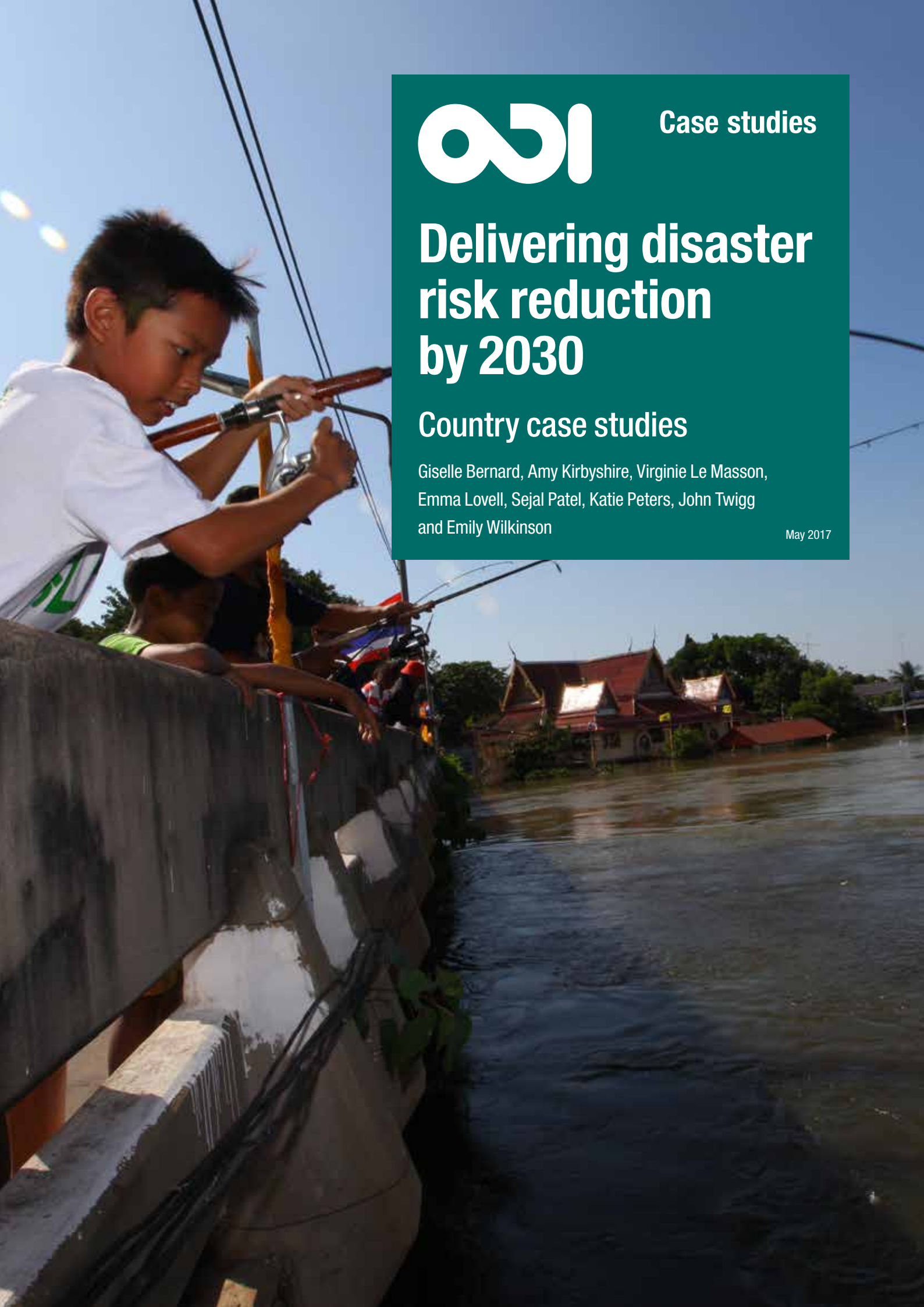

Case studies

# Delivering disaster risk reduction by 2030

## Country case studies

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Cover photo: A boy fishes in flood waters in Lop Buri, Thailand. Heavier-than-usual rains during the monsoon season flooded 61 of Thailand's 77 provinces, affecting 8.2 million people. Corporal Robert J Maurer/US Marine Corps, 2011. Public domain.

# About these case studies

These case studies form the basis of the report *Delivering disaster risk reduction by 2030: Pathways to progress* (2017) (annexes 2–10). They provide analysis of the Hyogo Framework for Action (2005-2015) (HFA) country reports of nine countries: low-income countries (Guinea Bissau, Togo and Nepal), lower-middle-income (Fiji, Sri Lanka and Thailand) and upper-middle-income (Czech Republic, Mexico, and St Kitts and Nevis). These countries have different starting points, trajectories of progress, risk profiles and levels of per capita income. The reports give a good indication of what was prioritised by governments from 2005 to 2015.

The nine case studies are supplemented by an analysis of changes under the HFA against the new global targets and indicators. This includes the Munich Re NatCatSERVICE database on economic losses and frequency of natural disaster events, EM-DAT data on mortality and affected people, and World Bank data on economic losses relative to gross domestic product (GDP) and human impacts as a share of the population.

The full report can be found online at odi.org.

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# Contents

# Annex 2. Czech Republic

## Introduction

Since 2006 the World Bank has classified the Czech Republic as a high-income country. The INFORM database puts the country in the very-low-risk category (hazard exposure 1.2, vulnerability 1.6, coping capacity 2.5, risk 1.7).

The principal hazards are floods and extreme weather. Between 1990 and 2016, according to the EM-DAT database, flooding affected over 1.6 million people, causing $5.7 bn worth of damages, with 100 fatalities. Extreme weather events, principally heatwaves, killed 477 in the same period.

A national report was submitted to the 2005 Kobe conference and there are Hyogo Framework for Action 2005–2015 (HFA) progress reports for 2007–2009, 2009–2011, 2011–2013 and 2013–2015. These are relatively objective and informative although they often lack clarity (especially regarding the timing of change). A number of other relevant national strategies or plans exist; these are supplemented by scientific and technical reports. Some documents are available only in Czech.

