

PART A: Achievements in Queensland

1 Institutional, Implementation and Coordination Arrangements

1.1 Institutional framework for disaster response and preparedness

Australia now benefits from a robust and efficient disaster preparedness regime. Australia's disaster risk management system recognizes that not all types of natural hazards and hazard intensities throughout the vast expanse of the continent can be mitigated. This serves as the *raison d'être* for a robust multi-sectoral disaster response mechanism which addresses the multi-dimensional recovery needs of public sector infrastructure and services, as well as privately-owned assets. Over the years, the country has built a comprehensive ex-ante disaster response strategy and a preparedness regime into its normal public service delivery systems. This includes the necessary legislation, institutionalization, financial instruments and coordination mechanisms for effective disaster response.

Multi-tier institutional arrangements, legislation and formal coordination forums for disaster management are in place. The State of Queensland's Disaster Management Act-2003 (dated 21 February 2011) provides the legislative basis for the State's elaborate and well-functioning disaster management arrangements. The Act requires the establishment of disaster management groups and committees at the State level, as well as within local government in disaster-prone districts. For disaster recovery, each disaster management group is served by Community Recovery Committees (CRC) and Plans at the State, District and Local levels. The CRCs are tasked with specific functions and deliverables, such as inter-agency coordination; development and review of annual recovery plans; monitoring the multi-agency MOU for the provision of community recovery services in disaster events; monitoring preparedness levels and activities; support and advice on disaster recovery operations, and liaison with Emergency Management Queensland (EMQ) and downstream recovery organizations and committees. The fusion and interplay of State and lower-tier departments helps ensure both central-level monitoring and coordination, and standard-setting in advice and recovery, as well as decentralized decision making, and fostering of strong regional and local capacities for the implementation of disaster management and recovery plans.

There is a clear distribution and delineation of disaster management functions across departments, facilitating coordinated reaction processes. The responsibilities of the various departments for disaster management are clearly and carefully determined and delineated, including those of EMQ, and the Departments of Communities, Health, Primary Industries and Fisheries, Tourism, Regional Development and Industry, Public Works (for damage assessment of impacted built infrastructure); education and the arts, housing, families, community services and indigenous affairs. Likewise, there are formal roles and specific responsibilities for other institutions, such as peak bodies² and civil society groups, including the Australian Red Cross, Local Government Association of Queensland (LGAQ), Lifeline Community Care, St Vincent de Paul, Salvation Army and Centrelink.

The Australian Disaster Management Regime is further reinforced by innovative disaster management mechanisms. Some examples of these include the cross-cutting Value for Money (VFM), and Regime and Prior Contracting Arrangements for rapid reconstruction in the transport and roads sector, both of which have a potential for international replication.

² Peak bodies are associations of industries or groups, generally established for the purposes of developing standards and processes or to act on behalf of its members in lobbying the Government."

BOX 3. Good Practice: Pre-Disaster Contracting Arrangements in the Transport Sector

Traditionally, the vast expanse of Queensland and the sprawling network of roads have posed a daunting challenge in post disaster recovery and reconstruction. In the case of the present reconstruction program, transport sector is the most significant program in terms of investment. To deal with this recurring challenge, the transport department has adopted a system of pre-disaster contracting (on basis of retainership) under which work contracts have been pre-commissioned and pre-negotiated with major contractors, enabling them to mobilize reconstruction resources and start rebuilding and re-operationalising the road network rapidly. This is a good lesson for other countries which are prone to recurrent disasters, particularly floods. However the scale and impact of the recent spate of disasters in Queensland is such that it is overwhelming existing capacities, both in the contracting industry as well as in the supply of basic construction inputs including plant, machinery, tools and materials.

The Department of Transport and Main Roads has entered into dialogue with industry suppliers to facilitate the procurement of these materials from other external sources, such as other states in Australia. This is also a good practice that has parallels in global contemporary post-disaster reconstruction, such as in Pakistan Earthquake 2005 and the Tsunami Reconstruction in Sri Lanka, where innovative supply-side solutions were developed to deal with both shortfalls and to control material 'price-spikes' –such as the establishment of building material supply hubs in Pakistan and mechanisms for bulk community procurement of housing reconstruction materials in Sri Lanka.

1.2 The Queensland Reconstruction Authority

The Australian Government has proved quick and flexible in the institutional and financial response to the floods. In the aftermath of the quick succession of the floods and cyclones, the Government has rapidly established additional institutional and financing arrangements for efficient and effective early recovery. These include:

- **A Premier's Disaster Relief Appeal** that has attracted more than A\$257 million as of May 2011;
- Immediate availability of early recovery **financing** through at least 3 pre-existing financial assistance windows for grant payments to flood-affected individuals;
- **The establishment of the Queensland Reconstruction Authority (QldRA)** by an Act of Parliament, effective February 21 2011, for 2 years.

The QldRA's mission is to reconnect, rebuild and improve Queensland communities and its economy. The Authority has been vested with the power and authority to take charge of the reconstruction process and facilitate effective interaction between the concerned line departments at the State and local levels, in coordination with the concerned local councils. Its key strategic objectives are to:

- Maintain the self-confidence of Queensland
- Build a resilient Queensland and support resilient Queenslanders
- Enhance preparedness and disaster mitigation

- Continue implementation of Toward Q2: Tomorrow's Queensland³.

The Government of Queensland established six lines of reconstruction to facilitate the recovery and reconstruction process. These include: (a) Human and Social, (b) Economic, (c) Environment, (d) Building Recovery, (e) Roads and Transport, and (f) Community Engagement and Communication comprehensively cover the key areas that require attention in the post disaster reconstruction process. Figure 1 indicates the resources and the six lines of reconstruction established for a stronger and more resilient Queensland.

Figure 1. Resources and Lines of Reconstruction in Queensland



Source: QldRA briefing presentation for the World Bank in March 2011

This approach incorporates a number of good practices:

- The use of an integrated approach to Disaster Risk Management and Reduction between each of the reconstruction focal lines seeks to achieve a mutually reinforcing, interdependent, synchronized and tailored approach to the end goal of *Achieving a Stronger, More Resilient Queensland and Queenslanders*.

³ Towards Q2: Tomorrow's Queensland is a long term plan prepared by the Government of Queensland in September 2008 with targets in different dimensions of development expected to be achieved by the year 2020.

- A Land Use Planning team, consisting of the Land Use Planner and the Local Government Planning representative for Grantham Local Council in Lockyer Region, has demonstrated how to effectively integrate technical dimensions of land use planning with a consultative approach that focuses on local councils and local community representatives.
- The efforts of Arts Queensland, looking at the Human and Social, Economic, Environment, Building Recovery and Community Engagement and Communication dimensions of art and culture preservation across Queensland, is an excellent example of what is possible by focusing on key objectives while using an interdisciplinary approach.
- The Human and Social Line of Reconstruction sub-group is focusing attention on the psychosocial and counseling support requirements of the affected communities, with collaboration of a range of Non-Governmental Organizations and peak bodies.

Successfully creating a link to Normal Government Business: Disaster response and recovery has increasingly become part of normal business of several line departments. The Queensland Department of Transport and Main Roads, for example, has an established Emergency Management unit dedicated to respond to emergency in the transport sector. The transport sector also has a cooperative mechanism where commonwealth, state and local road agencies have agreed on annual cost sharing arrangement for road repair that serves as a 'pool' of resources able to carry out immediate repairs to damaged roads caused by a disaster. Similar practice of collaborative arrangement between line departments at the commonwealth, state and local levels also exist in other major sectors such as primary industry and employment (under the Department of Employment, Economic Development and Innovation) which generally manages the various financing schemes under NDRRA. The Department of Public Works also has the mandate of restoring public buildings and providing support through building administration to reconstruction of privately owned buildings, as part of their normal business.

For other examples of global good practice in institutional, implementation and coordination arrangements, Part B/Chapter 1 includes three case studies, from Bangladesh, Thailand and Philippines, showing how institutional arrangements for disaster response, recovery, reconstruction and disaster risk management have evolved in these country contexts.

BOX 4. Good Practice: A Designated Authority for Reconstruction

Although the QldRA was established as a statutory authority with a strong mandate to intervene in particular sectors or local government jurisdiction to respond to disaster events, its approach has been consultative, providing policy options to the Cabinet to take decisions on the respective sectoral domains. This approach ensures that reconstruction will continue to be a part of normal government businesses for the line department concerned.

In working with local governments, the QldRA also takes the approach of supporting local Councils in pushing forward their local recovery and development agenda under the framework of broader reconstruction policy, especially with regards to disaster mitigation and reconnecting the community, and rebuilding the local economy. This approach does not only build the ownership of the local Councils and their constituents, but it will also empower them to undertake future planning and investment decisions that incorporate resilience.

