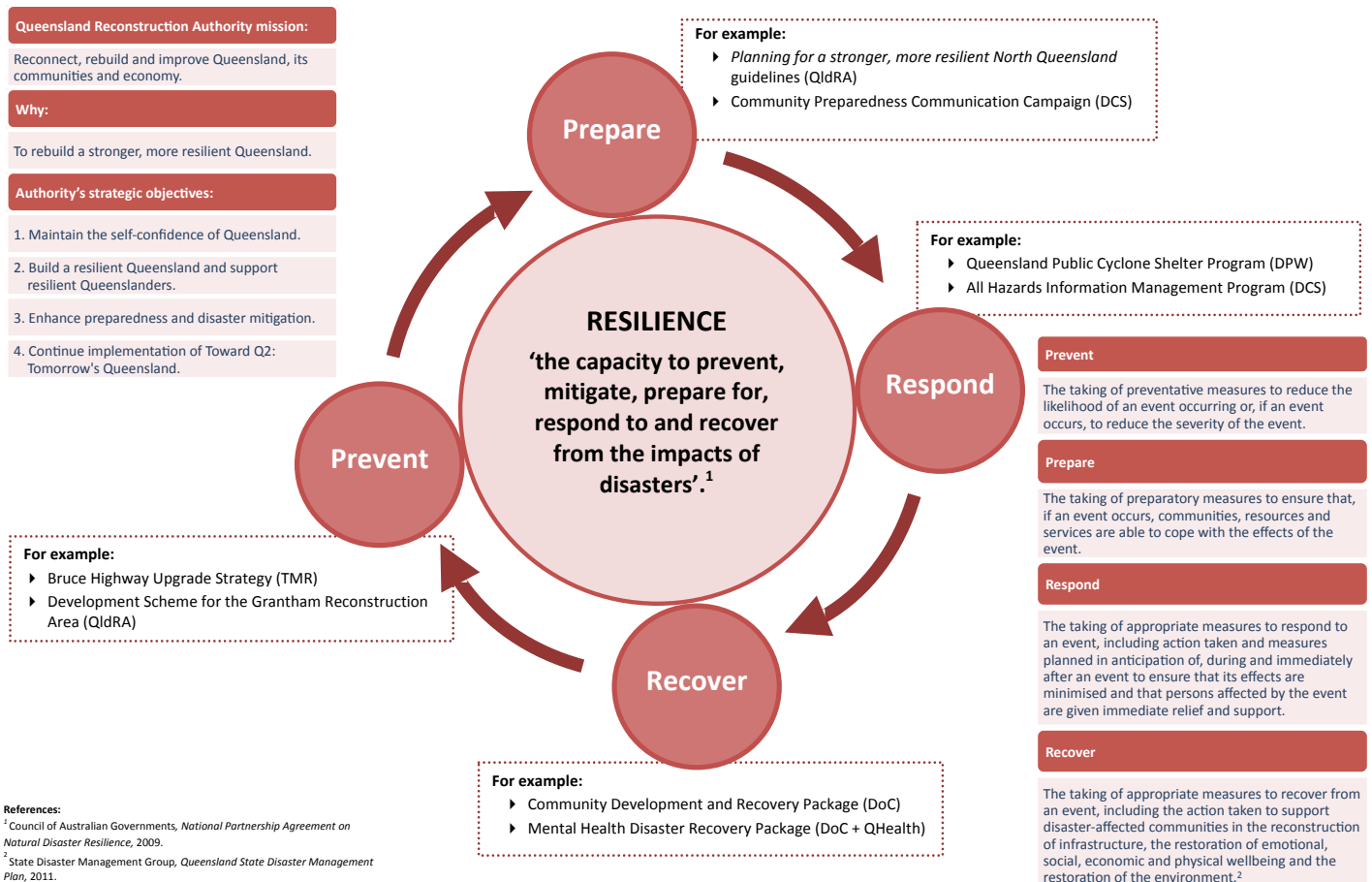


The impact of Severe Tropical Cyclone Yasi in Port Hinchinbrook (Source:News Ltd).

A comprehensive approach to disaster management ensures an emphasis on the reduction of risks and the enhancement of resilience, while at the same time building effective response and recovery capabilities. Disaster management is generally planned across four phases – prevention, preparedness, response and recovery – with each

involving critical activities and processes that ensure we strengthen resilience and build back better. **Figure 1** gives an overview of the disaster management cycle and provides a definition of each disaster management phase⁴.

Figure 1: Resilience in the disaster management cycle



References:

¹ Council of Australian Governments, *National Partnership Agreement on Natural Disaster Resilience*, 2009.

² State Disaster Management Group, *Queensland State Disaster Management Plan*, 2011.

⁴ State Disaster Management Group, *Queensland State Disaster Management Plan*, 2011

Resilience in the International Context

Hyogo Framework for Action

Internationally the United Nations *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disaster* (HFA) is the accepted framework for making the world safer from natural disasters and building disaster resilience. Adopted in 2005 shortly after the Indian Ocean Tsunami, this framework sets out a 10 year plan for 'the substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries'⁵. The HFA has been accepted by 168 Member States of the United Nations and identifies five priorities for action:

- 'Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation
- Identify, assess and monitor disaster risks and enhance early warning
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels
- Reduce the underlying risk factors
- Strengthen disaster preparedness for effective response at all levels'⁵.

World Bank – Global Facility for Disaster Reduction and Recovery

The World Bank has been involved in post-disaster recovery and reconstruction for more than 25 years, with a trend toward increasing lending for risk reduction and mitigation, mainly by integrating risk reduction into investment programs. Natural disaster assistance amounted to US\$35 billion, or nine percent of total World Bank commitments, between 1984 and 2005. This share has been increasing steadily over the years. In response the World Bank established

Disaster Risk Management teams throughout the geographical regions, which aim to reduce human suffering and economic losses caused by natural disasters. This is accomplished through sensible and cost effective risk reduction programs, such as risk assessments, early warning systems, strengthened building codes, and risk financing mechanisms.

The World Bank created the Global Facility for Disaster Reduction and Recovery (GFDRR) in 2006 in response to a desire within the international community to accelerate the HFA. The aim of the GFDRR is to help countries reduce their vulnerability to natural disasters and to adapt to climate change. In post-disaster situations, GFDRR supports post-disaster needs assessments and sustainable recovery at governments' request, in partnership with the United Nations, the European Commission, and others. Through a unique long-term partnership with seven international organisations and 38 countries, including Australia, the GFDRR seeks to mainstream disaster risk reduction and climate change adaptation in country development strategies.

The World Bank recognises communities and other informal arrangements are typically the first line of defence when a disaster occurs and that community strength is critical to reduce the impact of these events. The toolkit *Building Resilient Communities: Risk Management and Response to Natural Disasters through Social Funds and Community-Driven Development Operations* was developed by the World Bank to provide guidance on effective ways of managing the operational challenges of Community Based Disaster Risk Management⁶. While primarily designed for use by World Bank Task Teams, the toolkit contains international good practice frameworks and processes for reducing disaster risks and impacts that can be adopted by local governments and communities. The toolkit is available through the World Bank website (www.worldbank.org). Another resilience resource recently published by the World Bank is *Safer Homes, Stronger Communities – A Handbook for Reconstructing after Natural Disasters* focused on housing and community reconstruction (www.housingreconstruction.org).



Gosford State Emergency Service in Tully. (Source: Queensland Government Image Library)

⁵ United Nations, *Summary of the Hyogo Framework for Action 2005-2015*, 2005.

⁶ World Bank, *Building Resilient Communities: Risk Management and Response to Natural Disasters through Social Funds and Community-Driven Development Operations*, www.worldbank.org

Overseas National Emergency Management Agencies

Throughout the world, governments are committed to capacity building to enhance national and community resilience. Through legislative and constitutional processes government agencies have been established to focus on the mitigation of disaster impacts and to better prepare their communities to respond to and recover from emergency events. Examples can be found across the globe, a selected few follow.

The Federal Emergency Management Agency (FEMA) is part of the United States (US) Department of Homeland Security which aims to ensure that as a nation the US community works together to build, sustain, and improve its capability within all phases of the disaster management framework. In New Zealand the Ministry of Civil Defence and Emergency Management works closely with local governments, utilities and emergency services to build strong communities that are able to understand and manage their natural hazards. The Papua New Guinea National Disaster Centre aims to provide national leadership in the development and maintenance of measures to reduce risk to communities and to manage the consequences of disasters in Papua New Guinea.



The **Emergency 2.0 Wiki** is an initiative to empower the community with knowledge of how to use social media to better prepare for, respond to, and recover from emergencies. This 'Wikipedia for emergencies' will provide practical guidelines, tips, templates and tools for the public, schools, community groups, businesses, emergency agencies and governments.

It will also link to emergency agency social media sites and vital resources such as a YouTube video on how to sandbag your property to protect against floods and smartphone applications designed for emergencies.