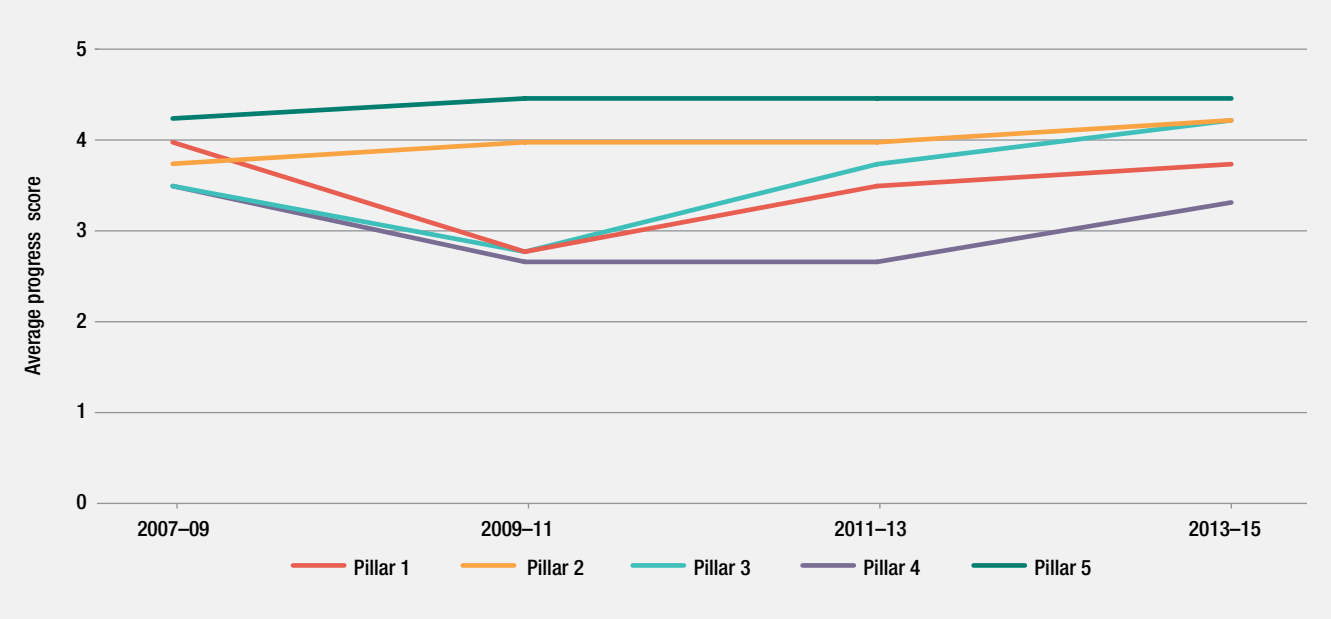
## Trajectories and rates of change

### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

#### 1. Does a national platform for DRR exist?

The Czech National Committee for Natural Disaster Reduction, established in 2005, grew out of an earlier International Decade for Natural Disaster Reduction (IDNDR) committee with voluntary membership from civil society and formal institutions. It focused on improving early warning systems, strengthening disaster preparedness and encouraging coordinated and multi-sectoral approaches involving governmental, non-governmental and private sector stakeholders; subsequently it began to consider environmental security. Notable accomplishments of the National Committee were establishment of a regional platform in Moravia-Silesia and cooperation with national platforms from Germany, France and Poland through the European Network of National Platforms (ENNP).

**Changes in average HFA progress scores – Czech Republic**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

Limited resources and capacities were a constant constraint, as was limited official interest and financial support. A significant change in institutionalising the committee took place in 2013 when the Ministry of the Environment (which is the focal point for meeting HFA objectives) absorbed it into a National Platform for Natural Disaster Reduction and took over coordination. Its membership principally comprises government ministries and scientific and academic institutions. Joint meetings take place two or three times a year.

#### 1.a. How comprehensive is the DRR legislation?

Legislation relating to DRR in the Czech Republic is based on three laws passed in 2000: the Crisis Management Act, which allocates roles and responsibilities for emergency management; the associated Integrated Rescue System Act, which coordinates a wide range of rescue and security forces, state and local governments, and other organisations in preparedness and response; and the Economy Measures for Crisis Situations Act. The Crisis Management Act is the basis for the institutionalisation of DRR incrementally into state, regional and community policies. The 2001 Water Act plays a major role in prevention, preparedness and response to floods.

Four HFA progress reports (2009, 2011, 2013, 2015) acknowledge the lack of adequate standards or codes for hazard-resilient buildings; but with flooding the country's major hazard, land-use planning and safer location of buildings are given higher priority.

#### 2. Is there a national DRR strategy in place?

Development of a DRR strategy has been piecemeal, although it seems to have gathered pace since about 2010; it was said to be fully integrated in the 2015 progress report (HFA, 2015). DRR is incorporated into strategies as they are reviewed. By 2015 it was incorporated into national strategies, policies and frameworks relating to: security, civil protection, sustainable development, environment, climate change adaptation, environmental security and energy. There are contingency plans for particular types of hazard or disaster, and the country's integrated rescue system is well coordinated, but there is no comprehensive all-disaster DRR plan, mainly due to two factors: division of responsibilities between different ministries; and a heavy emphasis on flooding, which is by far the most significant and frequent hazard. DRR principles are said to be incorporated into flood protection plans. Nevertheless, the need to create flood risk management plans that are more focused on prevention and preparedness has been acknowledged, and finding funding for flood control measures remains a challenge. Reducing the vulnerability of cities to floods was expected to be a government priority from 2015 onwards; but to date, no cities in the Czech Republic have joined the United Nations Office for Disaster Risk Reduction's (UNISDR's) Resilient Cities campaign.

Associated institutional arrangements for DRR are key to strategies' effectiveness. A number of ministries have a role in emergencies and DRR, including Environment, Interior, Agriculture, and Health, as well as regional and community administrations. The Ministry of the Interior is the lead coordinating institution for DRR.

Although HFA reports regularly speak of extensive integration of DRR, there are few specific examples. The 2013 HFA report noted that the National Security Council, chaired by the Prime Minister, was the lead coordinator for DRR (coordinating security issues and preparing draft measures to ensure security), which suggests the rising importance of DRR in national policy. More recent official documents also indicate the adoption of a broader approach to civil protection.

HFA progress reports consistently identify constraints on effective DRR take-up and institutionalisation due to weak coordination resulting from limited government capacity, and to limited financial resources (in contrast to crisis response, which appears to be much better financed and coordinated). Lack of clarity about specific ministries' responsibilities is an additional obstacle.