2 Measuring Needs and Results Progress in Recovery and Reconstruction

2.1 Framework for measuring needs and results progress

A Needs Assessment is a way of scoping recovery and reconstruction plans. In the post-disaster context, the extent of damages, losses, and reconstruction needs can be measured using a globally-recognized methodology known as the Damage and Loss Assessment (DaLA). DaLA was created by the United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC) and later refined by the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR). This methodology is one of the instruments utilized by the Post Disaster Needs Assessment (PDNA), which is a coordinated and consolidated global practice tool utilized by affected governments in collaboration with the World Bank, UN, the European Commission and other development partners to assess damages and needs in a standardized and comparable format across regions and disaster events.

The Human Recovery Needs Assessment (HRNA) is a useful and complementary qualitative assessment. HRNA is a process used by UN Agencies to conduct an assessment of the human recovery and needs of affected populations, bringing in the community perspective in the overall aggregation of disaster damages and losses and the corresponding crystallization of recovery needs. There is a growing realization among practitioners of the importance of HRNA as a complementary qualitative tool which, alongside the quantitative assessment of damages, losses and needs provided by the DaLA, gives a more holistic and bottom-up picture of the overall recovery needs, incorporating community-based perceptions. When producing these qualitative assessments, UN Agencies typically employ methods such as group discussions and surveys conducted within sample populations.

The impact assessment of disasters on various sectors of the economy includes direct damage, indirect losses and reconstruction costs. The impact of disasters is measured in terms of the value of destroyed assets (damages) and of the changes (or losses) in the flows of the economy at the level of each sector of the economy as outlined in the country's system of national accounts. An aggregation of the damages and losses, ensuring that no double accounting or gaps occurred, provides an estimate for the overall effects of the disaster on the society and the economy. This subsequently enables the estimation of disaster impacts at different levels, including the possible consequences for the growth of the national economy, external sector and fiscal balances, as well as the impact due to the reduction of income and livelihoods of households or individuals. Furthermore, the estimate facilitates an analysis of the disaster impact on micro to large-sized enterprises, and that of poverty aggravation or expansion in given areas. Throughout the process, there is close coordination between the agencies conducting the HRNA in order to avoid overlaps or duplication in the final calculations.

The development of a recovery and reconstruction framework is based on a comprehensive estimation of the overall financial needs for all post-disaster activities. Looking at the short to long-term needs, this takes into account the existing domestic capacities and the possibility of integrating disaster risk reduction measures which would increase resilience against future disasters. The recovery, reconstruction and risk management program includes a calendar of activities, with a definition of geographical and sectoral priorities, population targets, respective financial requirement conditions and source identification.

With the increasing frequency of disasters worldwide, the effort to create a robust regime for measuring progress and the impact of reconstruction programs has recently received much attention. The framework for creating a process which can report, monitor and evaluate activities and outcomes in post-disaster programs is conceptually similar to the frameworks used for development projects which exist in non-disaster settings. However, as post-disaster reconstruction programs face unique challenges due to their expedited nature, the process of reporting, monitoring and evaluation (M&E) is inevitable more complex than in a non-disaster context.

Robust monitoring and evaluation frameworks for post-disaster programs allow development institutions and partner governments to react in real-time to fast-changing situations on the ground. They enable the involved institutions to make mid-course corrections in the program design and implementation plans, allowing them to re-assess development outcomes and the underlying processes. This improves the likelihood of achieving the development objectives outlined in the reconstruction programs, and helps the reconstruction partners to understand, effectively respond and shape the dynamic situation on the ground.

Central to having a straightforward yet results-focused M&E regime is the development and operationalization of an overarching Results Framework. The Results Framework harmonizes and integrates all the strategic pillars and areas of a given reconstruction program. It establishes a streamlined results chain by focusing on key results, and measuring intermediate outcomes rather than outputs. Intermediate outcomes are carefully designed to capture and track intended changes as they begin to unfold. In this way, the Results Framework approach helps to develop clearer and more streamlined “results chains” which systematically link: a) program and intermediate outcomes; b) intermediate outcomes and outputs; and c) outputs and inputs. Monitoring and evaluation systems for recovery and reconstruction programs can exist on many levels. These levels include: a) the overarching national reconstruction program level, which is by definition multi-sectoral and thus broad-based; b) the sector level, which encompassed all projects by all agencies covering one particular sector; and finally c) the project level, focusing on individual projects.

The Results Framework needs to be operationalized through the development of a Results Measurement Model. This model enables comparable and relative measurement of the intermediate and final outcomes, and output indicators of both quantitative and qualitative nature. Accordingly, a systematic Results Monitoring Systems (RMS) is set up which lays out the monitoring and evaluation plans, data collection instruments, and indicator value-determination methodologies for all program level and intermediate outcomes.

A comprehensive Results Framework delivers a significant added value to a reconstruction program. With its ability to track funds and associate them to specific activities, a comprehensive Results Framework ensures transparency of activities. Likewise, it provides information about a government’s ability to use financial resources efficiently and helps with effective allocate reflecting existing needs.

2.2 Rapid needs assessment and Value for Money approach

The Australian government has a framework for evaluating project and program outcomes and results called the Value for Money (VFM) approach. The VFM approach makes project approvals subject to standard and context-specific criteria. The QldRA utilized this existing framework and very quickly developed a specific and customized VFM strategy for the reconstruction program. The government has also been able to do a rapid early recovery needs assessment to act as a feeder into its recovery and reconstruction plan, which was created as early as February/March 2011 on the state level.

The Australian Government and the QldRA were able to conduct a Rapid Early Recovery and Bottom-up Long Term Needs Assessment using a multi-pronged approach. This helped the QldRA and national authorities create a robust and holistic recovery and reconstruction plan. The needs assessment had a number of key features which made the exercise reliable and effective. This included a rapid and elaborate assessment of early recovery needs which enabled a quick activation of institutional arrangements and financial instruments for early recovery. It was complemented by the creation of a GIS-based housing damage database and an ‘interactive map’ which was swiftly developed and made accessible to the public through the QldRA website. Swiftly, the interactive map became the most-accessed page on the QldRA website, demonstrating that this resource has been widely accepted for its utility.

The rapid early recovery assessment was followed by a medium to longer term recovery needs assessment. It was commenced in a bottom-up manner with the receipt and approval of more than 20 community recovery plans. The assessment helped to prioritize local reconstruction needs, while ensuring that there is space for efforts to be balanced within state-wide considerations. Finally, this needs assessment exercise resulted in the creation of central state agency implementation plan, known as “Operation Queenslander”.

The QldRA has made early headway towards measuring progress and performance of the collective early and longer term disaster recovery operations which are being carried out by a variety of actors. The QldRA has developed and operationalized an elaborate reporting mechanism and a comprehensive reporting template on early recovery which cuts across six lines of reconstruction and reports both on public and private sector recovery. It is complemented by real-time monitoring of the timeline of proposed activities. Most importantly, the QldRA has implemented the Value for Money (VFM) concept as a guiding principle for performance management of the recovery and reconstruction efforts.

The Value for Money strategy was utilized in the creation of a bottom-up recovery plan balancing local priorities with state-level considerations. The VFM-based reconstruction strategy is based on four guiding principles that align with the six lines of reconstruction. These include: a) People - rebuilding lives and ensuring health, safety and quality of life; b) Economy – restoring economic activity and protection from future events; c) Responsiveness – delivering benefits in the shortest practicable timeframe; and d) Ensuring value for money in the cost sense. These principles help guide program and project selection, activities and outcomes.

The Value for Money strategy incorporates a risk-based approach for mitigating challenges and planning. This includes a two stage process for the identification of risks at the project planning and appraisal stage, and designing and implementing corresponding mitigation measures for identified risks to achieving VFM. This involves in the first instance an assessment of the capacity of the agency delivering individual reconstruction project to deliver VFM. This recognizes that the capacity of the agencies delivering reconstruction projects will range from large and experienced agencies such as the Department of Transport and Main Roads and the Brisbane City Council, to small local authorities in rural and remote areas of Queensland. The second stage of the VFM risk assessment involved a detailed assessment of the risks of the individual project to achieving VFM. This approach is similar to those used by various development agencies and international organizations in planning and preparing for their projects, and thus builds on global best practice. This strategy ties project assessments with strategic objectives. It conducts an appraisal and assessment of projects based on the contributions that projects are likely to make in terms of specific strategic objectives of the QldRA. In this regard, the actual definition of VFM in the strategy is linked directly to the advancement of government priorities. The appraisal is built into project evaluation, whereby it provides a framework for VFM evaluation, monitoring and progress reporting based on the contribution to objectives, cost, scale and complexity, etc. Due to its strengths, the Value for Money strategy has the potential for international replication in other post-disaster reconstruction programs.

Australia’s National Strategy for Resilience provides a Framework for Medium to Long term DRM Results Measurement. The strategic pillars and expected outcomes from the implementation of the National Strategy for Disaster Resilience can provide the measurement yardsticks and performance targets for monitoring and evaluating the medium to long term reconstruction objective of resilience building which is part of the QldRA’s reconstruction program. The framework of action included in the national strategy provides clear and measurable results, key outcomes and targets for national actions within seven key fronts in the pursuit of building a more disaster-resilient Australia.

