Case Studies on Institutional Arrangements for Recovery

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OVERVIEW & PURPOSE OF THE CASE STUDIES IN THE HANDBOOK ON RECOVERY INSTITUTIONS

The main objective of the case studies that accompany this Handbook is to inform the design of effective institutional arrangements for disaster recovery. They describe institutional structures, legal frameworks, and management lessons gleaned from practical experience across the globe. The case studies aim to provide recovery leaders with critical insights as they consider governance mechanisms suited to their own context, specific disaster scenarios, and institutional landscapes.

UNDP has extensive experience working with governments after major disasters and providing support as they consider the design of Institutional Arrangements for Recovery. These Institutional Arrangements ensure the achievement of the priorities and objectives laid out in a Disaster Recovery Framework.

This suite of six case studies should function as a guide for decision-makers interested in effective forms of public administration that enable a rapid response to the uncertainty that disasters create. The objective is to take some of the guesswork out of decision-making processes about Institutional Arrangements for disaster recovery.

Different institutional arrangements, public administrative functions, recovery management strategies, and the challenges and successes that were the consequence of different systemic choices are documented to allow the reader to consider different approaches and common problems across all the cases. Making a direct comparison between different models is complex due to differences in culture; political, institutional and development context; policy landscape; the scale of the event; and recovery needs generated by each disaster.

WHO SHOULD READ THE CASE STUDIES?

These case studies are intended for national, regional and local government leaders, civil servants, subject matter experts, practitioners, private sector and community representatives tasked with setting up, leading, or working in a government agency dedicated to the management of disaster recovery efforts after a catastrophic event. As a planning tool for future leaders tasked with developing effective legal and institutional contexts for recovery, they are meant to remove some of the uncertainty from decision-making after a major event and to serve as a point of reference for those contemplating institutional reforms. Former recovery leaders, expert recovery practitioners and leading academics from across the globe were consulted during the creation of these case studies, in order to compile valuable, real-world insights on institutional arrangements for recovery.

WHAT IS COVERED IN EACH CASE STUDY?

It is impossible to come up with a set of recommendations, which are valid for every country, given differences in local and national cultures, systems of governance, levels of capacity, availability of resources, and histories of institutional effectiveness. To demonstrate a variety of approaches to institutional arrangements and recovery management strategies, six case studies were chosen from different geographic regions: Central Europe, Latin America, Southeast Asia, Africa, South Asia, Oceania / Australasia.

The case studies showcase how different countries took on the challenge of recovery and structured institutional, legislative and policy frameworks to support their recovery goals. These real-life examples are based on the operational context inside their recovery institutions and describe the structures, functions, and processes that were critical components of their
recovery efforts. Leaders and subject matter experts involved with recovery efforts in these different nations contributed their experience and knowledge to the compilation of these case studies and expressed a sincere desire to inform those that will experience similar situations in the future. The six case studies cover the following disaster scenarios:

- Chile (2010 Maule Earthquake)
- India (2001 Bhuj Earthquake in Gujarat State)
- Indonesia (2004 Indian Ocean Tsunami / Yogjakarta and Central Java earthquake)
- Mozambique (Great Flood of 2000 / Cyclone(s) Idai & Kenneth of 2019)
- New Zealand (2010-2011 Canterbury Earthquake Sequence)
- Serbia (Catastrophic Floods of May 2014)

Each case study sought information on the following topics related to the establishment of Institutional Arrangements for Recovery:

- **Capacity Assessment:** How did political leaders assess the capacity of current government institutions? How were decisions about institutional arrangements made? What institutional recovery model was chosen? What type of government body was determined to have the capacity to be effective?

- **Institutional Models for Recovery:** Were existing disaster management agencies or line ministries chosen to lead? Was a new recovery agency created? Was it a temporary or permanent government body? To what extent was power centralized or decentralized? Were communities involved in setting the agenda and in recovery decision-making?

- **Leadership:** What leadership qualities were considered important for success?

- **Legal Instruments:** Were legal and regulatory changes and enabling legislation needed to create new institutional structures, define mandates, clarify roles and responsibilities, create policies and programs, set rules for disaster assistance, incentivize donor support, ensure transparency and accountability, ensure risk reduction measures would be part of recovery? Did the disaster present an opportunity to permanently advance the national legislative framework for comprehensive disaster risk management and recovery?

- **Policy Frameworks:** How were specific standards, timelines, and policies for national, regional and local recovery efforts established?

- **Oversight and Monitoring:** What processes were put in place to audit the capability and management capacities of the lead recovery agency? Financial accountability and resource allocation? The alignment of recovery outcomes with recovery goals?

- **Capacity-Building Efforts:** How did lead recovery agencies ramp up and acquire trained and experienced technical staff, sector-specific experts, and skilled government bureaucrats in significant numbers? Was adequate support for local government partners available? How are unique recovery skills built quickly and shared widely?

- **Community Participation:** Were local communities empowered to define local priorities and take part in implementation? Was local knowledge and culture recognized as integral to successful recovery? Were vulnerable populations afforded protections and a voice in the recovery process?

- **Collaboration:** How did the many stakeholders to the recovery process formulate and agree upon common objectives, and how did they collaborate to ensure their achievement?

**CASE STUDY METHODOLOGY**

Countries were selected for inclusion in the set of case studies based on their experience establishing recovery mechanisms, institutions, or institutional arrangements for recovery, as well as on the availability of literature on the cases in question.

The six case studies selected cover:

1. Chile
2. India
3. Indonesia
4. Mozambique
5. New Zealand
6. Serbia
A qualitative research methodology was designed to elicit information about Institutional Arrangements for Recovery. Case studies were chosen as the method of analysis because they allow a researcher to seek explanations that investigate the complexity, detail and context of recovery efforts across different sites. Robert K. Yin sets out three criteria for choosing the case study research method, all of which apply to this project.

1. When “how” or “why” questions are the focus of the investigation,
2. When the researcher has little control over the events, and
3. When the focus is on a contemporary phenomenon in a real-life context (Yin, 2003).

The case study methodology used for all six examples employed a thorough literature review, secondary data analysis, content analysis, and in-depth, semi-structured interviews as the methods for data generation. Field visits were not possible, so key informant interviews were undertaken with representatives from each country using the Zoom software application, which allows the researcher to conduct interviews in a video conference format, to share documents with interviewees, and to record the interviews for transcription and later data analysis. Each case study was developed following the same format (where possible), in order to ensure a range of important topics were touched upon by all respondents.

Interviews were used to fill in gaps that the literature failed to address. Participants in the study were chosen based on their knowledge of the institutional arrangements in each context, some for their direct involvement and some because of their neutrality. Interviewees were excellent sources of primary and secondary data, and in each case shared government reports and documents on recovery, peer-reviewed journal articles, and popular literature (newspapers, magazines, and professional journals for practitioners) with the researcher.

Each case provided a unique opportunity to deepen understandings about the complex nature of institutional arrangements and policy mechanisms that were used to manage recovery processes, as well as to explore the successes and challenges which politicians, policy makers, bureaucrats and technocrats faced when seeking to implement their recovery agendas. Good practices and lessons learned have been distilled and examples of the consequences of the decision to use different institutional recovery models are highlighted.

All the case studies were reviewed by UNDP staff, academics / researchers / practitioners / government civil servants with direct experience in recovery efforts. These case studies were designed to analyze information on Institutional Arrangements for Recovery that have been implemented in different countries and regions. The intent is to describe approaches that can been used to establish effective recovery mechanisms pre- and post-disaster, as well as the challenges and evolution of these models over time. Institutional Arrangements for Recovery encompass the policies, legislation, institutions and capacities needed to implement and monitor successful disaster recovery operations. Importantly, these case studies aim to learn from, and not evaluate different disaster recovery governance models and institutional practices.
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Chile - Case Study on Institutional Arrangements for Recovery

Abbreviations and Acronyms:

27F Name given to the 2010 earthquake in Chile (27F = 27 February, the date of the event)
CIGIDEN Research Centre for Integrated Disaster Risk Management
CMICT Committee of Ministers of Infrastructure, City and Territories
MINVU Ministry of Housing and Urban Development
MOP Ministry of Public Works
ONEMI National Office of Emergencies and Public Safety (part of the Ministry of the Interior)
PRBC Coastal Border Reconstruction Plans
PRES Strategic Sustainable Reconstruction Plan
PRU Urban Reconstruction Plan
SERVIU Regional Deputy Secretary of Housing and Urban Planning
SHOA Hydrographic and Oceanographic Service of the Navy

Trigger Event: The Maule Earthquake of 2010 (27F)

On 27 February 2010, the southcentral portion of Chile was rocked by an 8.8 M_w magnitude earthquake, the sixth largest earthquake in recorded history.¹ Referred to as 27F by Chileans,² tremors were felt by 12.8 million citizens, over 75% of the country’s population.³

Map 1
Location of the 27 February 2010 Earthquake

Source: ReliefWeb
https://reliefweb.int/map/chile/chile-earthquake-27-feb-2010-location-map

¹ https://earthquake.usgs.gov/earthquakes/browse/largest-world.php
² 27F is an abbreviation for the date of the event
³ All statistics on the 27F earthquake can be found in the MINVU Reconstruction Plan of the Government of Chile Ministry of Housing and Urban Development (MINVU), unless otherwise noted (MINVU, 2010).
The earthquake triggered a massive tsunami along Chile’s central coasts, with waves that measured between 3.5 and 11.1 metres impacting many coastal towns. The earthquake and tsunami severely affected six regions and more than 900 small towns and villages, leaving over 370,000 housing units damaged or destroyed, of which over 220,000 units were severely damaged or in need of repair. Economic losses were estimated at US$30 billion, equal to 18% of the country’s Gross National Product in 2010. In the most affected regions of Maule, Biobío, Araucanía, Santiago, Valparaíso and O’Higgins, such major industries as fishing, shipping, forestry, agriculture, winemaking, mining and refineries, experienced major disruptions.

The 27F earthquake caused 524 fatalities, and an additional 31 people were reported missing and never found. Given the size and scale of the event, the number of fatalities is relatively low, a result that may be attributed to the country’s strong, strictly enforced building code. Although the death toll was low, the high-intensity shaking devastated critical infrastructure systems, housing and public facilities:

- 4,538 schools were damaged;
- 40 hospitals sustained severe damage;
- 1,702 elements of public infrastructure were damaged, including roads, highways, bridges, ports, airports, utilities, communication networks, drainage and irrigation channels.

**Map 2**
Extent of damage according to initial reports


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*Government of Chile. National Reconstruction Plan (27 August 2010).*

*All statistics on the 27F earthquake can be found in the MINVU Reconstruction Plan of the Chilean Government’s Ministry of Housing and Urban Development, unless otherwise noted (MINVU, 2010).*
Map 3
Earthquake-affected Areas in Chile and Argentina

Institutional Context and Past Disaster Recovery Operations

Chile is one of the most seismically active countries in the world. Since 1906, there have been 98 major earthquakes in Chile, ranging in magnitude from 6.3 to 9.5 on the Richter scale, including the 1960 Valdivia earthquake, the largest earthquake in recorded history. A country with a complex natural hazard profile, Chile is also susceptible to flash floods, landslides, drought, wildfire, and volcanic eruptions. From 2005 to 2017, Chile experienced 18 major disaster events, a significant increase over the 9 major events that occurred between 1980 and 2000 (Moris, 2018). As a result, at any point in time, multiple disaster recovery and reconstruction operations are underway in the country. As the frequency and intensity of natural hazard events increase, a global trend is perceptible in Chile, one that is putting pressure on government disaster management institutions and influencing the improvement of the country’s capacity to prepare, respond, reduce disaster risk and achieve a successful recovery.

As the country contemplated the huge task of recovering from 27F, it did so with some of the strongest government institutions in Latin America, including a professionalized civil service known for its competent public administrative capacities and long tradition of performance-based public management and budgeting. Chile is recognized for its low levels of corruption, high-functioning audit institutions, and its central government public service with a salary structure that rivals the private sector. For decades, the country has outsourced certain public goods and services to the private sector to improve efficiency. With a reputation for efficacy and transparency, government has a strong capacity to enforce central government policies and execute recovery programmes. However, there are weaknesses: the civil service sector suffers from a low level of decentralization and central, regional, provincial and local government bodies do not perform at the same level as central government institutions. Most public intervention is centralized, with regional and municipal governments dependent on grants and financing from the central government for large projects. Moreover, their effectiveness needs to be increased (OECD, 2017).

In Chile, the National Office of Emergencies and Public Safety (ONEMI, Oficina Nacional de Emergencia del Ministerio del Interior y Seguridad Pública) is the central government agency in charge of disaster management. First established in 1974, its mandate includes the communication and coordination of disaster preparedness and response activities. ONEMI struggled in its response to the 27F event, and missteps tarnished public and political perceptions of its competence.

The 27F earthquake occurred at a time of political upheaval in Chile. President Michelle Bachelet of the centre-left ruling party ended her term in office only 12 days after the second largest earthquake in the country’s history. She was replaced by Sebastián Piñera, who headed the first conservative, centre-right government that Chile had seen in the 20 years since the end of the Pinochet dictatorship (Gould, Garcia and Remes, 2016; Irazábal and Letelier, 2017). Soon after the earthquake, Piñera, a businessman and former senator with a Ph.D. in economics from Harvard, assembled a Cabinet leadership team primarily sourced from the private sector. The Cabinet members had little experience in government, but strong leadership capacities, management experience and project management skills. The reasoning behind the decision to draw leaders from the private sector and overlook qualified public servants has been characterized as a preference for “timely execution and tangible results” (Useem, Kunreuther, and Michel-Kerjan, 2015). In fact, the neoliberal economic reforms at the centre of Piñera’s political strategy, as illustrated by his choice of Cabinet members prior to 27F, motivated the decision to privilege private sector expertise, in line with the new administration’s political ideology, goals and policy perspectives.

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6 There are 36 currently active volcanoes in the country, about 500 potentially active volcanoes, and about 2,000 total volcanoes that are considered dormant.
8 A process which began as part of the forced liberalization of the Chilean economy under the Pinochet dictatorship, this privatization of public goods characterizes the constant tug of war between neoliberal and socialist tendencies that are part of the political landscape in Chile.
9 Center-Left Convergencia coalition
10 Center-Right Alianza coalition
11 This interpretation overlooks the new government’s laissez-faire economic policies and its desire to deliver on campaign promises, which included the creation of a million jobs, a 6% annual economic growth rate, an increase in GDP investment rates from 20 to 28%, and a reduction in poverty rates. Many Cabinet members were already in place before the earthquake occurred.
President Bachelet declared a State of Catastrophe, but hesitated for 36 hours before ordering the military to take control of the most affected areas when looting and violence broke out. Her hesitation had its roots in the use by the Pinochet dictatorship of States of Exception, which allowed military control and the suspension of civil rights. In the past, those mechanisms had been used to violently repress the people of Chile. In the aftermath of 27F, failures in the communication system meant that the central government did not have the necessary situational awareness of the impact and needs of local governments, and as a result, humanitarian relief was not reaching the affected areas (Hinrichs, Jones, Stanley and Kleiner, 2011). The army was needed to deliver aid and assistance, as well as to restore order, and the delay in its deployment led to sharp public criticism of the initial government response, perceived as slow and ineffective. The incoming President-Elect promoted that narrative, triggering a political wrestling match as the disaster unfolded. In the end, the Chilean public responded positively to the presence of the army, and it was lauded for its effective action during post-disaster relief efforts.

Unfortunately, the sense of initial shortcomings during early response efforts was compounded when ONEMI was accused of failing to cooperate with the Hydrographic and Oceanographic Service of the Navy (SHOA) and neglecting to broadcast a tsunami warning sent by the Pacific Tsunami Warning Centre. Because no tsunami alert had been broadcast to the Chilean public (Beittel and Margesson, 2010), ONEMI was blamed for the deaths of hundreds of coastal residents. ONEMI’s communication systems and emergency plans had proved insufficient and had led to a breakdown of situational awareness (Tompkins, Penning-Rowsell, and Parker, 2012). Due to the public outcry over these failures in the wake of the 2010 earthquake and tsunami, ONEMI was considered as dysfunctional and the incoming government saw it as being incapable of managing recovery operations. The agency was therefore slated for reform.

**Presidential Leadership and the Role of the President’s Cabinet in Disaster Recovery**

President Piñera took office 12 days after the 27F earthquake and tsunami. While the official handover of power was carried out on 11 March 2010, Piñera and the members of his future Cabinet began to assess the damage on 27 February 2010, the very day the event occurred. The earthquake took place at 3:00 a.m. and by 3:00 p.m., he and his future Minister of the Interior had flown to Talca, the heart of the devastated region, and from there to Concepción. Arriving back in Santiago that evening, he made clear during a meeting with the members of his future Cabinet that disaster recovery would be the focus of his government and would determine its effectiveness (Useem, Kunreuther, and Michel-Kerjan, 2015).

Piñera instructed his Cabinet to begin to collect data on the scale of damage to each sector and to estimate the cost of recovery, what funds the insurance sector could be expected to pay out, and the budget the government would need for national reconstruction efforts. Although Chile had one of the strongest economies in Latin America, the earthquake had come on the heels of the 2008 international economic downturn and the Chilean economy was experiencing the same stagnation as much of the world at that time. Piñera had campaigned on promises to reinvigorate the country’s economy, so that any reconstruction efforts meant taking on new and unexpected expenditures.

When he was given a cost projection of US$8.4 billion, the incoming President and his economic advisors worked out a plan to spread the cost across the range of financial mechanisms under his control that could be used to raise revenue for recovery. The recovery financing plan included the following actions:

1. Increase the corporate tax rate for a 3-year period, tax tobacco and reduce tax evasion;
2. Draw on reserve funds from state-owned copper production royalties;
3. Take on public debt by issuing bonds;
4. Assume revenue generation from future GDP rate increases with the hope that a 6 % increase would be achieved;
5. Transfer 2 % of the budget of every ministry to reconstruction (Useem, Kunreuther and Michel-Kerjan, 2015).

Loans from international organizations such as IMF were not included as part of the strategy to finance recovery. In many countries, a disaster results in negative economic speculation and the country’s sovereign risk rating is downgraded, but in

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12 Under General Pinochet, Chile’s military had actively engaged in repression and President Bachelet herself had been a victim of torture under that regime.
Chile, these strategies resulted in an upgrade, together with the assessment that the disaster had been excellently managed in terms of fiscal policy.

Public Expectations and Reasonable Timelines for Recovery – Lessons Learned by Political Leadership

Chile’s recovery process was marked by the aggressive timelines that were set to rebuild housing and infrastructure. The President himself set many of the milestones, but his team had little experience in government and the housing programme met with initial delays, so that the completion of repairs and reconstruction fell behind official pronouncements. Public expectations for recovery were based on government statements about the speed at which it would occur. Early targets failed to be met, although housing production sped up significantly later on. The result was lost confidence in public leadership, and the realization within the President’s leadership team that these expectations should have been tempered early on and more realistic timelines set (Useem, Kunreuther, and Michel-Kerjan, 2015).

Disaster Recovery – Central Government Control and Decentralized Implementation

Piñera saw that ONEMI’s capacity was limited in terms of its ability to manage recovery operations and its preparedness to respond to future events. Due to the urgency of the situation, he came to the conclusion that creating a new recovery agency would require a prohibitive amount of time and political capital (Useem, Kunreuther, and Michel-Kerjan, 2015).

He quickly decided that Chile’s existing authorities would lead recovery. He then called on the senior leadership team under his authority, composed of 22 cabinet ministers and 15 regional governors, to direct relief and recovery planning efforts. The recovery policy agenda and financial resources would be determined at the central government level, while the regional and local governments would design, implement and adapt their own recovery plans, thus decentralizing control of local reconstruction and mitigation efforts. In this way, although Chile’s public sector has a low level of decentralization, the reconstruction process became a multiscale intervention operation with a greater level of decentralization than was the norm (MINVU, 2010).

The central government’s line ministries were asked to draw up recovery policies, programmes and overarching recovery plans for each sector, while regional governors, provincial leaders and municipalities were asked to take an aggressive leadership role in local response and recovery efforts. The 15 regional governors appointed by the President were a critical component of the strategy, allowing for central control over policy, but decentralizing implementation, as well as acting as the basis for intergovernmental coordination.

The three phases of humanitarian relief and recovery operations were:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate Action (Months 1-3)</td>
<td>Humanitarian relief, response phase</td>
</tr>
<tr>
<td>– Within 1 month: search and rescue, rule of law, food and water, health care, burials;</td>
<td></td>
</tr>
<tr>
<td>– Within 3-months: Temporary housing solutions;</td>
<td></td>
</tr>
<tr>
<td>– As soon as possible: Infrastructure repair, power, sanitation, debris clearance, demolition.</td>
<td></td>
</tr>
<tr>
<td>Winter Emergency Action (Months 1-4)</td>
<td>Humanitarian relief, response phase</td>
</tr>
<tr>
<td>– Establishment of temporary schools, education services (within 6 weeks);</td>
<td></td>
</tr>
<tr>
<td>– Restoration of health care services;</td>
<td></td>
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<tr>
<td>– Provision of emergency shelter (80,000 units within 6 months);</td>
<td></td>
</tr>
<tr>
<td>– Creation of 65,000 construction jobs.</td>
<td></td>
</tr>
<tr>
<td>Reconstruction Plan (4 years)</td>
<td>Early and long-term recovery</td>
</tr>
<tr>
<td>– Achieve recovery of all affected areas by March 2014.</td>
<td></td>
</tr>
</tbody>
</table>
Two temporary Interministerial Committees were established to coordinate relief and recovery (MINVU, 2010):

<table>
<thead>
<tr>
<th>National Emergency Committee</th>
<th>Interministerial Reconstruction Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>led by Deputy Secretary of State</td>
<td>led by the Minister of the Interior</td>
</tr>
<tr>
<td>– Coordinate Immediate Action and Winter activities, under Presidential supervision.</td>
<td>– under direct supervision of the President</td>
</tr>
<tr>
<td>– National Reconstruction Plan announced by President on 16 April 2010, six weeks after 27F;</td>
<td>– Recovery of all affected areas to be achieved in 4 years;</td>
</tr>
<tr>
<td>– Creation of a central damage and loss database;</td>
<td>– Line ministries instructed to:</td>
</tr>
<tr>
<td>– Participating Ministries:</td>
<td>o Identify needs in each sector by region;</td>
</tr>
<tr>
<td>– Public Works (MOP)</td>
<td>o Define priorities;</td>
</tr>
<tr>
<td>– Education</td>
<td>o Propose legal or regulatory modifications necessary for reconstruction;</td>
</tr>
<tr>
<td>– Housing and Urban Development (MINVU)</td>
<td>o Submit evidence-based action plans and programmes, and design sectoral reconstruction plans;</td>
</tr>
<tr>
<td>– Health</td>
<td>o Draw up measurable objectives, milestones, and explicit timetables for all reconstruction projects;</td>
</tr>
<tr>
<td>– Energy</td>
<td>o Coordinate national budget and finance for recovery;</td>
</tr>
<tr>
<td>– National Assets and Cultural Heritage</td>
<td>o Ensure interministerial collaboration on reconstruction;</td>
</tr>
<tr>
<td>– Justice</td>
<td>o Coordinate and monitor implementation of complex projects over time.</td>
</tr>
<tr>
<td>– Economy, Development and Tourism</td>
<td></td>
</tr>
<tr>
<td>– Finance</td>
<td></td>
</tr>
<tr>
<td>– Agriculture</td>
<td></td>
</tr>
<tr>
<td>– Secretary-General of the Presidency</td>
<td></td>
</tr>
</tbody>
</table>

(MINVU, 2010)

**National Reconstruction Plan**

The National Reconstruction Plan was issued by the Government of Chile six months after 27F. A product of the Interministerial Reconstruction Committee led by the Ministry of the Interior, it called for the complete restoration of the country within four years, with a focus on rehabilitating infrastructure, creating jobs, and strengthening both disaster management and national resilience. The National Reconstruction Plan contained a recovery plan for each sector, under the direction of the corresponding ministry.