The impetus for the wiki was the need to capture and leverage learnings from the use of social media during the Queensland floods and Severe Tropical Cyclone Yasi. It is a voluntary initiative of the govqld community of practice of professionals working in the government, emergency, community, private, education and media sectors.

While driven from Queensland, the wiki will be a global effort, sharing lessons from disasters including the New Zealand earthquake, Japan's earthquake, tsunami and nuclear crisis and the United States tornadoes. It will also provide a global forum for sharing information about emerging technologies and how to apply them during emergencies.

The govqld group aims to have the wiki ready for November for the Queensland summer season of floods, cyclones and bushfires and will be available at www.emergency2owiki.org.

⁷ E. Culleton, Emergency 2.0 Wiki Project Leader, www.emergency2owiki.org.



Fire and Rescue Service in Cardwell. (Source: Queensland Government Image Library)

The National Strategy for Disaster Resilience

Through a collaboration between the Australian Government, Queensland Government and other states and territories the *National Strategy for Disaster Resilience*, was developed and endorsed by the Council of Australian Governments on 13 February 2011. This National Strategy reflects the priorities of the Hyogo Framework and provides for a whole-of-nation resilience based approach to disaster management, recognising that a co-ordinated and collaborative effort is needed to increase our capacity to withstand and recover from emergencies and disasters⁸.

The National Strategy focuses on leading change and coordinating effort; understanding risks and reducing them in the built environment; communicating with and educating people about risk; building effective partnerships; empowering individuals and communities to exercise choice and take responsibility; and supporting the development of disaster resilience capabilities.

Given the weather events of 2010-11 and the timing of agreement to the National Strategy, **Queensland is at the forefront of leading change in disaster resilience. The nation and countries worldwide are watching the State's efforts to build and enhance the resilience of Queensland and Queenslanders.**



Milton State School (Source: Queensland Government Image Library)

Milton State School in Brisbane's inner west was severely inundated during the floods in early 2011, wiping out classrooms, the playground and tuckshop. By mid-July all of its classrooms had been rebuilt and its tuckshop was re-opened. "We lost the entire bottom floor of the school buildings," Mr Zernike the School's Principal said. "It has been a massive year to rebuild and it is nice to have a tuckshop again for our students." The rebuild of the school through the untiring efforts and contribution of the parent body and broader community is a powerful symbol of our ability to build a better Queensland.

The tuckshop, which is at the heart of the primary school community, is brand new and built to withstand future flooding events. All of the equipment is stainless steel and is on wheels. Not only did the school gain a new tuckshop but one that is future proof to further flooding⁹.

⁸ Council of Australian Governments, National Strategy for Disaster Resilience, 2011

⁹ Media Release 19 July 2011 - Premier and Minister for Reconstruction The Honourable Anna Bligh

Resilience in the Queensland Disaster Management Arrangements

The Queensland Government has comprehensive disaster management arrangements, including a legislative framework, governance structures, co-ordination mechanisms, planning processes and financial instruments¹⁰. Resilience is an integral aspect of these arrangements.

The *Disaster Management Act 2003* sets the framework for disaster management activities across all tiers of government in Queensland and provides the structures and operational requirements before, during and after a disaster event. The Act is supported by the *Queensland State Disaster Management Plan*, which describes Queensland's governance structures at the local, district, state and national level, as well as the activities and processes involved in disaster management. Building disaster resilience is an important feature of these arrangements and the Plan explicitly 'supports the principles outlined in the *National Strategy for Disaster Resilience* and its influence on programs across all aspects of disaster management in Queensland'¹¹.

The State Disaster Management Group and the Department of Community Safety (DCS), recognising the need for continuous improvement, revised its disaster management arrangements in late 2010. The weather events of 2010-11 demonstrated that the fundamentals of the revised disaster management arrangements introduced on 1 November 2010 are working well. As highlighted throughout this document **it is a testament to those arrangements that our response and recovery proved robust in the face of these unprecedented disaster events.**

Severe Tropical Cyclone Yasi destroyed farm infrastructure in North Queensland (Source: North Queensland Register).



Through lessons learnt from Cyclone Larry **dairy farmers in North Queensland** were well prepared for Severe Tropical Cyclone Yasi. After Cyclone Larry, it was 22 days until all dairy farmers in the Atherton Tableland could access mains power. Back-up systems were damaged or did not have the capacity to support the milking and cooling for an extended period. Recovery was difficult and hit many farmers hard. As a result the majority of farms invested in back-up systems that could run their dairy plant and milk vats during extended power outages.

Thanks to forethought, planning and investment, recovery from Severe Tropical Cyclone Yasi was much easier on farmers across the Tableland, with only two farms having significant difficulties with their back-up systems.

Lyn O'Connor, a local industry recovery officer, says "There is a big lesson in this for other industries and small businesses. It is important to work out what is important in your business and plan now to do better after the next Larry or Yasi. Recovery is a marathon, not a sprint. Having a good back-up system means we get a head start"¹².

¹⁰ The World Bank and Queensland Reconstruction Authority, *Queensland: Recovery and Reconstruction in the Aftermath of the 2010/2011 Flood Events and Cyclones Yasi*, 2011

¹¹ State Disaster Management Group, *Queensland State Disaster Management Plan*, 2011

¹² L. O'Connor, *North Queensland Register*, *Recovery a marathon, not a sprint*, 11 August 2011.

Department of Community Safety

DCS drives the integration of resilience strategies in Queensland's disaster management arrangements. The agency works closely with the Australian Government, other states and territories, Queensland Government agencies, the Local Government Association of Queensland (LGAQ) and local governments to ensure an ongoing focus on resilience in current and future activities. *The Action Plan for Disaster Resilience*, developed by DCS highlights the importance of building 'a more disaster resilient Queensland community'¹³.

Prior to the disaster events of 2010-11 the Queensland Government, through DCS, was already involved in a wide range of projects designed to build the resilience of Queensland and Queenslanders. Two of the main programs supporting this agenda include:

Natural Disaster Resilience Program – The Program is a disaster mitigation and community resilience grant program funded through shared contributions from the Australian Government, Queensland Government and eligible applicants. It was established under the *National Partnership Agreement on Natural Disaster Resilience*, aimed at reducing Queensland communities' vulnerability to natural hazards by supporting local governments and other stakeholders to build community resilience. A total of 38 projects were approved under Round 1 (2009-10); and 70 projects were approved under Round 2 (2010-11). Round 3 (2011-12) was opened on 1 April 2011 and closed on 30 June 2011. Examples of projects funded include:

- *Cassowary Coast Disaster Management Community Resilience and Education Program* – An ongoing Disaster Management Public Education and Training program for local and regionally based schools, businesses, community groups, service clubs, emergency services, volunteers and neighbouring councils.
- *National Disability Services (Queensland)* – Improving disaster readiness, response and recovery, by strengthening support networks and engagement of people with a disability, their families and their neighbours.
- *Volunteering Queensland Youth Communication and Resilience Project* – To educate Queensland's youth regarding disaster resilience by connecting with them using application software, or an 'app', developed by the University of Queensland.

ClimateQ: Toward a Greener Queensland Strategy – This Strategy outlines the next steps in tackling Queensland's climate change challenges. The Queensland Government has provided \$30.6 million over five years (2009-10 to 2013-14) to DCS to progress a number of initiatives including:

- *Disaster Preparedness in Vulnerable Communities* – To assist vulnerable communities within Queensland adapt to the effects of climate change by increasing the ability of local governments, businesses, households, families and individuals to become more resilient and self-reliant.
- *Keeping Our Mob ClimateSafe* – To help remote Indigenous communities prepare for the impacts of extreme weather events by working with Indigenous councils to enhance disaster management planning and recruit and support volunteers for disaster management roles.
- *Support Our Heroes* – Strengthening the capability of Queensland's State Emergency Service (SES) and Rural Fire Service by providing additional equipment and resources, supporting existing volunteers and attracting new volunteers.
- *Bushfire Community Training Package* – Developing and supporting a network of up to 3000 Volunteer Community Educators around Queensland to deliver bushfire education and natural disaster community safety messages to their local communities.
- *Disaster Management Warehouses and Caches* – To ensure rapid and reliable deployment of high volumes of essential supplies to local communities to assist in response or recovery situations.

¹³ Department of Community Safety, *Action Plan for Disaster Resilience*, 2011.

Emergency Management Queensland

Emergency Management Queensland (EMQ) is an operational division of DCS. It works with its partners to develop, maintain and continually improve Queensland's Disaster Management Arrangements. EMQ contributes to stronger, more resilient communities through:

- leading activities undertaken before and after disasters or emergencies to minimise adverse community impacts;
- providing disaster awareness and hazard reduction services including community safety and education programs;
- supporting the SES and the Emergency Services Cadets;
- managing the Government's Helicopter Rescue Service; and
- supporting volunteer marine rescue organisations.

One of the key resilience projects being led by EMQ is the **SES Get Ready Guide**. The Guide provides a four step process for households to prepare for disasters and safety tips on a range of hazards. It can be found at www.emergency.qld.gov.au.



