

Helpdesk Research Report

Mainstreaming disaster risk management

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Question

What are the experiences in low and middle-income countries, particularly in Asia, for mainstreaming disaster risk management in national government planning and budgeting processes? What are the mechanisms, which key ministries/sectors are involved and how? What has been learned?

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1. Overview

The mainstreaming of Disaster Risk Management (DRM) has been recommended to mitigate the effect of natural hazards and disasters on the development of countries. This applies particularly to low and middle-income countries that are particularly vulnerable to this type of events and tend to divert their limited development resources to deal with disaster events.

While significant attention has been given to the concept of DRM and global awareness has improved, the mainstreaming of DRM is still difficult to implement. This research report draws on empirical case studies to provide insights into the experience of low and middle-income countries in Asia. Most case studies are based on reviews and assessments done by international organisations such as the United Nations International Strategy for Disaster Reduction (UNISDR), the United Nations Development Programme (UNDP) and the Food and Agriculture Organisation (FAO). The literature considered in this review is largely gender-blind.

The case studies show **positive developments** in the process of DRM mainstreaming such as:

- The designation or creation of a high-level agency/department/ministry that can lead DRM mainstreaming.
- Mechanisms such as working groups or committees to coordinate all the stakeholders.

- The formulation of DRM strategies across sectors.
- The incorporation of core DRM concerns in development and/or infrastructure projects.
- The de-compartmentalisation, or at least coordination, of DRM, Climate Change Adaptation (CCA)¹ and development policies to improve risk-informed planning and secure financing for mainstreaming.
- The attempt to have funding dedicated to DRM.
- The attempt to take local communities needs and own evaluation into account in DRM mainstreaming.
- Vertical coherence and partnership between higher and lower levels of government.

Common challenges include: a lack of funding and capacities to formulate and implement DRM mainstreaming; and a lack of data and risk assessment which are key to decision-making.

2. Mainstreaming disaster risk management

DRM is defined by UNISDR as ‘The systematic process of using administrative directives, organisations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.’² Often, this term is used interchangeably in the literature with Disaster Risk Reduction (DRR). However, while DRR applies to the concept and practice of risk reduction, DRM concerns more the operational aspect of DRR. Hence, in UNISDR terminology, DRR refers to the ‘concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.’³

Disasters have a major impact on development, particularly affecting agriculture, housing health, education and infrastructure (Rego & Roy 2007). Climate-related disasters are becoming more frequent and negatively impact development progress across the world (Bahadur *et al.* 2014). They can limit progress on development and poverty reduction priorities, especially if development resources are diverted to relief and rehabilitation efforts (Rego & Roy 2007; Bakhtiari 2014).⁴ The World Bank (WB) and the Global Facility for Disaster Reduction and Recovery’s (GFDRR) Sendai Report explains that since 1980 low income countries have accounted for only 9 per cent of disaster events but 48 per cent of related fatalities. Disasters affect in particular the poor and vulnerable living in fragile environments. They can exacerbate social and economic inequity which can further marginalise people and create conditions for civil unrest and conflict (WB & GFDRR 2012).

The literature argues for the **integration of DDR/DRM into development processes** (e.g. WB & GFDRR 2012, p. 4). Mainstreaming is also progressively recognised as a necessity at the global level: the Hyogo Framework for Action (HFA) was signed by 168 countries who committed to effectively integrate disaster risk considerations into sustainable development policies, planning and programming at all levels (UN/ISDR 2007). Mainstreaming means ‘to consider and address risks emanating from natural hazards in medium-term strategic development frameworks, in legislation and institutional structures, in sectoral

¹ CCA refers to the adaptation of infrastructure, policies and practices to limit the risks posed by climatic changes.

² See the terminology of UNISDR: <http://www.unisdr.org/we/inform/terminology>.

³ See the terminology of UNISDR: <http://www.unisdr.org/we/inform/terminology>.

⁴ On disaster resilience, see the GSDRC Topic Guide: Combaz, E. (2014). *Disaster resilience: Topic guide*.

strategies and policies, in budgetary processes, in the design and implementation of individual projects and in monitoring and evaluating all of the above' (Benson and Twigg 2007 cited in Benson 2009, p. 13). Mainstreaming entails a focus on prevention which is often less costly than disaster relief and rehabilitation (WB & GFDRR 2012).