The plan had three main objectives:

1. Replace the country's infrastructure and build back better. Every line ministry worked in its specific sector: permanent housing; hospitals and clinics; schools and parks; rehabilitation of critical infrastructure, roads and transportation; reconstruction of coastal areas affected by the tsunami; and general public works;
2. Recover the productive capacity of the affected areas, with specific plans to regenerate the economy and create jobs through sectoral initiatives;
3. Improve Chile’s disaster preparedness through early warning systems, communications and response capabilities. The national government, ONEMI, the armed forces, regions, municipalities and civil society organizations would collaborate to achieve future preparedness (Government of Chile, 27 August 2010).

**Decentralized Management of the National Reconstruction Plan**

As the Interministerial Reconstruction Committee began to roll out the central government recovery policies and plans, they encountered a number of issues at the regional and local levels, primarily due to opposition party resistance to certain policies. Subsequent analysis from this phase in the recovery process suggests that this could have been mitigated if the political opposition would have been brought in early on as part of the planning effort (Useem, Kunreuther, and Michel-Kerjan, 2015).

In addition to contributing a sectoral plan to the National Reconstruction Plan, the Ministry of Housing and Urban Development (MINVU) worked to develop a detailed recovery plan to support rebuilding at the individual and community levels. The housing
sector had been particularly affected by the earthquake. Due to the very large number of communities that had sustained severe damage, intensive planning for the reconstruction effort at municipal and regional levels was required. The MINVU Reconstruction Plan, published at the same time as the National Reconstruction Plan, focused on three levels of reconstruction: housing, neighbourhoods, and cities (MINVU, 2010).

**Figure 1**
Decentralized Management of the National Reconstruction Plan

The MINVU Reconstruction Plan not only coordinated a wide range of housing solutions for the 220,000 households in need of assistance, it mandated the design and implementation of new Municipal Master Plans that laid out local reconstruction frameworks, as well as the revision of the existing comprehensive regional plans.

The need for decentralization of recovery efforts was most evident in the MINVU plan, as it was impossible to control planning and rebuilding efforts centrally for such a huge area. The geographic scale of the destruction had created levels of complexity that the central government alone could not manage.

“Responsibility was delegated to each region, town council and community to develop its own plans. A group of 10 architects/planners was seconded to the Regional Government to assist the affected local authorities... In Chile, there were regional strategic plans in place and the local planning teams focused on devising master plans to guide reconstruction” (Platt and So, 2016).
Interministerial Coordination

Within the President’s Office, a senior political appointee was put in charge of interministerial coordination. The Interministerial Reconstruction Committee was also given the mandate to ensure coordination across all levels of government. Nonetheless, reviews of the recovery process suggest that intergovernmental collaboration was best facilitated by the regional governments in the area of impact, MINVU, and its Regional Departments of Housing and Urban Planning (SERVIU).

Staffing the Recovery Effort: Implementing Personnel

The National Emergency Committee was able to employ consultants and private sector labour as needed so as to ensure the availability of basic goods and services. Much of the effort to build temporary housing was carried out by a large volunteer workforce coordinated by Civil Society Organizations, as well as by troops deployed to support the government’s Immediate Action and Winter Action Plans.

The National Reconstruction Plan laid out a decentralized management structure for reconstruction processes. Recovery required additional staff with specific expertise and skills across the government, and provision was made to pay for additional human resources at the regional, provincial, and local government levels through the Local Reconstruction Fund (Government of Chile, 27 August 2010). MINVU also provided funding for towns that did not have the capacity to complete project applications or manage the reconstruction process (Siembieda, Johnson and Franco, 2012).

Institutional and Organizational Structure

The National Reconstruction Plan laid out the management structure for reconstruction processes in Chile and gave control of the reconstruction process to the Committee of Ministers of Infrastructure, City and Territories (CMICT), chaired by the Minister of the Interior. Within the CMICT, a Subcommittee for Reconstruction was created, and the Ministers of Education and Health were included in this oversight body. The Undersecretary for Regional and Administrative Development (SUBDERE) was tasked with managing and coordinating the regional reconstruction plans so as to ensure that the regional and local governments collaborated effectively during the reconstruction process. The Local Reconstruction Fund ensured the financing of specific projects in each community, in addition to central ministry projects (Government of Chile, 27 August 2010).

Due to the large number of stakeholders involved in designing reconstruction plans and recovery projects, coordination required successful intergovernmental collaboration strategies to ensure that all projects would be delivered within the four-year time frame set for reconstruction. The following diagram shows the institutional arrangements that governed the recovery process in Chile.

Legal Instruments for Recovery

The decision to use existing authorities and programmes as the vehicle for recovery from 27F meant that minimal legislative changes were required to enable recovery efforts. The National Reconstruction Plan summarizes the Legislative Agenda for the Humanitarian Emergency and Reconstruction and the relevant legal instruments (Government of Chile, 27 August 2010; MINVU, 2010):

1. Presidential Decrees (DS), legal instruments under the direct supervision of the President;
2. Legislation to facilitate funding for reconstruction;
3. Complementary legislation focusing on the provision of direct aid to those in need.
The most significant Presidential Decrees were:

1. **DS N° 150** dated 27 February 2010, declaring a catastrophe in the regions of Valparaíso, Libertador, General Bernardo O’Higgins, Maule, Biobío and La Araucanía;
2. **DS N° 317** dated 11 March 2010, creating the Interministerial Committee for Reconstruction;
3. **DS N° 350** dated 22 March 2010, creating the National Emergency Committee;
4. **DS N° 338**, authorizing budgetary reassignments to finance emergency measures.

**Reconstruction Financing Law:**

Specific legislation was required to modify tax rules and regulations concerning national reserves over the four-year period necessary to complete reconstruction. Tax revenue was increased, tax evasion laws and loopholes tightened, and part of the country’s copper reserve fund royalties became a source of revenue for reconstruction. The Reconstruction Financing Law was critical in providing the resources required to execute the National Reconstruction Plan.
1. Law N° 20,455 stipulating Public Funds for Reconstruction;
2. Law N° 20,469 modifying Mining Extraction Royalties;
3. Law N° 20,444, creating the Reconstruction Fund and permitting private sector donation incentives.

Complementary legislation:

A number of pieces of legislation were passed during the period in order to provide a legal framework for measures necessary to assist individuals, local and regional governments, and repair or replace infrastructure. Among the measures enacted were laws that modified the period of time required before a missing person could be presumed dead; simplified requirements to obtain unemployment benefits; delegated extraordinary resources to the National Municipal Fund; and mandated that the national telecommunications network be updated (Law N°20,475).

Successes Based on Institutional Arrangements – Building Codes

Six weeks before 27F occurred, Haiti had been struck by an earthquake measuring 7.0 on the Richter scale which had destroyed Port-au-Prince and much of the countryside around the capital city. While the world was riveted by the damage, destruction and badly mishandled response efforts they witnessed, it is important to note that the 27F earthquake in Chile was 500 times more powerful than the Haitian earthquake.

Chile had instituted and enforced strict building codes that greatly reduced loss of life and led to the good seismic performance of much of its residential and commercial structures. Any substandard application of building codes during construction is punishable under the country’s General Urbanism and Construction Law dating to 1931, which holds building contractors and construction companies liable for damages for the first 10 years after construction is completed (ABD, 2016).

Successes Based on Institutional Arrangements – Housing Sector

The rapid recovery of the housing sector in the affected regions was based on an aggressive timeline set by President Piñera within days of the earthquake. Indeed, official reconstruction plans emphasized the President’s promise that all rebuilding would be completed by the end of his 4-year term.

MINVU estimated that 220,000 housing units would have to be repaired or rebuilt entirely. Of this number, 50% needed repair, and 50% were to be completely rebuilt. The cost of the programme was estimated at US$2.5 billion (MINVU, 2010). 94% of housing reconstruction and repair targets were in fact met by the end of the Piñera government’s 4-year term -- one of the most significant successes of the Chilean recovery process (Comerio, 2014; Useem, Kunreuther and Michel-Kerjan, 2015).

The permanent housing strategy was based on a long-term housing policy in Chile which provided a government subsidy or voucher to qualified low-income households to promote home ownership. When the programme was adapted for post-earthquake and tsunami recovery, the eligibility criteria were expanded to encompass any middle- and low-income households that did not have a second home. Renters and those who did not own land were also eligible to receive aid. A registry of disaster victims was created to collect data concerning income and damage, and as recovery progressed, to track project milestones and completion.

Over 750 building companies and contractor firms designed model homes to meet building code standards. Eligible designs were pre-certified by MINVU. Individual renters and homeowners who received subsidies were given a range of options and choices, including where they wanted to live (on the site of their original home, or relocating) and what type of structure they desired (choice of designs, self-built homes, purchase of a new home). Renters and landless beneficiaries were allowed to use their vouchers to purchase units in social housing projects built as part of the recovery programme (Comerio, 2014).
The Chilean post-disaster housing programme empowered beneficiaries by giving them choices and providing a flexibility that is rare in most large-scale post-disaster repair and rebuilding programmes. The decentralized recovery management system enabled local governments to support these choices, while enforcing building permit criteria and construction code standards, thus ensuring that rebuilding and repairs would contribute significantly to future risk reduction.

### Challenges: Local Participation in the Recovery Planning Process

The National Reconstruction Plan called for the preparation of a large number of municipal Reconstruction Master Plans in the impacted areas. These plans fell into three categories:

- 6 PRES – Strategic, Sustainable Reconstruction Plans, funded by the private sector;
- 18 PRBC – Coastal Reconstruction Plans funded by the Biobio Regional Government;
- 114 PRU – Urban Reconstruction Plans, funded by the central government (Moris, 2018).

The large number of municipal reconstruction plans that were produced during the recovery time frame is one of the recovery programme’s major successes. PRES plans were developed by universities and/or consultants for the most part, with the Pelluhue Plan and Constitucion Plan from the Maule Region considered as particularly noteworthy.

However, while these planning activities were praised for their speed, the very rapidity of their execution meant that local participation in recovery planning processes at the community level was largely superficial. The ambitious timeline set for the recovery process, which conflicted with the time that would have been needed to craft inclusive and participatory recovery planning processes. The pressure under which planning documents were produced in the aftermath of the disaster meant that decisions were made in some instances with limited input, viewpoints or vision of the community concerning what the population wanted the future to look like.

Chile’s “multiple stakeholder system for building technical inputs works well, as does its system of building design checks and balances. The engineering, construction, architecture and planning communities can make their voices heard. Civil society, however, is not well represented in any formal way, and more attention is needed to ways to obtain and utilize citizen involvement” (Asian Development Bank, 2016).

The context in which disaster recovery plans are created is one of trauma, loss and destabilizing change. People’s fears, worries, and deep-seated anxieties concerning their current reality and uncertain future may be exacerbated by planning processes that exclude them from taking any part in the future vision of the communities they call home. Not only does this create a sense of alienation, it is also a top-down process that is liable to cause serious harm to the social fabric.

Beyond the obvious goals of disaster recovery – rapidly rebuilding public infrastructure, homes, businesses, economies, etc. – the Chilean experience and the lessons learned from the 27F recovery process indicate that successful recovery planning and implementation should at the same time seize opportunities to improve socioeconomic conditions and quality of life as it is to undertake reforms to reduce vulnerability to future extreme events. The participation of community members in recovery planning processes provides a platform for local and indigenous knowledge to infuse plans and improve their efficacy.
Innovation for the Future Management of Disasters: CIGIDEN

One of the many lessons learned from the Chilean experience was the need for applied research focused on practical solutions for all phases of the disaster life cycle. In 2012, the Research Centre for Integrated Disaster Risk Management (CIDIGEN, Centro Nacional de Investigación para la Gestión Integrada de Desastres Naturales) was created through political consensus. CIDIGEN is a multidisciplinary and multi-university research centre that aims to improve risk management processes specific to the Chilean context. CIDIGEN’s research community generates scientific and technical knowledge relating to natural disasters and their consequences, and the CIDIGEN network disseminates their findings to stakeholders in government ministries, ONEMI, international organizations and CSOs playing central roles in disaster preparedness, response, mitigation and recovery.

CIDIGEN’s website contains the following mission statement:

*Our mission is to guide the discussions and decisions that must be taken in the face of disasters, through scientific and technical evidence, to help implement improvements that increase the resilience of the country.*

http://cigiden.cl/en/
References:


Siembieda, W., L. Johnson and G. Franco (2012). Rebuild Fast but Rebuild Better: Chile’s Initial Recovery Following the 27 February 2010 Earthquake and Tsunami. Earthquake Spectra, 28 (S1), S621-S641.


Key Informant Interviews

Siembieda, William. (15 February 2018) Virtual Interview recorded using Zoom with Dr Siembieda, Professor of City and Regional Planning, College of Architecture and Environmental Design, California Polytechnic University, San Luis Obispo. Member of CIDIGEN, Chile’s Research Centre for Integrated Disaster Risk Management.

Moris, Roberto (27 February 2018) Virtual Interview recorded using Zoom with Dr Moris, Director of Plans and Urban Projects UC PPUC, Professor of Architecture and Urban Studies, UC: Pontificia Universidad de Católica de Chile.
Case Study on Institutional Arrangements for Disaster Recovery: India

Trigger Event: The Gujarat Earthquake

On 26 January 2001, a severe earthquake, measuring 7.7 on the Richter scale, occurred in Gujarat State in western India. The devastating earthquake caused a substantial loss of life and enormous damage to property and infrastructure, leaving over 20,000 people dead, 167,000 injured, and nearly one million homes damaged or destroyed.

The epicentre of the earthquake was located about 20 km northeast of the town of Bhuj, at a relatively shallow depth of 10 to 25 km. Two large aftershocks, measuring 5.9 and 5.3 on the Richter scale respectively, followed within a two-week period. The damage extended over a radius of 400 km from the earthquake epicentre and affected 21 of the 25 districts in Gujarat State. Kachchh (also known as Kutch) and seven other districts—Surendra Nagar, Patan, Banaskantha, Jamnagar, Rajkot, Ahmedabad and Surat—were the most heavily affected. 182 talukas\(^1\) and 7,922 villages were severely impacted (Gujarat State Disaster Management Authority, 2001).

Map 1
Location of the 26 January 2001 Earthquake

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Abbreviations and Acronyms:
- CSO: Civil Society Organization
- EOM: Extraordinary Mechanism
- GERRP: Gujarat Earthquake Rehabilitation and Reconstruction Policy
- GoI: Government of India
- GSDMA: Gujarat State Disaster Management Agency
- IAS: Indian Administrative Services
- IFI: International Financial Institution
- IO: International Organization
- NGO: Non-Government Organization
- OSDMA: Orissa State Disaster Mitigation Authority

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\(^1\) A taluka is an administrative subdistrict consisting of multiple villages and a small number of towns.
The greatest loss of life and destruction of property occurred in western and central Gujarat, where a population of approximately 20 million people live and work. Small businesses, especially single-family artisan workshops, shopkeepers and rural industries, were affected. The region’s health and education infrastructure was severely crippled: two district hospitals, over 1,200 health clinics, most of which were in rural areas, and 11,600 schools were destroyed or damaged. Rural and urban water supply systems suffered, and over 240 earthen dams for the small reservoirs that supply water for irrigation, domestic needs and industry were heavily impacted. The electricity and telecommunications infrastructures were likewise extensively damaged. The World Bank and Asian Development Bank, in their joint Gujarat Earthquake Recovery Programme Assessment Report, estimated that the total loss of assets amounted to $2.1 billion, and the reconstruction including some improvements would cost $2.3 billion.

Map 2
Extent and Degree of Earthquake Damage

![Map 2: Extent and Degree of Earthquake Damage](source: UNDAC Team, 2001)

The earthquake affected areas considered to be among the poorest in Gujarat. They include the district of Kutch (where over 90% of deaths and 85% of asset losses occurred) and the districts of Jamnagar, Rajkot and Surendranagar. These areas are sparsely populated, resource-poor and arid and thus areas already stricken by two consecutive years of draught suffered the bulk of the damage caused by the earthquake. The social fabric of the region suffered a major blow as many families were deprived of their resources due to the earthquake-related death or serious disability of their wage-earning members. Other social impacts included sudden, pervasive insecurity and a sense of vulnerability among those whose property had been destroyed. The livelihoods of a great number of households were disrupted, causing a rapid slide into poverty.
Institutional Context Assessment for the Management of Disaster Recovery Operations

At the national government level, the 1990s are lauded as the decade when disaster management began to be institutionalized as a permanent part of government services in India. When national disaster management efforts began, they focused primarily on humanitarian relief, financial aid and disaster risk reduction. Disaster recovery, reconstruction and preparedness were not areas of concentration at that time. The first effort to create administrative capacity at the national level was a disaster management cell located inside the Ministry of Agriculture. In 2002, the cell was transferred to the Ministry of Home Affairs and began to evolve, thus laying the foundation for the development of proactive disaster management strategies (Ministry of Home Affairs, 2011).

In India, the first fully-developed institutional mechanisms dedicated to disaster management were established at the level of state governments, in response to a series of disasters that occurred between 1993 and 2004. The events that provided the impetus to professionalize disaster management were the 1993 Latur Earthquake, the 1999 Orissa Super Cyclone, the 2001 Bhuj Earthquake and the 2004 Indian Ocean Tsunami. Some of the structures and institutional arrangements for recovery and reconstruction that were established in response to these events include:

1. The State of Maharashtra established a Disaster Management Council, with the authority to plan and implement all recovery activities for the State in the aftermath of the 1993 Latur Earthquake. Following a request to develop an emergency management system for the future, the Disaster Management Council drafted a multi-hazard Disaster Management Action Plan for the State of Maharashtra, which was emulated in 25 remaining districts. Reconstruction consisted of a three-tier mechanism, wherein a cabinet subcommittee consisting of six ministers would be responsible for policy decisions, the Central Implementation Review Group (CIRG) would carry out performance reviews and monitoring, and a Project Management Unit (PMU) would supervise implementation.

2. The State of Orissa instituted the Orissa State Disaster Mitigation Authority (OSDMA) in 1999 in response to the super cyclone that had devastated the state.


4. The State of Tamil Nadu authorized a multi-agency and multi-tiered approach to recovery after the 2004 Indian Ocean Tsunami. This consisted of an Advisory Committee headed by a Cabinet Minister that worked on finances, procurement, capacity-building, coordination among line ministries and strategy. A second committee, headed by the Chief Secretary, approved subprojects and conducted project monitoring. Reconstruction was executed by the Office of the Commissioner of the Revenue Administration while a Project Management Unit (PMU), located in the Office of the State Relief Commission, monitored and coordinated the implementing agencies.

At the national level, the National Disaster Management Authority (NDMA) was not formed until after the 2004 Indian Ocean Tsunami, so that within the central government, the institutionalization of disaster management was largely based on the innovation and leadership that came from state-level government efforts.

The State of Gujarat is highly vulnerable to natural disasters and experiences droughts, cyclones, floods and earthquakes. Prior to the Bhuj earthquake in 2001, the State of Gujarat had responded to each event in an ad hoc, reactive manner, with no overarching disaster management strategy in place to guide efforts to improve preparedness, response, recovery or mitigation operations. According to a UNDP report in October 2001, entitled ‘From Relief to Recovery: The Gujarat Experience’, “Gujarat’s harsh ecological environment, poor social indicators and generally low levels of gender equality coexisted with strong government, a robust economy, an indomitable entrepreneurial spirit, a large reservoir of technical skills, a vibrant civil society, and a distinctive range of traditional yet marketable crafts” (UNDP, 2001, p. 4). Thus, while Gujarat was dealt a harsh blow in terms of the damage and destruction wrought by the Bhuj earthquake, state government institutions remained remarkably strong and competent, and the State of Gujarat stepped forward and became a locus of innovation, with a vision of the institutional arrangements that would be necessary if post-disaster reconstruction were to be successful.
Disaster Management Planning in the State of Gujarat –The Bhuj Earthquake Reconnaissance Report

“The frequency of disasters impressed upon the Government of Gujarat the importance of developing a comprehensive disaster management plan. However, the state could not mobilize resources for its implementation. After this earthquake, there is a consensus on capacity-building in this area within the state and country.”

Source: Vatsa, 2001

Designating a Lead Agency for the Recovery of Gujarat

Two weeks after the 8 February 2001 disaster, the State of Gujarat established a single unified agency, the Gujarat State Disaster Management Authority (GSDMA), to coordinate longer-term relief and reconstruction, and implement a massive earthquake rehabilitation programme. The Government of India (GoI) suggested that an institution be established on the model of the OSDMA and was a driving force behind the formation of GSDMA.