Wild kangaroos are happy to hitch a ride to dry land during the evacuation of the Theodore area (Source: The Courier Mail).

Local Government

Local government is central to Queensland's Disaster Management Arrangements. The *Disaster Management Act 2003*, sets out council's responsibilities for the establishment and support of Local Disaster Management Groups to plan for and prepare the local system and community for disaster events. Councils also develop and maintain a capacity to respond to and recover from disasters.

Councils regard community resilience as a core activity of local government and therefore develop a range of strategic objectives in key corporate planning documents to help build resilience across the community. Disaster resilience, in particular, is a crucial area of activity for councils to ensure the community is best prepared to meet the challenges of disaster events and to recover effectively from their impacts.

In recognition of this role DCS and LGAQ established the Queensland Disaster Management Alliance to build more disaster resilient communities and increase the self-reliance of communities. **The Alliance supports a collaborative approach to disaster management and will ensure that changes to disaster management in the future continue to result in improved community safety and resilience.**

Mount Nebo early warning siren (Source: Moreton Bay Regional Council).



The **Mount Nebo Early Warning System** is a joint venture with the Queensland Fire and Rescue Service, the Rural Fire Service, Queensland Parks and Wildlife, Queensland Police Service and Moreton Bay Regional Council which was developed to increase the safety of residents of the Mount Nebo area. The system consists of LED signage, a three stage siren attachment and a SMS notification system (including a 1800 MTNEBO recorded message service).

The system has been operating since 2008. Monthly testing and regular community meetings are conducted to ensure the system remains effective.

A grant funded project to extend the system to cover Mount Glorious is almost completed and the second siren will be launched prior to the 2011 bushfire season.

Following the weather events of 2010-11, LGAQ is delivering on behalf of the Department of Communities a component of the Community Development and Recovery Package funded under the Natural Disaster Relief and Recovery Arrangements. The Community Development and Engagement Initiative funds the employment of Community Development Officers in 17 of the most disaster affected councils e.g. Cassowary Coast and Lockyer Valley. The Officers will support communities to recover from the impacts of the disasters. In the context of a community development approach, much of this work will focus on activities to build the resilience and self-sufficiency of communities.

Our partners

There are a wide range of stakeholders committed to building the resilience of Queensland, including the Australian and Queensland Governments, LGAQ and local governments. Working alongside these agencies are the private sector and industry, such as Woolworths and James Cook University's Cyclone Testing Station, and the not-for-profit sector, such as Lifeline, Red Cross, Volunteering Queensland and Green Cross. **Most importantly however communities are dedicated to building their own resilience and that of their families, friends, and communities.**

It is through the goodwill of these partnerships that communities, businesses and governments will be successful in building their capacity together to cope with future disaster events.

JOINFORCES

Corporate Australia rebuilding Qld

*The **Join Forces Program** has worked to successfully connect flood and cyclone affected sporting clubs and community groups with corporate Australia. These corporations have been able to help with the task of rebuilding by supporting Queensland communities through the Join Forces Program with donations and pledges of more than \$10 million. To-date, there have been 300 matches between corporate donors and communities worth \$6 million. In addition to the completed donations, \$5 million has been pledged by corporate Australia to community groups. Corporate donors include Clarke Equipment, Bosch, James Hardies Australia, Telstra, National Australia Bank, Woolworths, Brookfield Multiplex, IGA, Nissan and Bunnings.*

The Join Forces program has also facilitated donations of in-kind professional services and support from the private sector and other organisations to assist in the recovery and reconstruction process. Examples include KPMG, BDO, James Cook University's Cyclone Testing Station, University of Queensland, Epicon Property Group, Place Design Group, Clayton Utz and GHD¹⁴.



From left: Greg Hallam, Chief Executive Officer (CEO) of the LGAQ; Mark Girard, former CEO of Local Government Infrastructure Services; and Bob Bain CEO Somerset Regional Council (Source: LGAQ)

¹⁴ <http://www.qldreconstruction.org.au/joining-forces>



Section 3

Section 3: current resilience initiatives

Disaster Events of the Summer of 2010-11

While Queensland has strong frameworks, programs and initiatives to support disaster resilience, **the scale and breadth of the weather events of 2010-11 have resulted in a greater emphasis on the need to develop and demonstrate resilience in all aspects of disaster management and the recovery and reconstruction process.** Central to the work of the Authority, and lines of reconstruction, is the commitment to enhancing the capacity of Queensland to prepare for, withstand, respond to and recover from disaster events.

We know that Queensland will face future disaster events, as a State we need to be well placed to cope with these events across all aspects of our society. **Our communities, economy and environment must be adaptable, flexible and responsive and not only withstand and recover from disasters but come out the other side better equipped to face the future.** Across communities, the not-for-profit sector, industry, the private sector and the three tiers of government there is a clear need to take an action-based approach to strengthening resilience and to building back better.

On 17 January 2011 the Queensland Government established the Queensland Floods Commission of Inquiry into the 2010-11 flood events. While the terms of reference for the Inquiry are extensive, a key focus is the preparation, mitigation, planning and response to flooding in Queensland. The Commission was required to produce an Interim Report by 1 August 2011 on flood preparedness to enable early recommendations to be implemented prior to the 2011-12 wet season¹⁵. The recommendations in the Interim Report have a strong focus on disaster resilience. The Queensland Government has committed to implementing all of the Commission's recommendations relating to State government agencies.

Achieving disaster resilience relies on encouraging communities and businesses to get actively involved in disaster management, enhancing existing disaster management arrangements and services, and ensuring that the reconstruction and recovery effort after the 2010-11 events enhances resilience and builds back better. This means realising the potential for all parties – communities, businesses and governments – to build their resilience to disasters.

The Queensland Government recognises its role in supporting initiatives that help communities and businesses recover from disaster events and build resilience for the future, such as business continuity planning, community education and capacity building. It is also committed to facilitating a range of strategies in the key areas of built infrastructure, land use planning, disaster risk assessment and emergency management.



Flood waters submerge Brisbane suburbs (Source: Getty Images).



Queensland is back in business (Source: Department of Employment, Economic Development and Innovation).



Local Japoonvale residents (Source: Cassowary Coast Regional Council Cyclone Yasi Recovery Newsletter)

West of the highway between Innisfail and Tully is the town of **Japoonvale**. Members of this small community learnt some hard lessons during Cyclone Larry that they put to good use during Severe Tropical Cyclone Yasi.

Following Cyclone Larry in 2006, the local community was determined to be self-reliant and more involved in disaster management planning. Frequently isolated by flooding, the Japoonvale residents have developed a simple plan which focuses on local people taking personal responsibility to minimise communication failures and ensure a high degree of self-sufficiency.

Through this plan residents of Japoonvale have implemented alternate communication networks that utilise UHF radio and local transport businesses. Exceptional effort is undertaken to prepare for imminent disasters including registration of first aid personnel, identification of helicopter landing sites, and prepositioning of tarpaulins by the SES. A flyer which provides details of the plan is distributed to each household.

During Severe Tropical Cyclone Yasi Japoonvale locals knew what to do. Resident Dina Campagnolo says, "We were ready: all we had to do was bunker down, sit it out and get to work the next day." Residents are now refining their plan based on their experiences during Severe Tropical Cyclone Yasi¹⁶.

¹⁵ Queensland Floods Commission of Inquiry, Interim Report, 2011.

¹⁶ Cassowary Coast Regional Council Cyclone Yasi Recovery Newsletter Issue 2, June 2011.

The Authority and the Operation Queensland lines of reconstruction are therefore striving to deliver on the key themes in the *National Strategy for Disaster Resilience* to achieve the following outcomes:

- **Communities** and community members that support each other to deal with the impact of disasters and their aftermath. Communities that have the information, skills and expertise to take appropriate action before, during and after disaster events. Where there is strong leadership and networks to support co-operative partnerships across communities, the not-for-profit sector, industry, the private sector and tiers of government.
- An **economy**, including a government sector, that has the frameworks and systems in place to ensure business continuity and the security of our food, power, transport and telecommunications networks. That the infrastructure and resources our economy relies upon can adapt to the adverse impacts of disasters and can be returned to business-as-usual efficiently and effectively. Where disaster risk assessment and mitigation planning are adopted, land use planning and building standards are suitable, and disaster management agencies have appropriate operational capability.
- A resilient **environment**, in which our terrestrial, aquatic and marine ecosystems and natural resources have the capacity to withstand and naturally recover from the impacts of disaster, and continue to provide long-term benefits for Queenslanders.

The lines of reconstruction working with their partners across all sectors of society have implemented a wide range of projects devoted to strengthening resilience and building back better. As foreshadowed in Operation Queensland there are also several cross-cutting projects that have been progressed as part of the reconstruction and recovery effort that are focused on these goals.

Among these projects are a number of strategic and high impact initiatives that will have a lasting impact on the State and these are featured in the following pages.



Spinnaker owner Brett Jensen with previous owner Cheryl Johnson and staff members Wendy Westcott and Linda Ford (Source: news-mail.com.au).