According to a report by the Asian Development Bank (ADB) (Rego & Roy 2007) on mainstreaming DRR, the process should include: integrating DRR components in all sectoral plans; having specific DRR expert units active and effective in sectoral ministries and agencies; and having budget lines for DRR integration. The report also emphasises the importance of not having DRR programmes divorced from normal development programmes, or two separate ministries or agencies for development and DRR.

The Climate & Development Knowledge Network (CDKN) Guide (Bahadur *et al.* 2014) on mainstreaming DRM emphasises that while approaches to mainstreaming have received substantial conceptual attention, significant gaps remain in how to implement it. Gaps include: 'evaluation of disaster risks, devising risk-informed planning techniques and creating incentives to pursue these, and securing financing to mainstream DRM' (Bahadur *et al.* 2014, p. 2). It stresses that 'improving leadership, collaboration and innovation for mainstreaming processes also needs greater attention' (Bahadur *et al.* 2014, p. 2). The Sendai Report acknowledges that many countries do not have the tools, expertise, instruments, and institutional mechanisms to assess the risk and take risk information into account (WB & GFDRR 2012). The following examples describe the process and mechanisms through which low and middle income Asian states – among the most vulnerable to natural hazards – mainstream DRM/DRR in national government planning and budgeting.

3. Case studies

Mainstreaming disaster risk management in Pakistan

The UNISDR (2015a) reviews DRM/DRR mainstreaming in Pakistan based on the 2013-2015 self-assessment report submitted by the Government of Pakistan on their implementation of the HFA. Pakistan is particularly vulnerable to strong earthquakes, with more than 25 reported since 1900. The country is characterised by high exposure and vulnerability, and low coping capacity.

Progress in mainstreaming DRM/DRR has been made in recent years. DRR has been integrated into development plans: both a DRR Policy (2013) and a National Disaster Management Plan (NDMP) (2012-2012) were approved by the National Disaster Management Commission (NDCM). The Plan covers the whole spectrum of disasters: pre, during and post disaster phases and is supposed to be used to steer the institutional and technical direction of DRM in Pakistan.

The National Disaster Management Authority (NDMA) – the executive arm of the NDCM and lead agency at the federal level to deal with disaster management activities – has seen its budget increased from PKR 93 million in 2011-2012 to PKR 169,417 million for 2014-15. The NDMA ensures that all activities in relief and early recovery undertaken by all stakeholders (federal and provincial governments, UN, NGOs, etc.) during emergencies comply with DRR standards and guidelines outlined in the NDMP.

A National Working Group on Mainstreaming DRR coordinates and ensures the mainstreaming of DRR in policies, planning and programming in all concerned ministries and related professional bodies. Six federal ministries have formulated DRR mainstreaming strategies for implementation. A DRR checklist is

integrated in Pakistan's public sector development projects proposal form to ensure that DRR is mainstreamed in each new project before its approval.

The Pakistani National Parliament enacted the National Disaster Management Act (2010) which provides a legal framework that defines the functioning of the existing disaster management system in Pakistan at all levels. The National Disaster Management Rules is also in the process of adoption.

The UNISDR report concludes that Pakistan has made some achievements to ensure DRR as a national priority but these achievements are undermined by a lack of commitment and financial and technical capacity.

Climate change adaptation and disaster risk management in Tonga

An UNISDR (2013) report studies the development and implementation of the Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management (JNAP) 2010-2015 in Tonga. It is based on national and regional interviews and revision of policy and legal documents. Tonga is highly vulnerable to natural hazards due to its geographical, geological and socio-economic characteristics. It has been severely affected by tropical cyclones, earthquakes and droughts, causing damage to food security, infrastructure, housing, tourism, etc.

The JNAP's vision is to 'promote and ensure safe, healthy, secure and resilient communities to climate change impacts and disaster risks.' It should facilitate an integrated approach to development to address the needs and challenges in relations to DRR and Climate Change Adaptation (CCA). Its priority goals include: 'Improved good governance for climate change adaptation and disaster risk management'; enhanced technical knowledge base of CCA and DRM; 'analysis and assessments of vulnerability to climate change impacts and disaster risks.'