Part B/Chapter 2 provides further discussion about measuring needs and results progress in recovery and reconstruction. An overview of the post disaster needs assessment and recovery framework used by World Bank in partnership with disaster hit countries is included along with global good practices observed in the management of disasters in Indonesia, Pakistan and the Philippines.



Lockyer Valley Flood Damage. © The State of Queensland.

3 Financing the relief, recovery and reconstruction

3.1 Australia's disaster assistance framework

Successful recovery is closely associated with speedy mobilization of funds. Both the Commonwealth and the Queensland State Government have embraced one of the key lessons of global reconstruction, which suggests that speed is of the utmost essence in the early phase of post-disaster efforts. Australia has a well-developed framework: the Natural Disaster Relief and Recovery Arrangement (NDRRA) which provides funding to States and Territories to help pay for natural disaster relief and costs when recovery expenditures for a disaster exceed a given threshold, calculated as a percentage of State outputAUD\$. This enables regional governments to mobilize financing quickly once a disaster strikes. NDRRA covers most naturally occurring rapid onset disasters, but excludes drought, frost, heat-wave, epidemic, and events where human activity is a significant contributing factor. State Disaster Relief Assistance (SDRA) packages are mainly focused on relief and counter-disaster operations and are less common than NDRRA. The terms and conditions governing the use of NDRRA are stipulated in the 2007 NDRRA determination. NDRRA receives an annual budget allocation. Additional funding requirements, which appear after the budget has been brought down in the beginning of fiscal year (June), are appropriated through additional supplementary estimates.

After the Queensland flooding, the Australian government initiated a “social safety net” emergency program – the Australian Government Disaster Recovery Payment and Income Recovery Subsidy. The authorities used an advance payment mechanism to swiftly transfer fund to local governments which expedited the disbursement of the money. Financial support was provided immediately to the beneficiaries. The financial packages had the right balance between size, terms and eligibility criteria.

Australia's recovery framework includes a number of elements of international good practice. The NDRRA provides transparent and differentiated assistance packages targeting both individual and community support. The cost sharing arrangement between the Commonwealth government and the states reduces moral hazard and wasting of recovery expenditures. Finally, there are now incentives in place to “build back better” and encourage disaster mitigation by means of the following measures:

- a. **Pre-agreed relief and recovery measures.** NDRRA has a standard assistance packages comprised of Category A, B, C, and D. This provides transparency to the affected people on the types of support that they can expect. Yet, under category C, it also provides space for package of assistance which can be flexible in programming (see figure 2).
- b. **A clearly defined threshold and cost sharing formula.** NDRRA has a clearly defined threshold calculated as a percentage of State output, which when exceeded renders states eligible to receive assistanceAUD\$. The Commonwealth Government and State Governments share most of the financial burden. The amount of assistance given by the Australian government depends on whether recovery expenditures have exceeded a threshold of 0.225 percent of total state government revenue and grant. If the threshold is exceeded, the state will receive reimbursement of 50 percent of eligible expenditures on category A and C. While in a larger scale disaster, such as discussed flood and cyclone in Queensland, the Australian government provides 75 percent of all eligible expenditures.

Figure 2. National Disaster Relief and Recovery Arrangement (NDRRA) Assistance Scheme

Category A	Category B	Category C	Category D
Emergent Assistance Grant	Essentials Services & Safety Reconnection	Special Grants to Small Business & Primary Producers for clean up & repair	Rural resilience Fund (Assistance to Industry & Community in clean up, business council support measures
Essential Household Contents Grant (Means Tested)	Restoration of Essential Public Assets	Community Recovery Package	Exceptional concessional loans for primary producers, businesses & charities
Structural Assistance Grant (Means Tested)	Freight Subsidy (Primary Producer Only)		Local Council Package for Damage local infrastructure
Personal Counseling	Concessional loans to small business & non profit		
Counter Disaster Operations			

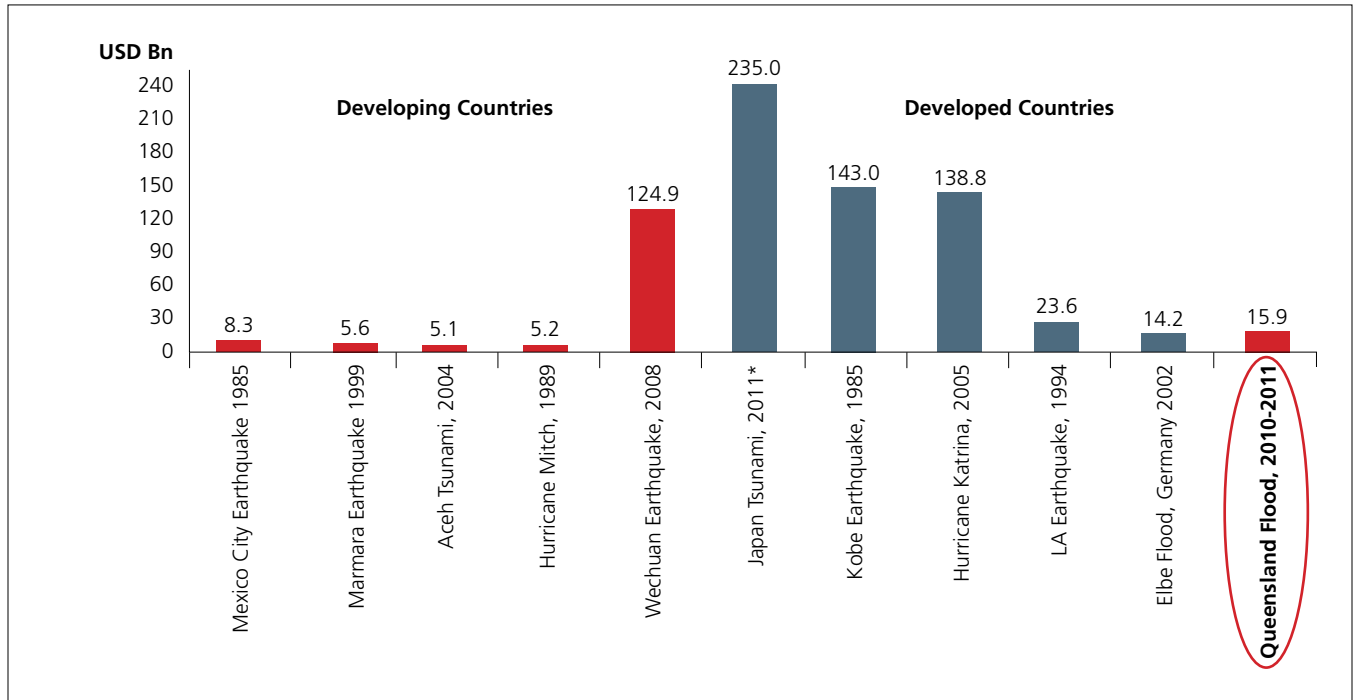
Source: QldRA Financing Chart

- c. **Incentives for mitigation.** The states must implement a disaster mitigation strategy as a precondition to receive assistance for restoration or replacement of an essential public asset. The condition also applies to local government bodies. If the state's assistance has been for the restoration or replacement of an asset of a local government body, and the local government body had not developed and implemented appropriate natural disaster mitigation strategies, the assistance that the state would otherwise have given to the local government body, is reduced by 10 per cent. An evaluation whether the state has implemented appropriate mitigation strategies is done by the Ministry for Local Government, Territories and Roads through the evidence presented when the state submits the claim for reimbursed.

3.2 Estimating and meeting the needs

The Queensland flooding has been a major disaster, not just from the Australian perspective but also internationally. Although a more accurate and comprehensive damage and losses estimates are yet to be prepared, rough estimates indicate that total damage and losses may have reached approximately US\$ 15.9 billion. In terms of economic significance, this is larger than the total damage and losses of all Indian Ocean Tsunami affected countries combined (US\$ 11 billion) and of similar magnitudes as the Elbe flooding in Germany (2002, US\$ 14.2 billion) and close to the Earthquake in Los Angeles (1985, 23.6 billion) as depicted in figure 3.

There is a need for a more in-depth analysis of the impact of the Queensland floods in order to gain a comprehensive overview of the impact and recovery needs. The current estimates for instance do not differentiate between "damage" to existing capital stock (houses, building, coal mines, and infrastructure) and "losses" of economic flow (foregone revenue or production losses). However, using sectoral estimates, approximately 70 percent of the total value represent damages to the housing and infrastructure sectors, while losses in economic flows in mining, agriculture, and tourism sectors amount to approximately 30 percent. Damages typically correspond to the minimum requirement to rebuild damaged facilities, while the capital component of the losses indicate minimum financing needed to induce economic recovery, either through public or private means.