#### 2.a. To what extent do local DRR strategies exist?

The Crisis Management Act (2000) assigns responsibility for emergency management to regional, district and municipal authorities, but in major events central government helps financially or operationally. In theory, disaster reduction plans exist at all levels, principally for flood protection: these have been realised step by step, with particular progress reported between 2007 and 2011, including a new anti-flood system in Prague. From 2011, more emphasis was put on collecting local-level data, creating digital flood plans and supporting local warning systems. However, although delegation of authority and resources is mandated, financial and capacity constraints are acknowledged on several occasions in HFA reports. The 2012–2020 Environment Strategy seeks to increase the number of municipalities signed up to Local Agenda 21.

#### 2.b. How many sectoral DRR plans exist?

Evidence on sectoral integration is too limited to draw conclusions. In 2005, risk reduction was said to be incorporated into water resource management, climate change adaptation, education, and development planning. In 2013, the agricultural sector was said to have evaluated the impacts and possible measures against the effects of drought. The Crisis Management Act requires all ministries and public administration authorities to have crisis plans in place. Major industrial installations also have their own disaster plans.

#### 3. Is community participation mandated in the DRR policies and mechanisms?

The 2015 HFA progress report highlights the need for the general public to be aware of the importance of DRR and

to take part in relevant actions. There are also initiatives to encourage civil society and community engagement. However, lack of participation is a recurring issue. Limited non-governmental organisation (NGO) activity at community levels in DRR processes is commented upon in the 2013 and 2015 HFA progress reports (see also Pillar 5 – 22).

#### 4. Is gender explicitly recognised in DRR policies and mechanisms?

Progress on this issue was made during the reporting period. Initially, DRR was effectively gender-blind. The legislative provisions of 2000 required rescue services to have regard for the specific needs of groups of people (including women, children and people with disabilities). However, there was little acknowledgement of gender issues in DRR policy or practice. This changed from 2009 onwards, firstly with recognition that gender was an important issue requiring a strategy and buy-in from key stakeholders. The 2013 HFA progress report noted that gender-disaggregated data for DRR was not available, but the 2015 report stated that vulnerability and capacity assessments did include such data, and that it was being applied to decision-making. However, preparedness and contingency plans were still not gender-sensitive.

## HFA pillar 2. Identify, assess and monitor disaster risks and enhance early warning

#### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

Policies and institutions do not appear to have been studied. Post-event reviews and evaluations are carried out for each significant event, notably the severe floods in 1997, 2002, 2006, 2009, 2010 and 2013. Impacts from disasters should be taken into account, and since 2012 there have been several studies on disaster impacts linked to climate change. However, implementation differs from region to region and according to the frequency of events.

#### 6. Has a national risk assessment ever been completed? How frequently?

The national report for the 2005 Kobe conference expected risk monitoring and mapping for crisis management to be completed within about two years; however, the 2009 HFA progress report noted that systems to monitor, archive and disseminate data on key hazards and vulnerabilities were being built gradually and emphasised that it would take time to complete this work. The 2015 report stated that a national multi-hazard risk assessment had been undertaken, although it is not clear how comprehensive this was. Threat analyses were carried out at national and regional levels in 2016, feeding into national crisis plans. Hazard and risk mapping has been undertaken for a long time, by a number of scientific and governmental institutions, leading to creation of databases and geographic information system (GIS) maps to inform decision-making by ministries, regional administrations and other institutions. Most work has gone into data collection relating to floods (with comprehensive flood risk mapping in place as of 2013) and other hydrometeorological hazards, with less attention to other types of risk, although GIS mapping of certain specific hazards has been carried out by the Ministry of Environment as part of its crisis plan.

The HFA reports from 2011 onwards noted that multi-hazard assessment had been undertaken for some areas and cities but not at national level. Risk assessment is also said to be used in sectoral development planning and programming in industry, agriculture and health. Risk assessments of previous chemical contamination by industries were carried out in several places from 2009 to 2012. Hazard mapping has also been carried out by insurance companies. Hazard, risk and vulnerability assessments relating to specific sectors (e.g. water management, agriculture, forestry) have been outputs of specific research or research and development (R&D) projects. Social vulnerability does not appear to be monitored, but there is increasing official concern about the vulnerability of a growing elderly population.

#### 7. Is loss information systematically collected?

According to the HFA progress reports of 2011 and 2013, there is no national disaster loss database. However, for many years, loss information has been collected for significant events (such as the major floods in 1997, 2002, 2006, 2009, 2010 and 2013), with government funding. The government has also launched projects that analyse flood losses to help identify ways to avoid repeat disasters. The main constraint on carrying out major loss and damage projects is financial. Some losses and damages have been assessed by insurance companies. The Czech Republic was one of the co-sponsors of a resolution at the UN General Assembly in February 2017 to adopt common indicators for measuring global progress on disaster losses.

#### 8. Do early warning system exist?
#### 8.a. Are they multi-hazard?
#### 8.b. Do they have 'good' coverage?
#### 8.c. Are longer-range climate forecasts conducted?

The Czech Republic had a comprehensive multi-hazard early warning system, connected to an integrated public alert and response system, in place before the HFA. The system, which defines the roles of all stakeholders including the media, has been tested during a number of events, especially floods, over a number of years; it is considered to be effective at national and regional levels but more of a challenge for small municipalities. Flood information is provided by the Czech Hydrometeorological Institute. Mass media, including TV and radio, have traditionally been involved in disseminating warnings and related

information; more recently this has been supplemented by the Internet and SMS messaging. Exercises are organised each year. Warning sirens are checked across the country on the first Wednesday of every month. The high frequency of floods enables systems to be tested and modified at state, regional and community levels; exercises are organised on a regular basis.

From about 2007, more effort went into creating local early warning systems. HFA progress reports from 2011 onwards stated that the system is well organised but preparedness for flash floods and local warning systems could be improved, and legislation needs updating. Long-range forecasting is not mentioned in the HFA reports, but climate change models and scenarios have been developed. The Czech Republic implements the EU Floods Directive (2007) and cooperates closely with neighbouring countries in data and warning exchange. Climate change models and scenarios have been developed.

## HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

### 9. Is DRR a formal part of the school curriculum?

There were significant advances in this area during the HFA reporting period. At the beginning of the decade, there was limited teaching on disaster prevention for secondary students, mostly through the science curriculum. Some material on disasters and hazards was provided for schools, but it was recognised that education was not systematic enough and that a DRR curriculum was required for the whole state education sector. The opportunity for change seems to have come with a broader programme for educational reform by a new government, elected in 2010. Elements of security, protection and DRR were introduced into the national educational curriculum in primary schools in 2011 and secondary schools in 2013. These are backed up by teacher training, with further efforts to improve teaching practice planned. The Fire and Rescue Service has also provided teaching materials. The emphasis seems to be on disaster preparedness; school training and mock drills are based on the Civil Protection Strategy; but the need for a more comprehensive and systematic approach to safety and DRR education was identified in a general school inspection survey and report in 2015.