The process to develop the JNAP was led by the Ministry of Environment and Climate Change (MECC) and supported by the National Emergency Management Office (NEMO) and the Climate Change Technical Working Group. The Secretariat of the Pacific GeoScience Division (SOPAC) and the Secretariat of the Pacific Regional Environmental Programme (SPREP) provided training, facilitation and technical assistance to the process.⁵ The preparation of the JNAP was financed through the Global Environment Facility (GEF)⁶ managed by SOPAC and SPREP.

The **steps leading to the adoption of JNAP** were the following:

- Obtain political support: SOPAC and SPREP held meetings with the 'two key ministers (Minister of Environment and Climate Change and Minister of Works and Disaster Relief Activities), Chief Executive Officers (CEOs) of line ministries, statutory boards, civil society and NGOs to obtain their support' (UNISDR 2013, p. 13).
- The creation of a JNAP Task Force merging the Climate Change Technical Working Group (TWG) and the DRM Task Force to support the JNAP process.
- Situation analysis and vulnerability assessment.

⁵ The Secretariat of the Pacific Community (called Pacific Community since November 2015) is a regional intergovernmental organisation including both nations and territories in the Pacific Ocean and their metropolitan powers.

⁶ The GEF is funded by UNDP and the ACP-EU Natural Disaster Facility.

- Stakeholder and community consultations: ‘to identify community needs, issues and priorities to address climate change and disaster impacts’ (UNISDR 2013, p. 13).
- Development of the action matrix and prioritisation: the decision was to focus on the gaps in CCA and DRM. The aim was to not be overly ambitious and strategically use the limited resources.
- Costing of the CCA and DRM activities prepared by SOPAC’s Technical Team together with the JNAP Task Force
- Development of the implementation, monitoring and evaluation strategies by the JNAP Task Force.
- Government approval: the Minister of Environment and Climate Change and Minister of Works and Disaster Relief Activities defended the JNAP which was endorsed in July 2010.

The main success factors were: the high-level political support; the establishment of the JNAP Secretariat which is driving the JNAP work; the assistance from regional organisations (SOCAP and SPREP); and the support and involvement of the existing national multi-stakeholder committees. Several working committees (technical, advisory, CEO, minister and parliament) were in place when the JNAP started. They provided inputs and information from different groups of stakeholders and facilitated the buy-in from other ministries such as the Ministry of Finance and Planning. Finally, Tonga used in-country experts whose capacities were enhanced during the development of the JNAP, thereby reducing Tonga’s high dependence on international consultants and cutting the costs.

Steps to **implement the JNAP** include:

- Mainstreaming DRR and CCA issues into other national policies and plans. This process is led by the Ministry of Finance and National Planning who is responsible for the implementation of the national sustainable development plans.
- The JNAP Secretariat, together with the Environmental Impact Assessment (EIA) unit, is integrating CCA/DRA concerns in development and infrastructure projects, and sectoral plans.
- Various meetings between stakeholders are held under the JNAP to improve CCA/DRM practice and coordination.

The main implementation challenges are: the continuous mainstreaming of DRR/CCA considerations into sectoral and community plans and programmes; a need for more financial support; to raise the interest of stakeholders.

Mainstreaming disaster risk management through social protection in the Philippines

Bowen’s (2015) country study reviews how the Department of Social Welfare and Development’s (DSWD) Social Protection (SP) system is used to mainstream DRM and respond to disasters. The Philippines is particularly vulnerable to natural disasters and the effects of climate change such as typhoons, floods, droughts, storms, landslides, earthquakes and tsunamis.

The Government of the Philippines (GoP) committed to DRR/DRM through its adoption of the HFA and the Sendai Framework for Action, 2015-2025.⁷ It developed a Strategic National Action Plan (SNAP) on Disaster Risk Reduction, 2009-2019. Its priorities are: 1) understanding disaster risk; 2) strengthening disaster risk governance to manage disaster risk; 3) investing in disaster risk reduction for resilience; and

⁷ The Sendai Framework is the successor of the HFA.