Figure 3. Major natural disasters in the last 30 years

Data Source: EM-DAT, PDNA for Aceh & Mitch, preliminary estimates for Japan Tsunami 2011 from WB EAP. Update; Note: Numbers have been adjusted for inflation. Exchange Rate AUD\$ 1= US\$ 1 (February 2011).

The available funding for recovery and reconstruction already exceeds international standards. The total amount of funding available has reached as estimated AUD\$ 11.8 billion which is equivalent of 75percent of damage and losses (see figure 4). This amount of funding is substantially higher than the international average for developed countries which stands at 45percent⁴. The Commonwealth government provides the lion's share of the recovery financing with AUD\$5.6bn (47.5percent)⁵. In addition, the Queensland government has mobilized an estimated budget allocation of about AUD\$ 2.1 billion⁶. From this sum, AUD\$ 400 million will be paid in advance to the local councils in order to fast track the disbursement process, while the remaining amount will be disbursed later either through reimbursement or a granting mechanism.

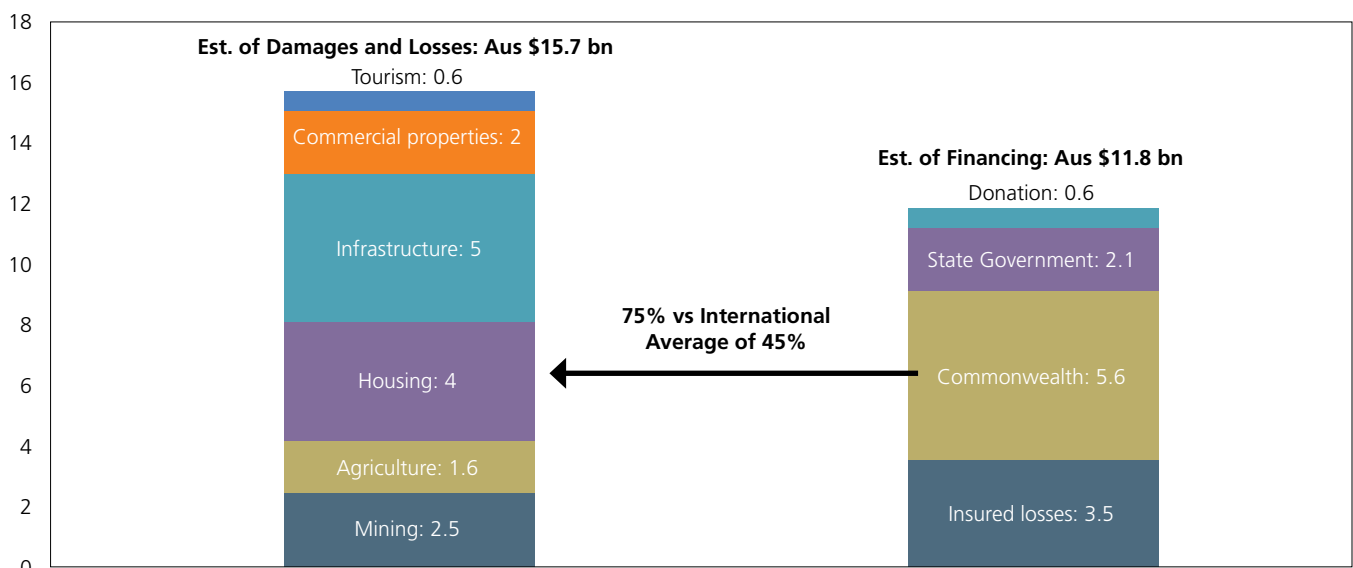
4 Linneroth-Bayer, et.al (2001), "The Uninsured Elements of Natural Catastrophic Losses: Seven Case Studies of Earthquake and Floods". Tsunami Initiative Project.

5 The financing of AUS\$ 5.6 billion Australian government's allocation will be coming from the following sources: (i) \$2.8 billion in spending cuts, including removing industry assistance and cutting back other green programs by abolishing the Green Car Innovation Fund and the Cleaner Car Rebate Scheme and making other cuts; (ii) \$1 billion in delaying some infrastructure projects – which will free up funds and skilled workers at a time of skilled labor shortages around the country; and (iii) \$1.8 billion through a progressive levy on people earning over AUS\$50,000.

6 The state government intends to finance the reconstruction cost through the following: (i) The proceeds from the long-term lease of the Abbot Point Coal Terminal could exceed \$1.5 billion, (ii) The delay of the Brisbane Cross-River Rail Project to commence construction by at least two years; (iii) A new voluntary separation program for non-frontline public servants would generate \$175 million in savings by 2012-13. Source: Joint Statement by Premier of Queensland and State Treasurer, January 28, 2011 (<http://statements.cabinet.qld.gov.au/MMS/StatementDisplaySingle.aspx?id=73439>)

The distribution of funds to local councils is based on the review of local council recovery plans. Private donations are mostly channeled through two main organizing bodies: the Premier’s Disaster Relief Appeal, which by March 2011 mobilized about AUD\$ 251 million in donations, and the “Join Forces” program, which gives **corporate and business donors a direct link to community groups in need of help to rebuild from the disasters**AUD\$. Funding from major non-governmental organizations is expected to be less significant than for previous events such as the 2009 Victoria Bushfire. Major non-governmental organizations, such as the Australian Red Cross Society and Oxfam Australia, did not launch a major fund mobilization appeal and were aligned with the Premier’s Disaster Relief Appeal. Financing from insurance is estimated at AUD\$ 3.5 billion, assuming that all insured losses are compensated (see figure 4).

Figure 4. Estimated Damage & Losses and Financing of Recovery and Reconstruction in AUD\$ bn



Sources: WB Mission estimates based on various sources: IBIS World, PWC, Government of Australia & Queensland, EIU.

Most of the public financing will be used to rehabilitate and upgrade infrastructure. Preliminary estimates of the costs to repair infrastructure damages under existing arrangements are around \$5 billion, of which the Australian Government will provide close to three quarters (around \$3.9 billion).⁷ AUD\$ 2 billion of this amount has been transferred as an advance payment to the government in Queensland.

Further analysis on financing disaster relief, recovery and reconstruction is included as part of Part B/Chapter 3 along with an example of the risk financing strategies developed by the Government of Mexico in collaboration with the World Bank.

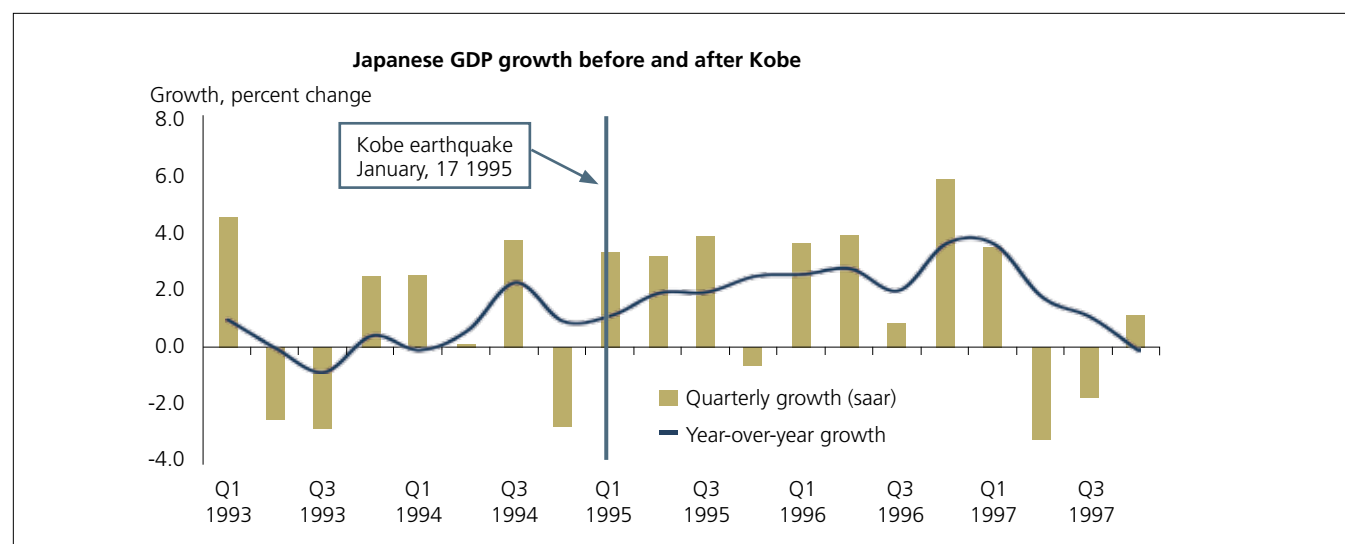
⁷ Prime Minister’s Statement “Rebuilding After the Floods”, January 27, 2011. <http://www.pm.gov.au/press-office/rebuilding-after-floods>

4 Economic recovery

4.1 Economic impact

The economic impact of the Queensland floods will likely be short-lived. The Queensland State Treasury estimated that production losses due to flooding and cyclone will reduce growth from 3percent to 1.3percent in 2010-2011. Such a decline in growth would be high by international standards and is proportional to the estimated economic losses. However, once the recovery program starts to kick-in the economic contraction will be less severe. In many comparable disasters or even more extreme events, such as the 1985 earthquake in Kobe, growth was moderate in the quarter following disaster while it recovered strongly in subsequent quarters with the help of the recovery program (see figure 5).