GSDMA was headed by the Chief Minister of Gujarat and granted full authority to coordinate the recovery and reconstruction efforts of more than 20 state government agencies, as well as to function as a single point of entry for all stakeholders involved in reconstruction efforts (GoI, international organizations, donors, International Financial Institutions (IFIs), non-governmental organisations (NGOs) and civil society organizations). A State-level Advisory Committee was formed to guide GSDMA, and the new agency was given cabinet-level powers to make policy decisions, design reconstruction programmes and carry out the monitoring and evaluation of all recovery programmes. Its decisions were implemented in the same manner as any cabinet decision would be, in such a way that there were unambiguous lines of authority and the new agency had the authority to act. The rules and regulations set out for GSDMA differed from the governmental norm, and allowed it to work quickly and to circumvent normal bureaucratic procedures. The agency’s ease of access to political leaders at the highest levels in the state (Chief Minister and Chief Secretary) helped to facilitate the important work that GSDMA was trying to undertake. Another empowering feature was its authority to receive funds from international organizations. Systems were instituted to ensure that these processes were accountable and transparent, in line with the norms of good governance.

The National Government set up a high-level Disaster Management Task Force to advise national government leaders on relief and reconstruction policy and activities. The Task Force was formed under the Chairmanship of the Chief Secretary. A Central Implementation Committee with extensive authority was also established to deal with implementation, monitoring and quality control. In 2003, GSDMA became a permanent government body in the state, and was given authority to deal with long-term disaster management, preparedness for future events and disaster risk reduction.

Appointing an Effective Recovery Leader

A senior management team was assembled to lead GSDMA, comprised of a Chief Executive Officer, two Additional Chief Executive Officers, a Joint Chief Executive Officer, a Controller of Accounts and two Directors. On 8 February 2001, two weeks after the disaster and the day that GSDMA officially came into being, M. Sahu was given a temporary appointment as the first CEO of GSDMA. Sahu was an officer with the rank of Secretary to the Government, and had been Managing Director of Gujarat Informatics Ltd. at the time. He was immediately joined by two other high-ranking members of the Indian Administrative Service. Three weeks later, the leadership team was augmented by the addition of two more members of the state government service in Gujarat, one of whom was Dr V. Thiruppugazh, author of a number of articles on the Bhuj earthquake that have been used for this case study, and a District Collector. Five weeks after GSDMA was established,
Dr P. K. Mishra (who also authored a number of the studies underpinning the present case study), was named Chief Executive Officer, while M. Sahu and a second senior administrator were named ‘Additional Chief Executive Officers’. Dr P. K. Mishra had been Principal Secretary of the Gujarat State Department of Agriculture prior to his appointment as CEO of GSDMA.

In October 2001, a new Chief Minister of the State of Gujarat, Narendra Modi, took office. He appointed 11 Senior Secretaries to administer the most affected talukas and required them to spend three days on site every week, from Friday to Sunday. Every Monday, the Chief Minister held review meetings with the officials, during which policy and operational issues were resolved and programmatic changes undertaken. This proved to be a very effective mechanism for monitoring and oversight, and created real pressure to ensure that the reconstruction process was continually adapted and improved.

The executive leadership of GSDMA was comprised of senior civil servants from the Indian Administrative Service. India is widely recognized for its excellent public administrative structures and highly skilled bureaucrats. Selection of senior bureaucrats to lead GSDMA was motivated by a desire to ensure efficiency and the ability to make decisions in a timely manner while under great pressure. Senior leadership was expected to take measured risks, embrace innovation, and demonstrate flexibility not usually associated with bureaucracy. Additionally, GSDMA senior leaders were widely known for their intellectual capacities, personal integrity and honesty. The Chief Executive Officer of GSDMA (most senior position) was an individual chosen due to his seniority, stature, and the level of respect he commanded in the State of Gujarat and the Indian Administrative Service. Thus, leadership choices signaled competence and trustworthiness, important foundations for public trust.

**Legal Instruments and Mandate**

GSDMA was initially registered under the Societies Registration Act, which provides for the registration of literary, scientific and charitable societies. Under this form of registration, GSDMA enjoyed both autonomy and flexibility in terms of its mandate and had the authority necessary to implement a highly complex reconstruction programme. In 2003, GSDMA was given the status of permanent government agency under the terms of the Gujarat State Disaster Management Act, the first such permanent disaster management agency to be established in any state in India. As stipulated in the Gujarat Earthquake Reconstruction and Rehabilitation Policy, the agency’s main functions were the following:

1. “To coordinate and implement the reconstruction and rehabilitation programme comprising the components of housing, infrastructure, economic and social rehabilitation and other related programmes.
2. To maintain the standards of quality in the programme implementation and establish mechanisms of accountability and transparency in the decision-making process.
3. To manage and administer the Gujarat Earthquake Rehabilitation and Reconstruction Fund.
4. To raise and mobilize resources from external agencies and national sources for the implementation of the reconstruction and rehabilitation programme.
5. To prepare and implement disaster management plans at the taluka, district, and state level and ensure effective coordination with the state agencies and NGOs.
6. To support all the programmes which relate to disaster risk reduction and mitigation at the individual and community level.
7. To support research, training and capacity-building programmes in the government and non-government sector in all aspects of disaster preparedness and response” (GSDMA, 2001).
Figure 1
Phases of the Gujarat Emergency Earthquake Reconstruction and Rehabilitation Programme

<table>
<thead>
<tr>
<th>Phases</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-Term</td>
<td>Debris Removal, Temporary Shelter, Initiation of Repair / Reconstruction</td>
</tr>
<tr>
<td>Medium-Term</td>
<td>Repair / Reconstruction (Houses, Public Infrastructure, Social Infrastructure)</td>
</tr>
<tr>
<td></td>
<td>Awareness Programs Disaster Reduction &amp; Mitigation</td>
</tr>
<tr>
<td>Long-Term</td>
<td>Capacity Building of GSDMA, Long-Term Measures for Disaster Reduction and Mitigation</td>
</tr>
</tbody>
</table>

Source: Mishra, 2004, p. 114

Institutional and Organizational Structure

The organizational structure of the Gujarat State Disaster Management Authority is shown in the organigram below. The Chief Minister of Gujarat established a Governing Body which had oversight over all GSDMA activities. The Governing Body included the Chief Minister himself, a number of senior ministers agency secretaries, and was responsible for establishing guidelines and formulating policy for the new agency. A Central Implementation Review Group (CIRG) was also formed and was tasked with monitoring implementation activities. It was chaired by the State of Gujarat Chief Secretary, second-in-command to the Chief Minister and appointed by the President of the Government of India. The Chief Secretary (CS) also headed the subcommittee that monitored programmes and projects funded by donors other than the World Bank and the Asian Development Bank. A state-level Advisory Committee made up of prominent citizens, academics, community leaders and representatives of the private sector was put in place to ensure accountability to and the participation of those affected by the earthquake.

Two Advisory Chief Executive Officers (ACEOs) were given substantial portfolios with responsibility for critical reconstruction and rehabilitation functions. All senior leaders had their own reconstruction portfolios and answered directly to the ACEOs. Further organization of the reconstruction and rehabilitation process was undertaken by the supporting line ministries, each of which was required to create a project implementation cell responsible for monitoring and managing its programmes. At the field and regional level, there were district, taluka, and village level staff and administrators were responsible for monitoring performance and recommending necessary changes.
Figure 2
GSDMA Organizational Structure

Governing Body
Overall Monitoring

Chief Executive Officer GSDMA
- Overall Coordination
- Long-Term Disaster Mitigation & Preparedness
- Social Rehabilitation
- Strategic Planning and Policy
- Procurement

CS Sub-Committee
Central Implementation Review Group
Advisory Committee

Advisory Chief Executive Officer GSDMA
- Governing Body Meetings of GSDMA
- Infrastructure (Education, Health, Rural Water Supply, Urban Infrastructure)
- Community Capacity Building
- Finance, Accounts, MIS
- Personnel & Administration Matters

Joint CEO
- Education / Health
- Urban Infrastructure
- World Bank / ADB Interface
- Community Participation
- Power, Rural Water Supply
- IEC Activity, Training
- Disaster Management
- Livelihood

Director (Admin)
- Personnel & Administration
- Society
- NGO Interface

Director (Finance)
- Finance
- Accounts

Controller of Accounts

Chief Engineer
- Procurement
- Roads & Bridges
- Dam Safety & Irrigation
- Public Buildings
- Maintenance of GSDMA Office

Director (H&EC)
- Housing
- Emergency
- Communication & Networking

Director (DM)
- Long-Term Disaster Mitigation & Preparedness

Source: adapted from Mishra, 2004, p. 120, and Thiruppazh & Kumar, 2010, p. 226.
Figure 3
Staffing the GSDMA and the Capacity of Implementing Personnel

Governing Body GSDMA

CEO GSDMA

Central Implementation Review Group

Advisory Committee

ACEO GSDMA

Joint CEO GSDMA

Disaster Management
Community Participation

Director (Administration)
Director (Finance)
Controller of Accounts
Chief Engineer (Procurement)
Director (H&EC)


Figure 4
Stakeholders Aligned with GSDMA Reconstruction and Rehabilitation Programme

Government of Gujarat
Policies, funds, expertise, project monitoring, etc.

NGOs & Research Agencies
Best Practices, Reconstruction Data, Damage Data

Funding Agencies
Project Guidelines, Project Reports, Status Reports, Funds

Line Departments
Damage Data, Project Plan, Progress Report, Capacity Creation Plans

Individual Beneficiaries
Damage-suffered, compensation claims, etc.

Other DMAs
Best Practices, Expertise, Experience, etc.

Local Administration
Damage data, Risk data, Project plans, Initiatives, etc.

Source: adapted from Thiruppagazh & Kumar, 2010, p. 225.
GSDMA’s structure was determined by its mandate, in that the agency could be expanded or contracted to meet its objectives. At the executive management level, GSDMA was staffed by senior government officials and expert administrators that understood government processes and procedures. Policy and programme design consultants and advisers from outside government were seconded to GSDMA from IOs, donors, NGOs and the private sector, a strategy that ensured that the agency was able to ramp up operations quickly with the capacity to carry out its mission.

Junior level staff were hired on contract from a range of sectors and industries and came from inside and outside of government, so that they were proficient in public administration skills, as well as in a wide range of activities normally outside government purview. Core staff came from the Indian Administrative Services or from other government departments. Many core staff were recruited from outside of government also, as the agency had the authority to contract with non-government personnel so as to acquire staff with specific skills, or to outsource priority projects. Project consultants were commonly brought in to support specific projects, coordinate among the many implementing agencies, and manage and lead specific projects.

### Staffing of GSDMA – Gujarat Earthquake Reconstruction and Rehabilitation Policy

“With a diverse pool of experience and specialization from the government and private sector, GSDMA encourages flexibility, innovation and responsiveness in its operations, while maintaining the highest level of professional standards” (GSDMA, 2001).

### Ensuring Local Coordination and Participation

Local government response was impaired due to the severity of the earthquake damage, particularly in Bhuj, the district capital. Many local officials had lost their homes and family members, yet returned to work quickly to salvage what office facilities could be recovered and coordinate relief activities. In Bhuj, the District Collector’s office suffered severe damage, and the District Collector and Relief Coordinator were operating out of a tent next to the building. In terms of local governance, the Panchayati Raj structure was missing its most important layer in the impacted area, the village-level Gram Panchayats (village councils). In the absence of traditional local governance structures, NGO networks empowered local participation in an innovative manner.

Gujarat had a strong non-governmental organization network which quickly rallied to support community efforts. Several well-known local and national NGOs such as the Self-Employed Women’s Association were active in recovery, helping people to rebuild their livelihoods and meet other needs. Kutch Navnirman Abhiyan (Abhiyan), a Kutch-based network of civil society organizations, partnered with UNDP and was nominated to coordinate NGO activities in the district. It developed a plan for reconstruction based on community self-reliance and homeowner rebuilding strategies, referred to as ‘self-help’. This CSO network was originally founded after the 1998 cyclone that hit Gujarat as a 22-organization group concerned with improving coordination and increasing the level of impact of their reconstruction work. The network’s extensive experience in disaster relief and rehabilitation attracted support from major partners, including GSDMA, and Abhiyan soon grew to include 29 organizations working in 300 villages on shelter reconstruction, dam repairs, livelihoods and community-driven rebuilding (UNDP, 2010).

Abhiyan set up 22 local earthquake rehabilitation support centres (setus) in Kutch, which functioned as village-level information and coordination units and enabled reciprocal communication between impacted populations, NGOs and local officials. The village level units were put in place not only to help coordinate information and assistance, but also to create a vehicle for local participation and locally controlled reconstruction practices focusing on social justice and transparent use of resources. The village level units were encouraged and formally endorsed by the Government of Gujarat. In terms of the ability to make mid-course corrections, nothing helped inform GSDMA leadership as much as the NGO-led community participation programmes (Abhiyans), which allow insights from affected communities and households to trickle up and to influence needed policy adaptations.
Cooperation between international and national NGOs was also extensive. The state government encouraged partnerships between international and local NGOs in order to leverage resources and better respond to disaster relief needs. Many of the international NGOs had existing relationships with Indian NGOs.

**Challenges and Successes Resulting from the Institutional Arrangements**

By all accounts, GSDMA and its legislative mandate produced a reconstruction effort that has been widely lauded for its successes. Certain Institutional Arrangements set the GSDMA effort apart, and these include the staffing policy that allowed the agency to draw staff both from government and the private sector, allowing it to ramp up hiring, secondments, establishing processes and procedures quickly and expand or contract based on needs. The model has also received praise for its flexibility, and its authority to cut through red tape and circumvent traditional bureaucratic delays and impasses. The organization was given authority over procurement, implementation and policymaking, giving it full control over reconstruction efforts and the ability to make changes to any of these elements based on the realities on the ground. Indian leadership showed the will to align mandate, scope, structure and authority with need, and not mix politics with recovery, as is unfortunately the case in many countries.

Perhaps most unexpected is the success of the GSDMA mandate which made it a permanent agency dedicated to disaster risk reduction and long-term disaster management strategies. While most EOMs are sunset when the disaster they were established to respond to ends, GSDMA took an all-hazards approach to the risks facing the State of Gujarat and set Disaster Management Plans for all of the districts in the state. GSDMA focused not only on mitigation and resilience in the face of the 2001 earthquake, but also on reducing risk to reduce future losses.

Other significant successes produced by this model were programmatic, and included the Self-Help Housing Strategy, which used owner-driven housing reconstruction practices which were supported by trained masons and seismic safety (disaster risk reduction) strategies. Another widely acclaimed component was the supporting network of NGOs that greatly augmented government efforts and enabled affected populations to have a voice in their own recovery.

“Setting up new institutions or conversion of an EOM into a permanent institution to respond to disasters, as in the case of Gujarat, is not without problems... Converting an EOM into a permanent agency for disaster risk reduction may result in taking away the importance of an EOM as a special purpose vehicle to respond to the disasters. It may not get the attention it got in the aftermath of disasters. The authority wielded by it is partly due to the urgency and immensity of the task and funds they had at their disposal.... It is doubtful whether a permanent institution can respond as effectively in the aftermath of a catastrophic disaster. While some EOMs were transformed into regular disaster response agencies filling in a gap, the very process of mainstreaming tends to strip it of its ‘special’ capabilities” (Thiruppagazh, 2010).
References:


The Government of Gujarat, as well as a large number of NGOs, including philanthropic groups, development agencies and private businesses, stepped in to provide food, medical services, clothing, blankets, utensils, basic supplies and tents. The humanitarian relief effort was centrally coordinated by the Natural Disaster Management Control Room, which works closely with the Government of Gujarat.
Trigger Event: The Indian Ocean Earthquake and Tsunami

On 26 December 2004 a massive earthquake, registering 9.0 on the Richter scale, struck the northern tip of Sumatra off the coast of Indonesia. The epicentre of the earthquake was located in the Indian Ocean, only 150 kilometres from Aceh Province and about 250 kilometres from Banda Aceh, the capital of Aceh Province. The earthquake triggered a massive tsunami, swamping the northern and western coasts of Sumatra and its outlying islands. Fourteen coastal districts of Aceh Province suffered casualties and damage, and the Province of North Sumatra (Nias) was also affected.

The worst natural disaster in Indonesia’s history, the Indian Ocean Earthquake and Tsunami resulted in 110,229 deaths in Aceh, Nias and North Sumatra. Approximately 12,000 people were reported missing, and more than 600,000 Internally Displaced Persons (IDPs) had to be accommodated in temporary shelters and camps. Due to the immense physical damage, not only were survivors still in peril but it was a nearly impossible task to deliver and distribute emergency aid. The internal community contributed to the response and recovery efforts involving 56 countries, 8,000 foreign personnel, 124 international NGOs, 430 local NGOs, 30 national or multilateral donors, and more than a dozen United Nations agencies.

Map 1
Extent of the Indian Ocean Earthquake and Tsunami

Beginning in January 2005, the Government of Indonesia (GoI) engaged in focused discussions with multi- and bilateral partners, with a view to preparing an unprecedented recovery effort. The existing disaster management arrangements in country were analysed and deemed insufficient to mount a successful recovery effort and coordinate the large number of stakeholders in the reconstruction process on the ground. Three months were spent deliberating as to the type of institutional arrangements best suited to recovery coordination. In April 2005, the GoI released its Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias, which included the organizational mandate and institutional structure of the new ministerial-level agency that would manage recovery and reconstruction operations.

The new agency was placed under the direct authority of the President. Its principal objectives were to build capacity to address the needs and priorities of local communities, assist the hundreds of local and foreign organizations to minimize gaps in reconstruction, and avoid duplication of efforts. The newly formed Agency for the Rehabilitation and Reconstruction of Aceh and Nias (BRR) sought to achieve coherence at the level of policy and programmes, channel available funds and provide oversight for implementation.

**Institutional Context Analysis - Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias:**

“In order to implement the NAD and Nias Islands-North Sumatra rehabilitation and reconstruction process in an effective and efficient manner, it is necessary to establish a rehabilitation and reconstruction agency with comprehensive, centralized, coordinated duties, authority and responsibilities to plan, implement, control and evaluate such process based on the principle of good, effective, transparent and accountable governance.” (Republic of Indonesia, 2005).

**Designating a Lead Agency for the Recovery of Aceh and Nias**

*Badan Rehabilitasi dan Rekonstruksi (BRR) – Agency for the Rehabilitation and Reconstruction of Aceh & Nias*

The Agency for the Rehabilitation and Reconstruction of Aceh and Nias (BRR) was established by the President of the Republic of Indonesia on April 16, 2005, as a new institution with a 4-year mandate (2008-2011). The BRR was given ministerial level authority to coordinate reconstruction efforts and to implement the GoI's Master Plan for Rehabilitation and Reconstruction. The regulatory framework that established the BRR gave the agency a four-year timeframe in which to begin and end its post-disaster reconstruction programme (April 2005 to April 2009). This sunset clause set the date for the BRR to cease all functions and turn responsibility for continued recovery operations over to established line ministries.

Setting an exact date when the new agency would cease to function had two distinct advantages: 1) the four-year time frame created a sense of urgency and momentum within BRR to achieve its milestones and reconstruction project goals on time, and 2) it reassured permanent line agencies that BRR was a temporary structure and would not usurp the roles of permanent line ministries or local governments in social and economic development.

The key functions of BRR were:

- To provide leadership of and direction to the rebuilding efforts of national and international assistance agencies, and to implement a reconstruction plan;
- To coordinate recovery efforts across all sectors and actors to ensure transparency, accountability and speed in the reconstruction of Aceh and Nias;
- To match donor funds with specific community needs through a process that was rigorous, sensitive to local concerns and priorities, and well-monitored;
- To determine criteria for prioritizing projects and optimizing the use of funds.
Put in place to manage one of the largest humanitarian programmes in history, the agency’s mission was to restore livelihoods and strengthen communities in Aceh and Nias by designing and overseeing a coordinated, community-driven reconstruction and development programme, implemented to the highest professional standards. For BRR, this meant ensuring that the reconstruction programme was effective, minimizing duplication, using donor funds optimally, and setting local community input and participation in reconstruction as a priority.

Appointing an Effective Recovery Leader

By late 2004, it was widely recognized that Indonesia was facing enormous challenges due to endemic corruption. President Yudhyono took decisive action to counteract fears regarding the financial management of BRR by appointing Dr Kuntoro Mangkusubroto, a former Minister for Mining and Energy, to head the agency. Widely recognized for his unassailable integrity and his capable leadership, he had executive-level experience in public and private sector entities (having restored the health of a failing, state-owned tin company) and had served as a professor at the prestigious Bandung Institute of Technology. International donors saw his appointment as an important step towards political reform, good governance, institutional accountability and other long-term development goals for the country. Dr Mangkusubroto lived up to his reputation and negotiated a level of authority and flexibility that allowed him the freedom to shape BRR as he saw fit so as to deliver a successful recovery. This included naming the Governor of Aceh Province as his second-in-command, and appointing highly qualified deputies from the affected region and the rest of the country to BRR leadership positions. Dr Mangkusubroto championed institutional innovations that would guarantee effective delivery of services, accountability and transparency – as well as engendering trust both from the impacted populations and a wide range of internal and external stakeholders.

Principle of Good Governance - Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias:

“The rehabilitation and reconstruction of Aceh and Nias Islands-North Sumatra must be based on good governance principles, namely transparency, accountability, participatory, independence and the prioritization of public interest, especially to make sure that the funding and implementation of rehabilitation and reconstruction activities are effective in accordance with the stipulated objectives and are accountable to the public. In the rehabilitation and reconstruction process, good governance principles are also applicable for all related parties.” (Republic of Indonesia, 2005).

Legal Instruments and Mandate

BRR’s legal authority was founded on emergency law, which gave it the status of a ministerial-level agency on equal footing with the line ministries. The legal mechanism used to give BRR its official mandate was Regulation No. 2/2005. On 29 April 2005, President Yudhoyono signed Presidential Regulation No. 34/2005 detailing the organizational structure and mechanisms of the Agency. These steps were soon followed by formal parliamentary endorsement. While such legal instruments formalized the powers, mandate and structure of the agency, they also gave it the legitimacy to engage with national line ministries, provincial and local governments, international donors, civil society organizations and NGOs. Its authority was augmented through continuing support from the Office of the Indonesian President, which supported the Director of BRR when disputes over recovery operations arose between BRR and various line ministries or local government entities, and when strategic directives relating to the coordination and content of non-governmental reconstruction programmes resulted in requests for donors to modify their programming.
BRR Mission:

- “Restore livelihoods and strengthen communities
- Coordinated / Community-Driven / Highest professional standards
- Facilitate and coordinate all players
- Government / Local, national and international institutions
- Coordinate and implement government projects”.