4) enhancing disaster preparedness. The GoP has developed ‘comprehensive **legislation and institutional arrangements** governing disaster risk management’, including (Bowen 2015, p. 13):

- The adoption of the Philippines’ Disaster Risk Reduction and Management Act in 2010: The Act provides more emphasis on DRR than previous legislations that primarily focused on post-disaster response.
- The creation of the National Disaster Risk Reduction and Management Council (NDRRMC) headed by the Department of National Defence (DND). The NDRRMC is chaired by the Office of Civil Defence (within the DND) who is assisted by four Vice Chairpersons: the Department of Science and Technology (DOST) Secretary for disaster prevention and mitigation; the Department of Interior and Local Government (DILG) Secretary for disaster preparedness; the DSWD Secretary for disaster response; and the Director-General of the National Economic and Development Authority (NEDA) for disaster rehabilitation and recovery.
- Building on the Act, the National Disaster Risk Reduction and Management Plan (NDRRMP) ‘articulates the expected outcomes, outputs, key activities, and indicators for each of the Vice-Chairperson’s agencies under their delineated but mutually reinforcing thematic areas of responsibility’ (Bowen 2015, p. 13).

The NDRRMC structure is replicated at the regional and local levels under the Local Disaster Risk Reduction and Management Councils (LDRRMC) which approve, monitor and implement Local Disaster Risk Reduction and Management Plans (LDRRMPs). The aim is to ensure vertical integration of DRM and the integration of DRR and CCA concerns into local development plans, programmes and budgets. Local and national databases are linked with information on human resources, equipment, directories and location of critical infrastructures and their capacities.

The Philippines has developed one of **the most advanced SP systems** in the East Asia Pacific region designed to help poor households manage risks and shocks including from disaster events. The GoP, with the lead agency DSWD, has developed national SP programmes comprising advanced information and delivery systems. DSWD is fully integrated into the national DRM framework as the lead coordinator in disaster response activities as planned for by the NDRRMP. Disaster response includes immediate response activities (needs assessments, search and rescue, relief operations, provision of food and non-food item relief packages, etc.) and recovery activities that help ‘to restore basic services, livelihoods, governance, security and rule of law, environment and social dimensions (...)’ (Bowen 2015, p. 14). DSWD coordinates the activities of the other lead agencies for disaster response.

The Department for Risk Reduction and Operations Office (DRROO) within DSWD manages the operationalisation of DSWD’s response activities. DROO has two divisions: 1) Warehouse Management and Donation Facilitation Division; and 2) the Disaster Risk Reduction and Management Division (DRRMD). DRRMD leads in the planning, coordinating and monitoring of all disaster response efforts. It includes four sections: 1) Disaster Response Operations Monitoring and Operations Centre (DROMIC) section; 2) Food and Non-Food section; 3) Camp Coordination and Camp Management section; 4) Protection, Shelter and Livelihood section.

Financing modalities of the response activities include the National and Local Disaster Risk Reduction and Management Funds (NDRRMF and LDRRMF) and the Quick Response Fund. The NDRRMF funds disaster risk reduction, mitigation and preparedness activities, post disaster relief, recovery and reconstruction. The NDRRMP is a lump sum but the release of funds is lengthy and needs the approval of the Office of the President who advises the Department of Budget Management to release the funds. The length of

the process was problematic so the Disaster Risk Reduction and Management Act decreed that 30 per cent of the annual amount of the NDRRMF should be allocated to a Quick Response Fund which does not require the recommendation of the NDRRMC or the approval of the Office of the President to release funds.

The NDRRMP gives the DSWD responsibilities towards national prevention and mitigation, preparedness, recovery and rehabilitation. The DSWD is also the lead agency of four coordinating clusters of the UN cluster system: food security, shelter, camp coordination, and camp management and protection. For Bowen (2015, p. 2) as ‘a result of this national SP-DRM linkage, SP programmes are prominently positioned to respond to disasters in the Philippines.’