Figure 5. Even after the Kobe Earthquake, the economic impact has been short-lived



Source: Japanese Statistics Bureau

Out of the total estimated impact estimated of the flood and cyclone of AUD\$ 15.7 billion, about AUD\$ 4.7 billion create an immediate economic impact due to production losses in mining, agriculture, and tourism sector. These production losses are spread out between years 2010-2011, and 2011-2012 so that the estimated production losses for the two consecutive years would be an equivalent to 1.8percent of Queensland's Gross State Product as of June 2010 or 0.4percent of Australia's GDP in the same period. This estimated reduction in economic activity is comparable with the official estimate of growth reduction for 2010-2011 but does not consider additional economic activity due to large-scale recovery spending which could add up to 1 percent in GDP. The need to replace household items damaged by the disaster will drive growth in the retail sector over the course of 2011 if disaster relief payments from state and federal government are disbursed fast enough.⁸

8 Queensland Treasury "Queensland Economic Review, March 2011"

The disaster will likely have an impact on inflation which has already been on the rise before the flooding. Queensland was already in the tight labor market situation before the disaster. Unemployment fell to 5 percent in December 2010, which is generally the point where further falls in unemployment will generate an accelerating wage inflation trend (IBIS World, 2011). The increase in demand, due to reconstruction and production disruption in agriculture, may add risk to the possibility of higher level of inflation.

4.2 Economic recovery measures

The existing relief and recovery measures established through the Disaster Recovery payment and Income Subsidy and the Natural Disaster Relief and Recovery Arrangement (NDRRA) enables the public sector to swiftly provide the much needed stimulus to the economy. As of March 2011, AUD\$ 725 million have been paid to 630,000 beneficiaries of the Australian Disaster Recovery Payment and another AUD\$ 60 million were paid as Disaster Income Recovery Subsidy to affected individuals. Support to primary producers was provided through 1,618 grants worth AUD\$ 8.17 million, while small businesses received 2,151 small grants worth AUD\$ 10.77 million. Estimates of financing sources are outlined below in table 3.

Table 3. Sources of financing (in AUD\$ bn)

Sector	Estimated Financing	Data Sources
Commonwealth Government	5.6	Prime Minister's Statement "Rebuilding After the Floods", Jan. 27, 2011
State Government	2.1	Joint Statement by Premier of Queensland and State Treasurer, Jan. 28, 2011
Donation	0.6	Interview with Donation Management Team
Insurance	3.5	Economist Intelligence Unit
Total	11.8	

Despite the achievement in the early recovery stage, some general challenges remain in the medium-term. They include the need to: i) balance the immediate response to make sure that everyone gets back on their feet with medium-term challenge of avoiding moral-hazard; and (ii) to restore the longer term productive capacity of the economy through public goods reconstruction (especially infrastructure) with targeted support to the private sector.

Small businesses are the backbone of Queensland's economy. They account for 96.5 percent of Queensland's private sector and contribute to 39 percent of Queensland's economy.⁹ Given the massive scale of recent disaster, it is expected that many small business are adversely affected, either through a direct damage to their premises, merchandise, and stock, or indirectly affected through road and rail closures, visitor cancellations, supply limitations and other adverse impacts.

Through NDRRA, the government has well-established relief and recovery measures, which can be quickly activated when disasters occur. The NDRRA financial assistance packages, which are available to business, are outlined in the table 4.

⁹ Queensland's Office for Economic and Statistical Research.

Table 4. NDRRA pre-agreed assistance packages

Types of Financial Assistance	Eligible Beneficiaries	Eligible Expenditures
Special Grants up to AUD 25,000	Small Businesses (<20 employee) in declared affected area	Cleaning, removal of debris, stock replacement, building repairs, temporary premises
Concessional loans up to AUD 250,000 and defer repayment of existing *QRRA loans	Small Businesses in declared affected area	Repair or replace damage plant, building and equipment, replacement of lost stock
Low interest loan up to AUD 650,000 (incl. grant component up to AUD 50,000)	Businesses that employ >20 people in declared affected area	Repair or replace damage plant, building and equipment, replacement of lost stock

Source: NDRRA

*Formerly the Queensland Rural Adjustment Authority

Private sector also launched assistance packages. Individual banks have announced assistance packages which vary according to individual circumstances but may include: deferring home loan repayments for up to 3 months, restructuring business loans without incurring fees, giving credit card holders an emergency credit limit increase, refinancing personal loans at a discounted fixed rate, waiving interest rate penalties if term deposits are drawn early, and deferring monthly repayments on equipment finance facilities for 3 months.

Box 5. Elements of good practice from Queensland

- **Pre-agreed relief and recovery measures** which can be quickly activated.
- **Ensuring efficiency** through providing financial assistance only to enable resumption of business operation and by establishing an eligibility criteria which only business that cannot survive on their own are eligible for greater amount of assistance (concessional loans).
- **Keeping the incentive of mitigation** by requiring the businesses which apply for concessional loans to take reasonable precautions to avoid and minimize losses.
- **Combine financial assistance package with technical advice** through the provision of guidelines, an interactive website, and mobile offices.

BOX 6. Example of Government Non Financial Support to Small Business in Queensland

Apart from providing financial assistance in the form of grant and concessional loans as described in this section (4.1), the government also provides support and advice for small business, as demonstrated by the examples of technical support below:

- **Publishing a series of simple guidelines** on what needs to be done to sort out business operation after the disaster, steps to business recovery, plan for longer term recovery, managing and paying staff, and advice on dealing with insurance, bank, and tax office. These guidelines are available in the Queensland business website for flood and cyclone recovery website <http://www.business.qld.gov.au/disaster-recovery/>. The website has an interactive section that enables people to chat online with a recovery consultant.
- **Establish mobile offices and seminars equipped with Next G and wireless technology.** These offices offer a range of services, such as grant information and the Australian Government Disaster Recovery Payment.
- **Conduct recovery workshop** involving small businesses in the affected area.

Source: <http://www.business.qld.gov.au/disaster-recovery/>

Refer to Part B/Chapter 4 for World Bank overview of lessons derived from successful economic recovery programs in developed countries.

5 Strategic communication

5.1 Communication and natural disasters

Natural disasters and calamities disrupt lives, leaving death and destruction in their wake. Survivors face pain, displacement, anger, and above all anxiety, fear of the unknown, and anguish of uncertainty. Hope, confidence, trust, sense of involvement, and coordination begins with strategic communication which should try to answer questions and impart information on the *When, What, Where* and *How* of rebuilding takes place. Information is a form of disaster response functioning on a number of levels. Information is a vital form of aid in itself for disaster-affected people need information as much as water, food, medicine or shelter. Information saves lives, livelihoods and resources; and it might be the only form of preparedness the most vulnerable can afford. However, information only becomes useful when it is efficiently shared with people at risk.

Communication and information dissemination are important to the successful and harmonious implementation of any recovery and reconstruction programs. Communication fulfills three inter-linked and mutually reinforcing key roles in natural disasters events. First, it helps reducing risks of failure. Second, it assists in mobilizing beneficiaries. Third, it aids in building relations and creating public awareness. Strategic communication helps to build consensus among major stakeholders and actors - policy initiatives, financial assistance, and technical knowhow will not be effective without a system to convey their content swiftly and equitably to the public, to hear of and assess their suitability and sustainability within communities, and to make appropriate adjustments to existing plans based on community feedback. In this way, there is an urgent need for authorities to devise a communication strategy to support the recovery program and ensure effective dialogue between the government, the public, stakeholders and partners.

5.2 Information outreach in Queensland

The QldRA has clearly recognised communications as a crucial, cross cutting and overarching component of its main goal of rebuilding Queensland after the floods and Cyclone Yasi. The State Community, Economic and Environmental Recovery and Reconstruction Plan 2011–2013 views strategic communication as a line of recovery. The Queensland Government saw the need for a coherent and well coordinated communication strategy that can be implemented at central as well as implementation levels. By March 2011, all State departments and organizations connected with the reconstruction had submitted their draft communication plans to the Department of the Premier and Cabinet for the development of an over-arching communications strategy.

Innovative and cutting edge web tools and clear, timely, accurate printed information facilitated a cutting edge and professional communications approach in Queensland

Features of the program include:

- The online **Join Forces** program, which profiles more than 170 clubs and community groups
- One-stop-shop maps which provide location based information on **NDRRA activations** for all 73 LGAs including funding assistance available for each local government area. This map provides a user-friendly interface for business and individuals to understand relevant disaster entitlements.
- The **Build Back Navigator** provides advice on insurance, getting damage assessments and building quotes,

finding temporary accommodation, accessing disaster relief grants, other financial support avenues and finally what people need to consider when they are ready to start building.