### 10. Are there training and capacity-building programmes as part of DRR plans?

There is limited evidence of this in the HFA reports and it is difficult to identify trends. Some training programmes operate at regional and municipal levels, particularly for mayors and staff of local crisis management organisations. Training and related activities carried out by the Fire and Rescue Service in 2015 were attended by over 43,000 people.

Civil protection courses are delivered in a number of universities, but education sector cuts have affected teaching and there is no standard curriculum. The Institute for Civil Protection is the focal point for disaster research. The Civil Protection Strategy reports limited communication between central institutions, implementation bodies and universities.

### 11. Are there public awareness and media outreach campaigns?

HFA progress reports note consistently that public education campaigns are carried out by emergency services and municipal and local authorities, particularly in flood-prone communities, and often in connection with a recent major event. The national report to the Kobe conference stated that mass media were involved in public awareness work around DRR but not in a systematic way. HFA reports indicate that there is scope for more extensive presentation and use of online information. Nevertheless, there have been a number of safety campaigns, civil protection public outreach activities reached over 1 million people between 2012 and 2014, and in 2014 more than 3,600 people took part in a specific campaign regarding people with disabilities. A number of official websites exist, including those of the Czech Hydrometeorological Institute, Fire Rescue Service, River Catchment Authorities, Czech Geological Survey and Central Flood Commission; but these need to be expanded. Improvement of existing communication materials is also planned.

## HFA pillar 4. Reduce the underlying risk factors

### 12. To what extent is DRR included in national climate change adaptation policies?

HFA progress reports say very little about how DRR and climate change adaptation (CCA) have become integrated. It is evident nonetheless, as the 2009 progress report points out, that the connection between climate change and disasters has increasingly been recognised, as has the value of CCA as an important tool for reducing risk. This led to a range of national strategies and programmes as the HFA decade progressed.

The 2004 National Programme to Abate Climate Change Impacts in the Czech Republic focused on mitigation, but separate strategies on mitigation and adaptation were created subsequently. The Sixth National Communication of the Czech Republic under the United Nations Framework Convention on Climate Change (UNFCCC) (2013) includes DRR in its forecast, prevention and adaptation sections, considering a range of potential impacts of climate change (for example on agriculture, forestry, human health, urban systems and environmental security) together with ways to improve resilience and crisis management. The second Strategy on Adaptation to Climate Change was published in 2015, together with a comprehensive study on impacts, vulnerability and risk

sources connected to climate change. These documents include disaster risk as one of 10 priorities, and identify the need to adapt the built environment and urban settlements. An interdepartmental working group (with sub-groups) on climate issues was also established in 2016 to develop adaptation action plans. The National Adaptation Plan, building on these initiatives, was approved in January 2017. The Czech Republic signed the Paris Agreement in April 2016, but it has not yet been ratified by parliament.

#### 13. Is DRR included in environmental management policies/ environmental impact assessments?

The HFA progress reports provide little information on this. However, disaster risk is a focus area in the State Environmental Policy (2012–2020): this considers a wide range of natural and anthropogenic hazards; and it emphasises risk monitoring and assessment, and risk reduction through planning and zoning, as areas for intervention. Linked to this is the government's Strategy on Environmental Security (2012–2015; updated for 2016–2020) which aims to develop a legislative, institutional and informational framework to strengthen environment-related aspects of national security, giving priority to long-term drought and extreme meteorological hazards including wild fires. Impact assessments from major infrastructure projects such as dams and highways are compulsory, but this requirement is not always enforced.

#### 14. Are hospitals 'safe'? and 15. Are schools 'safe', and have there been any initiatives to ensure schools are built in accordance with DRR guidelines or policies?

This issue is first mentioned in the 2013 HFA progress report, which identifies the existence of policies and programmes for school and hospital safety, and training and mock drills in schools and hospitals for emergency preparedness. Although that report did not show that any schools or hospitals had been assessed against hazard risks, the 2015 report stated that 90% of schools and hospitals had been assessed, and no school was unsafe from disasters. All hospitals are required to prepare emergency response plans.

#### 16. Are there any shock-responsive or social safety net schemes?

No information was available on this.

#### 17. To what extent do risk-financing mechanisms exist?

Existing arrangements in these areas do not appear to have altered greatly during the HFA period. Social support mechanisms, including temporary employment guarantee schemes, and conditional and unconditional cash transfers, are deployed for short periods after disasters to facilitate recovery. There is no systematic continuous support; lack of funding and of state-level coordination are the main reasons for this, according to HFA progress reports.

Financial instruments to reduce the impact of disasters are mostly established and managed by insurance companies. Crop and property insurance is available, but the progress reports argue that insurance policies should be used more extensively, continuously and systematically to support affected people in the longer term. A Global Facility For Disaster Reduction and Recovery (GFDRR) report (2010) found that insurance in the Czech Republic is relatively widespread compared to neighbouring countries: for example, 40% of losses were insured during the 2002 floods. The Czech Republic has national contingency funds, catastrophe insurance and reinsurance facilities and other capital market mechanisms. These can be used in declared emergencies at state, regional and local levels. The state also maintains strategic reserves (e.g. fuel, food, material, tools and bridges) for deployment in crises.

#### 18. Are there effective land-use planning and building codes in place?

There are limited indications of change during the reporting period. HFA progress reports state that formal procedures for planning, land use and infrastructure development do incorporate DRR, and that risk (especially flood risk) is generally taken into account. The country's Spatial Development Policy (2008) seeks to protect against, and minimise damage from, potential risks and natural disasters; there are specific spatial planning initiatives to address flood risks. Urban planning includes DRR in terms of flood zones and groundwater infiltration. The 2015 HFA report indicates that improved flood risk management plans are in preparation.

Building codes have been more problematic. There are some construction rules and regulations (e.g. on snow load), but it is recognised that codes need to be revised. However, it is also acknowledged that even appropriate building codes are not always followed: lack of finance sometimes overrules safety and security requirements; and there are variations in the extent to which state, regional and local administrations monitor compliance. Moreover, a combination of topography and relatively high population density makes it difficult to build housing in more flood-safe locations. There is also room for improvement in land-use planning related to the risk of major chemical accidents. The 2015 progress report speaks of recent improvements in making newly built houses and infrastructure resilient after disasters, implying that government agencies are paying more attention to the issue.

## HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

#### 19. Are there national and local contingency plans in place?

The HFA progress reports indicate that the country has well-established structures, plans and procedures

for emergency preparedness and response, which do not appear to have been altered fundamentally over the reporting period. These are coordinated by the Fire and Rescue Service under the lead of the Ministry of the Interior, with responsibilities devolved to local administrations. There is a network of operations and communications centres across the country. The system appears to function quite effectively, as demonstrated by responses to disasters and through the training and practice exercises that are organised and evaluated at all levels. However, it is said to suffer from lack of funding and capacity, and concern has been expressed that only some parts of the crisis management systems are involved in exercises. Flood emergencies are said to be well managed. There are flood plans for each city, which have been improved over time and in the light of experiences. The 2013 and 2015 reports question how well the system would deal with other types of disaster that happen rarely, although special attention has been given to potential failures of nuclear power plants. External emergency plans are in place, and regularly tested, for all 'upper tier' installations covered by the Seveso III Directive.

#### 20. Is there an emergency fund?

The reports do not indicate significant changes in the arrangements for this. State financial reserves are set aside to assist disaster-affected areas and communities; the mechanism for distributing emergency funds has been developed and tested during several disasters. The government also releases funds for recovery as well as for structural and non-structural measures to increase resilience in affected areas.

#### 21. Is there a culture of volunteerism and participation?

Civil society is not strongly engaged in DRR activity, although a few NGOs provide relief in emergencies. Several HFA progress reports mention the lack of NGO engagement, particularly at community level. This may be a legacy of the country's formerly highly centralised state system, which offered other groups little or no opportunity for involvement. Voluntary fire brigades (with about 350,000 members – i.e. 3.5% of the population) are the main community actors identified, and the need to widen their involvement into DRR is also noted.

Following pilot projects on volunteer participation in 2005–2010, official approaches towards encouraging and managing crisis volunteering (by individuals and NGOs) have made some progress. The 2013 Civil Protection Strategy emphasises the importance of involving a much wider range of stakeholders in disaster management; awareness campaigns about volunteering have been undertaken; and a draft law on volunteering is currently under discussion.

The Czech Red Cross, which has around 8,000 active volunteers, assisted over 3,000 people after the June 2013 floods. Czech NGOs participated in actions by the European Voluntary Humanitarian Aid Corps (EVHAC) in 2012–2014. There was also significant involvement of NGOs and local action groups in a 2015–2016 project on resilience and adaptation to climate change in regional strategies.

## Drivers of change

### Factors that stimulate or accelerate change

#### Hazard events

Floods (over 90% of all disasters, according to HFA progress report 2015) and extreme temperatures are the major hazards in the Czech Republic, with severe flood events in 1997, 2002, 2006, 2009, 2010 and 2013. The 2009 floods highlighted problems with early warning and rapid response systems, which were subsequently evaluated by the government; this led to more emphasis on local early warning systems and updating of flood plans. Since 2015, drought has been recognised as an emerging issue. Other hazards include extreme winds, ice and cold-weather phenomena and technological hazards. Multi-hazard events include chlorine release during the 2002 floods and landslides caused by heavy rain.

#### Regional and global initiatives

The Environmental Security Strategy (2012–2020) identifies international collaboration as central to environmental security.

European Union (EU) directives and initiatives have played an important role in supporting DRR in the Czech Republic. In particular, the EU implements the Flood Risk Directive (2007/60/EC) and cooperates closely with its neighbours in data and warning exchange, including the EU expert working group on disaster damage and loss data. EU funding has been used for flood protection schemes. The 2011 HFA progress report notes financial support from EU programmes towards flood risk management planning. The 2009 Strategy on Adaptation to Climate Change was prepared in line with existing EU adaptation strategy; and the 2015 Prevention of Major Accidents Act implements the EU's Seveso III Directive of 2012. All EU member states participate in the EU Civil Protection Mechanism (2001), which facilitates coordinated assistance from participating states to victims of natural and man-made disasters in Europe and elsewhere. Other initiatives involving the Czech

Republic include the EU BASE programme promoting green adaptation and the EU-funded ARMONIA project (2004–2007) to develop harmonised methodologies for integrated multi-risk mapping for use in spatial planning. Progress towards ensuring that schools and hospitals in the Czech Republic are safe may have been accelerated partly by global initiatives, notably the High-Level Dialogue's call at the 2013 Global Platform for Disaster Risk Reduction for a global campaign for safe schools and health structures, and the Worldwide Initiative for Safe Schools, coordinated by UNISDR, that was launched subsequently.

### Factors restraining change factors that prevent or restrain change

The 2011 HFA progress report attributes the lack of funding for resilience over the previous two years to the global financial crisis.

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# Annex 3. Fiji

## Introduction

In 2015, Fiji was ranked in the 'low' INFORM risk category, with hazard exposure at 2.6, vulnerability at 2.4, coping capacity at 5.1 and an overall risk score of 3.2. The small island Pacific state of Fiji is regularly affected by a range of hazards, owing to its geographical location and geophysical characteristics. This includes frequent tropical cyclones and associated riverine flooding, and hazards linked to the Pacific Ring of Fire, including seismic activity, strong earthquakes and tsunamis (Esler, 2016). The country also suffers from extreme events, such as temperature extremes, droughts – including links to El Niño, and sea-level rise (PreventionWeb, 2014).

Fiji submitted three National Progress Reports for the periods 2009–2011 (HFA, 2011), 2011–2013 (HFA, 2012), and 2013–2015 (HFA, 2014).