Disaster risk management in Indian Ocean countries

A UNISDR (2015b) report reviews Public Investment Planning and Financing Strategy for Disaster Risk Reduction in South-West Indian Ocean Region (Madagascar, Mauritius, Seychelles, Comoros, and Zanzibar). While acknowledging that risk-sensitive public investment is not an integral part of fiscal policy and practice in the region, the report shows that there have been many efforts to mainstream DRR/DRM.

At the national level, all countries have created an entity to manage risk even though Madagascar and Mauritius still have two entities (one with a focus on DRR and one leading emergency management after an event). According to UNISDR (2015b), all are ‘anchored at the highest levels of government, such as Prime Minister’s Office or the Vice Presidency’ which provide them with more influence. All countries have adopted a policy or strategy:

- Madagascar: National Strategy on Disaster Risk Management (2003).
- Mauritius: Disaster Risk Reduction and Management Strategic Framework and Plan; Climate Change Adaptation Policy.
- Seychelles: National Risk and Disaster Management Policy (2008, updated in 2014); Climate Change Strategy (2009).
- Comoros: National Strategy for the Reduction of Risk and Disasters (draft)
- Zanzibar: Disaster Management Policy (2011); Emergency Preparedness and Response Plan (2011); Zanzibar Climate Change Strategy (2014)

Examples of good practices in the region include:

- Mauritius: the Environmental Impact Assessment (EIA) mainstreams climate change risk management, mitigation and adaptation in the development process. Projects with environmental risk are required to go through a preliminary environment report (PER) or an EIA that contains ‘relevant details on the environmental factors of the project, and the measures to avoid or minimize adverse effects on the environment’ (UNISDR 2015b).
- Seychelles: the 2014 National Assembly and the Disaster and Risk Management Act address core DRM issues and DRR investments, budgeting and financing. The UNISDR (2015b) reports that the ‘Act has provisions for national Risk Disaster Management Fund though the levels of funding and investments are not clearly articulated.’ The Fund includes both amounts appropriated by the National Assembly and amounts transferred from other divisions to the Fund when required and agreed upon. For UNISDR (2015b) there ‘is great opportunity to mainstream risk sensitive public

investment in the government budget and public investments with the introduction of programme-based budgeting, which is being piloted in Seychelles.’

- Zanzibar: The Disaster Management Policy (2011) and the draft Disaster Management Act of 2012 propose the establishment of a Zanzibar Disaster Management Fund (ZDMF). The aim is to ‘ensure the accessibility of enough resources for disaster preparedness, mitigation, response and recovery’ (UNISDR 2015b). The ZDMF should include: monies voted by the House of Representative; donations or grants made within and outside Zanzibar; subscriptions by the public; the result of fines imposed under the Act. However, the ZDMF has not been approved by the House of Representative yet.

For UNSDIR (2015b), DRM investment in the national budget of Indian Ocean countries has significantly increased in the past years. It recommends not only investing in emergency response but also in preventing and reducing risks. Further challenges are data gaps and capacity training. **Lessons include:**

- The need for stronger collaboration between DRM agency, Ministry of Finance and other key sectoral ministries to avoid a fragmented approach to DRM.
- The need for ‘continuous capacity building on risk terminology and concepts, loss and risk information management and economic analysis’ (UNISDR 2015b).
- Given the limited availability of risk experts in each country, UNISDR (2015b) recommends to have a regional approach including a pool of trained resource persons at the regional level to update event registry and undertake risk analyses. They should be skilled trainers who can improve national level capacities.
- Governments need to develop ‘investment and financing strategies to address both extensive (small scale but high frequency) and intensive (low frequency but high impact) events’ (UNISDR 2015b).

Disaster risk reduction in Bangladesh

A UNDP (2011) report analyses DRR mainstreaming in Bangladesh. Bangladesh is particularly prone to natural disasters such as cyclones, floods and droughts. UNDP assisted Bangladesh through a transformation of its disaster management policy from reactive relief to proactive risk reduction. The support included: strengthening of institutional and policy frameworks; capacity-building of individuals, communities and government bodies; supporting improved leadership and coordination.