- **Interactive Flood Map** application allows people to type in a street address and view a particular property in relation to the 2010-11 flood line.

The Government has been very successful in using press releases in providing frequent information, taking the media along to manage expectations. Media was briefed very often during this phase and press briefs released as often as possible. The chief spokesperson and the public face of the QldRA - Major General Michael Slater is easily accepted as a figure of authority and respect. His frequent editorials in local newspapers, public appearances and on-air radio and television interviews often plain-speaking and carrying direct, topical messages, are well-received and appreciated by the affected Queenslanders. As part of the announcement of the Premier’s Disaster Appeal fund as well as to recognise the heroic and brave communities, press campaigns were released and will continue until June 2011 (see figure 6 below). A further press campaign targeted at providing information and boosting the business of small and local communities was launched in April 2011.

Figure 6. Examples of posters used in Queensland



Targeting wider public, an outreach campaign, called the “Join Forces Program”, was launched in February 2011. The program was developed as a means of giving the corporate and business sector a direct line to community groups in need of help. By May 2011, over 170 community organizations from all regions of the State had registered for the program. The two-way communications established by QldRA with communities is currently starting to receive community feedback, having received a total of 258 calls and letters by March 2011.

Figure 7. Basic data for the QldRA website launched in mid-February 2011.

	Community Organizations Signing-up to JFP		Successful Matches/ Purpose Specific Partnerships		Community Feedback-Calls and Letters		Community Engagement and Communications		
	No.	%	No.	%	No.	%	Community Organizations Signing-up to JFP	Successful Matches Purpose Specific Partnerships	Community Feedback-Calls and Letters
Community Engagement and Communications	54		5		258		54	5	258

Source: QldRA website, March 2011

Widespread and timely information dissemination was provided to multiple stakeholders. The widespread and timely dissemination of information on the full range of assistance options and the means of accessing them were recognized as being crucial to the effectiveness recovery and reconstruction. Hence when the QldRA was established in February 2011, it clearly perceived communication as a crucial, cross cutting and overarching component of its mission. This is reflected in its flagship document “Operation Queensland: The State Community, Economic and Environmental Recovery and Reconstruction Plan 2011–2013”.¹⁰ The Plan recognizes six lines of reconstruction which will be accomplished through employing and allocating appropriate capabilities and resources. One of these six Lines of Reconstruction is “the Community Liaison and Communication” line. Like the other lines of reconstruction, this sub-committee also has its well-defined composition,¹¹ roles and key tasks.

The first phase of an extensive public information campaign was launched in early-January 2011. The response to the campaign was carried out in a rapid-fire way simultaneously through the print media, posters, radio, and television. The “early emergency response and recovery phase” of the public information campaign was coordinated directly via the Premier’s Office and concentrated on an appeal for help and contributing to the Premier’s Relief and recognizing local heroes and champions.

¹⁰ <http://www.qldra.org.au/State-Plan>

¹¹ The community engagement and communication sub-committee comprises of representatives from: **1.** Department of the Premier and Cabinet, **2.** Queensland Reconstruction Authority, **3.** Department of Transport and Main Roads, **4.** Department of Public Works, **5.** Department of Employment, Economic Development and Innovation, **6.** Department of Environment and Resource Management, **7.** Department of Communities, **8.** Department of Local Government and Planning, **9.** Queensland Health, **10.** Queensland Treasury, **11.** Local Government Association of Queensland.

Box 8. Social media – Use of Social media by Queensland authorities

Social media has in the recent years become a crucial communication tool not solely for smart-phone users. During the Queensland floods, information about road closures, flood warnings, offers of assistance and ways to donate were all delivered through channels of modern social media, particularly through Twitter and Facebook.

Research conducted by the ARC Centre for Excellence for Creative Industries and Innovation found that when the flooding reached its peak in Brisbane, up to 1200 tweets every hour were recorded. Cyber Chatter mentions that at the peak of the flood events, there were almost 100,000 mentions of the floods on social media forums with hashtags #qldfloods, #bnefloods, #prayforaustralia, and #thebigwet being the most established ones.

During the flooding, the Queensland Police established itself as a key information source, largely through its Twitter Account @QPSmedia which provided key pieces of information and actively answered people's queries. On 18th January, QPSMedia had around 11,000 followers with some 164,133 people following ('like') their Facebook page. Along @QPSmedia, Queensland government was also using the Twitter ID @consultqld and @businessqldgov for Queensland Business support.

Sources: <http://www.mappingonlinepublics.net/>; www.publicrelationssydney.com.au; <http://cyberchatter.com.au/tag/queensland-floods/>; <http://www.streetcorner.com.au>.

Part B/Chapter 5 provides a good practice example of strategic communications used in Pakistan following the 2005 earthquake disaster.

6 Building Resilience

6.1 Disaster risk reduction strategies

The Hyogo Framework for Action (HFA) is the internationally accepted framework for building resilience. This 10-year plan was adopted by 168 Member States of the United Nations in 2005 at the World Disaster Reduction Conference in Japan. The HFA provides a systematic approach to reduce vulnerabilities and identifies 5 Priorities for Action to reduce disaster risk:

- Priority 1: Making disaster risk reduction a policy priority, institutional strengthening
- Priority 2: Risk assessment and early warning systems
- Priority 3: Education, information and public awareness
- Priority 4: Reducing the underlying risk factors
- Priority 5: Preparedness for effective response

The reconstruction phase offers a unique one-time opportunity to rebuild differently – better and safer. Disasters can contribute to overcoming pressures for status quo arising from existing patterns of land use and customs. They offer a chance to implement the five HFA priorities, design resilient community master plans, rebuild communities in a disaster-proof manner, and manage land use in a risk-sensitive way. The recovery process offers a chance to make people and assets significantly more resilient to the impact of future disasters. The aim is to create resilient communities which are capable of withstanding and recovering from shocks without severe upheaval or permanent harm after a disaster.

Building resilience in the aftermath floods poses complex challenges in the areas of land use planning and watershed management. In order to reduce flood damage, these elements must be integrated into a new holistic policy and strategy.

Spatial planning with respect to settlements, agriculture, forestry, and the protection of natural areas play an important role in the process of flood risk management. Some of the most controversial issues concern, for example, whether settlements and infrastructure should be rebuilt at the same place or relocated in case of periodical flooding, or whether further development in areas liable to flooding should be allowed. To build resilience, human interference in the processes of nature, especially in flood plains, would need to be reversed, compensated, and prevented in the future. However, the restriction of development in flood prone areas is a contentious issue worldwide. People's reluctance to move and private sector profits, due to, for example, high property values along coastlines or lucrative agricultural yields in floodplains, make it difficult for governments to issue policies that put a ceiling on development in these areas. Therefore, governments often increasingly rely on emergency management, which can provide short-term solutions but is not compatible with sustainability. Nevertheless, experience demonstrates that a combination of education, outreach, and mutually supporting policies, which are linked to state-designated natural hazard zones, can form an effective framework for enhancing the role of land use planning in reducing future losses from natural disasters.



Ipswich flooding, January 2011. Photo Courtesy of The Queensland Times.

The incorporation of watershed management objectives in reconstruction planning reduces flood risks. In order to improve flood management in the framework of an integrated river basin management, water policies and risk-sensitive land-use practices, as well as environmental protection and nature conservation need to be promoted. Integrated flood risk management strategies should cover the entire river basin area and promote the coordinated development and management of actions regarding water, land and related resources. While structural measures are important for the protection of human safety and property, they are costly and have the potential of only providing short-term protection at the cost of long-term problems. Risk management will need to define the right balance between structural and non-structural methods. Dykes and dams can be overtopped or breached and channel capacities exceeded. Structural measures often inspire a false sense of security, encouraging further development in flood-prone areas and thereby increasing the potential value of flood losses. Moreover, this approach together with disaster assistance payments creates problems for the fair use of public funds, as public resources are used for the benefit of the few who choose to live in known flood risk areas.

6.2 Policies and actions for building resilience

Queensland relies on an ex-ante disaster risk management strategy and a comprehensive preparedness regime. This includes the necessary legislation, institutions, financial instruments and coordination mechanisms for effective disaster response.

Instruments have been designed at both state and federal levels to reduce flood risks. In February 2011, the Council of Australian Governments (COAG) adopted the National Strategy for Disaster Resilience¹². The Strategy focuses on the shared responsibility of governments, business and communities in preparing for, and responding to, disasters. It sets out concrete steps that governments at all levels can take to reduce risks posed by natural disasters and better support communities in their recovery from disasters. Other actions will include steps to support improved risk-based planning decisions, the take-up of insurance and the provision and construction of resilient infrastructure.