## Trajectories and rates of change

### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

#### 1. Does a national platform for DRR exist?

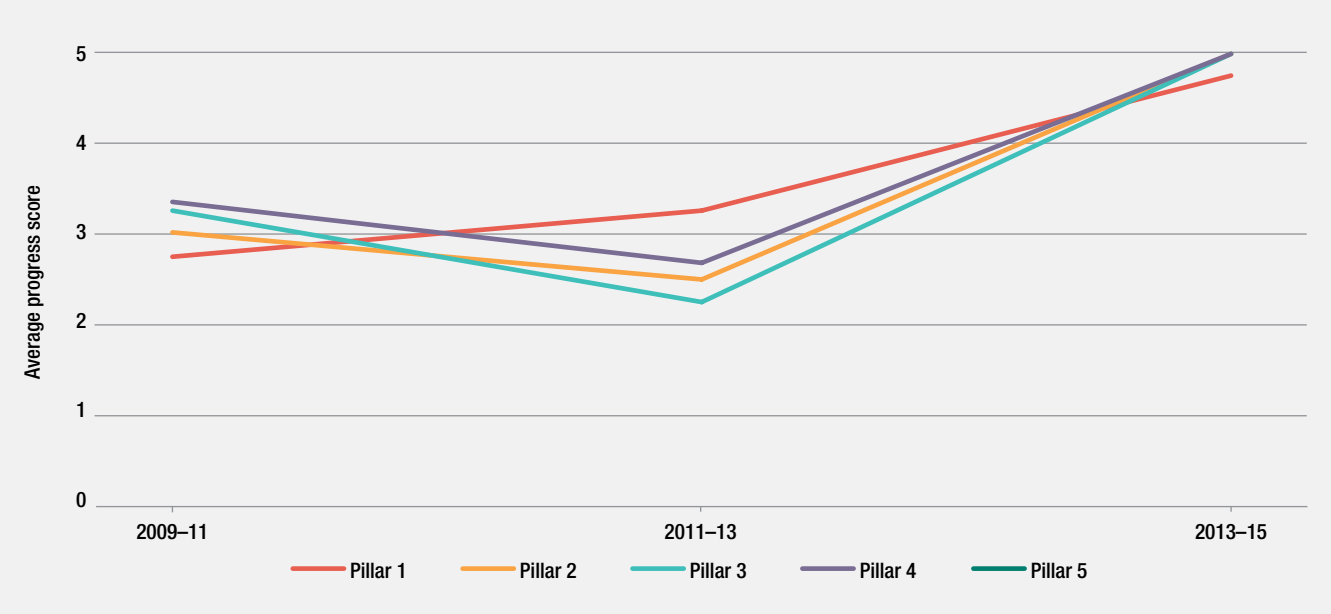
Until 2011, the National Disaster Risk Management Council (NDRMC) acted as the de facto platform for DRR in the country, and the National Disaster Management Office (NDMO) as the Secretariat. The NDMO struggled to convene all ministries, although throughout the HFA period the increased attention on climate change and related platforms offered new spaces for bringing together focal ministries in a combined effort to proactively manage risk. By 2014 a National Platform for Disaster Risk Reduction and Climate Change Adaptation had been established, with disaster risk and climate change central to Fiji's National Roadmap for Sustainable Development (HFA, 2014). The National Platform formulated a National Strategic Plan in Disaster Risk Reduction and Climate Change Adaptation, 'harmonizing the existing Climate Change Policy and the Natural Disaster Act in support of the Green Growth Framework and the Climate Public Expenditure and Institutional Review' (HFA, 2014).

#### 1.a. How comprehensive is the DRR legislation?

At the onset of the HFA, the NDMO operated under the Natural Disaster Management Act 1998 (Government of Fiji, 1998), which provides the legislative basis for the Natural Disaster Management Plan 1995 (Government of Fiji, 1995). In addition, Fiji is a constituent of the Pacific Regional Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters.

In 2006, the Cabinet endorsed the National Disaster Risk Management Arrangement (NDRMA), in place of the 1995 Plan (Government of Fiji, 2006). The NDRMA mandates the NDRMC overall national responsibility

**Changes in average HFA progress scores – Fiji**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

for disaster reduction and management (HFA, 2011). The NDMO Director acts as Secretary to the NDRMC. Implementation of the Arrangements are constrained as the accompanying legislation has not yet been passed: 'The delay is creating some uncertainty particularly to those outside of government on the assignment of roles and responsibilities under the various committees' (HFA, 2011).

The delay resulted in part from a review of the Arrangement that found risk reduction not sufficiently addressed, raising questions about the extent to which the Arrangement could enable DRR to be prioritised over the subsequent five years (Government of Fiji, 2011). Its unapproved status curtails the NDMO in calling for an integrated approach to DRR across government departments.

#### 2. Is there a national DRR strategy in place?

National development plans such as the Sustainable Economic and Empowerment Development Strategy 2008–2010 (Government of Fiji, 2007) include the proposal to integrate DRR across political decisions, and they make explicit the need for Government efforts to be underpinned by a 'risk management approach'. However, no specific strategy was articulated to administer this ambition (UNISDR/UNDP, 2012).

Fiji's national development strategy/roadmap Building National Resilience to Disasters, Reducing Vulnerability and Risks and Adapting to Climate Change is reflected in each Ministry Operational Plan (HFA, 2011) and supported by the Arrangements. The national disaster management structure supports a tiered approach, from national to divisional to district level; the declaration and control of emergencies is managed at the central level, with devolved management responsibility to the district level for preparedness, response, relief and recovery (HFA, 2011).

Regional collaboration plays an important part of Fiji's disaster risk management (DRM) portfolio. The Regional Disaster Risk Management Framework, and the Pacific Community–Pacific Islands Applied GeoScience Commission Community Risk Programme, are two examples of mechanisms through which regional support is channelled (HFA, 2014).

#### 2.b. To what extent do local DRR strategies exist?

The Government's decentralisation of development planning to divisional levels has been coupled with commitment to integrate DRR, under the direction of the Environmental Impact Assessment (EIA) legislation (HFA, 2014). The EIA has been one of the main determinants of DRR integration across sectors and scales. EIA implementation and monitoring at all levels requires strengthening to ensure effective outcomes are achieved (HFA, 2014).

Some local DRR strategies exist. For example, the Pacific Risk Resilience Programme, and the NDMO in partnership with Pacific Community-focused Integrated Disaster Risk Reduction, supported the development of village disaster plans and management committees in the Western Division. By the final HFA reporting period it was suggested that 'Local governments are now programming for multi-hazard risk assessment and have received disaster management training' (HFA, 2014).

In Fiji, the four Divisional Commissioners have oversight of development and disaster response in the four divisions, so thus influence how these are planned and delivered. In the Western and Northern divisions, the Commissioners have both been champions in integrating risk into development – both through integrating risk into community, and also through divisional development plans (Western Division) as well as risk screening of development investments (starting in the North and West). Four climate change and DRM officers are now also located at the sub-national level (one in each division), playing a dual function of being linked with the NDMO for disaster response and preparedness, and linking with sub-national development initiatives to ensure they are more risk informed.