Spinnaker Bar and Restaurant owner Brett Jensen from Bundaberg watched as his riverside business went under in the floods and a runaway boat crashed into the building. However just over a month later the business was re-opened – but with a few flood proof improvements.

The disaster prompted Mr Jensen and his wife to put into place plans they had considered for some time – to keep their fine dining upstairs, which was not affected by the flood waters with its own entry point, and to focus on a bar and more casual dining downstairs. The “Flood Bar”

has been rebuilt to withstand the impact of future flooding with all essential equipment now in the upstairs restaurant.

The Jensen’s have been humbled and empowered by the support and loyalty they have received from the local community to get up and running again^{16a}.



Mud Army volunteers clear debris in St Lucia, Brisbane (Source: T. Harris).

^{16a} www.news-mail.com.au/story/2011/02/05/eatery-reopens-doors-burnett-river-spinnaker-bar/

Human and Social Line of Reconstruction

The Human and Social Line of Reconstruction is committed to restoring and strengthening local community services and community capacity, and building the resilience of individuals, families and communities.



Red Cross at work (Source: Queensland Government Image Library).

Building Resilience

Mental Health Disaster Recovery Package

Led by the Department of Communities and Queensland Health

The Package will deliver support and intervention services to disaster affected individuals and families to reduce the occurrence of more severe mental illness, and assist individuals to develop coping mechanisms to deal with the aftermath of the recent disasters and with future events.

Initiatives include community based support and services through:

- \$6.5 million for additional community mental health services in 11 locations across Queensland; and
- \$3.5 million for mental health information and promotion.

In addition, specialist mental health care will be provided through:

- \$37.8 million for 126 new temporary specialist mental health staff across Queensland; and
- a State-wide Family Bereavement Service to support bereaved families.

Financial Counselling Package

Led by the Department of Communities

The \$5.8 million two year Package will provide free and confidential financial counselling services to support families and individuals affected by the disasters that are experiencing financial difficulties. It has two components:

- \$2 million for 12 months to Lifeline Financial Counselling to continue its State-wide telephone service and 10 face-to-face service outlets; and
- \$900,000 per annum for 12 months to various service providers to open six new face-to-face service outlets in the communities of Cardwell, Tully, Emerald, Lockyer Valley, Toowoomba and Western Downs.

The Package will alleviate personal hardship and distress arising as a direct result of the disasters and will ensure communities are better able to cope with the financial impacts of disaster events.

The Resilience Profiles Project, being delivered by the Queensland Council of Social Service and Griffith University, aims to develop 'Resilience Profiles' for three diverse communities in Queensland, using the existing Community Indicators Queensland framework to test and develop specific resilience indicators. The project will provide a tool to assess which communities are more vulnerable to disaster events and need targeted assistance to develop greater resilience. It will also, over time, allow evaluation of the effectiveness of resilience-development projects and programs

Build Back Better

Community Development and Recovery Package

Led by the Department of Communities

The Community Development and Recovery Package – \$20 million over two years – has two components:

- *Community Development and Engagement Initiative* – Provides funds to employ and support Community Development Officers in the 17 local governments hardest hit by the disaster events of 2010-11. These officers will work directly with the community to help them identify their recovery priorities, activate recovery projects and assist in preparation activities for future disaster events
- *Flexible Funding Program* – Grants to 73 local governments to implement projects to help local communities deal with the impacts of the disasters and contribute to their disaster preparedness.

The Package will restore and further develop community networks and community leadership to manage the impacts of the disaster, identify community needs, and drive the implementation of priority recovery and resilience building projects. This will lead to more self-reliant communities that are better prepared and able to lead their own recovery for future disaster events.



Danielle Crismani and Sally Lynch (Source: S. Doherty).

*Resilient communities are born of the desire of individuals to make a difference; **Baked Relief** is one such initiative started by Danielle Crismani aka Digella. Separated from her family as a result of the flood waters and feeling the need to do something to support the recovery effort, Danielle baked for her local SES volunteers sandbagging around Brisbane. She put the word out via the internet and offers of help came rushing in. Baked Relief provided food to volunteers, SES, Police, Fire and Ambulance workers, the military and flood affected families during the emergency clean up in Brisbane, the Lockyer Valley and ultimately throughout the entire State.*

Baked Relief has evolved from the first plate of food Danielle brought to her local SES and is continuing to grow and connect with like-minded efforts to provide support to those in need over the long term. Central to the success of this initiative in rebuilding towns has been the focus on directly supporting families using produce from local businesses¹⁷.

¹⁷ <http://bakedrelief.org/about>

Local Government in Action

Partnership Activities

Led by the Ipswich City Council.

The Ipswich City Council is an example of a local government area building the human and social resilience of its community. In close partnership with the Department of Communities, Lifeline, and Red Cross it is delivering essential services to flood affected areas of Ipswich. It is supporting community groups which have been established in Goodna, Gailes, Bundamba, Moores Pocket/Tivoli and Karalee, as well as supporting the smaller pockets of Ipswich residents and businesses that were flooded.

Support provided through this partnership includes the following:

- Training sessions related to recovery and resilience (Red Cross)
- Vicarious Liability and Psychological First Aid training (Lifeline)
- Information sessions via on-site community meetings, barbecues and Ipswich community events such as Defence Family Fun Day, Artbeat, Ipswich Show, Marburg Show, Wellbeing days (supported by the Buddhist Tzu Chi Foundation in Goodna, Karalee and Bundamba), and Gailes 'Making Curtains Project'
- Community Recovery and Information Referral Centres in Ipswich and Goodna (Department of Communities)
- Community support at local events such as Jacaranda Festival and Celebrate Pasifika to strengthen engagement across cultural communities (Lifeline, Red Cross and Department of Communities)
- Arts and Cultural Activity for Flood Affected Young People of Queensland (Queensland Arts Council)
- Resilience Leadership Project to be delivered by Volunteering Queensland
- Seniors Week events to flood affected seniors communities
- Oral and Visual History of Floods via Ipswich City Council Library.

In addition, Ipswich City Council is also working with the SES, EMQ, Fire and Rescue Services and the Police to develop and deliver a community education project to all schools (primary and secondary) in Ipswich. This project aims to promote community preparedness and resilience.

*One of the key lessons from the disasters Queensland faced last summer was the need for simple, interactive tools that help people prepare and be more resilient. With that in mind, Volunteering Queensland launched Australia's first interactive, online disaster preparedness checklist – **the Readiness Index**. The Readiness Index allows people to check their level of preparedness and provides an individualised improvement and action guide. People achieve stars (1-5 with 5 being really prepared) based on their level of disaster preparedness.*

As an online tool it is available world-wide to people with a web connection, however the target audience is Queensland. Volunteering Queensland will be running a State-wide disaster preparedness campaign, called Queensland's One Million Stars Challenge. The index can be found at www.emergencyvolunteering.com.au¹⁸.



Emergency workers during cyclone recovery operations (Source: Queensland Government Image Library).

Sunshine Coast Evacuation Sub-Plan Project

Led by the Sunshine Coast Regional Council

In October 2010 the Draft State Evacuation Guidelines were released. The Sunshine Coast Regional Council recognised that it would need to be well prepared to meet the Guidelines when they were adopted and considered what could be done to enable this to occur.

In November 2010, the Council facilitated the Sunshine Coast's largest multi-agency disaster management exercise. Key learnings from this exercise was the requirement to update and complete flood mapping for the region to a high and consistent standard – which was completed prior to the 2010-11 wet season - and the need to develop a Evacuation Sub-Plan.

Noting the lessons from 2010-11 summer of disasters, Council commenced the Evacuation Sub-Plan project in June 2011 with a requirement to have this completed by December 2011.

The November 2011 Sunshine Coast Disaster Management Exercise will test the draft Sub-Plan and will enable improvements to be made prior to adoption. Recommendations of the Queensland Floods Commission of Inquiry relating to evacuations will also be incorporated.

The Evacuation Sub-Plan will improve community resilience through:

- identification of the types of hazards that exist which may require evacuation;
- a process to make residents aware of hazard zones that they may be living in e.g. coloured sticker in the meter box;
- pre-prepared messaging for public information about what to do should an evacuation be required;
- material to be published on the Council's website all year round; and
- a process for Local and District Disaster Management Groups and Coordination Centres to implement should an evacuation be required.

In short the Council is working towards making the Sunshine Coast community aware and ready to deal with an evacuation should the need arise.

¹⁸ C. Williams, Strategic Communications Officer, Volunteering Queensland.

Economic Line of Reconstruction

The Economic Line of Reconstruction is facilitating the rapid restoration of a competitive, sustainable economy to support business continuity, create the conditions for business success and address future economic challenges.



Queensland open for business (Source: Department of Employment, Economic Development and Innovation).