(Executing Agency for Rehabilitation and Reconstruction, 2005)

Source: 10 Management Lessons for Host Governments Coordinating Post-Disaster Reconstruction, 2009

Institutional and Organizational Structure

BRR was led by its Director, Dr Mangkusubroto, and comprised three bodies:

- Implementing Agency (referred to as BRR)
- High-Level Advisory Board
- Supervisory Board

Figure 1
BRR Executing Agency Structure
The Implementing Agency consisted of the Director, his deputies and agency staff, tasked with coordinating all reconstruction and rehabilitation efforts for Ache and Nias. Commonly referred to as BRR, the Implementing Agency’s mandate was not only the coordination of the many entities (internal and external to government) involved in executing the Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias, but also implementing recovery projects, working with partner agencies, ensuring the accountable use of funds, and preventing corruption during the recovery period.

The Implementing Agency was headquartered in Banda Aceh, with a branch office in Nias, and a representative office in Jakarta. In 2006, the agency’s structure was expanded to include six regional or field offices, which were located across the impacted area. The new regional approach to management was instituted when lessons from the first year of recovery showed that decision-making had to be undertaken at the community level if projects were to be successful. Such a decentralized structure was designed to ensure local participation, empowerment and engagement in implementation efforts, as well as to address the lack of trust in the central government that characterized Aceh Province, due to a history of conflict. With regard to the provincial government, Nias felt neglected and marginalized and was thus pleased to welcome BRR as a representative of the central government that would recognize and promote its interests. Facing difficult recovery, these regions each had their own cultures, norms and customs – factors that would greatly impact the success of recovery. Local sociocultural particularities, needs, and customs were understood as pivotal to an effective recovery and it was decided that recovery operations and projects run by BRR needed to be assigned to regional or field missions to enable more rapid adaptation to local needs and greater flexibility than centralized command and control allowed.

Map 2
BRR Regional Offices – Evolution of 2006 Regional Management Approach

The High-Level Advisory Board represented an attempt to give local stakeholders direct access to BRR planners and staff, empowering them to provide critical insights on local priorities and guidance on the design, planning and implementation of recovery operations. The Advisory Board had 17 representatives and was chaired by the GoI’s Minister of Political and Security Affairs. Representatives included members of local and regional governments, impacted communities, religious and adat councils, academia and universities, and civil society. The advisory function was meant to ensure that recovery strategies were shaped by a range of different views before being integrated into operational plans.

1 Customary local legal and conflict resolution systems for Muslim communities.
Appointed by the President, the Supervisory Board had the oversight functions and authority to monitor the implementation of rehabilitation and reconstruction efforts. Its goals were to ensure that recovery activities were carried out effectively in line with the needs of the local populations. The nine-member Board ran BRR’s grievance mechanism, which received and responded to complaints from the impacted communities. It also audited the performance of the BRR Implementing Agency and was competent to contract with external experts and professional auditors to carry out that role. Members of the Supervisory Board were selected based on prior supervisory experience and included national and local leaders, technical experts and representatives of donor organizations. The Board reported to the President on a regular basis.

Additional structural components of BRR included two oversight units: the Anti-Corruption Unit and the BRR Knowledge Centre (KNOW). These two units were established to ensure accountability, legitimacy and a flexible, learning culture that attempted to counter bureaucratic impulses in favour of innovation. The oversight units will be discussed in detail below.

**BRR staff and their capacities**

In 2005, the first year of BRR’s existence, the agency grew to approximately 370 full-time staff. Agency leadership invested heavily in hiring the most qualified personnel available, at competitive compensation levels. Salaries were benchmarked to levels in international organizations, ensuring that highly qualified staff would not be enticed away by competitors offering higher salaries. This strategy not only reduced the risk of corruption but helped to facilitate staff retention over the long-term. Competence and proven skills in the recovery sector were key criteria for employment, both for personnel from government service and from the private and NGO sectors.

The BRR also seconded employees with critical technical expertise and skill sets from line agencies, donors, international organizations and the private sector, but insisted that each such employee report to an office in BRR. This ensured that employees on loan became full members of the BRR team and would identify strongly with the BRR mission and its best interests in terms of programming, milestones and intended outcomes. The seconding of experts from all sectors quickly built the agency's knowledge base and enabled the transfer of skill sets throughout the agency through in service training. Agency reconstruction programmes and special units, such as the Anti-Corruption Unit, were designed and led by specialists from a wide range of institutions, a policy that contributed greatly to BRR’s demonstrated success. Every region with a field office also hired local staff, providing BRR with critical knowledge of local needs and conditions, and also helping to position the new agency as a neutral and trusted entity in areas where tensions existed between the local population and either the central government or the provincial government. Local knowledge was a critical factor in the agency’s ability to revise programmes and learn lessons about what worked and what needed to be further tailored to local specificities, and this in turn helped the organization meet its recovery objectives.

In 2006, as the agency initiated its regional approach to the coordination and implementation of recovery objectives, staff numbers grew to approximately 1,100. In 2007, staff levels in the agency reached a peak of 1,600. Nevertheless, the agency experienced recurring staff shortages throughout its existence because staff were called on to work under extremely difficult conditions in the field, in areas that were isolated, devastated and dangerously unstable due to recent conflict and continued tensions. Turnover among seconded government staff also led to the sudden loss of skilled team members, as line agencies recalled their staff to serve their own missions.

**Policies and Procedures**

The seven main activities in BRR’s mandate were scheduled for completion within a period of three years. The fourth year of the institution’s existence was intended to be used to wrap up operations and write reports. The figure below sets out the activities the agency was tasked with executing.
Ensuring Local Coordination and Participation

The release of the Master Plan for the Rehabilitation and Reconstruction of Aceh and Nias occurred at the same time as the creation of BRR. Before that time, BAPPENAS, the National Development Planning Agency, had been responsible for post-tsunami recovery planning and had drafted the Plan. However, both the Master Plan and a number of the early governmental recovery policies were extremely unpopular among the local impacted populations. One such policy was a ban on rebuilding within two kilometres of the coast, a measure meant to safeguard local populations from tsunami destruction in the future. However, since most villages located on or near the Indian Ocean were dependent on fishing, the decision to relocate these villages and households away from their sources of income added insult to prior injury and loss.

Within a few weeks of taking office, Dr Mangkusubroto halted implementation of the Master Plan and announced that it would no longer constitute the strategic recovery framework. His decision was instrumental to the future success of BRR, as it not only revoked an unpopular centralized planning strategy, but also positioned BRR as a neutral body, with Dr Mangkusubroto acting as a representative of the Acehnese people rather than of the central government. This was an important step. Since 1945, the relationship between Aceh and the central government had been characterized by hostility and conflict in the wake of the civil war. In contrast, the population of Nias welcomed BRR and its accompanying ties to the central government. Skilful leadership and a genuine compassion for and understanding of the plight of all those affected enabled BRR leadership and staff to demonstrate that not only were they familiar with local conditions but that they were willing to change course if need be and initiate consultation. Dr Mangkusubroto recognized local frustrations and worked to disassociate the agency from the previous failed efforts to transition from relief to early stage recovery.

Further distancing BRR policy and practice from the BAPPENAS Master Plan, Dr Mangkusubroto initiated community-centred recovery planning, which included allowing every village to map their own land, with hundreds of facilitators from BRR and other organizations assisting them through the complexities of the mapping process. While the first year of the agency’s existence was fraught with difficulty and progress remained slow, BRR was given the space to try, fail, and subsequently learn how to succeed. By aligning with the survivors and looking to the impacted communities themselves for solutions that made sense in their specific cultural spaces and contexts, BRR created a momentum that would bear fruit in the following years, despite the frustrations inherent in an evolving recovery process with equally evolving needs.
Oversight and Monitoring

The BRR Knowledge Centre (KNOW) was established for purposes of oversight and monitoring. With support from the Multi-Donor Fund and in partnership with UNDP, KNOW was designed to manage information and data on recovery. Part of its oversight function included the creation of the RAN Database, a system to collect, track, analyse and display information regarding projects and funding. Meant to enhance transparency during recovery operations, prevent corruption and chart progress in the achievement of BRR’s overall mission, the database was used by BRR, NGOs, donors, local governments and the media, as well as being accessible to the public. Accurate information and official reports on recovery progress were centralized and could be readily accessed through the database. The mechanism was also meant to shed light on coordination issues and gaps in recovery, thus enabling adjustments to be made in project performance. In particular, the aim of the database was to reduce duplication by facilitating coordination among all of the organizations engaged in recovery work in the same sectors and locations.

The Anti-Corruption Unit was the second innovative BRR unit. Critical to fostering and maintaining the trust of donors and the public, it also demonstrated that BRR was effective in terms of its ability to fight graft and the abuse of public resources. The unit was set up with external support and largely met its goals. As a result, international donors remained engaged, as they felt they could safely continue to invest in government programming. While some local corruption occurred nevertheless, any such instances were aggressively documented, pursued and punished by BRR. The agency earned a strong, well-deserved reputation for fighting corruption seriously and effectively.

Financial and Resource Management for Recovery

The BRR managed a government budget of $2.1 billion during its tenure and existence. It effectively coordinated, external resources committed by some 900 organizations. The donor community, international organizations, CSOs and NGOs assessed its use of DaLa – Damage and Loss Methodology for Needs Assessment -- as an effective, trustworthy basis for mobilizing funding.

Figure 3
Funding channels

Although initially prepared for the President, the financial reports on rehabilitation and reconstruction efforts were made available to the public. The finances of the BRR were audited by independent, external auditors and although some issues were found, serious efforts to remedy them were undertaken. Overall, BRR was deemed to be trustworthy and serious about its mandate. When BRR was terminated at the end of its four-year mandate, its functions were taken over by the National Disaster Management Agency (BNPB) as planned.

The Second Disaster: The Yogyakarta and Central Java Earthquake

Not quite 18 months after the Indian Ocean Tsunami, an earthquake measuring 6.3 on the Richter scale struck Central Java and the historic city of Yogyakarta. With its epicentre in the Indian Ocean about 33 kilometres south of Bantul district, the quake struck in the early morning hours of 27 May 2006, taking over 5,700 lives and injuring from 40,000 to 60,000 people. Hundreds of thousands of people lost their homes and livelihoods. An estimated 154,000 homes were destroyed and some 260,000 others were damaged to varying degrees.²

As compared to the tsunami that struck Aceh and Nias, the Yogyakarta earthquake damaged a greater number of houses, and repair and rebuilding were projected to cost about 15 % more. In terms of damage to the economy, 650,000 workers and 30,000 businesses were directly affected by the earthquake, with almost 90 % of the damage and losses borne by small and medium-sized enterprises. In the social sector, health and education facilities also experienced significant damage, with predominantly uninsured private sector health facilities suffering greater losses than those in the public sector.

Due to the earthquake's relatively shallow depth of 33 kilometres, surface tremors were more intense than would have been the case had an earthquake of the same magnitude occurred at a greater depth. As a result, there was major devastation, in particular in the districts of Bantul in Yogyakarta Province and Klaten in Central Java Province. The damage and losses sustained due to the event were estimated at US$3.1 billion, rendering it one of the most devastating natural disasters in the developing world.

**Institutional Arrangements for Recovery in Yogyakarta and Central Java**

This new disaster, following so closely after the tsunami, underlined the need for improved public management of recovery operations. Despite the existence of BRR, the GoI decided to take a different path as it planned for recovery from this event. The GoI did not see the ad hoc BRR structure as a viable solution to the natural disasters experienced by Indonesia, and thus instead of creating another temporary agency to lead recovery for Yogyakarta and Central Java or building out BRR and giving it permanent status, the GoI made the decision to strengthen disaster management institutions in the country and create a permanent new disaster management structure.

BAKORNAS, the National Coordinating Board for Disaster Management, had been created before the Indian Ocean Tsunami occurred in 2004. It was an ad hoc disaster management entity that would only activate when a disaster occurred, and its mandate focused solely on disaster response and recovery. Led by the army and triggered only after an event, BAKORNAS consisted of dedicated staff from the army, the Ministry for Social Affairs and the Ministry of Health. During the period between 2004 and 2009, one disaster after another occurred, and BAKORNAS was quickly seen as ineffective. Moreover, as it had been established prior to the enactment of the Hyogo Framework for Action in 2005, it did not focus on Disaster Risk Reduction, a factor which eventually led to further changes in the institutional structure of disaster management within the Indonesian government. These issues of concern converged, and within a short time, the GoI realized that a more holistic institutional model for emergency management was needed to deal with each phase of the disaster life cycle.

Institutional changes began with the passage in 2007 of the Law on Disaster Management, instituting the **National Disaster Management Agency (BNPB)**. This was followed in 2008 by a Presidential Decree that gave shape to the new agency. Over the course of 2007-2008, BNPB was conceptualized and its mandates were drafted. Although that process was completed in 2008, BNPB did not become fully functional until 2009. When BNPB came into existence, BRR, the agency that had carried out the recovery process in Aceh and Nias after the Indian Ocean Tsunami, was terminated as planned, and all remaining recovery operations under BRR were taken over by BNPB. In this way, the transfer of knowledge and responsibilities was able to take place between BRR, which had been a critically important temporary recovery solution, and its permanent replacement.

The UNDP Country Office in Indonesia had given a very high level of priority to the creation of the BNPB because BRR was scheduled to shut down in 2009. UNDP-CO led significant efforts to raise awareness regarding the need for a fund to support the establishment of BNPB, and also pushed Parliament and the National Planning Agency to move quickly on the concept proposed.

**BNPB – Creation of the National Disaster Management Agency**

The Minister-Director responsible for BNPB received a blueprint with a clearly defined institutional structure, laying out how the agency would function from its very first day. The regulations contained in the blueprint were developed by a partnership of Indonesian universities, through a process that has been criticized as non-participatory because it failed to include the major stakeholders in the Disaster Management sphere, international organizations or the various ministries from which staff would be seconded.
Lessons from the BRR experience were applied during the creation of BNPB, and its recovery unit, the Division of Rehabilitation and Reconstruction, was initially modelled on BRR. The early organizational designs continued to evolve and undergo improvement. From BRR, BNPB learned how to conduct Monitoring & Evaluation, as well as how to dialogue with internal and external stakeholders and put effective information-sharing processes in place, such that institutional learning became a cornerstone of the new entity.

Today, BNPB has over 300 permanent staff, and thus has the very real internal capacity to carry out the agency’s mission. It has four divisions, each dealing with issues specific to the emergency management life cycle and the effective delivery of disaster assistance. Its original structure was as follows:

**Figure 4**
Initial BNPB Structure

The organizational structure of the Division of Rehabilitation and Reconstruction, which was responsible for disaster recovery operations, was soon modified, as it was found that internally displaced persons (IDPs) could not be managed effectively by the Rehabilitation and Reconstruction Division. Responsibility for IDPs was therefore transferred to the Emergency Response Division. In addition, an Information Centre was established as part of Logistics. The two organigrams included here focus on Institutional Arrangements for Recovery, specifically with regard to recovery operations. The roles and responsibilities of the other divisions are outside the scope of this case study. Each subsector in the Division of Rehabilitation and Reconstruction was assigned dedicated staff.

By the time BNPB was established in 2009, the Damage and Loss Assessment model (DaLa) designed by ECLAC in the 1970s had become established procedure and was the accepted approach to analysing disaster-related needs. The DaLa method of conducting post-disaster assessments has long been criticized for its emphasis on damage to the economy and infrastructure, and thus its tendency to focus on national level issues such as economic growth while overlooking the extent of the disaster’s impact on vulnerable populations and individual households – heavily impacted communities that this type of top-down approach does not benefit.
For this reason, UNDP Country Office began to advocate for a revised needs assessment, which was adopted by BNPB in 2008. In 2009, after a year of preparatory work, the Human Recovery Needs Assessment (HRNA) was agreed to and adopted by BNPB. The HRNA process was made official policy by Ministerial Decree in 2011. The Decree established guidelines for recovery as well as the agency’s standard operating procedures (SOPs), thus laying the foundations for the professionalization of recovery operations.

Early Reform Initiatives inside BNPB

The many different government agencies and external stakeholders supporting disaster management activities in Indonesia that seconded staff to BNPB, were not at first in agreement regarding the agency’s mission, and there was a great deal of argument as to whether new Rules & Regulations for disaster recovery operations were in fact needed. In retrospect, the early failure to lay out clear recovery policies can be attributed to the university-led process that created BNPB’s structure and divisions in a non-participatory vacuum, without engaging traditional stakeholders or attempting to generate consensus around the agency’s mission, disaster management activities and the need for standard operating procedures. In 2009, after BNPB had been established and was in operation, it would take another 8 months before the Deputy Director for Rehabilitation and Reconstruction was convinced of the need for new regulations and ordered the formulation of the requested processes and procedures.
The formulation was undertaken with the active participation of all the government agencies with a role in Disaster Management, as well as IOs, NGOs, the World Bank, academic institutions, the private sector and the Eastern, Central and Western regional governments. The process took 15 months to complete, and recovery rules and regulations were not in place until 23 months after BNPB was established, considerably slowing the initial effectiveness of the Rehabilitation and Reconstruction Division. The aforementioned Ministerial Decree of 2011 completed the process and ensured that all changes and reforms became official policy. These operational procedures have now been in force for 7 years, and agency capacity has been strengthened and improved with each extreme event.

After the Rules, Regulations and SOPs were drawn up for the Rehabilitation and Reconstruction Division, efforts were undertaken to draft implementation guidelines, training modules, and after-action reviews for each PDNA. These followed the participatory process previously established and were finalized in 2013, 18 months later. With a view to adapting recovery programmes to local norms and customs, the implementation guidelines included a list of common natural hazards, a catalogue of local characteristics, culture, and context for communities across the country, and SOPs for each type of disaster. A Disaster Recovery Index, containing recovery indicators to measure progress after any event, was created through collaboration with the Centre for Statistical Evaluation, and a directive was published that required the Division to review and if necessary revise its guidelines, SOPs, and the Disaster Recovery Index (DRI) every three years. This measure was intended to foster a culture of institutional learning within the division.

**Challenges Faced by BNPB**

The informal agreements which resulted in continuity at leadership level within the agency were not replicated at the level of line agency staff. Staff turnover is very high, which inhibits the agency’s ability to build capacity and maintain specialist expertise. Staff that are seconded to BNPB by the ministries are often weaker elements, as the ministries try to retain their most qualified people internally. Thus, many untrained or unqualified staff are sent to BNPB, while higher calibre personnel are usually there for short periods only before their ministries request that they return to their “normal jobs”.

A second significant challenge is the need to build regional and provincial capacity for BNPB’s disaster recovery mission. Currently, the Provincial Disaster Management Agencies (PDMAs) and District Disaster Management Agencies (DDMAs) receive budgetary support from the Ministry of Home Affairs and not from BNPB. Moreover, as the Ministry of Home Affairs is also responsible for education, health and social services, Disaster Management is perceived as an ancillary, non-traditional role, and as a result only a very small portion of the Ministry budget is allocated to the regional and local Disaster Management agencies. Although BNPB is responsible for capacity development at the regional and local levels, it has no control over the budget allocated for that purpose and thus, it has been difficult – if not impossible – for the agency to build the necessary capacity at regional and local government levels.

**BNPB’s Effectiveness**

One of the BNPB’s significant successes has been its leadership’s commitment to remaining in their roles over the long term. Informal agreements were reached with the Director and Deputy Directors to commit to 10-year or 5-year terms in office respectively. The stability and commitment evidenced in the agency’s personnel and authority structures have enabled it to strengthen preparedness, develop effective pre- and post-disaster planning activities, and foster a learning culture.
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Abbreviations and Acronyms:

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AFDB</td>
<td>African Development Bank</td>
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<tr>
<td>CCGC</td>
<td>Coordinating Council for Disaster Management (Conselho Coordenador de Gestão de Calamidades)</td>
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<tr>
<td>CENOIE</td>
<td>National Emergency Operations Centre (Centro Nacional Operativo de Emergência)</td>
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<td>COE</td>
<td>Emergency Operations Centre (Centros Operativos Provinciais)</td>
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<tr>
<td>CTGC</td>
<td>Technical Council for Disaster Management - INGC (Conselho Técnico de Gestão de Calamidades)</td>
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<td>DARIDAS</td>
<td>Department for Arid- and Semi-Arid Zones (Direção de Desenvolvimento das Zonas Aridas e Semi-Áridas)</td>
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<td>National Reconstruction Coordination Office (Gabinete de Coordenação da Reconstrução Pós-Calamidades)</td>
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<td>Government of Mozambique</td>
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<td>GREPOC</td>
<td>Post-Cyclone Office of Reconstruction (O Gabinete de Reconstrução Pós-Ciclones)</td>
</tr>
<tr>
<td>HIA</td>
<td>Human Impact Assessment</td>
</tr>
<tr>
<td>INGC</td>
<td>National Institute for Disaster Management (Instituto Nacional de Gestão de Calamidades)</td>
</tr>
<tr>
<td>INGD</td>
<td>National Institute for Disaster Risk Reduction and Disaster Management (Instituto Nacional de Gestão de e Redução de Risco de Desastres)</td>
</tr>
<tr>
<td>MAE</td>
<td>Ministry of State Administration (Ministério da Administração)</td>
</tr>
<tr>
<td>MEF</td>
<td>Ministry of Economy and Finance</td>
</tr>
<tr>
<td>MPD</td>
<td>Ministry of Planning and Development</td>
</tr>
<tr>
<td>MPWHWR</td>
<td>Minister of Public Works, Housing and Water Resources</td>
</tr>
<tr>
<td>PIU</td>
<td>Programme Implementation Unit</td>
</tr>
<tr>
<td>PREPOC</td>
<td>Post-Cyclone Reconstruction and Recovery Programme (O Programa de Reconstrução Pós-Ciclones)</td>
</tr>
<tr>
<td>PDNA</td>
<td>Post-Disaster Needs Assessment</td>
</tr>
<tr>
<td>UNAPROC</td>
<td>National Civil Protection Unit - INGC (Unidade Nacional de Proteção Civil)</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
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</table>

Trigger Events: Cyclones Idai and Kenneth

During the night of 14 March 2019, Tropical Cyclone Idai made landfall in central Mozambique near Beira City in Sofala Province as a Category 4 cyclone, bringing exceptionally strong winds of 180 to 220 km/hour and heavy rains, unleashing more than 200 mm in 24 hours on the provinces of Sofala, Manica, Zambezia, Tete and Inhambane. Idai caused two major rivers, the Buzi and the Pungue, to burst their banks, submerging villages in flood waters over 10 metres deep and sweeping many to their deaths. The official death toll rose to over 600 with more than 1,600 individuals injured. Many victims, however, were listed as missing and never found. A total of 1.5 million people were affected, of whom 950,000 were directly impacted and in need of urgent humanitarian support in the aftermath of the storm. Idai caused widespread destruction to infrastructure and housing in its wake: 110,000 homes were destroyed, 128,529 partially destroyed and 400,000 households were displaced. The disruption of essential services, markets and livelihoods created widespread suffering, which was compounded by the destruction of the region’s crops just as the harvest was about to begin. Food insecurity, hunger and outbreaks of infectious diseases such as cholera threatened many lives in the months that followed.