In the 1980s, the first step was the development by the Government of the Flood Management Policy and Road Map for the Flood Action Plan. New institutions were created such as the Flood Forecasting Warning Centre. In 1993 the Government established a dedicated agency, the Disaster Management Bureau (DBM) tasked with ‘reducing the human, economic and environmental costs of disasters, and strengthening national capacities and cross-sectoral partnerships’ (UNDP 2011, p. 56). The creation of the DMB led to the development of an integrated national approach to DRR and disaster response and recovery. Building on DBM, the Government elaborated policies to operationalise this approach such as the Standing Order on Disaster of 1997 (updated in 2008) which empowered disaster management committees to effectively plan and coordinate risk reduction and emergency response.

In the early 2000s, the National Disaster Management Council (NDMC) headed by the Prime Minister was established. The Government introduced coordinating structures to bring together civil society organisations and local government authorities. UNDP supported these changes through the multi-donor

Comprehensive Disaster Management Programme (CDMP). The Government also started to revise policies, strategies and mechanisms to screen development programmes through a 'risk-lens'. Moreover, Bangladesh became one of the first Least Developed Countries to prioritise DRR as part of the national fiscal planning process. The country also adopted a 'multi-hazard, "all-risks", national risk reduction model that encouraged national stakeholders to consider existing disaster risks as well as the risks of projected climate extremes in their efforts to build national and community resilience' (UNDP 2011, p. 57).

Bangladesh has now a clear system of coordination and leadership that stretches from the NDMC to a functioning network of over 2000 village-level disaster committees, 40 district disaster management committees, 12 directly involved line ministries and six key donor partners.

Lessons include:

- The importance of gradual and self-supporting change.
- An effective response requires the integration of local needs, contexts and aspirations.
- Plans need to be linked to adequate funding sources such as CDMP's Local Disaster Risk Reduction Fund.
- The success depends on proactive government leadership and a wide range of partners who support the implementation such as the 12 line ministries integrating DRR concepts into their policies and programmes (e.g. agriculture, energy).

Mainstreaming disaster risk reduction in agriculture in Bangladesh

An FAO (2014) report assesses Bangladesh's agricultural sector policy and planning framework (2005-2013), including mainstreaming DDR.

Before this period, the Strategic Plan 2002-2006 of the Department of Agricultural Extension (DAE) in the Ministry of Agriculture (MoA) considered climate conditions and pest infestations and their effect on production but did not strive to reduce risks. In 2005 the Ministry of Food and Disaster Management (MoFDM) who is responsible for coordinating national disaster management efforts, developed its Corporate Plan 2005-2009. The Corporate Plan included the promotion of a best practice DRM system and the mainstreaming of DRM in national development processes. This was operationalised in 2008 through the National Plan for Disaster Management 2008-15 (NPDM). Developed by the MoFDM, this Plan outlines how sector plans will integrate DRR and CCA. In 2009 the MoFDM published guidelines on mainstreaming DRR and CCA into development processes.

Specific DRR measures were adopted in the agriculture sector:

- The National Food Policy Plan of Action 2008-2015 adopted by the MoFDM: it implements the NDPM and include measures such as 'agricultural community-based action plans for risk reduction, research programmes on drought/submergence/disease tolerant varieties, training on DRR, pest management, etc.' (FAO 2014, p. 44).
- The Plan of Action in Disaster Risk Reduction developed by the DAE: it provides a framework to the DAE to strengthen skills and increase capacities for DRR. It proposes actions along the five priorities of the HFA such as 'to institutionalise DRR within the DAE, to revise its policy and planning frameworks to include DRR, enhance early warning, knowledge management, technical options to reduce underlying risks, etc.' (FAO 2014, p. 45).

- A National Agriculture Policy developed in 2010: it includes measures to address climate change adaptation and disasters.

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Key websites

- Asian Disaster Preparedness Centre (ADPC):
<http://www.adpc.net/igo/?#>
- Climate & Development Knowledge Network (CDKN):
<http://cdkn.org/>
- The United Nations Office for Disaster Risk Reduction (UNISDR):
<http://www.unisdr.org/>
- PreventionWeb:
<http://www.preventionweb.net/english/>

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