Building Resilience

Business Resilience and Continuity Planning

Led by the Department of Employment, Economic Development and Innovation

The Government has developed resources that proactively assist small to medium enterprises to develop and build resilient, sustainable businesses. These resources are being utilised by Department of Employment, Economic Development and Innovation (DEEDI) Regional Centres and other organisations, including CPA Australia, which has incorporated some of the materials into their Disaster Recovery Toolkit for Business.

This project will enhance the capacity of businesses through building their continuity planning skills and capabilities.

The University of Queensland's School of Economics, in response to the Australian Government's Disaster Insurance Review Panel's investigations, is undertaking research to assess the best approach to flood insurance. Various models for flood insurance are being investigated including the roles of government, insurance companies and individuals. This work will inform the outcomes of the Australian Government's proposals on future insurance arrangements in Australia^{18a}.

^{18a} www.uq.edu.au/economics

Jobs and Skills Package

Led by the Skills Queensland

The 2011 Queensland Natural Disasters – Jobs and Skills Package is an \$83 million package that will assist 10 000 people. It was developed by Skills Queensland, in partnership with DEEDI, the Department of Education and Training, and the Australian Government Department of Education, Employment and Workplace Relations. Included in the package are four key strategies:

- **Community Capability** – \$16.6 million to build the capacity of affected communities to support local industry and coordinate employment and skills assistance
- **Green Jobs** – \$39.3 million to provide employment and work experience opportunities on projects targeted at rebuilding community and public infrastructure and environmental restoration
- **Apprentice Support** – \$14.2 million to support employers to retain apprentices and trainees, provide employment and training opportunities to stood down or cancelled apprentices and trainees and additional apprentice incentives
- **Priority Skills Development** – \$13 million for training to address priority skills development and pre-employment training aligned to local job opportunities, including support for Indigenous participation.

The suite of initiatives and activities will support business, industry and individuals to develop the skills and capabilities to withstand and recover from future disaster events.

Build Back Better

Rural Resilience Package

Led by the Department of Employment, Economic Development and Innovation

The Rural Resilience Package is a \$20 million fund provided by the Queensland and Australian Governments to support the recovery and future resilience of primary producer and tourism businesses, and their communities in the area most severely impacted by Severe Tropical Cyclone Yasi. While the largest component of the program is Operation Clean Up, assisting with the removal of debris from farm businesses and tourism operations, the Package is also funding a range of programs designed to improve future resilience of the cyclone impacted communities.

The Package has funded 17 Industry Recovery Officers to work with industries to get primary producers and tourism operators back in business and better prepared for future events.

The Rural Resilience Package also includes two grants programs:

- an industry grants program that has to-date funded 18 projects in industry organisations targeting the impacted area, designed to promote future climate risk preparedness; and
- a community grants program that is helping to support local communities such as Silkwood, where a community grant has been used to support the annual Feast of the Three Saints program.

Local Government in Action

Central Highlands 2011 Flood Recovery Economic Impact Assessment

Led by the Central Highlands Regional Council

A good example of economic resilience can be seen in the Central Highlands. The Central Highlands Regional Council and the Central Highlands Development Corporation have sought to collect relevant data to measure and verify economic disadvantage and impacts experienced by the residential, agricultural, commercial, industrial and resources sectors across the Central Highlands region as a result of the floods.

The Council and the Development Corporation are conducting an analysis of the flood's impact (short and long-term) on the loss of production for both the region and State. The results of this study will become part of a resource that will assist in the attraction of aid and funding, identify opportunities in the construction industry and raise awareness of the economic value of the region's resources and skills attraction training.

This project seeks to accurately quantify and qualify in monetary terms the impact of the 2010-11 natural disasters on the community, economy and environment of the Central Highlands region.



Helping North Queenslanders get back to business (Source: Department of Employment, Economic Development and Innovation).

Operation Clean Up, part of the Rural Resilience Package, is helping farms and tourism businesses affected by Severe Tropical Cyclone Yasi to fast track industry recovery. As well as assisting with debris removal, Operation Clean Up is providing employment for workers laid off after the cyclone devastated their industries, helping them to stay in the local community. The local employment also provides an extra stimulus to the region, as the income earned by these work teams finds its way into the local community.

Primary producers and tourism businesses assisted by these workers are able to get back in business much sooner than would have occurred otherwise, significantly aiding local community and industry recovery. There have been over a thousand jobs registered for work by Operation Clean Up, and with over 300 workers, and fifty specialist contractors engaged, it is expected that Operation Clean Up will have this massive task completed by the end of 2011.

One grateful producer Pat Lucey of Marionvale station said his family was devastated that morning. "We thought we were never going to get over this," Mr Lucey said. He and his son Connor rolled up their sleeves and started work, using their own heavy earthmoving machinery. Mr Lucey said Operation Clean Up's contractor provided 10 days work helping to clear laneways to allow cattle to reach watering points and to make mustering easier^{18b}.

^{18b} Department of Employment, Economic Development and Innovation

Gympie Music Muster

Led by Gympie Regional Council

Thanks to the Gympie Regional Council and the Queensland Government, music fans were able to enjoy the 2011 Gympie Music Muster.

Investment in rebuilding the Amamoor Creek Road – the main access road into the Muster – ensured this well known music event went ahead this year. Mary Valley and Gympie businesses benefited from the restoration of the Muster access route, as did campers, with the re-opening of the local camping grounds managed by the Queensland Parks and Wildlife Service.

Attracting country music fans from across the nation, the Gympie Music Muster is of major economic significance to the area.



Amamoor Creek Road (Source: Queensland Reconstruction Authority).



Freighter Maxi-CUBE offices Rocklea (Source: Freighter Maxi-CUBE).

Freighter Maxi-CUBE Queensland is a semi-trailer dealer at Rocklea that employs around 50 people. Their business was completely inundated in the 2011 January floods. While the company took precautions to put inventory, machinery and electronic equipment in semi-trailers and park them on higher ground, as well as elevate office equipment, some assets were lost. The company also lost many of its archived paper records.

However thanks to forward planning, all electronic data, records and documents were backed-up on the company's servers which were physically removed from the site. In addition, off-site Board Room facilities were established to get the business back on its feet and within a week of the flood, the place was semi-operational. Working quickly to clean out the mud and damage meant that Freighter Maxi-CUBE was first in line when it came to hiring builders, electricians, painters and other tradesmen. Staff morale and motivation also benefited, as staff and management worked together to put their lives and futures back on track...now they are enjoying clean fresh new offices.

The Company has another site in Townsville but they were ready for Severe Tropical Cyclone Yasi. Semi-trailers filled with all office equipment and other business assets were parked in front of and behind the Company building's eight roller doors – as a result the equipment and building remained intact and they were quickly back to business¹⁹.

¹⁹ Chief Financial Officer, Freighter MaXi-CUBE

Environment Line of Reconstruction

The Environment Line of Reconstruction is committed to the restoration and recovery, and building the resilience, of disaster affected terrestrial, aquatic and marine ecosystems and natural resources.



Mount Crosby Weir (Source: K. Phil).

One of the untold stories of the 2010-11 floods is the magnificent actions of the workers at **Mount Crosby Water Treatment Works**. In order to maintain some level of throughput to meet the drinking water needs of the capital. Without power, and working in vertical tunnels of 40 metres in pitch dark with torches in their mouths, staff worked to maintain some level of water treatment at the Mount Crosby plant. Staff were being flown in by helicopter to change shifts every 12 hours. The workers showed incredible resilience and commitment to Queensland's recovery.

The impact of the floods on the Mount Crosby water treatment works meant that a critical part of **South East Queensland's water grid** – the desalination plant at Tugun on the Gold Coast – came into its own in terms of ensuring quality water supplies to the people of South East Queensland. Without the desalination plant, the whole of Brisbane, Logan, Redcliffe, Redlands, Ipswich, up to the Sunshine Coast and northern parts of the Gold Coast would have been boiling their water for days as a result of the impact of flooding on water quality. Thanks to forward and strategic resilience planning, the desalination plant and the water grid were able to maintain water quality for the third largest city in Australia. The desalination plant has continued to play a role in maintaining water quality and security across South East Queensland while allowing treatment plants at the Mount Crosby weir to be cleaned of sediment²⁰.

Building Resilience

Marine Ecosystem Resilience – Monitoring and Action

Led by Department of Environment and Resource Management

The Department of Environment and Resource Management (DERM) is working with key stakeholders to assess the extent and severity of flood and cyclone damage and the impact on marine ecosystems. This will be used to improve management of water quality and ecosystem health (including key marine species, such as turtle and dugong) and undertake action that will mitigate further damage.

The initiative will support the recovery of natural systems, assist in understanding the natural responses of key marine species to disaster impacts, enhance the recovery of water quality and ecosystem health, and inform adaptive management actions to improve overall resilience to future disaster events.

National Parks Infrastructure Recovery Program

Led by Department of Environment and Resource Management

DERM is restoring or replacing damaged national parks infrastructure affected by the disaster events of 2010-11. Restoration works will consider lessons learned regarding flood levels, wind exposure and vegetation management, and will be prioritised to ensure:

- tourism industry and local access to high profile parks and forests to provide continuing public enjoyment;
- public and staff safety; and
- management capability, especially access to fire trails.