Maps 1a and 1b
Cyclone Idai -- Path and Impact

Cyclone Idai was followed six weeks later by another Category 4 storm, Cyclone Kenneth, which made landfall in Cabo Delgado Province on 24 April 2019. Its eyewall passed over the town of Quiterajo, 1,000 km to the north of Idai’s path. These twin disasters marked a number of firsts for the country:

1. Kenneth was the strongest cyclone ever to make landfall on the African continent, with wind speeds of 180 to 220 km/hour and wind gusts of over 270 km/hour;
2. Kenneth impacted Cabo Delgado, the northernmost province of Mozambique, bordering on Tanzania, a region that had previously been considered as too far north for cyclone activity and an indicator of climate change;
3. Kenneth and Idai represented the first time that two cyclones of more than Category 2 in strength had ever made landfall in Mozambique in the same season.

Cyclone Kenneth was a slow-moving storm, pouring more than 570 mm (22 inches) of rain on the port town of Pemba in Cabo Delgado Province over the course of a week. Appearing at the end of the wet season, the extreme quantities of rainfall caused flash flooding and landslides, leaving 45 people dead, 94 injured and displacing a further 18,029. Although in terms of wind speeds, storm surge and overall strength, Cyclone Kenneth was more powerful than Idai, the death toll was lower because the northern provinces of Mozambique are not as densely populated as the country’s central region. Moreover, in addition to severely damaging four provinces on the mainland, Kenneth also impacted a number of islands off the country’s coast. The situation has been further aggravated due to the current guerrilla insurgency in Cabo Delgado Province, where Kenneth hit, and the dislocation caused by the storm has been augmented by the ongoing violence and large-scale displacement brought about by the conflict.


Together, Cyclones Idai and Kenneth were the deadliest and most destructive cyclones in Mozambique’s history. They demolished vast quantities of infrastructure, destroyed 277,000 homes\(^3\), exacerbated inequality and caused dramatic spikes in poverty in the affected provinces, already among the poorest in the nation. The two disasters resulted in fears of widespread hunger, as crops, boats and the equipment necessary for agricultural livelihoods were destroyed, leading to the loss of household earnings and increased levels of debt.

Map 2
Unprecedented Impacts and Acute Social Pressure

Mozambique – Risk Profile

Climate change is making itself felt in Mozambique, as the frequency and intensity of weather-related natural hazard events have been increasing every year. Floods, cyclones and epidemics are the most common disasters affecting the country, although drought impacts the greatest number of people each year\(^4\). On the Natural Disasters Economic Loss Index, Mozambique ranks second in terms of the likelihood that a country will suffer extreme economic hardship after natural hazard events\(^5\).

Massive floods have become commonplace in Mozambique, and as the number of these events increases, so does the need for an organized system to manage disaster recovery. Every event requires efforts to rebuild housing, infrastructure, education, health care and the lives of the affected population. As one of the countries most vulnerable to natural hazard events in Africa, Mozambique must cope with a great number of risks due to its geographic location, high levels of exposure,

\(^3\) https://reliefweb.int/sites/reliefweb.int/files/resources/MDRMZ01412m.pdf


\(^5\) Maplecroft, Natural Disasters Economic Loss Index, 2014.
extreme poverty, lack of public infrastructure such as electricity or sanitation, problems with water management, housing conditions and food insecurity. In 2005, the World Bank (Wiles, Selvester and Fidalgo, 2005) noted that the main barrier standing between Mozambique and the achievement of major development and poverty reduction goals was the repeated occurrence of natural hazard events and the socioeconomic impact of the HIV/AIDS epidemic.

**Figure 1**
Frequency of Hydrometeorological Events and Number of People Affected in Mozambique from 1956 to 2020

![Bar chart showing frequency of hydrometeorological events and number of people affected in Mozambique](https://public.emdat.be/)


**A Brief History of Institutional Arrangements for Disaster Risk Management in Mozambique**

In 1992, the civil war in Mozambique came to an end and the government shifted its focus to development, poverty reduction and stabilization. Large-scale disasters occurred throughout the decade and created an opportunity for the national Council of Ministers to pursue proactive disaster management strategies. The Government of Mozambique (GoM) created new institutional bodies to improve preparedness and response capabilities, while the Hyogo Framework for Action process (2005-2015) integrated Disaster Risk Reduction (DRR) into national disaster management policies.

**Legal Instruments and Mandates**

**1999 - National Policy on Disaster Management (Decree 38/1999, Council of Ministers)**

In 1999, the Council of Ministers approved the 1999 National Policy on Disaster Management, which established new government institutions intended to improve emergency management processes:

- The **National Institute for Disaster Management (INGC)** was given responsibility for coordinating preparedness, response and DRR activities and was set up as a division of the Ministry of Foreign Affairs;
- The **Coordinating Council for Disaster Management (CCGC)** was created to serve as the coordinating body for government disaster management actions. Chaired by the Prime Minister, it is a high-level, interministerial forum of approximately 15 ministers that makes policy decisions and recommends legal and institutional changes;
- The **Technical Council for Disaster Management (CTGC)** provides technical advisers from every ministry and sector,
the United Nations Humanitarian Country Team (HCT), the private sector and CSOs. It manages emergency alert and early warning systems, monitoring extreme weather, hydrological events, epidemics, and food security (GoM, 2005).


In December 2005, INGC was moved to the Ministry of State Administration so as to reduce reliance on the international community. With a new director at the helm, the number of staff grew from 134 to 380 in a matter of years, greatly increasing the capacity of INGC to respond to disasters effectively (Artur, 2013).

2006 – Master Plan for the Prevention and Mitigation of Natural Disasters

Pursuant to the Hyogo Framework of Action, the Council of Ministers approved a Master Plan for the Prevention and Mitigation of Natural Disasters (2006-2016), aligned with the Poverty Reduction Action Plan (2006-2009). It ensured that the national DRR strategy would be mainstreamed in all development initiatives.


In 2007, INGC’s mandate was expanded while the creation of new departments improved operational capabilities. The reorganization plan decentralized both institutional structures and the responsibility for disaster management, creating provincial, district and community-level bodies engaged in planning, coordination and implementation:

- **CENOE** – a National Emergency Operations Centre (CENOE) was established to coordinate disaster response operations and increase situational awareness during extreme events;
- **UNAPROC** – a National Civil Protection Unit was created to conduct search and rescue operations, execute mandated evacuations pre- and post-event and enhance INGCs rapid response capability;
- **GACOR** – a National Reconstruction Coordination Office was established to relocate and resettle flood-affected populations living in hazard-prone areas and floodplains;
- **DARIDAS** – the Department for Arid and Semi-Arid Zones was set up after the 2005 drought to increase seed stores, transition to drought-resistant crops and improve water management.

**INGC’s Mandate:** INGC is responsible for coordinating disaster risk management at the national, provincial and district levels in Mozambique. This includes the coordination of disaster response, prevention and mitigation activities, the development of solutions for mitigating drought and managing water resources in arid and semi-arid zones, and the resettlement of disaster-affected populations living in floodplains (Decree 52/2007 and Decree No. 29/2008, Council of Ministers).

**The Institutional Context for Disaster Recovery Operations prior to Cyclones Idai and Kenneth**

2014 - The Disaster Management Law

In Mozambique, recovery operations are to large extent dependent on donor funding, and it was common for international organizations to channel resources through the ministry where they had the strongest ties. Such a dynamic led to competition for funding and recovery efforts that were only executed if resources were allocated to a specific ministry. Budgets for line ministries and funding to support recovery operations often flowed through the Ministry of Economy and Finance (MEF), a procedure that de facto transfered oversight of recovery operations to MEF. Prior to the 2014 law, disaster recovery efforts had been managed and coordinated by line ministries in an ad hoc manner (Davis and Alexander, 2016) that was dependent on the availability of financial resources for recovery (Kuuyuor, Personal Communication, March 2018). Moreover, the will to act on recovery recommendations depended on the priority level accorded to recovery in each ministry as well as on the
availability of funds to help meet identified needs (GFDRR, 2014). Because data on recovery initiatives was not collected, it was difficult to determine whether projects had been implemented.

Government ministers and external experts agreed that a system needed to be established that could re-direct donors to invest in an efficient structure capable of promoting recovery (Kuyuyor, Personal Communication, March 2018). Stakeholders saw a need to reform the recovery financing and project implementation system, and to establish an institution to manage recovery processes.

The 2014 Disaster Management Law introduced a national approach to reconstruction and rebuilding for the first time, and focused on INGC.

2017 – Master Plan to Prevent and Reduce the Risk of Natural Disasters

The Master Plan to Prevent and Reduce the Risk of Natural Disasters (2017-2030) was released in 2017. The Master Plan laid out national DRR objectives and aligned them with the goals of the country’s 5-year plan, Poverty Reduction Action Plan, national development strategy and international initiatives such as the Sendai Framework, the Paris Agreement and the 2030 Sustainable Development Goals. It assessed the successes and shortcomings of the previous DRR Master Plan (2006-2016), lauding the country’s achievements in reducing disaster-related loss of life, the evolution of DRM institutions, and its enhanced capabilities in preparedness, early warning, response and DRR. It also acknowledged that decentralization was proving to be a major challenge, as it was progressing more slowly than had been hoped and competencies that were needed at provincial, district and local levels were still lacking.

Strategic Objective IV in the Master Plan defined the GoM’s goal of improving disaster recovery capacities: Strengthen the Capacity for Alertness, Response and Rapid Recovery.

In order to achieve that strategic objective, a Post-Disaster Resilient Recovery Strategy was to be designed after major disasters. The vision for a new institutional body to monitor recovery activities and restore livelihoods as well as a set of indicators were laid out in the strategy to achieve the rapid recovery goals. Importantly, the Master Plan laid the foundations for regulatory and institutional reform processes for disaster recovery that would require legal and policy instruments to support the recommended changes. It suggested that the organization and structure of disaster management institutions would need to evolve to accommodate the need for an effective recovery institution.

2017 – Creation of a Disaster Management Fund

On 18 October 2017, Decree No. 57/2017 established a Disaster Management Fund to address the uncoordinated budgeting processes for Disaster Risk Management activities that had previously been a major barrier to institutional progress. It provided for a streamlined process to collect disaster management funds in one place and allocate them to response and recovery activities. Auditing and tracking procedures to monitor the use of the funds were set out in the regulations.

2020 - Law nº 10/2020: on the Management and Reduction of Disaster Risk

The COVID-19 pandemic compelled the government to pass Law no. 10/2020 on disaster management on 24 August 2020, repealing Disaster Management Law no. 15/2014. The law established a new legal framework for disaster risk management and disaster risk reduction in the country, giving INGC responsibility for sustainable disaster recovery, building human, infrastructural and ecosystem resilience and working on adaptation to climate change.

The Government’s Response to Cyclones Idai and Kenneth

Following the widespread devastation caused by Cyclones Idai and Kenneth, the GoM and its international partners joined forces in the face of the overwhelming challenges. The GoM declared a National State of Emergency on 19 March 2019. It mobilized humanitarian aid as well as search and rescue operations that saved many lives. Evacuees were brought to temporary shelters that provided food, water and first aid. The sheer number of people affected, displaced and in need of
assistance was staggering. The response effort was not perfect, but it made clear that the GoM was committed to meeting the needs of its affected citizens.

In response to the vast destruction left behind by Cyclone Idai and based on its awareness of the scope of the reconstruction tasks that lay ahead, the GoM implemented important reforms to strengthen government disaster management capacities. This included taking legislative steps at the 10th Session of the Council of Ministers, which was held in Beira on 26 March 2019, less than two weeks after Cyclone Idai. Decisions were made to move beyond response and invest in recovery through the creation of the Post-Cyclone Reconstruction and Recovery Programme (PREPOC).

On 27 March 2019, the Minister of Economy and Finance requested assistance from the World Bank, the European Union and the United Nations to coordinate a Post-Disaster Needs Assessment (PDNA) in collaboration with GoM. On 2 April 2019, in order to support long-term recovery needs in the affected provinces, the Council of Ministers approved a formal recovery planning process that would follow the PDNA and lay out a Disaster Recovery Framework. Moreover, the planning process would both define the components of the newly created PREPOC and recommend ways of meeting the recovery challenges identified by the PDNA.

**Post-Disaster Needs Assessment for Cyclones Idai and Kenneth**

A new government institution, the Post-Cyclone Idai / Kenneth Cabinet for Reconstruction and Recovery (GREPOC), was created on 9 April 2019, shortly before the PDNA was scheduled to begin. Under the leadership of GREPOC, the PDNA was conducted from 16 April to 2 May 2019. Its work was supported by experts from central government ministries, the WB, EU and UN, donor nations, the African Development Bank (AfDB), and provincial and local government representatives. The PDNA evaluated the extent of damage and loss in a range of sectors, such as the economy, infrastructure, education and health. It included a human impact assessment (HIA) designed to understand how vulnerable individual households were faring. It also identified a set of recovery needs to be addressed in cyclone-affected areas.

The final PDNA report projected that it would cost $3.2 billion dollars to meet the recovery needs generated by the two cyclones and recommended that limited capacity in the affected areas be addressed to improve local recovery outcomes.

An International Donor’s Conference was held in Beira, Sofala Province, from 31 May 2019 to 1 June 2019, following the delivery of the final PDNA report on the impact of the two cyclones. Donor nations pledged $1.2 billion at the conference and these contributions constituted the necessary resources for critical recovery interventions in a wide range of sectors.

It is important to note that following the pledging conference, the international community could not agree on how to manage the financial resources for recovery, due to its desire for a transparent mechanism that would be accountable for the recovery funds that flowed in. Thus, two years later, a significant number of pledges have yet to be mobilized. To avoid delays in the transfer of funds to implementing parties, funding mechanisms and plans for auditing the recovery process should always receive special attention at the time new recovery institutions are designed.

**GREPOC – A New Agency for Disaster Recovery and its Mandate**

On 11 April 2019, the Post-Cyclone Idai / Kenneth Office of Reconstruction and Recovery (GREPOC) was given full legal status as a government institution by the Council of Ministers through Decree 26/2019. A temporary government institution, it was given a 5-year lifespan during which to accomplish its mandate: to oversee the planning, implementation, monitoring and evaluation of the recovery and reconstruction of cyclone-damaged provinces. GREPOC falls under the purview of the Minister of Public Works, Housing and Water Resources and is managed by an Executive Director appointed by the Council of Ministers.

6 In English, PREPOC came to be known as the Disaster Recovery Framework.
On 30 April 2019, GREPOC’s mandate was expanded to include the recovery and reconstruction of the areas affected by Kenneth, and on 22 May 2019, its scope was made legally binding through Decree No. 45/2019. GREPOC is headquartered in Beira, capital of Sofala Province, and has satellite offices in Pemba, capital of Cabo Delgado Province as well as in Maputo, the nation’s capital.

**GREPOC – Institutional Arrangements and Organizational Structure**

GREPOC’s legal structure granted it the authority, human resources and financial capital needed to lead the designing of a Disaster Recovery Framework to serve as the national recovery plan for Idai and Kenneth. The new Disaster Recovery Framework would be adopted and integrated in PREPOC, thereby setting the projects and laying out the guiding principles that PREPOC would then follow. The new institution was empowered to approve all recovery plans, and then monitor, evaluate, audit and report on the progress and results of all recovery interventions. It was not, however, given the authority to coordinate the activities of the many different central government ministries. The Council of Ministers, through the Minister of Public Works, facilitates relations with other ministries and is responsible for coordinating the work of the various government agencies in the pursuit of recovery goals. GREPOC’s lack of capacity to coordinate across the central government has become a problem for the agency over time and has hindered its effectiveness.

GREPOC also has a Board of Directors, whose role it is to help coordinate the efforts and support of non-governmental organizations. Its membership includes the Minister of Public Works, the Executive Director of GREPOC, a representative from MEF, the Heads of the EU, WB and AfDB and the United Nations Resident Coordinator. The Board of Directors makes key decisions, monitors recovery progress and ensures the achievement of recovery objectives. Another consulting body serving GREPOC is the Advisory Board, whose role it is to respond to any requests for technical assistance or expertise on specific topics from external partner organizations and stakeholders. Advisory Boards have also been established at provincial, district and local levels as part of GREPOC’s institutional structure.

**Figure 2**  
Organizational Structure of GREPOC

Source: GoM (August 16, 2019) Disaster Recovery Framework.
GREPOC, the GoM’s new recovery institution, and PREPOC, its recovery programme, are based on legislation and policies for disaster risk management that have been evolving in Mozambique since the 1980s. This important legislation is relevant to the process of recovery and reconstruction and serves to guide planning, implementation, monitoring and inter-institutional coordination:

1. Decree No. 26/2019 (11 April 2019) – Creation of GREPOC;
2. Decree No. 45/2019 (22 May 2019) Expansion of GREPOC’s mandate to Cyclone Kenneth;
3. Decree No. 27/2019 – Approval of customs and fiscal measures for humanitarian imports;
4. Law No. 10/2020 – (24 August 2020) on the Management of Disaster Risk Reduction;

Over time, the need to make strategic adjustments to the structure of GREPOC led to the addition of two Programme Implementation Units (PIUs), one dealing with projects funded by the African Development Bank and the other managing a series of projects supported by the World Bank. Restructuring enabled GREPOC to focus its attention on recovery strategies and policies, without the distraction of having to manage the implementation of a wide array of projects. The two PIUs have increased the capacity of GREPOC in terms of the high-level conceptual management of recovery tasks, while also providing skilled professionals to manage project implementation.

Source: Email correspondence with GREPOC staff from September 7, 2021.
The High-Level Inter-Institutional Recovery Coordination Structure was developed to coordinate recovery stakeholders, such as the Council of Ministers, at the highest levels of government and among different ministries and international development partner organizations, CSOs and donors. Although the Executive Director of GREPOC may attend meetings when the Coordination Structure is convened, the control of high-level, strategic decision making is held at higher levels of the national government hierarchy and is heavily bureaucratic. As a result, the process of coordinating a large number of recovery partners is slow, encumbered by its own complexity, and could be more responsive to the needs of the GREPOC staff and the public, both of which would benefit from the organization’s ability to act quickly and efficiently.

**Figure 4**
Organigram of the High-Level Inter-Institutional Recovery Coordination Structure

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**The Disaster Recovery Framework – Plan for the Affected Region**

On 16 August 2019, the GoM approved the results of the GREPOC-led Disaster Recovery Framework development process for the cyclone-affected areas, which had received technical and financial assistance from the AfDB, EU, UN and WB. Traditionally, a Disaster Recovery Framework is developed following the completion of a PDNA. It articulates the national government’s vision for the recovery process and lays out a strategy to achieve recovery goals and prioritize interventions. A detailed recovery plan that provides recommendations regarding financing, implementation, institutional arrangements, legislative requirements and monitoring recovery efforts, it establishes key planning and decision-making processes, as well as the administrative procedures needed to support recovery policies and programmes.

The plan gave GREPOC responsibility for managing recovery financing, in coordination with the Ministry of Economics and Finance. The Disaster Recovery Framework laid out the components of the recovery programme, adopted by the government as the main elements of the national Post-Cyclone Reconstruction and Recovery Programme (PREPOC). PREPOC became the mechanism that would direct recovery funding towards specific projects, determine reporting requirements and evaluate
recovery and reconstruction tasks over the course of the five years of GREPOC’s existence as a temporary government agency. Outlined in PREPOC were:

- The architecture of the recovery system -- institutional arrangements for recovery;
- The policy landscape and legislative actions necessary to support national recovery goals;
- The prioritization of recovery projects;
- How recovery projects were to be financed and mechanisms for ensuring transparency and programme auditing;
- The structures set in place to coordinate the parties contributing to the recovery process;
- Monitoring and evaluation systems to track recovery progress and their implementation.

Aligned with the PDNA and the Disaster Recovery Framework, PREPOC established shared goals and guidelines for all levels of government and for the international partners engaged in recovery efforts. **Four strategic objectives** were laid out for the recovery process:

1. Repair infrastructure and restore services in areas affected by the cyclones;
2. Strengthen the resilience of affected communities and infrastructure;
3. Restore basic services for sanitation, health, education, the environment and markets;
4. Restore livelihoods in the affected communities.

Designed to support the rapid restoration of economic capacity and repair the social fabric of impacted communities, PREPOC set clear standards for the accelerated reconstruction of social and economic infrastructure and for resilient rebuilding capable of resisting the force of future natural hazard events.

PREPOC identified three recovery phases: short, medium and long-term recovery. As stipulated in the PDNA, vulnerable groups were prioritized: internally displaced people, women, female-headed households, children, people with disabilities, the elderly and people living with HIV. A series of urgent needs was established for immediate attention:

- Ensure food security and provide the agricultural inputs necessary for the coming planting season so as to ensure a harvest in March 2020;
- Replace the existing meteorological early warning equipment and infrastructure monitoring in time for the coming rainy and cyclone season;
- Restore basic services (water, sanitation and electricity) to affected households;
- Rehabilitate public infrastructure and equipment to ensure government functioning and the ability to provide goods and services to the public.

**UNDP’s Response – The Mozambique Recovery Facility (MRF)**

In support of the nation’s goals, UNDP Mozambique entered into a formal collaboration agreement with the GoM and established the Mozambique Recovery Facility (MRF), its 5-year recovery programme. Established to support the development of GREPOC, work towards PREPOC objectives, create governance procedures and processes for recovery, and design short-, medium- and long-term recovery activities, the MRF seeks to address the root causes of vulnerability. Its overarching goal is to fast-track recovery and ensure that rebuilding prioritizes risk reduction and resilience in the form of sustainable housing, infrastructure and livelihoods. MRF has received $52 million in donor funds to support its work.