In 2003, Queensland State Planning Policy 1/03 'Mitigating the Adverse Impacts of Flood, Bushfire, and Landslide' was introduced. The policy entails three main points: i) natural hazards have to be identified in land use planning; ii) if possible, incompatible development should be avoided; and iii) proposed infrastructure should be designated to function. A review¹³ of the policy, however, found shortcomings in the implementation that will need to be addressed in the future. Some local government councils have considered the policy merely as a guideline and others found creative solutions to continue building in flood-prone areas.

In April 2011, the Queensland Government approved the creation of the Queensland Coastal Plan under the Coastal Act and the Sustainable Planning Act from 2009. The Queensland Coastal Plan is expected to take effect in mid-2011. The Coastal Plans are based on a Queensland-wide risk assessment, which maps areas at risk of inundation from storm surges, taking into account historical hazards along with the anticipated climate change effects, such as sea level rise and higher storm surges. The plan restricts developments in high risk areas and requires Queensland's Councils in high risk areas to develop adaptation action plans.

12 National Emergency Management Committee Australia (2011): National Disaster Resilience Strategy (http://www.coag.gov.au/coag_meeting_outcomes/2011-02-13/docs/national_strategy_disaster_resilience.pdf).

13 Thomas, Melanie and King, David and Keogh, Diane U. and Apan, Armando and Mushtaq, Shahbaz (2011) Resilience to climate change impacts: a review of flood mitigation policy in Queensland, Australia. The Australian Journal of Emergency Management, 26 (1). pp. 8-17 ([http://www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/\(FC77CAE5F7A38CF2EBC5832A6FD3AC0C\)-Thomas.PDF/\\$file/Thomas.PDF](http://www.ema.gov.au/www/emaweb/rwpattach.nsf/VAP/(FC77CAE5F7A38CF2EBC5832A6FD3AC0C)-Thomas.PDF/$file/Thomas.PDF)).

Integrated Watershed Management is promoted in Queensland. The State of Queensland has a number of natural resource management groups, which work on water and environment related issues. These raise awareness on the importance of catchment protection to improve water quality, health of ecosystems, reduce losses of topsoil and sedimentation, decrease water treatment costs and increase resiliency against droughts and floods. Fourteen of these groups have been established at the river basin level to help monitor benchmarks and build partnerships for onground management of land, water and vegetation resources. Water Authorities and River Improvement Trusts, involved in the stabilization of riverbanks and reduction of erosion and sedimentation of rivers, have increasingly moved from purely engineering approaches to broader concepts which also include environmental protection.

Case study 1. Risk-sensitive land use planning: The case of Grantham

Problem statement: The small town of Grantham, about 100 kilometers west of Brisbane, experienced devastating flash floods that came down the Lockyer Valley. A large numbers of houses were completely destroyed or require a vast amount of work to restore safe and comfortable living conditions. The destruction in Grantham was limited to certain parts of the town: on the west side of the railway tracks going through the town, houses are on higher ground and were not affected. But just a few hundred meters away, houses were turned inside out.

Strategic approach: A low-lying part of the town of Grantham is at high risk from flash floods. The authorities seek to discourage effected residents to rebuild in the same area. The State held extensive consultations with the residents on the recovery and reconstruction plans. Affected residents of Grantham will now be offered a land swap: the Local Council bought land outside the affected areas and is offering residents plots of this land in exchange for their flooded land parcels. Over 60percent of the affected population expressed interest in the land swap idea.

Case study 2. Effective early warning systems: The case of Emerald

Problem Statement: The town of Emerald is located at the Nogoia River which poses a severe flood threat to the township. Emerald has experienced severe floods historically, with particularly devastating floods occurring in 2008. The town has since implemented an effective early warning system.

Strategic approach: The town started working with a consultant on developing better understanding of flood risks, especially in relation to upstream land use changes and their impacts on runoff and flood incidence. The preliminary results of the studies and actual measurement from automatic rain gauges and hydrological modeling enabled the floods to be forecast. A quite accurate map with the anticipated flood extent was created a couple of days before the disaster of December 31. The information was then distributed to the citizens through flyers and via an SMS system. The town is also investing in better understanding flood characteristics, the impacts of upstream land use changes and how all relevant data can be used for flood responses.

Example of the SMS sent:

----- SMS -----

From: +61429377121

Sent: Dec 28, 2010 12:58 PM

Subject: Flooding likely to reach 2008...

Flooding likely to reach 2008 levels & close Vince Lester Bridge. Commence preps in case of evacuation. Evac notices will be delivered to homes by SES/Council Cr Peter Maguire Mayor
CHRC

Case study 3. Studies on risk reduction to inform the recovery and reconstruction

Problem statement: To accurately inform recovery planning, further information is needed on the hazards, exposure and vulnerabilities in Queensland.

Strategic approach: The QldRA is piloting an initial approach to integrated flood management in the Dawson River basin in partnership with the Banana Shire Council. This will include investigating how the recent floods, historic flood information, and the likely impacts of climate change can be used to assess the potential adverse consequences of future floods. The result of this preliminary flood risk assessment will be the common basis for determining a flood line to be used by all local governments in the basin. The flood line will be used to set land use development controls for urban and rural lands at risk throughout the basin. A Standard Planning Scheme Provision (SPSP), under the *Sustainable Planning Act 2009* will be developed and then made available for immediate adoption by Local Governments across Queensland. In the longer term councils may choose to undertake more detailed flood hazard and risk studies to develop more comprehensive flood management plans. This will be an exemplar flood study project and provide useful input to the review of State Planning Policy 01 / 03 Mitigating the Impacts of Floods, Bushfires and Landslips. The opportunity to incorporate riparian and landscape restoration to mitigate the impacts of floods will be a subsequent phase.

Good practice examples of building resilience as identified by the World Bank are provided in Part B/Chapter 6 and include risk reduction measures undertaken post Indonesia's ocean tsunami; the Central American Probabilities Risk Assessment initiative; the Germany Flood Control Act of 2005; and the management of water services in New York State.

7 Community engagement in recovery and reconstruction

7.1 Role of community engagement in recovery and reconstruction

Engagement of communities and diverse stakeholders is crucial for effective and speedy recovery. Disasters are the result of the coincidence in time and space of a natural phenomenon of certain intensity— a hazard—with a population exposed to its impact (Sanahuja, 2011). Therefore, any recovery and reconstruction effort should include strategies to engage affected people and other stakeholders in the recovery efforts. The people affected are victims of the disaster but they also have knowledge and skills that are vitally important to the recovery and reconstruction process. Their participation speeds the recovery and generates ownership in the process. Additionally, given the magnitude, frequency and extent of impact of disasters, governments alone cannot shoulder sole responsibility and broader participation in recovery is essential.

Communities are key stakeholders in disaster risk management and the architects of designs of local resilience. Communities should be understood as active agents of their own recovery rather than passive victims of a natural disaster. Affected communities are not helpless and should not be seen as simply victims or recipients of charity. They are active participants and agents in the reconstruction and recovery process and mindset and attitudinal change is required to match this shift in institutional recognition of people away from recipients of services and towards leadership and responsibility. Communities are major stakeholders in disaster risk management and their active and meaningful participation in risk management - in prevention, emergency preparedness and response and in post-disaster reconstruction - has become a critical component of disaster responses globally as borne out by evidence from numerous evaluations.¹⁴

Communities affected by a natural disaster are not homogeneous. Recovery plans need to be responsive to the priorities of diverse social groups within local communities. Community heterogeneity requires designs for social inclusion from first response onwards and ensuring that different attributes of segmentation within communities are understood and addressed in participation and planning designs. Key social groups for particular inclusive planning attention include women, children, the elderly, youth, cultural minorities, indigenous groups and the disabled. When gender and social inclusion is not afforded the attention it warrants, local participation suffers, investment choices may not reflect genuine needs and preferences and impacts may be significantly compromised.

Communities know their local conditions and are best placed to identify their own priorities. Local communities are exposed to significant risks by the impacts of natural hazards which have been exacerbated by climate change—direct effects such as adverse weather events and changes in water availability as well as indirect effects such as population migration. The involvement of local-level institutions and community groups is vital to an effective response to climate change as it is as a response to natural disasters, since a key initial step in building stronger resilience against both factors is improved awareness of mitigation and adaptation actions and disaster preparedness.

14 Living with Risk: A global review of disaster reduction initiatives. Geneva: UNISDR. http://www.unisdr.org/eng/about_isdr/bd-lwr-2004-eng.htm; International Federation of Red Cross and Red Crescent Societies. 2001. 2001 World Disasters Report: Focus on Recovery. Geneva: IFRC. <http://www.ifrc.org/publicat/wdr2001/>; Department for International Development. 2004a. Disaster Risk Reduction: A Development Concern. London: DFID; Christoplos, I. , 2006. Links between Relief, Rehabilitation and Development in the Tsunami Response. London: Tsunami Evaluation Coalition).