The Program will restore national parks assets to pre-event levels of service for more than 16 million visitors annually to Queensland national parks and forests including 1.1 million overnight campers – delivering significant associated economic, health and wellbeing benefits to Queenslanders.

²⁰ Minister Roberston, Hansard, February 2011

Build Back Better

Natural Assets for Flood and Cyclone Resilience

Led by Department of Environment and Resource Management and Department of Local Government and Planning

DERM and the Department of Local Government and Planning (DLGP) will work with stakeholders to:

- review existing environmental and natural resource management programs and research in relation to the flood and cyclone mitigation potential of natural assets;
- identify and evaluate the flood and cyclone mitigation potential of regional landscapes and ecosystems; and
- inform regional plans and other regional and local policy and planning for natural resource management.

The initiative will provide the basis for focused policy and planning in landscape-scale natural disaster mitigation and will enhance the resilience of Queensland's urban and rural communities through more informed landscape-scale management.

Local Government in Action

Reducing the Spread of Parthenium Weed

Led by South Burnett Regional Council and Biosecurity Queensland

Work being undertaken in South Burnett is a good example of enhancing environmental resilience. Parthenium costs the cropping and beef industry in excess of \$16.5 million per year. The recent flooding and rains throughout Queensland will have significantly contributed to the spread of this Class 2 declared plant.

South Burnett Regional Council, Biosecurity Queensland, and landholders worked with contractors along almost 50 kilometres of Lower Barambah Creek to clear and treat infestations of the poisonous pest plant. Cherbourg Aboriginal Shire Council also contributed to the response and contractors were used to treat parthenium infestations in their council area as well. The partners to this project aim to improve the detection and limit the spread of the weed to new locations, reduce the likelihood of even greater spread of it next wet season and thereby enhance the productivity of these prime agricultural lands.

The South East Queensland Climate Adaptation Research Initiative (SEQ-CARI) was established to examine South East Queensland's vulnerability to climate change, and develop practical, cost-effective strategies to help the region adapt. It is the first comprehensive, regional study of climate change adaptation in Australia, and one of just a few world-wide. The initiative will develop new, more detailed climate change projections for South East Queensland, and assess the comparative vulnerability of each sub-region.

*State and local governments, industries and community groups will be key participants in the research program, which involves more than 30 scientists from: **CSIRO Climate Adaptation Flagship, Griffith University, The University of the Sunshine Coast, and The University of Queensland**²¹.*



Repairing damaged fencing (Source: www.emergencyvolunteering.com.au)

²¹ <http://www.csiro.au/partnerships/seqcari.html>

Building Recovery Line of Reconstruction

The Building Recovery Line of Reconstruction is co-ordinating planning and implementation of a State-wide rebuilding program, and throughout this process promoting opportunities to enhance resilience and sustainability.



Suncorp Stadium – before and after (Source: Stadiums Queensland).

Building Resilience

Damage Assessment and Reconstruction Monitoring

Led by the Queensland Reconstruction Authority

A key success factor in recovery and rebuilding from natural disasters is gathering comprehensive information on the extent of damage as soon as safely possible after the event. Early and accurate damage identification and assessment information:

- enables quick activation of response agencies;
- provides the basis for better co-ordination and targeting of efforts;
- assists in starting reconstruction as early as possible after the event; and
- assists in monitoring progress of reconstruction.

Ideally, baseline damage information is best collected in the first 24-72 hours and before clean up crews start to remove damaged and destroyed materials.

Since April 2011 the Authority has conducted initial and/or follow up coordinated damage assessments with the Building Services Authority in the Roma, Brisbane, Ipswich, Emerald and in cyclone impacted areas in Far North Queensland.

These assessments were carried out using hand-held data collection devices and provided accurate information to all response and recovery agencies to assist response and recovery efforts.

The Authority is working with key Queensland Government agencies and local government authorities to improve the system for the comprehensive gathering of accurate damage assessment information in the event of future disaster events across the State.

Queensland University of Technology architecture students have turned their efforts to helping Brisbane recover from the 2010-11 floods, with some innovative results. Second and fourth year students exhibited their work in *Bouncing Back: Resilient Design for Brisbane* – an exhibition showcasing interpretations of urban resilience.

Some of the work explores the notion of 'Bouncing Back' from the 2010-11 floods, while other work focuses on 'Urban Resilience' as a unique design response to adversity. All work is designed in the context of the contemporary or future Brisbane built environment. Design solutions have been expressed in a variety of forms including emergency shelters, flood-proof housing and a range of urban designs addressing changing social, cultural, political, technological and environmental conditions²².

²² <http://www.brisbanetimes.com.au/queensland/students-design-floodproof-future-20110722-1hsm1.html>

Build Back Better

Queensland Public Cyclone Shelter Program

Led by the Department of Public Works

As part of a joint program with the United Arab Emirates, the Queensland Government is constructing 10 Cyclone Shelters valued at \$60 million. The shelters will be located in the following areas:

- Mackay – new State High School (Rosewood Drive, Rural View), Mackay
- Bowen State High School (Richmond Road), Bowen
- Edmonton Leisure Centre (Walker Road), Cairns
- Ingham State High School (Marina Parade), Ingham
- Port Douglas State School (Endeavour Street), Port Douglas
- Proserpine State High School/Proserpine State School (Ruge and Sterry Streets) Proserpine
- Heatley Secondary College (Fulham Road), Townsville
- Tully State School (Bryant Street), Tully
- Hibberd Drive, Rocky Point, Weipa
- Yeppoon State High School (Rawlings and Tabone Streets), Yeppoon.

The shelters will offer protection to people evacuated from their homes that are unable to find alternate safe accommodation, and ensure these northern coastal communities are well equipped to cope with disaster related evacuation.

Local Government in Action

Temporary Local Planning Instruments

Led by the Brisbane City Council and Ipswich City Council

Good examples of building the resilience of our planning systems can be seen in Brisbane and Ipswich. Both the Brisbane City Council (BCC) and the Ipswich City Council (ICC) have put in place interim flood levels and standards to assist residents wanting to rebuild or build in flood affected suburbs after the 2010-11 disaster events.

The Brisbane Temporary Local Planning Instrument (TLPI) 01/11 was made effective from 16 May 2011 and applies to the land affected by the 2010-11 Brisbane River flooding as well as by waterway or creek flooding. The new planning provisions include the following:

- Introduces an Interim Residential Flood Level (IRFL) which will require building levels to be increased
- Allows building heights to increase in response to the IRFL
- Requires the location of essential services (electricity supply, telecommunications, fire services) to be either higher than the IRFL or sufficiently waterproofed
- States filling and retaining walls must not create local drainage problems or cause amenity issues
- Determines instances where resilient building materials will have to be used in developments.

The Ipswich Temporary Local Planning Instrument (TLPI) 01/11 was adopted on 14 June 2011 and will cease to have effect on 19 June 2012 or when it is repealed in accordance with the provisions of the *Sustainable Planning Act 2009*. The purpose of this TLPI is to provide improved flood regulation.

*In August 2007 **Frankie's Gulch Bridge** and 4WD-only approach roads to the Cooloola Section of the Great Sandy National Park were severely damaged. Head stocks were washed away, log girders and bridge decking collapsed and a gap more than one metre wide opened up between the decking and the girder. In the rebuild the Queensland Parks and Wildlife Rangers worked to raise the access road and construct a new system of 'flap drains', to reduce the impact of future flood waters.*

Despite experiencing severe weather events since the rebuild, including the 2010-11 extreme weather, the more resilient reconstruction work has meant that the road has not been significantly eroded and Frankie's Gulch Bridge has remained intact. Now, Queensland's damaged national park infrastructure is being rebuilt using similar techniques to enhance resilience.



Frankie's Gulch Bridge before and after (Source: Department of Environment and Resource Management).

Roads and Transport Line of Reconstruction

The Line of Reconstruction is managing the recovery and reconstruction of the State's integrated transport system to reconnect communities, support economic recovery and build resilience and immunity.



Spring Bluff Railway Station, Toowoomba – before and after (Source: Queensland Government Image Library).

Building Resilience

Transport Network Reconstruction Program

Led by the Department of Transport and Main Roads

The Transport Network Reconstruction Program is managing the recovery and reconstruction of Queensland's integrated transport system in order to reconnect Queensland communities and economies following the disaster events of 2010-11.

A multi-modal approach to reconstruction, resilience and immunity will be achieved by sound management across the State. Input from regions, the public and private sectors from all regions across the State, is being used to schedule and prioritise works, maximise value for money, and provide access for communities and industry at all times throughout the reconstruction activities. The program of work will include the improvement, upgrade, reconstruction, stabilising and sealing of sections of roads and highways across Queensland, as well as the replacement and improvement of culverts and bridges.

The significant investment by the Australian and Queensland Governments of \$4.2 billion over the next three years will reconnect people, enable the vital re-supply of communities, and aid local, regional and State economic recovery and reconstruction.