The UNDP vision is founded on three key pillars:

- **The Development Pillar** supports community recovery through inclusive livelihood restoration programmes and women’s economic empowerment, prioritizing gender equality in its recovery efforts. The MRF programme invests in income-generating activities as a form of self-help recovery programming. This includes debris removal, reconstruction of schools, public buildings and housing, rehabilitation of crops, resumption of livestock production and the creation of new water sources for people and livestock. During the programme’s first two years, 156,143 highly vulnerable households were provided with temporary employment and 31 savings groups were formed.
- **The Resilience Pillar** strengthens housing and public and community infrastructure against the damage caused by winds and flooding, using Build Back Better standards and resilient rebuilding processes that ensure that reconstructed buildings are able to withstand future disasters. 500 new homes, 3 clinics, and 8 schools have been built and a further 600 homes will be repaired as part of this effort. The construction standards ensure that stringent building codes are enforced and that cyclone-safe mitigation techniques protect structures into the future.

- **The Governance Pillar** strengthens the institutional structure of GREPOC and builds national capacity to design recovery policies and to plan, lead, coordinate and implement recovery and resilience programmes. Among the activities in this area, MRF provides funding for a) the salaries of GREPOC staff, b) an information management system and development of technical and public administrative capabilities to fulfil the agency’s mandate, and c) capacity-building in terms of GREPOC’s ability to advocate for and train external organizations on BBB and resilience standards.

**Challenges:**

The institutional arrangements that were designed to help GREPOC achieve its mission and deliver on its mandate have also been its greatest challenge. While GREPOC’s High-Level Inter-Institutional Recovery Coordination Structure consists of a Board of Directors, Advisory Board and a Technical Secretariat, real power to communicate upward in the chain of command within the GoM rests with the Minister of Public Works, Housing and Water Resources and not with the Executive Director of GREPOC. As a result, the control of high-level strategic decision-making has not devolved to GREPOC, but remains within the purview of national government officials. GREPOC does not have the requisite authority to coordinate the many levels of stakeholders to the recovery process, which, as has been discussed above, leads to slow, cumbersome and insufficiently responsive processes. The ability to respond to situations and needs in an agile, timely manner is of critical importance during recovery and while having to work on many fronts simultaneously is very difficult for public administrators everywhere in the world during the recovery phase of a disaster, it is a necessary component of disaster management.

As noted in the section of this study dedicated to the history of disaster management in Mozambique, the 2017 Master Plan to Prevent and Reduce the Risk of Natural Disasters and Law no. 10/2020 on the Management and Reduction of Disaster Risk gave INGC – now known as INGD – the responsibility for managing sustainable recovery. Yet after Cyclone Idai, plans to create a recovery institution inside INGD were not implemented. Instead, an alternative recovery institution was created, located elsewhere in the national government structure.

The Government of Mozambique approved a new Law of Disaster Risk Reduction Management (Law 10/2020 of 24 August)\(^8\) that establishes a new legal regime for Disaster Risk Reduction and management in the country. Under the Article 10\(^9\) the entity for Coordination of Disaster Risk Reduction and Management in Mozambique was created and materialized by the Presidential Decree 41/2020 of 28 December, which determines that the Coordinating Entity for Disaster Risk Reduction and Management in Mozambique is the National Institute for Disaster Risk Reduction and Management, abbreviated as INGD. In 2021, Resolution 03/2021 approved the Organic Statute of the National Institute of Disaster Risk Management (now called INGD). The INGD now reports directly to the Council of Ministers.

The experience gained by GREPOC will be very fruitful in terms of lessons learned. Among them is the importance of re-examining the role of INGD in future recovery operations and as the framework for a recovery agency or division.

Institutions such as GREPOC hold great promise for Mozambique as the country strives to meet its long-term sustainable development goals. The 5-year time frame set for GREPOC’s lifespan is too short to achieve all its goals, but if GREPOC were to become a permanent agency, reintegrated in INGD and its processes for disaster recovery assessment, strategic planning, project implementation and financing institutionalized so that its expertise were harnessed for the future, Mozambique would make great strides towards adapting to and overcoming future adverse climate events.

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\(^8\) Revoked Law 15/2014  
\(^9\) Law 10/2020
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NEW ZEALAND
New Zealand Case Study on Institutional Arrangements for Recovery

Abbreviations and Acronyms:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>CERA</td>
<td>Canterbury Earthquake Recovery Authority</td>
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<td>CERC</td>
<td>Canterbury Earthquake Recovery Commission</td>
</tr>
<tr>
<td>CDEM</td>
<td>Ministry of Civil Defence and Emergency Management</td>
</tr>
<tr>
<td>DPMC</td>
<td>Department of the Prime Minister and Cabinet</td>
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<td>EQC</td>
<td>Earthquake Commission</td>
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Trigger Event: The Canterbury Earthquake Sequence

On 4 September 2010, a 7.1 Mₚ magnitude earthquake struck near the town of Darfield, 50 kilometres west of Christchurch. The shallow earthquake (12 km) occurred at 4:35 a.m., just before dawn. The event triggered a local emergency declaration and caused significant damage and liquefaction, at an estimated cost to repair and rebuild impacted areas assessed at NZ$40 billion. No deaths resulted from the event, although about 100 injuries were reported. The low level of mortality was attributed to the time of day and strong building codes. Structural damage was nonetheless widespread, with rural towns near the epicentre and older cultural heritage buildings in Christchurch suffering heavily.

Map 1
The Canterbury Earthquake Sequence, 2010-2011


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1 Figures on the impact of the 2010 and 2011 earthquakes have been taken from the following sources: Department of the Prime Minister and Cabinet (2017); Greater Christchurch Group, Whole of Government Report: Lessons from the Canterbury Earthquake Sequence; and the Reserve Bank of New Zealand, The economic impact of the Canterbury earthquakes (2012). See reference section for full citations.

Following the 4 September 2010 earthquake, thousands of aftershocks occurred, including six over 5.0 $M_w$ in magnitude. A 6.3 $M_w$ magnitude aftershock impacted the region five months later, on 22 February 2011, and is referred to as the Christchurch earthquake. Striking at 12:51 p.m., while the city was bustling, this earthquake occurred only 10 km south-east of the city, at a shallow depth of 5 km, causing severe damage to the Central Business District (CBD), the remainder of Christchurch City and the Greater Christchurch area, and resulting in structural failures, killing 185 people and injuring another 4,000$^3$ to 7,000$^4$ residents.

In response, New Zealand’s Minister of Civil Defence declared a national state of emergency, which lasted for ten weeks. It was estimated that 167,000 housing units, representing approximately 90% of the housing stock in the Greater Christchurch area, were damaged$^5$. There were impacts on infrastructure, utilities, public facilities, schools, health clinics, hospitals, the economy and land. Liquefaction was much more pervasive than during the first event, rendering a great deal of land unfit for rebuilding purposes. Over 50% of the buildings in Christchurch Central City were severely damaged. Government estimates put the cost of economic losses and rebuilding at between NZ$20 billion and NZ$30 billion, about 10% of national GDP, with a further NZ$30 billion projected in insurance claims. In 2015, the New Zealand Treasury updated the estimates and put the cost of recovery at NZ$40 billion, 20% of GDP.$^6$

The number of people affected by both earthquakes was estimated at 460,000. The complexity of recovery from both events represented a major challenge for the government, as ongoing aftershocks continued to cause structural damage in the region and affect the public’s sense of well-being. The aftershocks also created uncertainty as to whether to rebuild in the region, and if so, where and when.

**Institutional Context for Recovery in New Zealand**

The Ministry of Civil Defence and Emergency Management (CDEM) was established in 1999 as the primary organization responsible for disaster management in New Zealand and is a business unit of the Department of the Prime Minister and Cabinet (DPMC). CDEM actively manages preparedness, response and mitigation activities in the country. Under the Civil Defence Emergency Management Act of 2002, its mandate was expanded to cover the four R’s: readiness, response, risk reduction and recovery. Officially, CDEM’s role is to manage central government recovery functions for large-scale events that exceed the capacity of local authorities. Prior to the Canterbury sequence of earthquakes, national capability assessments had suggested that recovery was the weakest of the four R’s in the CDEM mandate, and that the agency was only capable of managing recovery in small- to medium-size events. Statutory limits on the powers granted to CDEM after the declaration of a state of emergency also gave the agency too little time to properly deal with long-term recovery efforts.$^7$ Thus, despite recovery officially being part of CDEM’s mandate, the government did not ask it to exercise that role after the Canterbury earthquake sequence.$^8$

The second institution in New Zealand dealing with disaster recovery is the Earthquake Commission (EQC). Established in 1945 under the name Earthquake and War Damages Commission$^9$, EQC was renamed in the Earthquake Commission Act of 1993. The mandate of this institution is laid out in Section 5 of the Act:

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$^8$ CDEM’s capability and management of recovery operations in the country was strengthened by the Civil Defence Emergency Management Amendment Act 2016, which changed the legislative framework for recovery. Most of the Amendment Act came into force on 29 November 2016 to support recovery from the Hurunui/Kaikōura earthquake sequence. Although its focus is on recovery from small to medium events, the Amendment Act is not limited to these types of emergencies. Its provisions can be used in a large-scale emergency until specific legislation can be created to manage recovery from such an event. ([www.civildefence.govt.nz](http://www.civildefence.govt.nz))

$^9$ EQC was originally established to assist during recovery from the 1942 Wairarapa Earthquake.
1. Natural disaster insurance for residential property – contents, dwellings and some coverage of land;
2. Management of the Natural Disaster Fund (NDF), including investments and reinsurance;
3. Research and education on natural disasters and risk reduction measures.\textsuperscript{10}

Any homeowner who has a fire protection policy with a private insurance company is automatically covered by an EQC policy, as private insurers include the EQC premium in their cost of insurance and turn these funds over to the government. EQC covers up to $100,000 in damages per home, $20,000 for contents, and in some circumstances provides coverage for residential land. Private insurers may cover costs of damage over and above EQC caps, but this is policy-dependent. The result of such a national insurance scheme for natural hazards is a high level of coverage throughout the country and reduced costs to government when disasters occur.

### Legal Measures Supporting Disaster Recovery After the Canterbury Earthquakes

Governance of disaster recovery after large-scale events has resulted in the design of special legislation, policies and management strategies, when existing structures have not been able to manage the scope of recovery operations. New Zealand's central government put special mechanisms in place after both of the Canterbury earthquakes, when existing disaster management mechanisms seemed insufficient to mount a rapid and effective response to urgent needs.

Three days after the 4 September 2010 earthquake, the Prime Minister named Cabinet Minister Gerry Brownlee as \textit{Minister for Earthquake Recovery}. Brownlee was a resident of Christchurch and the Member of Parliament for the stricken region. In this new position, he was to oversee government response and recovery efforts. On 6 September 2010, the regional CDEM group for Canterbury activated its recovery structure and began planning for recovery.

On 14 September 2010, the \textit{Canterbury Earthquake Response and Recovery (CERR) Act} became law, establishing the \textit{Canterbury Earthquake Recovery Commission (CERC)}. CERC was to advise the Minister for Earthquake Recovery on the allocation of resources and funds, but it had no formal decision-making powers. It also functioned as a point of coordination between central and local governments. That role was to be facilitated by its composition, which included the mayors of each of the three impacted territorial authorities and the regional environmental council for Canterbury. The CERC was to exist for 18 months, at which point its legislative mandate would expire.

The CERC was not as effective as had first been hoped. A lack of decision-making powers and sharp tensions between the territories (two districts and the City of Christchurch) and the region (Canterbury Environment Council) led to a breakdown in their critical relationships and to a sense of inertia and frustration. At the same time, there were also tensions between the Canterbury regional CDEM group and local authorities, and confusion concerning the roles of CDEM and CERC in recovery.\textsuperscript{11}

After the much more devastating Christchurch earthquake on 22 February 2011, it was clear that neither CERC nor CDEM would have the capacity to deal with recovery from both events, which now appeared to be much more complex, expensive and lengthy. In order to resolve the question of disaster recovery governance for the 2010 and 2011 Canterbury earthquakes, manage and coordinate recovery and advise the Minister for Earthquake Recovery, the \textit{Canterbury Earthquake Recovery Authority (CERA)} was created on 29 March 2011.\textsuperscript{12} CERA was designed to reduce public uncertainty, show clear leadership in recovery, ensure timely and effective decisions, and coordinate the different levels of government with a view to expediting the recovery process.

On 12 April, 2011, the \textit{Canterbury Earthquake Recovery (CER) Act} was passed, which repealed the CERR Act and gave CERA legal status as a central government department with a budget of NZ$25.5 million for its first two years. CERA was headquartered in Christchurch, the first central government agency ever established outside Wellington, the capital of New Zealand. The CER Act gave the Minister for Earthquake Recovery and the CEO of CERA broad powers to change or revoke

\textsuperscript{10} https://www.eqc.govt.nz/about-eqc/our-role
\textsuperscript{12} CERA was created by Orders-in-Council under the State Sector Act of 1988.
statutes, laws and plans enacted by city and territorial councils, the ability to rescind elements of the Resource Management Act 1991, and the power to acquire land and demolish buildings.\textsuperscript{13} The CER Act also gave CERA a five-year lifespan as a government department\textsuperscript{14}, after which time it would be disbanded and the management of recovery activities would be passed to local authorities.

**EQ Recovery Learning – Department of the Prime Minister and Cabinet**

A useful resource on Institutional Arrangements for Recovery is the government-supported project to capture lessons from the Canterbury earthquake recovery. The EQ Recovery Learning website (www.EQrecoverylearning.org) is part of the Department of the Prime Minister and Cabinet. The project recognizes the gap in knowledge, practical tools and capacity to recover from disasters. Lessons to help future leaders and communities facing a recovery process have been summarized into brief reports and categorized under five common themes: Understanding the Recovery Context, Leadership and Governance, Resource Allocation, Communication and Community Engagement, and Conditions for Innovation.

**CERA: A New Agency for Disaster Recovery and its Mandate**

**Building a new government agency to manage recovery during a national state of emergency**

The Canterbury Earthquake Recovery Authority (CERA) was established within five weeks of the 22 February 2011 Christchurch earthquake, and represented a highly centralized approach to recovery. Its six initial staff members began prioritizing interventions and making decisions on issues of urgency that would clear the way for recovery to begin. At the same time, the first CERA employees worked diligently to create a rudimentary operational structure, decision support systems and work processes, as well as to locate office space for the projected staff of 50 that the organization was expected to incorporate.

**Part I of the CERA Mandate: Lead and Coordinate Recovery Policy and Planning**

Among the many components of CERA’s mandate, its primary task was to lead and coordinate recovery policy and planning for both local and national government partners, to advise the Minister for Canterbury Earthquake Recovery and to report to back to him on CERA’s activities. The institutional arrangements that followed the previous earthquake had proven insufficient, and a leadership vacuum was likely to produce more anxiety in the region. CERA’s foremost responsibility was to address uncertainty, create order out of chaos, and resolve urgent problems – matters of paramount concern to government officials and Members of Parliament in the wake of the new disaster.

**Part II of the CERA Mandate: Collaborate, Engage and Communicate with External Stakeholders**

The new agency was also given the task of creating an environment in which the many local stakeholders in the recovery process could engage with issues needing resolution and collaborate with CERA, which would then clearly communicate recovery priorities and tasks as they were identified. The diagram below shows the many stakeholders in the recovery process, and gives a view of how complex coordination, collaboration, engagement and communication were as CERA attempted to bring together a varied and disparate set of communities with differing interests.


\textsuperscript{14} CERA would be reviewed at the three-year point to determine whether it would remain in place for its full five-year term.
Figure 1
Canterbury Earthquake Recovery Authority

Part III of the CERA Mandate: Develop a Recovery Strategy

CERA was also directed to develop a Recovery Strategy for the Canterbury Earthquakes of 2010 and 2011, and to support the efforts of local authorities to create a recovery plan for the Christchurch Central Business District and central city areas.

Part IV of the CERA Mandate: Implementation of recovery programmes and projects

During the ten-week duration of the national state of emergency that followed the Christchurch earthquake, CDEM had extraordinary powers and managed public works, dealing with issues such as debris clearance, repairs to public infrastructure, utilities, roads and bridges, etc. These powers were transferred to CERA on 1 May 2011 when the national state of emergency expired. CERA brought its own powers to bear on the continuing emergency (the right to close roads, enter properties without permission, seize or demolish property, etc.). It began instituting programmes and processes to ensure public safety (Red Zone, cordon around part of Central City, etc.).

As recovery progressed past the emergency and early planning phases, CERA's mandate grew to include responsibility for the execution and delivery of recovery programmes and projects. This change in responsibilities accompanied the different phases of the recovery process, and as the need emerged to manage recovery projects, CERA adapted and began to exercise leadership in new areas. These implementation activities were not part of the original 2011 Canterbury Earthquake Recovery Act mandate, but rather an evolution and interpretation of that mandate.

CERA Mandate – from the Whole of Government Report: Lessons from the Canterbury Earthquake Sequence

“At the time of establishment in March 2011, key roles and functions of the Canterbury Earthquake Recovery Authority included:

- **Leadership and coordination**: coordinate and prioritize recovery efforts of local authorities and central government;
- **Collaboration, engagement, and communication**: with local authorities, [South Island Maori tribe]¹⁵, private sector, non-governmental organizations and the community;
- **Advisory**: provide advice to the Minister for Canterbury Earthquake Recovery (including on use of Ministerial powers under the Canterbury Earthquake Recovery Act 2011);
- **Delivery**: develop an overarching Recovery Strategy, support Christchurch City Council in developing a recovery plan for the central city and exercise any other powers conferred on the chief executive under the Canterbury Earthquake Recovery Act 2011.” (Greater Christchurch Group, 2017).

Staffing at CERA: Ensuring Capacity for Diverse Recovery Tasks

The recruitment of the early members of CERA’s senior leadership team was based on their exceptional performance during response efforts and their experience and managerial qualifications in different sectors. Roger Sutton, the first CEO of CERA, led the organization from June 2011 to November 2014. He was widely respected for his leadership during the effort to restore electricity to the region after earthquakes, having been the Chief Executive Officer of a regional electricity distribution company. His background in the private sector was considered very valuable by local and national officials, as was his ability to lead complex strategies and operations, make practical and courageous decisions, communicate openly and honestly across political divides and without party affiliation, and act without the delays traditionally associated with government bureaucracies. As a resident of Christchurch himself, he was also known for his strong community ties and knowledge of regional issues. The public affected found it reassuring to have a member of the community in the top leadership position. All senior leaders brought onto the team were expected to be able to deal with ambiguity and manage critical relationships with national and local government officials.

¹⁵ Te Rūnanga o Ngāi Tahu.
According to the Earthquake Recovery Learning Project directed by the Department of the Prime Minister and Cabinet, CERA’s staffing requirements were met through a variety of different modalities either on a short-term or a longer-term basis.

- Secondments from central government departments, local authorities and the private sector;
- Fixed term employment agreements for staff needed longer-term;
- Contractors to provide specialized skills, such as engineering, commercial property development, demolition, legal services, etc.;
- Consultants to provide targeted expertise on topics such as planning, zoning, land use, financial management, media advice and communications;
- Temporary staff to fill administrative gaps, work in the call-centre, and fill other shortfalls.

Over time, Human Resources management improved, and CERA established its own website for employment. The hiring of an experienced Human Resources person helped the organization to successfully carry out multiple restructuring efforts, including the need to change out people in the organization as its mandate and the skill sets necessary continued to evolve. Wages and salary structures in the agency were among the highest in government, rivalling those in the private sector, so as to be competitive and draw talent into the staff pool. The rates paid to consultants and contractors were determined according to industry standards.

The most sought-after attributes for potential CERA staff provide significant insights:

- Resilience – Live in a disaster zone, cope with personal recovery issues, deal with controversy;
- Flexibility – Cope with chaos, stress, constant change and exhaustion;
- Strong Interpersonal Skills – Foster and maintain relationships across many organizations;
- Forgive / Empathy – Expect unpleasant interactions and learn from them;
- Know When to Move On – Staffing means different skills for different phases of recovery.

Early plans for CERA envisioned it growing to a staff of about 50. As its role changed and grew, the number of staff needed to manage the large portfolio of projects increased, so that by 2014, CERA had more than 300 staff members and another 150 consultants and contractors, supporting more than 130 recovery projects and 24 comprehensive recovery programmes. CERA performance reviews pointed to the need to switch people out of positions after a period of about two years, as fresh perspectives were helpful and it was important to ensure that exhaustion and burnout did not become pervasive.

Staffing of CERA – Interview with Roger Sutton, First CEO of CERA

“You need people who will delegate. You need people who will forgive and forget, people who will go along to a public meeting, get shouted at and say, wow - that was really interesting. That guy in the third row who was spitting at us, had a couple of good points. We need to find out who he is, go and see him and talk to him some more. You need people with very strong characteristics, and some of them are very yin and yang. You need people who understand government, but who actually want to get things done and not just write long reports.” (Personal Communication and Interview, February 2018).

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CERA's Institutional and Organizational Structure

When CERA was first formed, its initial Organizational Structure (April 2011) appeared as follows:

**Figure 2**
CERA Organizational Structure, April 2011

![Organizational Structure Diagram](image)

Source: Adapted from an organization chart provided by a former CEO of CERA (2018) Personal Communication

Over time, its emergency functions were eliminated, and the important themes that emerged as recovery progressed were reflected in the responsibilities of senior leadership.

**Figure 3**
Evolution of CERA's Organizational Structure after 18 Months of Existence

![Organizational Structure Diagram](image)

Source: DPMC, CERA’s Organizational Structure (2016)
Performance Assessments of CERA and the Delivery of its Mandate

Building a new government agency to manage recovery during a national state of emergency

Reviews of CERA’s performance agree that the agency was very effective during the response and early recovery phases, dealing with cordoning off the central city, establishing red zones, purchasing and demolishing condemned property, and creating a recovery strategy for the Greater Christchurch area, among a host of other complex issues. Its start-up phase was characterized by the dual pressures of creating functional administrative mechanisms on the one hand, while on the other hand responding to the demands of residents, businesses and local governments relating to the urgent issues that arose from the earthquakes. The organization’s first years were focused on pressing external issues, which it managed successfully, while internal policies and administrative processes languished. Steps were taken at many points during the five years the organization existed to strengthen internal protocols and provide staff with more robust back office support and high-quality government management systems.