Engagement of communities helps them to overcome the psychological effects of disasters. The experiences and losses associated with a natural disaster interacting with personality patterns of individuals affected by the disaster can trigger strong psychological responses, including high levels of stress, anxiety, depression and hopelessness. In turn, these responses elicit other affects such as insomnia, psychosomatic illness and lack of motivation. The direct participation of people in the recovery and reconstruction plans is an excellent strategy in supporting them to overcome some of these mental health concerns. Through their participation in the reconstruction process, they feel that they are not alone, that other people also suffered the consequences of the disaster, and that they are valuable resources in helping others - a proven vehicle to reduce depression and find renewed security and reasons for living.

Non-affected people should also be engaged. A disaster affects the entire society, not only those who were impacted by the natural hazard. For that reason, the entire society should be engaged in recovery and reconstruction. Non-affected people should understand the magnitude of the problem and the reconstruction efforts and be familiar with the means of providing support. Similarly to affected people, the non-affected are not a homogenous group and strategies should be developed to engage them effectively according to their characteristics and comparative advantages.

Community engagement creates ownership in the reconstruction efforts and ensures long-term success. The main instrument with which the World Bank engages with local communities in the developing world is generally associated under the rubric of Community-Driven Development (CDD). Community Driven Development designs have moved beyond consultation and participation to focus on direct community empowerment, making untied funds available directly to communities and empowering communities to plan and execute projects according to their own articulated priorities. Empowerment equates to the expansion of assets and capabilities of poor people to participate in, negotiate with and hold accountable institutions that affect their lives. It enhances people's access to voice and information and fosters greater social inclusion and participation, greater accountability and organizational strength. Under the CDD paradigm, government and civil society operate primarily as regulators, facilitators and trainers. Communities are heavily involved in the design and choice of technology for their chosen investments and manage project funds and directly contract for goods and services to implement them. Increasingly, CDD efforts have been directed at supporting the capacity strengthening of community groups in conjunction with efforts to promote an enabling environment through policy and institutional reform (decentralization, better aligned sector policies, etc.) and strengthened local governance relationships, particularly linkages between community-based organizations and local governments. Common across the range of contexts and sectors where CDD approaches have been applied are a series of foundational principles and critical issues. These include sound economic and social analysis; community mobilization and capacity building; fiscal and administrative decentralization, information and communications; monitoring and evaluation; targeting and selection; direct financing and contracting; institutional options, safeguards, and social and gender inclusion.



Ipswich flooding, January 2011. Photo Courtesy of The Queensland Times

Box 9: Community-Driven Development Design Principles

- **Make investments responsive to informed demand** with decisions based on accurate information about costs and benefits of options and communities' own resources invested
- **Build participatory mechanisms for community control and stakeholder involvement** by providing inclusive community groups with knowledge, control, and authority throughout all program phases and with overall programs designed with relevant stakeholders (government, local leaders, civil society, community)
- **Invest in capacity building of community-based organizations** with an emphasis on training and capacity building
- **Facilitate community access to information:** flows of information are often as important as flows of funds (market opportunities, available resources, etc..) and make growing use of information technology
- **Develop simple rules and strong incentives supported by monitoring and evaluation** with clearly defined procedures that are widely disseminated and simple rules that are monitored and transparently enforced
- **Establish an enabling environment through institutional and policy reform** with conducive legal and regulatory frameworks that support community action and clear sector policies with well-defined financing rules and defined roles and responsibilities of key players in each sector
- **Maintain flexibility in design of arrangements** - flexibility in design is essential to allow systems to evolve and direct feedback loops from community on program performance need to be designed in
- **Ensure social and gender inclusion:** communities are not homogeneous and design needs to be socially inclusive – giving voice and decision making to women, elderly, youth, disabled, minorities, etc.
- **Design for scaling up and Invest in an exit strategy** with recurrent services requiring permanent institutional and financing arrangements at locally affordable cost level

Critical constituents of a “resilient” community. Resilience is defined as the capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Box 10: Community resilience

Box 2: Key indicators of community resilience

Some organisations and researchers are beginning to think about the most important indicators of resilience with a view to setting priorities for DRR interventions. No consensus has been reached on this but recent suggestions include the following:

ADPC: Indicators of a 'minimum level of resilience'

- A community organisation
- A DRR and disaster preparedness plan
- A community early warning system
- Trained manpower risk assessment, search and rescue, medical first aid, relief distribution, masons for safer house construction, fire fighting
- Physical connectivity: roads, electricity, telephone, clinics
- Relational connectivity with local authorities, NGOs, etc.
- Knowledge of risk reduction actions
- A community disaster reduction fund

Plan International: Indicators of community resilience

1. Governance:
 - Extent and nature of access/presence/influence of children and other vulnerable groups (or groups that represent their interests)—to/in/over functions of governance at local, sub-national, national levels:
 - Policy
 - Legislative
 - Planning
 - Budgeting
 - Monitoring
 - Awareness of community members of their rights
 - Access of community members to legal and other avenues to enforce rights/provide redress (e.g. through linkages to legal rights NGOs, pro-bono lawyers)
2. Risk Assessment:
 - Existence and quality of community risk assessment and maps that are 'owned' by both community and government

Practical Action: key characteristics of a resilient community

- A community organisation such as a development/disaster management group, representing majority of people. Existing groups can be groomed for this role.
- A DRR and Disaster Preparedness plan (supported by local/central government)
- Early warning systems
- Trained persons—risk assessment, search and rescue, first aid, relief distribution, safer house construction, fire fighting, effective delivery system
- Physical infrastructure—access to roads, electricity, phones, clinics, etc.
- Linkages with local authorities, NGOs, humanitarian agencies, etc.
- Knowledge and awareness of risks and risk reduction strategies
- Safer housing to withstand hazards
- Safer/appropriate/more diverse protection of assets most at risk
- Access to resources for mitigation

7.2 Engaging Queenslanders

The Government of Australia and the state of Queensland recognize community engagement as a key principle for local government, community plans and disaster recovery plans. The importance assigned to community engagement is reflected in the different planning instruments for recovery and reconstruction designed by the Queensland Reconstruction Authority, such as the State Community, Economic and Environmental Recovery and Reconstruction Plan 2011-2013 (The State Plan), the Implementation plan and the Guide to Local Community, Economic and Environmental Recovery and Reconstruction Planning (The Local Plan). One of the six lines of reconstruction includes the “community liaison” as a cross cutting issue. In the case of slow-onset or regularly recurring hazard events or shocks, many communities live in a constant state of recovery whereby temporary relief has become a permanent coping strategy.

The Government of Australia and the state of Queensland have developed guidelines and materials on community engagement. Emergency Management Australia –EMA-, a division of the Attorney-General’s Department, has developed comprehensive guidelines for community development in the disaster context to assist in developing effective post-disaster community development activities, including indicators of need for employment of community development officers. The Department of Communities of the state of Queensland has developed excellent training material on this topic: “Engaging Queenslanders”, and the Department of Local Government and Planning has also published a guide on community engagement in Queensland Local Government.

Complementary planning well underway. QldRA encourages all affected local governments to prepare Local Plans (The Local Community, Economic and Environmental Recovery and Reconstruction Plan), which outlines the local community and environmental recovery and reconstruction. Although the preparation of the Plan is not mandatory, QldRA expects that the plans would help the local governments as well as State Government to align all stakeholders’ activities for reconstruction. This plan will complement the local disaster management plans mandated under the Disaster management Act 2003. These Local Plans are also expected to influence the priorities of the QldRA and lines of reconstruction, and will allow QldRA to broker resources for proposed projects under the Plan. These Local Plans are expected to be prepared with a strong involvement of community and are expected to be submitted by June, 2011.

QldRA workshops with State and Local Governments. From May 3-12, 2011 QldRA successfully conducted 18 workshops with State and Local governments (8 with State governments and 10 with Local Governments) to enhance their understanding about the role and mandate of QRA and inform them about the preparation of local recovery plans and the QldRA’s assistance to local governments in preparing these plans. The workshops also provided information about the processes of the local Plans and their relation to the State Plan. The workshops were jointly facilitated by the QldRA staff and World Bank resource persons. The participants also benefitted from international experiences on community engagement in post disaster reconstruction and recovery.

Independent Commission of Inquiry public hearings. The Independent Commission of Inquiry to examine the unprecedented flood disaster that impacted the state of Queensland established by the Queensland Premier scheduled public hearings from April 11 to May 27 to give members of the community information about the Inquiry and to explain how people can participate in the Inquiry process. This commission will deliver a report including issues related to flood preparedness in order to increase the resilience for the next wet season (recovered from www.floodcommission.qld.gov.au)

Refer to Part B/Chapter 7 for further discussion about community engagement in recovery and reconstruction and experiences from the Pakistan earthquake in 2005, the Java earthquake in 2006, the 2004 Indonesia Tsunami, and Tropical Storm Stan in Guatemala in 2005.



Ergon Energy workers restore power in Far North Queensland after Cyclone Yasi. © The State of Queensland.