Citycat's new winning design (Source: Department of the Premier and Cabinet).

Brisbane's CityCat and CityFerry network will be back better than ever with a cutting-edge design selected to replace the terminals destroyed during the floods.

The new design, developed by the Cox Rayner Architects / Derlot / Aurecon consortium, is not about just replacing what was destroyed, it's about building back better.

The new floating pontoon structure will be tethered to a single up-stream pier, which will be highly resilient in the event of future floods. The new terminal will allow the pontoon and gangway to be sunk below the water level to stop them being washed away during future floods. Premier Anna Bligh said this innovative and simple approach means that Brisbane commuters will literally be walking on water.

The Australian and State Governments have allocated up to \$70 million to replace five CityCat and two CityFerry terminals destroyed in the floods - located at University of Queensland, Regatta, North Quay, Queensland University of Technology, Sydney Street, Holman Street and River Plaza. Premier Bligh said the winning design could be easily adapted to suit each terminal location and was ecologically sensitive, utilising recycled materials, solar collectors and water harvesting.

The winning consortium will work with Brisbane City Council throughout the rebuilding process²³.

²³ Media Release 4 August 2011 - Premier and Minister for Reconstruction The Honourable Anna Bligh.

Build Back Better

Bruce Highway Upgrade Strategy

Led by the Department of Transport and Main Roads

The Bruce Highway Upgrade Strategy announced in July 2011, delivers a vision to upgrade the State's transport backbone from Cairns to Brisbane with a practical plan to achieve it.



Through the Strategy, the Queensland Government is providing a long-term vision, a set of clear strategic priorities, and a practical plan for the continued improvement and maintenance of this vital piece of road infrastructure.

The Queensland Government has identified 60 priority investment projects worth more than \$2 billion for the highway over the next 20 years which will see 340 kilometres of highway duplication, bridge replacements to improve flood immunity, intersection upgrades, and other valuable improvements. The Strategy identifies 10 proposed ring roads, bypasses and deviations, increases sections of road width to four lanes, and makes stretches of the road more flood resilient.



Damage to Bruce Highway during the summer of 2010-11 (Source: Department of Transport and Main Roads).

Local Government in Action

Figtree Close Culverts, Malanda

Led by the Tablelands Regional Council

Restoration work in Malanda provides a great example of building infrastructure resilience. As a result of the rainfall and flooding events in late 2010 a culvert at Figtree Close, Malanda, was washed away. Due to the significant structural damage the Tablelands Regional Council officially closed the access on Christmas Day.

Figtree Close provides a direct route from the highway to the Johnstone River Estate. Consequently, approximately 300 residents were forced to make a detour on a gravel road to access their premises. This has caused significant inconvenience for the affected residents and the increased traffic is causing major damage to the detour route.

Approximately \$490,000 has been made available to replace the damaged culverts with a single span bridge. The project has been identified as the best value for money option and can be completed in short timeframes. This will provide an improved and resilient access route for local residents in the longer term and will increase the flood immunity of the road in time for the next wet season.

Jellicoe Street Bridge, Toowoomba

Led by Toowoomba Regional Council

Toowoomba has received \$18 million in funds to repair flood damaged roads including \$2.6 million to rebuild and improve the Jellicoe Street Bridge in North Toowoomba. The bridge is an important piece of transport infrastructure which provides access to the inner city and surrounding business areas. Planning by the Toowoomba Regional Council for the reconstruction of the Jellicoe Street Bridge is well advanced.



Flash flooding leaves a hole in Jellicoe Street where it crosses Gowrie Creek (Source: Getty Images).

Community Liaison and Communication Line of Reconstruction

The Line of Reconstruction will foster public, corporate and stakeholder confidence in the recovery and reconstruction effort and support the maintenance of long-term outcomes for Queensland communities.

Building Resilience

New South Wales and Queensland Cross-border Arrangements Memorandum of Understanding

Led by the Department of the Premier and Cabinet

On 26 May 2011, the Queensland Premier and the New South Wales Premier committed to developing strengthened cooperation and collaboration for the whole of the border, encompassing all government services that impact cross-border issues.

The strengthened cross-border relationship will focus on areas such as emergency services and response activities for natural disasters, transport and health care services, primary industries and bio-security.

Community Preparedness Communication Campaign

Led by the Department of Community Safety

From November 2011, the Government will rollout a comprehensive community education, media and advertising campaign to increase community preparedness for the storm and cyclone season.

The Get Ready Queensland campaign will ensure Queenslanders are informed about how they can safely prepare for storms, floods, cyclones and other severe weather events. A feature of the campaign will be State-wide distribution of a *Get Ready Queensland Guide*, to approximately 2 million Queensland homes. The guide provides vital information and safety tips relating to storms, storm surges and storm tides, cyclones, tsunamis, floods and fast flowing flood water (swift water). It outlines four key steps to preparedness, and includes a template for a household emergency plan, and key contacts.

In support of the *Get Ready Queensland Guide*, two additional campaigns will be launched relating to: driving through, and playing around, swift water; and storm and cyclone preparedness and resilience.

The swift water campaign will be themed “If It’s Flooded, Forget It”, and will include television commercials supported by radio, outdoor, online, social media, events, displays and other marketing tools.

The storm and cyclone campaign will have the theme of “Can You Survive For Three Days?”. The campaign will be split to highlight cyclone related messaging in North and Far North Queensland, and storm related messaging in the remainder of the State. A television commercial will be developed for the campaign, supported by radio, outdoor, online, social media, events, displays and other marketing tools.

The Queensland Government is collaborating closely with key stakeholders in the rollout of the campaign, including local authorities and private enterprises.



Clean up at Mission Beach (Source: Queensland Government Image Library).

Build Back Better

The All Hazards Information Management Program

Led by the Department of Community Safety

The \$6.9 million three year program will enable information sharing and communication through the use of social media and web capability and will include the following:

- *Community Inventory* – Develop an online community inventory for the community to pledge support, pre-disaster, to assist disaster management
- *Targeted recruitment* – Through the use of social media, attract young people to volunteer for the SES
- *Information gathering through social media* – Develop an online capability through social media and multimedia technologies so that the community can gather information and communicate during disasters
- *Website disaster information* – Consolidation of web information to allow the community to access a single website for information regarding disasters
- *Offers of assistance* – Develop information management capacity to deal with offers of assistance and donations from the general public during disasters.

The program, in the long-term, will deliver an information pipeline across all agencies with a role in disaster preparedness and response, and a greater capacity for the sharing of information across communities.

Local Government in Action

Cairns Evacuation Strategy and Dedicated Website

Led by Cairns Regional Council

The Evacuation Strategy in Cairns is a good example of disseminating vital information to local communities. The Evacuation Strategy - Cyclone and emergency information - Cairns Regional Council, was produced as a result of a consultation process in 2009-10 and further input was included after Severe Tropical Cyclone Yasi. Outcomes from this Strategy include:

- designated evacuation zones and routes, and road capacity;
- defined timeframes to initiate evacuations;
- key recommendations for mitigation works; and
- online mapping with detail to property level of all areas in the Cairns area.

The *Storm Tide Evacuation Guide* was distributed to all residential properties throughout the Cairns area. This included coloured labels (red, orange or yellow) that were delivered to residents in a predicted impact zone, highlighting risk level.

In addition, Cairns Regional Council developed a dedicated disaster website www.cairns.qld.gov.au/disaster. This website includes:

- live feed to Facebook and Twitter sites;
- dedicated 'Plan, Pack, Listen' campaign;
- link from the Council's homepage during cyclone season;
- hazard mapping - storm tide, flooding and evacuation mapping;
- preparation advice, checklists and guides;
- multi-lingual guides, currently Arabic, Chinese, Hmong, Italian, Japanese and Tagalog (Filipino); and
- emergency FAQ's.

Community Awareness Campaign

Led by Mackay Regional Council

In the lead up to the 2010-11 wet season, the Mackay Regional Council took action to raise awareness on what communities should do to prepare for disaster and emergency events. This included:

- disseminating an emergency action guide;
- using electronic billboards to broadcast safety messages;
- publishing a 'Surviving Emergencies 2010-11' notification in local newspapers; and
- holding public displays at local shopping centres²⁴.



*At the onset of the flooding events of 2010-11, a small group of social media smart residents used their skills to connect those that needed help with those that could help. In merely 12 hours **FloodAid** had more than 500 responses from across the globe. The response was overwhelming and within days www.floodaid.com.au was created – a social networking resource that connects communities.*

Its main goal is to link specific skills with specific needs, for example, if John's roof is collapsing and Robert is a carpenter, they can link up and fix the roof together. Together with calls for food and water, it encourages people to get out there and do what they can, whether it is to donate goods, sweep floors, wash walls or clear gardens.

In difficult times, it is a great example of building community unity and connecting community resources and skills to meet community needs and rebuild our cities and towns²⁵.

²⁴ Queensland Floods Commission of Inquiry, Interim Report, 2011.

²⁵ <http://floodaid.com.au/content/about-floodaid>.