The first CEO of CERA noted that some of the organization’s early successes were the result of delegating responsibility for critical activities such as its Residential Red Zone Recovery Programme to qualified actors from the private sector. In this effort, CERA worked to make land zoning decisions in the face of extensive liquefaction and damage, and could expropriate land with an offer of compensation, as well as order the demolition of structurally unsound buildings. Land in the affected areas was categorized as:

- Green – safe to build on
- Orange – needing further assessment
- Red - not viable

The ability to outsource and delegate the resolution of these issues enabled government actors to avoid getting mired in their execution. Other significant successes include infrastructure repair and the implementation of smaller-scale projects that were completed quickly and inexpensively, such as a rugby stadium that was built in 100 days and a temporary cathedral, both of which replacing structures that had been damaged. The former CEO referred to this as the “10% rule” – projects carried out at 10% of the cost, in 10% of the time, and with 10% of the effort when compared to the grander projects that were planned for the recovery. These projects demonstrated to the public that progress was being made, and were much more successful than the high-cost anchor projects that are still awaiting completion today.

The Auditor-General’s performance report on CERA (2017), entitled Canterbury Earthquake Recovery Authority: Assessing its effectiveness and efficiency, concluded that New Zealand’s national government needed to simplify the establishment of future recovery agencies by conducting intensive pre-disaster planning to determine the basic systems needed by a government agency and then outsource those services, so that the necessary processes and protocols could be put in place quickly in the future: financial controls, performance management systems, human resource capabilities, ICT infrastructure, capacity to provide official correspondence and comply with government regulations and laws.

Part I of the CERA Mandate: Lead and Coordinate Recovery Policy and Planning

CERA’s original mandate was to lead and coordinate recovery policy and planning. The agency was judged to have been quite successful with regard to those activities.

Part II of the CERA Mandate: Collaborate, Engage and Communicate with External Stakeholders

The new agency was also given the task of creating an environment in which the many local stakeholders in the recovery process could engage with issues needing resolution and collaborate with CERA, which would then clearly communicate recovery priorities and tasks as they were identified.

This was a difficult aspect of CERA’s mandate, in part because the local landscape was fraught with tensions even before the earthquake sequence. There was a history of conflict between local government entities, such as territorial government
councils and the regional government council, which now needed to collaborate. Conflict was also built into the recovery system by the very nature of the broad powers granted to CERA, which were perceived by some local government actors as weakening their decision-making capabilities and their ability to act. Although to a large extent local governments were incapacitated by the disaster and overwhelmed by the extent of destruction, they wanted to respond, and in a landscape where local government partners were grieving over different types of loss and change, CERA learned that managing relationships and building trust required great effort, empathy and intergovernmental diplomacy.

The different assessments of CERA’s performance all acknowledge the difficulties inherent in an emotionally-laden landscape. From central government – local community dynamics to the psychosocial toll of continued aftershocks, CERA faced challenges that are typical of every recovery landscape, such as the affected communities’ decreasing patience with the slow speed of recovery. CERA’s staff accepted these challenges and performed well, albeit with some exceptions.

**Figure 4**
Diagram of the Psychosocial Phases of Recovery

![Diagram of the Psychosocial Phases of Recovery](source)

Community Participation in Recovery and Analysis of Root Causes of Disaster Conditions

Participatory approaches to disaster recovery empower local affected populations to identify challenges their communities face and as solutions are crafted, to apply local knowledge to solve recovery conundrums. CERA’s approach to recovery was technocratic and centralized, and in terms of community engagement, evaluations of the agency’s performance suggest consistent shortcomings.

There is wide consensus in disaster recovery literature that successful recovery strategies should not be informed solely by top-down problem solving on the part of technocrats, ‘experts’, or powerful elites in society. Affected populations should have a voice in decisions about the places where they live and work and where their children go to school. Sustainable recovery solutions should be inclusive and informed by the experiences and perceptions of community members. Asking community members to ‘denaturalize’ their disaster experience and examine the root causes of vulnerability – social, economic, political, and cultural systems – can open up new analyses of risk that do not focus solely on geographic factors. Different communities and groups progress through the stages of recovery based on their differing access to resources and assistance, as well as on inequality and social vulnerability. Engaging communities in analysis and recovery action is a winning strategy, but one that is difficult for centralized government agencies to implement.
Part III of the CERA Mandate: Develop a Recovery Strategy

CERA was tasked with developing a recovery strategy for the Canterbury Earthquakes of 2010 and 2011, and supporting the efforts of local authorities to create a recovery plan for the Christchurch Central Business District and central city areas. As required by its mandate, CERA drafted a recovery strategy for the Greater Christchurch region, which was completed in September 2011, nine months after the earthquake, and finalized by May 2012. This recovery strategy was developed in partnership with the Christchurch City Council, Selwyn District Council, Waimakariri District Council, Canterbury Regional Council (Environment Canterbury) and Te Rūnanga o Ngāi Tahu (Maori Tribe). Both the intergovernmental collaboration it developed and its final plan were considered very successful.20

The Christchurch Central City Recovery Plan was a recovery planning initiative put forward and supported by the Christchurch City Council. It involved an extensive public engagement strategy, called the ‘Share an Idea’ campaign, which generated 106,000 public inputs and showed real public interest in the rebirth of the city. Seven themes emerged from the public inputs and a set of proposed anchor projects was drawn up. These anchor projects formed the basis of the first draft of the Christchurch City Council's Central City Recovery Plan, released in October 2011.

The draft Christchurch Central City Recovery Plan was rejected by the Minister for Earthquake Recovery, on the grounds that the plan failed to provide specific details on implementation, might drive up the cost of real estate, and could disincentivize businesses from returning to the Central Business District.21 The Minister for Earthquake Recovery used his statutory powers to require that the City Council’s draft plan be amended, and created a new division of CERA called the Christchurch Central Development Unit to revise the plan and deliver some of its anchor projects. This decision was not well-received at the local level.

The revised version of the Central City Recovery Plan contained 16 anchor projects. It was released in June 2012, 16 months after the Christchurch earthquake, without undergoing a period of public consultation, thus further exacerbating the tensions surrounding the document. The Minister had misread local sentiment, and as a result, CERA entered into a period marked by conflict with the City Council.

In any large recovery process, there is a need to ‘walk the recovery tightrope’ as one of CERA’s performance reviews was so aptly titled. This requires building consensus with key partners and the public when making decisions regarding affected communities and their future. Because recovery plans are always the object of intense scrutiny by the public and the media, care should be taken to ensure that all stakeholders in such efforts present a united front. The criticism that surrounded the handing over of the Central City Recovery Plan to CERA did not centre on whether the plan needed amendment or not, but rather on the disillusionment that followed the move and especially the perception that local authorities and a heavily invested public did not have a voice in their own recovery. It was suggested that the loss of public trust and the willing partnership with the City Council might have been prevented had the Minister exercised his powers judiciously and built consensus around the need to revise the plan. Following this misstep, CERA invested heavily in public engagement and communication strategies, but these remained largely ineffective.

Part IV of the CERA Mandate: Begin to take on responsibility for the implementation of recovery programmes and projects

Performance evaluations have been most critical of the final years of CERA’s existence. During those years, the agency directed the bulk of its efforts towards implementing the recovery agenda, managing specific projects and rolling out large-scale recovery programmes. The change in the organization’s mandate was attributed to poorly managed scope creep, becoming ‘doers of recovery’ instead of investing efforts to build the local capacity necessary to eventually take over the recovery process. This was not seen as a positive development.

While this critique is certainly warranted, the tendencies it describes are not uncommon. Moving to begin to execute and deliver recovery projects following the conclusion of the recovery planning phase is part of the trajectory of temporary

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20 CERA’s main strategic partners in recovery efforts were the Christchurch City Council, Selwyn District Council, Waimakariri District Council, Canterbury Regional Council (Environment Canterbury), and Te Rūnanga o Ngāi Tahu (the South Island Maori Tribe).

recovery agencies in India and Indonesia also. Planning for recovery is always short-sighted and each new phase in the recovery process brings with it distinct challenges, new setbacks and surprises. However, many of the processes in recovery planning, such as designing recovery frameworks and formulating strategies and plans, consistently overlook just “who” will execute and deliver the set of projects or the assistance programme once the latter have been identified. There are lessons to be learned from such similar challenges – challenges that arise repeatedly despite differing contexts.

Disbanding CERA and Transitioning Responsibility for Recovery

CERA was disbanded on 18 April 2016 according to plan. One year prior to its ending date, it was made a departmental agency of the Department of the Prime Minister and Cabinet, in a successful bid to transition some of its activities to other public sector organizations. CERA established an office of change management to oversee the transfer of the agency’s roles and responsibilities to other government agencies and local authorities, as well as to help prepare its staff for the transition, by providing counselling, training and support in finding new employment. In March 2016, two new entities were established to take over CERA’s activities:

- **Regenerate Christchurch** is a collaborative effort of the Christchurch City Council and the central government of New Zealand. It is a jointly managed agency with an independent board that reports to both the council and the central government. Its mandate is to oversee the long-term recovery of the central city, residential red zone, New Brighton and other areas. It will function as a jointly managed agency for five years, after which time it will be handed over to the city and become a fully Council Controlled Organization (CCO).
- **The Greater Christchurch Group** is a business unit in the Department of the Prime Minister and Cabinet, and is responsible for policy, planning, legal questions and monitoring support for a range of recovery issues across the Greater Christchurch region.

Although assessing the capacities of local governments to execute emergency response and recovery operations is a common practice after catastrophic events, and in certain cases local governments may be found to have been unable to manage large-scale, multisector interventions in the disaster’s aftermath, it is clear that the long-term responsibility for recovery will eventually revert to those very local entities. Thus, building the capacity of local government to step into this role should be a priority of the central government, the private sector and all other stakeholders in the recovery process, no matter who is in the leadership role.

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22 [www.regeneratechristchurch.nz](http://www.regeneratechristchurch.nz)
References:


Key Informant Interviews

Sutton, Roger. (12 February 2018) Virtual Interview recorded using Zoom with Mr. Sutton, former CEO of the Canterbury Earthquake Recovery Authority (CERA).

McNaughton, Elizabeth (18 February 2018) Virtual Interview recorded using Zoom with Ms. McNaughton. (Director, McNaughton and Wills Company; Former Executive Director, Canterbury Earthquake Recovery Lessons Learned project in the Department of the Prime Minister and Cabinet; Former National Recovery Manager, New Zealand Red Cross; 2013 Recipient of Winston Churchill Fellowship on Disaster Recovery Leadership).

McLean, Ian (9 February 2018). Virtual Interview recorded using Zoom with Mr. McLean, former MP - Member of Parliament from 1978 to 1990, former Chair of the Earthquake Commission, lead author of the 2012 Review of the CDEM Response to the 22 February Christchurch Earthquake.
SERBIA
Trigger Event: - May 2014 Catastrophic Flooding Event

On 13 May 2014, a slow-moving, low-pressure weather system formed over the Adriatic Sea off the Balkan Peninsula. National meteorological and hydrological services in Serbia warned the public of the risk the system posed and named it Cyclone Tamara, indicating the strength of the storm and its potentially destructive force. On 14 May 2014, the system moved inland and stalled over the Balkans, unleashing violent storms, record rainfalls and widespread flooding. In one week Western and Central Serbia received the quantity of rainfall that would normally have fallen over a three-month period. Eight of the country’s rivers crested, then swelled beyond capacity and overflowed their banks, causing a Flash Flood Emergency of a magnitude not seen in 120 years. The Government of the Republic of Serbia declared a State of Emergency on Friday, 15 May 2014.

Photograph 1
Cyclone Tamara Weather System


The Kolubara and Sava river systems experienced massive flooding as dikes, dams, and levees were breached. At the same time, in mountainous areas torrential rains streamed downhill at high velocity, causing hundreds of deadly landslides as saturated and unstable soils gave way and buried homes, crushed cars, and cut off roads.

The Republic Hydrometeorological Service of Serbia (2014) reported that nine of the country’s main meteorological stations (MMS) had exceeded historical precipitation totals for the month of May 2014.

### Table 1
MMS Comparative Precipitation

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<th>MMS</th>
<th>Precipitation amount 1 - 31.5. 2014</th>
<th>The highest precipitation amount for May before 2014</th>
<th>Year of highest amount for May</th>
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<td>1987</td>
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<td>218.6</td>
<td>1938</td>
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<td>184.9</td>
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<td>177.9</td>
<td>1980</td>
</tr>
</tbody>
</table>


The areas in and around Belgrade were severely impacted. On 15 May 2018, a breach of a dam on the Kolubara River precipitated a deadly flash flood in the town of Obrenovac, affecting 90% of the population and leading to orders to evacuate all 24,000 residents of the town in the middle of the night². In Western Serbia, the town of Krupanj, situated in a valley where several small river tributaries converge, was devastated by major mudslides, landslides and torrents of water that streamed down nearby mountainsides, destroying dozens of homes and severely damaging hundreds more. Critical infrastructure was destroyed, rendering the town inaccessible and cutting off electricity.

Over the course of the next three weeks, heavy rain continued to fall in already flooded areas and landslides continued long after the rains had subsided, due to the heavily saturated soil. According to the Republic Hydrometeorological Service of Serbia (2014), the month of April had also brought record precipitation levels, leading to a heightened risk of landslides even before the May cyclone system began.

In many areas, especially along the Danube and Sava rivers, the flood waters did not immediately recede and many towns and cities found their housing stock destroyed by the standing waters, which compromised structures beyond repair. First responders, public officials, and residents came together to confront scenes of chaos, including the massive destruction of public and private critical infrastructure. Agricultural losses were widespread in the flooded areas. Whole communities were cut off. The floods and landslides caused 57 fatalities and forced 32,000 people from their homes. According to the Government of the Republic of Serbia, the consequences of the flooding and landslides were considerable:

- Floods affected 119 of the country’s 165 municipalities, with more than 30 sustaining extensive damage;
- 22% of Serbia’s population of 7.131 million people were affected by flooding;
- Electricity production decreased by 25%, due to the flooding of open-pit coal mines that supplied the Obrenovac power plant, the country’s largest (Yerevan, 2017).

Figure 1
ReliefWeb post of UNOCHA Graphic of Flood-Affected Areas in Serbia as of 22 May 2014


Photographs 2-5
Scenes of Flood Damage

On 23 May 2014, as the floodwaters finally receded, the Government of the Republic of Serbia lifted the national State of Emergency. It remained in effect, however, for 16 municipalities that were either still flooded or in danger of flooding. Clean-up operations began immediately and focused on dewatering operations, clearing waste and debris, repairing critical services and decontaminating public and private facilities. The second major area of focus was the restoration of power, telecommunications, and water and sewerage systems.

### Institutional Context for Disaster Management in Serbia and the Response to the 2014 Floods

In Serbia, the transition from a centrally-planned form of government to administrative forms associated with democratic institutions has brought with it a process of continual albeit incremental change in disaster management institutions. As part of its candidature for accession to the European Union, the transformation of governance systems in Serbia includes efforts to harmonize national legislation with European Union legal instruments, such as the EU Flood Directive, which requires flood hazard mapping and floodplain management plans. Serbia is very seriously engaged in the process of aligning its Disaster Risk Management (DRM) legislation with international treaties and compacts such as the Hyogo Framework for Action and the Sendai Framework for Disaster Risk Reduction, as well as in shifting public sector norms to service-based administrative standards (Kesetovic, Maric, and Ninkovic, 2017).

Serbia has high levels of poverty in its rural areas, and during the Balkan War experienced heavy losses and destruction. For many citizens, poverty and fear of loss led to making the decision to stay in their homes and attempt to protect their assets and livelihoods (crops, livestock, and property), rather than evacuate. Because property insurance was underdeveloped in the country, and without systems in place to compensate homeowners for their losses, many people opted to shelter in place and soon found themselves surrounded by floodwaters or threatened by landslides (Avlijaš, 2014).

Prior to the 2014 floods, the Government of the Republic of Serbia had been working towards an integrated system of disaster management (Ministry of the Interior, 2013) and had begun the process of strengthening its legal and institutional DRM frameworks. In June 2009, it disbanded the Protection and Rescue Sector of the Ministry of the Interior and the Department of Emergency Situations in the Ministry of Defence, and replaced them with the **Sector for Emergency Management (SEM)**, a unified central government agency and a department of the Ministry of the Interior. SEM was tasked with managing preparedness and response throughout the country. The first responders that supported SEM operations came from the Ministry of the Interior, the Ministry of Defence and the Ministry of the Environment. SEM has five departments: Prevention, Fire and Rescue, Risk Management, Civil Protection, and the National Training Centre.

Within the Serbian governance system, the Ministry of Agriculture and Environmental Protection is responsible for flood control measures, water resource management, flood protection, and water management in dams and reservoirs. When a major disaster occurs, the President of the Republic of Serbia can activate first responders from the Ministry of Agriculture and Environmental Protection and the Serbian army to increase SEM’s capacity to respond.

On 29 December 2009, the National Assembly of Serbia adopted the **Law on Emergency Situations** and the **Law on Fire Protection**, thus providing a legal framework to support the newly integrated system of emergency management. The Law on Emergency Situations decentralized disaster preparedness and response efforts in Serbia and made Local Self-Government Units (LSGU) responsible for civil protection and first response in emergency situations (Ministry of the Interior, 2013).

In 2011, the Government established the ministerial-level **National Emergency Management Headquarters (NEMH)** to coordinate emergency management policy at the national, regional and local levels. In compliance with the Hyogo Framework for Action (2005-2015), NEMH was tasked with integrating disaster risk reduction strategies into national and local policies, sustainable development efforts, civil protection and rescue operations. It acts as the National Platform for Disaster Risk Reduction in Serbia and is headed by representatives of the Ministry of the Interior (Republic of Serbia, 2014). As a policymaking, multi-stakeholder body, it is responsible for adopting prevention, preparedness, response, risk reduction, and recovery measures. As regards emergency management in Serbia, it is the highest-level arbiter of necessary change to the institutional system.
On 14 May 2014, in light of the threat of imminent flooding, SEM activated its Emergency Response Plan and set up an Emergency Operations Centre to monitor flooding and provide situational awareness. It provided technical expertise and command and control of the operational environment (Republic of Serbia, 2014). NEMH led coordination and management of disaster response efforts and deployed first responder teams, equipment and supplies to the flood-impacted areas. It directed municipal emergency management bodies to coordinate local humanitarian relief with local partners on the ground, in line with existing contingency plans. Due to decreased local capacity, NEMH’s directives were only partially successful. The Republic of Serbia Hydrometeorological Service (HIDMET) provided timely meteorological and hydrological forecasts, as well as accurate advance warnings concerning the potential for extreme precipitation and cresting rivers and streams. HIDMET effectively communicated the level of risk to the public and was credited with limiting the number of fatalities thanks to its advance warnings.

Figure 2
Enhancing Local Level Disaster Resilience in Serbia

On Friday, 15 May 2014, SEM declared a State of Emergency, and deployed crisis management teams of local and central government staff, fire and rescue services, police, the gendarmerie and the military to evacuate citizens, conduct search and rescue missions, and provide emergency relief. Civil society sector organizations, such as the Serbian Red Cross, Caritas and the Mountain Rescue Service, also provided support, as did the affected local communities themselves. A request was made to the international community for assistance and a robust response came from EU Civil Protection (EUCP) teams and United Nations Disaster Assessment and Coordination (UNDAC) teams, both of which integrated their personnel into SEM crisis management teams, in addition to bolstering logistics and equipment supplies, increasing air and water rescue capacity with further boats and helicopters, and providing pumps to drain standing water as well as water treatment and filtering systems.
to prevent waterborne disease outbreaks. Fourteen countries provided 22 response teams and an even greater number of partners joined the effort to deliver relief supplies to the internally displaced, many of whom were being housed in shelters or by friends and neighbours. A total of 32,000 people had been evacuated by the end of the emergency.

The 2014 catastrophic flooding event overwhelmed the capacity of Serbia’s Sector for Emergency Management. In many impacted areas, LSGUs were themselves crippled by the event and were thus unable to respond. National and local government responders did not have the capacity necessary to respond to an event of this magnitude. The emergency relief efforts demonstrated shortcomings in Serbia’s DRM system, and it became clear that the Republic had to build greater government capacity to cope with future large-scale disaster events (Republic of Serbia, 2014; Kesetovic, Maric and Ninkovic, 2017).

**A New Temporary Agency for Disaster Recovery**

The country’s preparedness and response organizations (SEM, NEMH) had been unable to adequately address the consequences of the extreme weather events of May 2014.

The Government of the Republic of Serbia quickly determined that SEM and other government ministries lacked the capacity to coordinate and execute a massive recovery process (Republic of Serbia, 2014). It therefore concluded that a new government agency was needed so as to manage a transparent and effective recovery, as well as to ensure accountability both to the affected public and to donors. The Government took prompt action to ensure the capacity necessary for recovery. On 22 May 2014, eight days after the cyclone, the Government Office of Reconstruction and Flood Relief (FAAARO) was established by executive decree as a temporary agency. FAAARO was given responsibility for coordinating disaster assistance and managing donor funds, as well as overseeing and monitoring flood recovery and reconstruction. According to the World Bank Disaster Risk Finance Country Note on Serbia (2016), “two and a half months after being founded, the office became completely operational and began coordinating and implementing 17 sector National Recovery Programmes passed by the government.” One of the agency’s first tasks was to design multiple sector-specific Recovery Programmes. The Recovery Programmes included detailed information on the damage in each sector, the recovery measures proposed and their cost, and procedures for collaborative programme implementation with Local Self-Government Units (Republic of Serbia, 2017).

**Post-Disaster Needs Assessment (PDNA)**

On 3 June 2014, the Government of the Republic of Serbia submitted an official request for assistance in conducting a Post-Disaster Needs Assessment (PDNA) in partnership with the European Union (EU), United Nations Development Programme (UNDP), and the World Bank Group Global Facility for Disaster Reduction and Recovery (GFDRR). The PDNA process began on 9 June 2014. Its geographical scope was defined as the 24 municipalities that had been the most severely affected. Officially titled the Recovery Needs Assessment (RNA), the assessment lasted for five weeks and was completed on 10 July 2014. The external partners provided funding and technical expertise for the joint effort, which provided a snapshot of the impact of the floods across the 24 municipalities covered (Republic of Serbia, 2014).