Cross-cutting projects



Resilience in the face of Severe Tropical Cyclone Yasi (Source: Queensland Government Image Library).

Building Resilience

A Guide to Local Community, Economic and Environmental Recovery and Reconstruction Planning

Led by the Queensland Reconstruction Authority

The guide was developed to provide a practical tool for local governments on the development and implementation of recovery plans. It also outlines the approach for engagement of local communities during the recovery process and provides a template for the local plan.

Local plans provide a roadmap to assist the community to reconnect, rebuild and improve and ensure that local governments are better prepared and confident to plan and lead recovery in their local government areas.

The Build Back Navigator and Natural Disaster Financial Assistance Grants Portal

Led by the Queensland Reconstruction Authority

The Build Back Navigator provides information to disaster affected Queenslanders on the steps involved in repairing or rebuilding their damaged homes. It is a single source of information on the advice available, and support offered, by various organisations. It was developed in collaboration with a range of government and non-government organisations and can be accessed through a web portal, booklet and face-to-face support.

Since the launch of the Navigator, the Authority has delivered enhanced solutions – the Queensland Government Natural Disaster Financial Assistance Grants Portal. The service allows community members to complete an online interview to identify disaster related grants that may be available to them. They can also complete grant forms electronically and lodge the application to the relevant agency administering the grant. The next phase of the portal will allow individuals to pre-register their personal details. This will mean that in the event of future disaster events, if identity documents are destroyed, grant applications for pre-registered individuals will still be able to be assessed.

The portals will ensure communities are better informed of the processes involved in rebuilding their homes, the disaster relief assistance that is offered, as well as easier access to the grants available to them.



Re-opening of Grantham's Lucky 7 Store (Source: Queensland Reconstruction Authority).

Early on in the community consultation it was clear that in addition to getting people onto higher ground, the priority of the Grantham community was to see the local shop back up and running. Prior to the flooding the **Grantham Convenience Store** was a hub for the community providing not only groceries and small goods but a post office and meeting point.

The Authority worked to cut the red tape and ensure that no regulatory hurdles would hold up the re-establishment of this vital community facility. Corporate Queensland and the community rallied together and Nomad Building Solutions donated a portable building to allow the Grantham Convenience Store to operate while it is being rebuilt. Lucky 7 co-ordinated the restock and fitting of the store by more than 20 suppliers while Crimsafe donated the security fit out. The shop was opened by the Premier on Saturday 30 April 2011.

Through a temporary local planning instrument (under the Sustainable Planning Act 2009) and generous donations, the shop was back up and running in a matter of weeks not months or years.

Build Back Better

Development Scheme for the Grantham Reconstruction Area

Led by the Lockyer Valley Regional Council and Queensland Reconstruction Authority

On 8 April 2011, Grantham was declared a Reconstruction Area by the *Queensland Reconstruction Authority Regulation 2011*. The declaration allows the preparation of a robust strategic land use framework being a development scheme enabling acceleration of the reconstruction for Grantham.

The Development Scheme seeks to articulate the Grantham community's aspirations and provides the basis for the land use plan, infrastructure plan and implementation strategy. It supports the Council led voluntary land-swap program facilitating the relocation of residents in flood prone areas to higher ground.

The scheme ensures timely and efficient rebuilding to support a positive reconstruction of Grantham, and assist residents to recover quickly from difficult conditions, with some residents in their homes before Christmas 2011.

Planning for Stronger, More Resilient Floodplains

Led by the Queensland Reconstruction Authority

To ensure that Queensland learns from the recent natural disasters the Authority has partnered with the Department of Local Government and Planning (DLGP), the Department of Environment and Resource Management (DERM) and the Department of Community Safety (DCS) to deliver a body of work supporting greater resilience and understanding of our floodplains and to better inform and influence the land use planning process. The Authority is preparing a two-part guideline, entitled – *Planning for stronger more resilient floodplains*. The purpose of the project is to identify both interim and long term solutions, including a mapping product, to promote a greater correlation of land use planning and floodplain management.

- *Part 1* – an information toolkit including mapping identifying an interim floodplain assessment overlay and interim floodplain management provisions to be incorporated into existing planning schemes.
- *Part 2* – standard planning scheme provisions and flood study template brief to enable consistency in application of floodplain management controls and regulation across Queensland within new planning schemes prepared under the *Sustainable Planning Act 2009*.

The Authority is also working in partnership with Banana Shire Council and Fitzroy Basin Association as a case study for the mapping, interim provisions, standard provisions and the flood study. This will inform the development of the guidelines.

The guidelines will assist in ensuring that floodplain management is consistently addressed through land use planning both in the short and long-term.



Resilient Queenslanders (Source: Department of Employment, Economic Development and Innovation).

Planning for a Stronger More Resilient North Queensland

Led by the Queensland Reconstruction Authority

The Authority, in collaboration with private sector organisations and research institutes, is developing a series of guidelines – *Planning for a stronger, more resilient North Queensland*.

- *Part 1 – Rebuilding in Storm Tide Prone Areas* (released)
- *Part 2 – Wind Resistant Housing* (released in draft)
- *Part 3 – Preparing for Cyclones*
- *Part 4 – Building in Low Lying Coastal Areas*

The guidelines support Queenslanders to build back better, specifically in the areas of Far North Queensland affected by Severe Tropical Cyclone Yasi.

The guidelines will assist in improving the resilience of residential dwellings in areas susceptible to cyclones, assist in safeguarding property by ensuring residents' homes and building structures meet current codes and standards, and improve the long-term sustainability of local communities.



Severe Tropical Cyclone Yasi devastates homes in Tully, North Queensland (Source: AAP).



Section 4

Section 4: the way forward

The support provided by all aspects of our community during the disaster events of 2010-11 was unprecedented, demonstrating that Queenslanders know what it means to be resilient.

All levels of government pulled together to co-ordinate and resource the reconstruction and recovery effort. Businesses, community organisations, families and friends collaborated in an effort to help themselves, their neighbours and their communities. We saw some amazing examples of communities who displayed extraordinary robustness in the face of exceptional adversity.

In the future we will continue to cope with disasters through well established co-operative arrangements, effective capabilities and the dedication of our people.

We recognise that building disaster resilience is not the sole domain of government or of emergency management agencies, but rather it is a shared responsibility of individuals, communities, and businesses, as well as governments. The roles for all sectors of our society are outlined below.

What can government do to increase disaster resilience?

- ✓ Provide, protect and rebuild infrastructure e.g. rebuilding roads to increase flood immunity
- ✓ Legislation and policy instruments
- ✓ Land use planning instruments
- ✓ Building codes
- ✓ Disaster risk assessments
- ✓ Emergency management and disaster response arrangements and planning
- ✓ Community education and awareness e.g. advertising campaigns
- ✓ Coordination of preparation, response and recovery activities

What can communities do to increase disaster resilience?

- ✓ Know the risks to your community e.g. the flood prone roads in your area
- ✓ Know your local volunteer networks and organisations e.g. keep handy the local SES phone number
- ✓ Know your communications networks and how and where to find information e.g. keep a battery radio handy
- ✓ Know your neighbours and who may need help when a disaster hits
- ✓ Connect with your networks e.g. keep your personal phone numbers in a safe place

What can businesses do to increase disaster resilience?

- ✓ Know the risks to your business e.g. flooding, cyclones or bushfires
- ✓ Know the risks to your community
- ✓ Protect your vital documents and assets from water, fire and other hazards e.g. keep computer back-ups in a different location
- ✓ Have a business continuity plan e.g. identify alternate site for continuing services
- ✓ Ensure you have adequate insurance for your assets and income
- ✓ Have an evacuation plan e.g. develop a plan and conduct staff training

What can individuals do to increase disaster resilience?

- ✓ Know the risks where you live e.g. if your home can be flooded
- ✓ Prepare your home e.g. have an emergency kit prepared
- ✓ Prepare your family
- ✓ Prepare an evacuation plan for your home and your street and neighbourhood
- ✓ Have adequate insurance
- ✓ Know your neighbours and who may need help when a disaster hits
- ✓ Volunteer your time or expertise e.g. join the SES



Abbreviations

BCC	Brisbane City Council
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DCS	Department of Community Safety
DEEDI	Department of Employment, Economic Development and Innovation
DERM	Department of Environment and Resource Management
DLGP	Department of Local Government and Planning
DoC	Department of Communities
DPC	Department of Premier and Cabinet
DPW	Department of Public Works
EMQ	Emergency Management Queensland
FAQ	Frequently Asked Questions
ICC	Ipswich City Council
IRFL	Interim Residential Flood Level
JCU	James Cook University
NDRRA	Natural Disaster Relief and Recovery Arrangements
NGO	Non Government Organisation
NRM	Natural Resource Management
QHealth	Queensland Health
QldRA	Queensland Reconstruction Authority
SES	State Emergency Service
TLPI	Temporary Local Planning Instrument
TMR	Department of Transport and Main Roads
UQ	University of Queensland