In Serbia, the PDNA/RNA assessed the cyclone’s effect on the economy and infrastructure, as well as on social and cross-cutting sectors. For example, in its assessment of damage to housing, it determined that in the 24 municipalities covered:

- 439 homes were fully destroyed by flooding and/or landslides;
- 586 homes incurred partial structural damage due to flooding and/or landslides;
- 14,840 homes were temporarily flooded;
- 320 apartment complexes suffered partial structural damage or had been flooded temporarily (Republic of Serbia, 2014).

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3 The direct translation of the Serbian name for this agency is the Flood-Affected Areas Assistance and Rehabilitation Office (FAAARO). In some documents, it is referred to by this name.
In the PDNA/RNA report, the total projected damage and loss caused by the floods was estimated to amount to €1.53 billion, representing 4.8% of Serbia’s GDP. Recovery and reconstruction were projected to cost €1.35 billion. The PDBA/RNA also forecast a 7% increase in the number of Serbians living in poverty (125,000 households).

On 16 July 2014, the Government of the Republic of Serbia presented its final RNA report at an International Donor Conference in Brussels hosted by the European Commission to seek pledges of financial support for recovery. Donor delegations from more than 60 countries, 23 international organizations, civil society organizations and the private sector attended. As a result, Serbia received pledges amounting to €995.2 million. The remaining €354.8 million fell to the Government of the Republic of Serbia to finance (Republic of Serbia, 2014).

Legal Instruments for Recovery and a Permanent Agency for Disaster Recovery

In the aftermath of the May 2014 flood event and as recovery planning commenced, the Government of the Republic of Serbia aggressively pursued the further development of its institutional infrastructure for disaster risk management, focusing on preparedness (risk assessment, education), response (enhanced capabilities and training), prevention, DRR (structural and non-structural mitigation measures) and recovery (institutional capacity to manage reconstruction and rebuilding).

Immediately following the Brussels International Donor Conference hosted by the European Commission, the Serbian National Assembly adopted the Special Law on the Recovery of Flood-Affected Areas (Lex Specialis) to address the consequences of the floods. The Lex Specialis was passed on 22 July 2014, formalizing the creation of FAAARO as the lead recovery agency to coordinate recovery, and according it a one-year lifespan. Under the terms of the Lex Specialis, FAAARO had the legal authority to receive, disburse and manage recovery funds, with a principal focus on providing support for housing, agriculture, and small business recovery. The law also laid out the specific types of assistance that would be provided to individual households and small businesses for damage incurred due to flooding and set both the eligibility criteria for assistance and the amounts that would be provided. It simplified government procurement procedures to accelerate the recovery process, enabling the passage of contracts for critical services but with a focus on providing them at the local level. The Lex Specialis also empowered LSGUs to begin assessing damage and calculating the recovery support they would need in order to rebuild. During the one-year period the law was to be in force, it was to apply to all the cities and municipalities that had been damaged by the May 2014 floods. Under the provisions of Lex Specialis, FAAARO was to be disbanded in July 2015, one year after going into effect. The agency enjoyed the support of all political parties and factions, which helped it function effectively in a highly politicized post-disaster landscape.

Public Investment Management Office (PIMO) Mandate:

- Data collection, processing and verification;
- Drafting National Recovery Programmes by sector (including detailed information on damages, proposed rehabilitation measures and cost estimates for recovery);
- Fundraising (PIMO became the key focal point for donors and lenders);
- Coordination of disaster assistance and aid disbursement;
- Supervision of implementation (including public procurement);
- Approval of payments to individuals, contractors, etc.;
- Ensuring transparency through reporting to the central government, general public, and donors.

(Permanent Law on Reconstruction following Natural and other Hazards, 2015)

In July 2015, the Government of the Republic of Serbia determined that more time was needed to complete the recovery process and extended the Lex Specialis until December 2015, as by that date the primary recovery effort was supposed to be complete. When the December 2015 expiry date arrived, the National Assembly of Serbia passed the Permanent Law on Reconstruction following Natural and other Hazards, but instead of abolishing FAAARO, the agency was renamed the
**Public Investment Management Office (PIMO)** and became a permanent government agency. In this way, a permanent legal framework for disaster recovery was created in Serbia. The Permanent Law expanded the mandate and responsibility of PIMO, making resilience and prevention an essential part of the government's DRM institutional infrastructure (Signer, Bogaerts and Bijelic, 2016).

The Permanent Law resulted in the adoption of the **National Programme for Disaster Risk Reduction (NPDRR)**, an umbrella framework to mainstream disaster risk management in all government policies and practices, with the goal of achieving full alignment with the four priorities set out in the Sendai Framework for Disaster Risk Reduction (2015-2030). The Republic of Serbia aims to be one of the first countries to fully align its legal and institutional framework with the Sendai Framework (Yerevan, 2017).

The goals of NDRMP were to provide training support for municipal officials in order to strengthen their emergency response capabilities, improve emergency communications with local citizens, reduce the amount of time needed to complete local post-disaster needs assessment, and accelerate delivery of disaster relief and recovery assistance to impacted populations. The programme was endorsed by the Republic of Serbia’s major international partners and received financial and technical support from the European Union, the World Bank, UNDP and Switzerland to assist in achieving the programme’s goals. The 2015 Permanent Law also provided for the drafting of an **Action Plan**, designed to guide the implementation of NPDRR. The Action Plan was adopted in 2017 and covers the first three years of programme implementation (2017-2020).

The NDRMP organizational structure focuses particularly on institution-building in areas where systemic deficiencies were identified, with the goal of increasing institutional capacity, building technical expertise and strengthening coordination capabilities. The figure below illustrates its focus on specific areas of institution-building:

**Figure 3**
Components of the National Disaster Risk Management Programme

![Diagram of National Disaster Risk Management Programme](image)

Source: FAAARO, 2015. Serbian National Disaster Risk Management Programme Concept Note
1. Risk identification: assess risk and improve hazard monitoring and forecasting;
2. Structural and non-structural risk reduction: increase flood protection and structural mitigation measures; improve land-use planning and building codes;
3. Preparedness, response, and early-warning systems: strengthen EWS, emergency response capacities and public education on disaster risks;
4. Strategies to finance risk: develop strategies to budget for and finance disaster response and recovery, promote widespread insurance coverage against hazard-related risk;

The Law on Disaster Risk Reduction and Emergency Management was adopted in 2018. The law provides a legal framework for mainstreaming disaster risk management policies throughout the Republic’s governance system. One of the changes it proposes is the institution of a disaster prevention strategy based on a robust system of risk assessment, which identifies immediate or imminent risks and creates Risk Reduction Plans based on that assessment. The law creates a Risk Registry in the form of an electronic database where data related to prevention, risk reduction and response is centralized and made publicly available for use in future events. The Risk Registry also facilitates the development of Rescue and Protection Plans to serve as guidelines to orient disaster response during emergencies.

Building the Capacity and Capability of the Public Investment Management Office (PIMO)

The Government of the Republic of Serbia analysed the national institutional landscape for disaster management after the 2014 floods and came to the conclusion that no single, pre-existing institution or organizational entity had the capacity to respond in a coordinated way to the country’s overwhelming level of need. Most LSGUs also lacked capacity in terms of staff, technical expertise, and budgets to finance more robust local emergency management and disaster risk reduction systems. For this reason, FAAARO and later PIMO were established to provide the critical operational capacity necessary to manage and coordinate the recovery process, and to support local authorities.

Selecting the Leadership of the Public Investment Management Office (PIMO)

When making the decision to create the Government Office for Reconstruction and Flood Relief, the Serbian Prime Minister, Aleksandar Vucic, stated that the organization’s leadership should come from the NGO sector and be completely apolitical, in order to ensure public trust in the recovery process. The express decision not to appoint a political figure to head the office was based on the desire to ensure transparency in the use of recovery funds, effective oversight of spending and financial accountability – all of which were central to the recovery process (Kurir Online Newspaper, 28 May 2014). The Director would manage state funds for aid and assistance, as well as donor funds for reconstruction, and would ensure rapid recovery based on clear policies that were widely understood by affected populations.

Other criteria in the selection of capable leadership were an understanding of the government processes and institutions that would have to be integrated into PIMO, as well as experience in liaising with Local Self Government Units. As FAAARO would be working to promote a decentralized recovery strategy, leadership with the proven capacity to execute the strategy had to be brought into the agency quickly. Leaders who already had critical relationships with key stakeholders at the local level and with other line ministries, as well as expertise in government systems, protocols and processes, would be invaluable to the organization.

**Director of FAAARO / PIMO** - Marko Blagojević, the Director of FAAARO / PIMO, was chosen by the Prime Minister to serve as Director of FAAARO. He remained in this role as the agency made the transition to PIMO. A founding member and former Executive Director of the Centre for Free Elections and Democracy (CeSID), Mr Blagojević graduated from the Faculty of Law...
in Belgrade⁴. Widely respected for his integrity, Mr Blagojević immediately brought credibility to FAAARO’s management of public funds and ensured that appropriate financial controls would be used to track public spending.

**Deputy Director of FAAARO** – Sandra Nedeljkovic, the Deputy Director of PIMO, was drawn from the public sector to serve in her current role. Ms Nedeljkovic was a Senior Adviser to the Ministry of Local Self Government and Public Administration at the time of the May 2014 floods.

PIMO was designed to work in functional units:

**Figure 4**
Organizational Structure of the Public Investment Management Office (PIMO)

Source: Adapted from an interview with Violeta Sretenovic regarding PIMO, 3 May 2018.

### Staffing PIMO and Building Its Capacity to Implement Recovery

PIMO maintained a small staff in relation to the size of its task, growing from the original 4-5 employees to a staff of 45, comprising 10 permanent, full-time employees and 30-35 consultants. At the time of the 2014 floods, the Serbian government had passed official austerity measures which prevented the hiring of new government staff at national and local levels. This limited the new agency’s ability to add permanent staff positions. That measure is still in effect, forcing the agency to rely heavily on consultants to extend the workforce (Violeta Sretenovic, 3 May 2018, personal communication).

During the first two and a half years of the agency’s existence, the costs of FAAARO / PIMO operations were covered by European Union funding administered by the United Nations Office for Project Services (UNOPS), and included business travel, office supplies and communications equipment, IT services, external marketing materials for the agency, website design and maintenance, and salaries for 36 staff members (Republic of Serbia, 2017).

Immediately after the agency was created, some assistance in terms of expertise was provided by central government line ministries, but the workforce for recovery was primarily based on consultants with temporary contracts. Staff from other ministries, international organizations and NGOs were never seconded to PIMO, so there was no reliance on this form of short-term assistance. The organization hired staff and consultants from both the public and private sectors, but salary levels were not set at rates that were competitive with salaries in the private sector and international organizations. The agency’s scarce resources were a determining factor.

The small size of the organization meant that PIMO had only limited capabilities, and decided to focus on the coordination, oversight and monitoring of recovery processes. LSGUs and other government ministries were thus empowered to implement recovery policies, while PIMO itself was tasked with setting clear implementation standards and ensuring that they were met.

⁴ CeSID is an apolitical, non-governmental, not-for-profit organization founded to improve the electoral process in Serbia through oversight, monitoring the media, observing voting, and counting votes in parallel with government to prevent election fraud.
Principles of the PIMO Recovery Effort: Responsiveness, Transparency and Accountability

Through its decentralized approach to recovery – not taking over implementation, but rather providing technical expertise to municipalities working to assess, design, and implement recovery projects – PIMO supported and significantly strengthened the existing capabilities within the local government sector. In its recovery work, the agency acted according to the following principles:

1. Responsiveness with regard to affected populations and their needs;
2. Transparency surrounding the disaster assistance provided to local municipalities, recovery projects, and individual households;
3. Accountability to the public, government and donors.

All PIMO investments in publicly-funded recovery projects were made public, enabling citizens and local governments to conduct their own due diligence to ensure assistance was reaching the right households and supporting appropriate projects. Full transparency led to public reporting of the fraudulent use of resources, and these were prosecuted by PIMO quickly and efficiently, thus fostering a high level of public trust.

The accuracy and effectiveness of the delivery of post-disaster assistance during recovery was achieved through specific mechanisms instituted by PIMO to monitor the process:

1. Specific criteria were set for the assessment and allocation of disaster assistance for housing, small business, and agricultural livelihoods;
2. All project awards and aid disbursements were made public on notice boards in municipality and city administration buildings;
3. All projects, beneficiaries, and award amounts were published on the PIMO website;
4. All contracts and procurement tenders were published on the PIMO website;
5. Completed projects were published on the PIMO website;
6. Each completed project was monitored and inspected by PIMO to verify satisfactory outcomes and the correct use of awarded funds;
7. Any fraudulent use of funds, fraudulent claim or corruption was aggressively prosecuted (PIMO, 2017).

Decentralized Implementation of Recovery Programmes

Due to the level of decentralization in Serbia, PIMO needed to build strong partnerships with key central and local government stakeholders. In order to connect with the many LSGUs that had been impacted, PIMO began cooperation with the **Standing Conference of Towns and Municipalities of Serbia (SCTM)**. SCTM is a national association of local authorities which was formed to facilitate intergovernmental coordination and to represent the interests of LSGUs in dealings with the central government. The mission statement of SCTM is to “develop local self-government, advocate for the interests of local authorities, strengthen their capacity to provide services to citizens, and [ensure] their mutual cooperation”. SCTM became a critical partner in the recovery process, as well as an accepted conduit for communications and coordination to and from PIMO and other central government entities as recovery plans and categories of government assistance were established (Violeta Sretenovic, 3 May 2018, personal communication).

The **Lex Specialis** had given PIMO 18 months to bring about full recovery, but by delegating responsibility for implementation to the local level and focusing instead on its role in the disbursement of disaster assistance, coordination and oversight, the recovery goals PIMO had set for the housing, agriculture and livelihood sectors were all met within the allotted period.

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5 The publication of lists of individual citizens that received assistance raised issues of privacy. While the names of individuals receiving assistance and the amounts were provided, street addresses were not. Some concerns over this approach remain. On the other hand, citizens and local authorities referred to the lists and a number of instances of fraud were reported.

The achievement of ambitious recovery outcomes within a short time frame was based on a strategy of decentralized control which put municipal governments in charge of assessing flood impacts, planning recovery, project implementation and the supervision of construction work\(^7\). The 2014 May Floods had affected 119 municipalities, and it was decided that disaster assistance would focus on the 40 most severely impacted cities, towns and villages. 

Local Self-Government Units conducted damage assessments using the National Methodology for Damage Assessment, a tool defined in Serbia in 1987. The National Methodology for Damage Assessment defined the categories of damage that were to be identified, and there was a manual on the process available to municipalities, which they used to guide their work\(^8\). PIMO, in turn, defined and designed effective procedures and assistance packages appropriate to each category. 

LSGUs carried out the tasks assigned to them, adhering to the criteria for categorizing levels of damage and defining the type and amount of assistance to be granted to homeowners, renters, farmers, pastoralists and small businesses. PIMO accepted the local authorities’ damage assessments without question and disbursed the funds they had determined. State assistance for housing was provided to 21,007 households. After the assistance reached the households, PIMO conducted oversight in the form of a comprehensive post-disbursement verification of receipt of funds. Over the course of 12 months, five two-member PIMO oversight teams visited all of the 21,007 households to confirm that they had indeed received their funds and that the damage assessments had been accurate. This process resulted in fewer than 2,000 identified cases of fraud, representing less than 10% of the total number of grants (Violeta Sretenovic, 3 May 2018, personal communication). 

FAAARO/PIMO also established criteria and procedures for selecting projects to repair or replace damaged municipal facilities and infrastructure. The LSGUs, however, were responsible for finding appropriate contractors, supervising rehabilitation work, distributing aid and dealing directly with the impacted populations. PIMO and central government line ministries were in charge of providing direct payments to contractors in tranches, supplying technical assistance and expertise and ensuring the inspection and verification of the work done (Republic of Serbia, 2017). The projects were managed so well that, on average, they were delivered at about 20% below projected costs, thereby enabling the excess funds to be used to finance additional projects (Violeta Sretenovic, 3 May 2018, personal communication).

**Successes based on PIMO Recovery Policies**

**Local Capacity**

The solidarity and social support that emerged in affected cities, municipalities, and LSGUs throughout the country enabled the successful completion of long-term recovery without funding for additional staff, and thus is one of the most significant and noteworthy aspects of disaster recovery in Serbia after the 2014 floods. 

The austerity measures that were put in place by the Government of the Republic of Serbia affected the ability of LSGUs to hire additional personnel, and budgets at the local level were already severely limited. Decentralization meant that local authorities were responsible for:

- Post-disaster damage assessment;
- Identification and selection of projects to repair or rebuild public facilities and infrastructure;
- Tenders and selection of contractors;

\(^7\) According to Serbia’s legal framework for DRM, specifically the Law on Emergency Situations, LSGUs are responsible for preparedness and response activities. The Lex Specialis extended their purview to the management of recovery and reconstruction efforts in their jurisdictions.

\(^8\) The use of the 1987 National Methodology for Damage Assessment revealed a number of flaws in the methodology itself. It did not, for example, result in a consistent set of steps or a consistent approach to evidence to support funding requests. There is now an attempt underway to modernize the post-disaster damage assessment process in Serbia. A project, funded by GFDRR, is underway to introduce the Post-Disaster Needs Assessment (PDNA) methodology in Serbia. A series of trainings have been held, and more are scheduled so that local authorities too can become familiar with the approach. The PDNA methodology is included in the Law on Disaster Risk Reduction and Emergency Management, which was adopted in 2018 (Official gazette of the Republic of Serbia, No. 87/2018).
Supervision of construction work for all recovery projects in the jurisdiction;
Determining monetary compensation for households, farmers and businesses;
Distribution of financial assistance packages to awardees.

No funding budgets for recovery tasks were provided by the central government or donors. Instead, in the aftermath of the tragedy, volunteers from across the country stepped forward to join others in the affected townships and regions to carry out whatever tasks they could. Large private sector firms provided experts. The National Chamber of Engineers undertook the damage assessment in understaffed municipalities. Regular citizens from far and wide volunteered to assist local authorities with recovery. In one case, Obrenovac, one of the 17 municipalities in the City of Belgrade, which experienced some of the worst flash flooding and fatalities of the entire event, was loaned recovery personnel by the other 16 Belgrade municipalities who conducted their work until their recovery tasks were finished. PIMO and central government ministries provided much needed technical expertise and guidance to local governments. The National Geological Institute of Serbia, part of the Ministry of Mines and Energy, conducted surveys of landslide damage (Violeta Sretenovic, May 3, 2018, Personal Communication).

**Housing Assistance Programme**

While resources for housing assistance were scarce and insufficient to enable residents to fully finance all needed repairs or rebuild destroyed housing, the few resources available were allocated according to an established system. Assistance was provided to every household that met state-established eligibility criteria. Assistance was not predicated on poverty level or household socioeconomic vulnerability, but instead was distributed based on the amount of damage a structure had suffered. Beneficiaries were allowed to spend the assistance they received as they saw fit, and specific requirements for the use of state assistance were not set. In some cases, NGOs and other entities granted additional assistance, which some families were able to combine with government funding to help compete their recovery.

Between 4 August 2014 and 11 May 2017, recovery efforts led by PIMO in the different sectors\(^9\) resulted in the following outcomes:

- Financial assistance from the Government of the Republic of Serbia for damages to housing was provided to 21,007 households, with an average payment of €2,000:
  - Renters and subtenants (six categories of damage);
  - Homeowners (five categories of damage);
- 494 individual households whose homes had been destroyed in the floods received:
  - Newly built homes in 276 cases;
  - Financial assistance in 218 cases;
- 66 homes were built for landslide victims;
- 134 public buildings were rebuilt or restored;
- 34,415 farming households were provided with financial assistance, seeds, fuel and fertilizer;
- 2,012 small- to medium-sized businesses received nearly €5 million in assistance, based on their size and number of employees (Republic of Serbia, 2017).

In addition to the governmental assistance provided to affected households for housing reconstruction and repairs, which was insufficient in many instances, many donors, NGOs, and CSOs came together to provide additional financial assistance or building materials, and/or donated labour to struggling flood survivors.

- Over 15,000 households received additional assistance for home repair or rebuilding;
- Over 15,000 households receiving state aid were granted a further €210 by the Serbian Red Cross;
- A donation from the European Union specifically earmarked for restoring housing for vulnerable populations enabled a further 1,000 homes to be repaired or rebuilt throughout the affected areas (Republic of Serbia, 2017).

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\(^9\) This is only a small sample of the total assistance provided for recovery efforts under PIMO management. For more detailed information, please see the PIMO Recovery in Numbers infographic, which gives an overview of assistance in other sectors.
This is just one of several examples of well-designed programmes that were coordinated by PIMO, but implemented by local authorities, who were responsible for identifying damage, requesting assistance for homeowners within their jurisdiction and distributing aid. When rebuilding projects were undertaken, the local municipalities contracted with construction companies and supervised the work being done. Similar processes were instituted across a wide array of recovery programmes in areas such as water management, financial assistance to renters, power and energy, telecommunications, agriculture, traffic and transportation, education and the economy.
Disaster Risk Management legislation and policies in Serbia give LSGU authority over and responsibility for all phases of the disaster recovery cycle: preparedness, response, mitigation and recovery. Unfortunately, many of these tasks remain aspirational, as local authorities do not have the budgets, technical expertise, or staff capacity to fulfil their mandates. Hazard mapping, watershed studies and the preparation of emergency response plans exceed the level of capability available in many jurisdictions. Thus, although the legal and policy framework in Serbia is constantly being improved, the capacity to implement newly stipulated mandates has yet to be developed. The National Disaster Risk Management Programme was established to address some of the shortcomings, and if the decisiveness and intentionality that has gone into building the county’s DRM legislation is also invested in developing local capacity and providing the financing, capabilities will catch up with intentions in the near future.

During the recovery work that followed the May 2014 flood event, the activities that were assigned to local authorities exceeded their abilities in many instances. Many LSGUs demonstrated a lack of technical expertise and capacity in the areas of assessment, hazard mitigation measures, recovery planning (land-use planning, zoning, building codes, hazard mapping, and watershed studies) and oversight of project implementation.

The donor community has shown great faith in the ability of Serbia’s emergency management sector to reach the goals that have been set, and investments from these external entities in institution-building continue to support progress in the sector. Training is another area where strengthening capacities for disaster recovery and reconstruction can improve the performance of local authorities. Government efforts would benefit greatly from a focus on activities such as interministerial and intergovernmental collaboration, and the development of partnerships with research institutions.
References:


Key Informant Interviews