A major constraint to progress has been the lack of legal responsibility and budget allocations for DRR by local governments, especially apparent at the onset of the HFA (HFA, 2011). Where local activities occur, these are often centrally controlled and resources not sufficiently delegated to local levels (HFA, 2011).

In 2015 it was documented that, under the Ministry of Local Government, local governments are required to incorporate DRM in all municipal planning (HFA, 2014). Concerns have been raised about whether local DRM budgets are sufficient to enact the changes required to achieve effective risk management. In some instances, these have been bolstered by external funders.

#### 2.b. How many sectoral DRR plans exist?

The 2009–2011 national progress report (HFA, 2011) listed two sectoral plans in existence: Fiji National Health Emergencies & Disaster Management Plan 2007–2011, and Disaster Risk Management: A Strategy for the Agriculture Sector.

The National Development Plan 2007–2011 mandates use of the Comprehensive Hazard And Risk Management (CHARM) development planning tool and makes risk reduction an obligatory requirement of all development policy proposals. Uptake across all sectors was regarded as highly limited at the onset of the HFA, with the exceptions of health and agriculture. Though approved by Cabinet in 2002, wholesale integration of DRR, and application of CHARM, is limited. The national progress reports attribute this to weak sectoral capacity and to limited understanding of disaster risk within ministries (HFA, 2011). In response, the NDMO sought support from SOPAC to help raise awareness and build capacity for the application of CHARM across all sectors (OAG, 2013).

The final national progress report (HFA, 2014) stated DRM integration had been achieved in sectoral policies and regulations including water, housing, climate change, waste management, marine, bio security, and environment, amongst others.

#### 3. Is community participation mandated in the DRR policies and mechanisms?

A number of guidelines aim to support community participation in DRR and climate change adaptation, though these are not consistently implemented. Three examples of mechanisms intended to strengthen community participation in DRR are as follows: the CHARM risk-management tool aims to ensure community involvement in risk management and national development planning processes (OAG, 2013); the Climate Change Unit has been identified as the key responsible agency for ensuring appropriate consultation of all community members in planning and decision-making around adaptation (OAG, 2013); and the new NDRM Arrangements are designed with the intention of improving current practices, with increased emphasis on inclusiveness and community participation in DRR (HFA, 2011).

#### 4. Is gender explicitly recognised in DRR policies and mechanisms?

There is a lack of systematic integration of gender across all aspects of DRR. Towards the end of the HFA reporting cycle, discourse had started to shift, with increased references to issues of gender and of vulnerable groups.

Large-scale gender inequality across Fiji has led to a number of initiatives that seek to better understand protection gaps for women during disasters, and that challenge characterisations of women solely as disaster victims despite significant contribution to relief and recovery (UNWomen, 2012). Evaluations of the 2012 floods found significant shortcomings in the inclusion of women in Community Disaster Plans, gender-based violence protection, and gender sensitive approaches in response (UNWomen, 2012).

## HFA pillar 2. Identify, assess and monitor disaster risks and enhance early warning

#### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

No comprehensive baseline study of disaster impacts has been completed.

A number of ministries, departments and agencies do collect baseline data in Fiji, including national surveys and mapping exercises, administrative records and natural hazard analysis for specific hazards. The NDMO has responsibility for collating and producing baseline information, but 'is underequipped to perform this function effectively' (Chung, 2009).

Collecting information to construct pre-disaster baselines for specific sectors is becoming more common, as occurred beyond the HFA reporting period – for the Post Disaster Needs Assessment following Cyclone Winston in 2016 (Esler, 2016).

#### 6. Has a national risk assessment ever been completed? How frequently?

No multi-hazard risk assessment has been undertaken in Fiji nor a standard approach adopted for single hazard assessments (HFA, 2014). This prevents Fiji from systematically compiling and synthesising data, and is exacerbated by donor funded technical and research reports that use different formats (HFA, 2011).

In the 2009–2011 national progress review (HFA, 2011), plans were initiated to develop a national risk exposure database, alongside continued attempts to promote the use of Pacific Disaster Net.

Many activities exist through Pacific regional networks and initiatives, aimed at collecting and sharing risk information – on transboundary risk, including for cyclones, earthquakes and climate change, and between meteorological services. Continual improvements of specialised risk mappings for hazards are taking place, including through regional collaboration. For example, Fiji houses the Regional Specialised Meteorological Centre for Tropical Cyclones (HFA, 2014: 19).

#### 7. Is loss information systematically collected?

Loss information is not systematically collected. No national information-sharing system exists for compiling sectoral data.

The NDMO coordinates disaster reports based on response operations, but there is limited overview of damage, loss and impacts across all sectors (HFA, 2011). At the onset of the HFA, nascent attempts to manage information existed. Midway through, the NDMO established the Disaster Information Management Systems (DIMS) (HFA, 2011). By the final reporting period, DIMS was listed as providing the vehicle through which to collate detailed sectoral damage assessments across government departments (HFA, 2014) – there is not sufficient evidence to gauge its functionality and impact (see SOPAC, 2015).

The need for nationally agreed procedures and methods of assessment remains a constraint to collecting accurate loss and damage data and to needs assessments (HFA, 2014). The practice of using disaggregated data therefore is limited and remains a challenge to be addressed in order to improve operations (HFA, 2014).

#### 8. Do early warning systems exist?

Early warning systems (EWS) exist for specific hazards, often supported by financial assistance from international donors (Government of Fiji, 2011). EWS for cyclone and tsunami are the most developed, with some progress on floods linked to Meterological Office in specific locations.

#### 8.a. Are they multi-hazard?

No multi-hazard EWS exists, and individual agency-driven EWS are shaped by the country's geography.

#### 8.b. Do they have 'good' coverage?

The lack of NDMO personnel has limited progress on improving the consistency and quality of early warning messaging. A commonly cited challenge is the translation of scientific and technical information into a format accessible by the general public (HFA, 2014). This has continued to be problematic through to the 2015 reporting period, as is the absence of EWS for slow onset hazards, including those associated with environmental degradation, coastal erosion and river sedimentation (HFA, 2014).

#### 8.c. Are longer-range climate forecasts conducted?

Fiji is part of an expansive number of climate change related initiatives, each seeking to improve the quality and comprehensiveness of long-range climate forecasts for the country and the Pacific region. Of note is the Fiji Meteorological Service (2017), which provides climate forecasting – including climate outlook, information for hydroelectricity purposes, El Nino-Southern Oscillation (ENSO) updates, and sea-level monitoring (including fluctuations related to ENSO and longer-term trends). The Meterological Service is also part of regional engagements, such as the Pacific Climate Change Science Programme (2017) providing climate data, tools and analysis.

### HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

#### 9. Is DRR a formal part of the school curriculum?

DRR is included in primary and secondary curricula in a number of subjects, prompted by the Ministry of Education's curriculum review in 2007 (Selby and Kagawa, 2012). Throughout 2008, Fiji participated in NDMO and United Nations Office for Disaster Risk Reduction (UNISDR) initiatives to mainstream DRR into formal curricular (UNCRD/NDMO, 2008: 3). Teacher training materials continue to be developed alongside manuals for DRR in primary schools (HFA, 2011) in an effort to improve coverage and quality.

In late 2014, the Ministry of Education endorsed an Emergency in Education and School Safety Policy (Save the Children, undated). By the 2013–2015 HFA reporting period, climate change was also being considered for inclusion in primary to tertiary curricula (HFA, 2014).

#### 10. Are there training and capacity-building programmes as part of DRR plans?

A range of formal and informal trainings and capacity-building programmes have taken place over the past decade. This includes DRM training for civil servants during National Disaster Awareness Week by the Government Training Institute, alongside simulation exercises (HFA, 2011). By 2015, the NDMO trainings had advanced to include cross-cutting issues including gender, human rights and protection (HFA, 2014: 14).

DRM courses taught to tertiary level are available, with recognised accreditations and qualifications (HFA, 2011). Postgraduate certificates in DRM are available through the College of Medicine, Nursing and Health Services (SOPAC, 2012).

#### 11. Are there public-awareness and media outreach campaigns?

Fiji has a long history of public-awareness-raising campaigns with DRM information tailored to specific sectors including in health, agriculture, education, water and works. The NDMO organises National Disaster Awareness Week, covering a range of hazards and public service announcements. Often awareness activities are conducted in partnership with non-governmental organisations (NGOs), particularly where there is a desire to reach specific communities (HFA, 2011).

Fiji has actively participated in various global campaigns including the 2005–2006 UNSIDR global campaign Disaster Risk Reduction Begins at School, and the Reducing Vulnerability of School Children to Earthquakes project (Ando et al., 2009).

Fiji desires to have a countrywide multi-hazard public-awareness strategy with long-term goals to integrate DRR into everyday life (HFA, 2014). There is recognition of the need for greater attention to vulnerable groups and engagement with religious bodies within outreach, coupled with better monitoring to gauge the effectiveness of such campaigns.

### HFA pillar 4. Reduce the underlying risk factors

#### 12. To what extent is DRR included in national climate change adaptation policies?

Fiji is signatory to various international climate agreements and conventions, and has corresponding national policies and strategies in place. This includes the Fiji National Climate Change Policy Framework endorsed by Cabinet in 2007 and reviewed in 2011, and the National Climate Change Policy for Fiji approved in 2012. DRR strategies are embedded under objective 5 of the policy (OAG, 2013).

The policy is operationalised by the National Climate Change Adaptation Strategy, which details how to manage the consequences of climate change across the country. It is supported by a Joint National Action Plan for DRR and climate change adaptation (CCA) (UNISDR/UNDP, 2012).

#### 13. Is DRR included in environmental management policies/ environmental impact assessments?

Fiji's Environmental Impact Assessment legislation provides a means for DRR to be embedded into development

decision-making processes through a section on hazards and risks (elaw, undated). The EIA legislation is regarded as being comprehensive (HFA, 2011), though national progress reports (HFA, 2011) suggest that in order to be fully adopted, greater enforcement will be required, as will the financial resources to enable routine monitoring.

New infrastructure developments are subject to the EIA legislation, which includes scope for community input; however, weak technical expertise at the community level has been identified as a constraint to effective operationalisation (HFA, 2011). Ineffective Government enforcement of the Foreshore Development Act is also listed as a concern – resulting in developments moving ahead without required approvals (HFA, 2011). Specifically, this includes a lack of integration of human rights and gender into the EIAs.

#### 14. Are hospitals 'safe'?

All hospitals are subject to the National Building Code (Government of Fiji, 2004), and those that are listed as designated centres in the event of a disaster undergo further protection. Since 2002, the continual revision of the Ministry of Health's National Health Emergencies and Disaster Management Plan – including most recently in 2013 – has supported alignment with the national disaster management (NDM) Plan, operationalised through guidelines and standard operating procedures (Ministry of Health, 2015).

In 2011, plans were underway to conduct risk auditing of built infrastructure including the health communication network by the Health Sector (NHEDM Plan, in HFA, 2011). By the final HFA reporting period, initiatives to make hospitals safe included: Health Disaster Plans, risk assessments of hospitals, inclusion of disaster management into the curriculum for medical students, hospital inspection and upgrading under the health budget (HFA, 2011).

#### 15. Are schools 'safe', and have there been any initiatives to ensure schools are built in accordance with DRR guidelines or policies?

All schools are subject to the National Building Code (Government of Fiji, 2004), and if designated as evacuation shelters they undergo inspection. Over the HFA period, initiatives included school retrofitting and the development of school disaster management plans from customised risk assessments (HFA, 2011). Coverage is piecemeal, and the 2013–2015 national progress report (HFA, 2014) highlighted that school retrofitting ceased for some areas with the conclusion of a UN-funded programme.

The Education in Emergencies and School Safety Policy (Ministry of Education, 2014) provided the framework for action in the latter part of the HFA period. This included progress towards safe school facilities, wherein education, government and technical experts were brought together to assess school sites, implement disaster-resilient design, and enact a prioritisation scheme for retrofitting and replacement (including relocation) of unsafe schools. Evidence on coverage and effectiveness remains absent.

Ambitions for the future include designing policies to make education centres, when used in disasters, more inclusive of vulnerable groups, including lactating mothers, the elderly and the disabled, amongst others (HFA, 2014).

#### 16. Are there any shock-responsive or social safety net schemes?

No formal nationwide shock-responsive social protection schemes exist. Social protection systems do exist in Fiji through the Government's ambitions to address poverty and vulnerability. Since 2010, the number of social assistance mechanisms have grown, overseen by the Department of Social Welfare. Replacing the Family Assistance Programme and Food Voucher Program in 2013, the Poverty Benefits Scheme provides targeted payments to those in need (ADB, 2010).

Evidence is weak on coverage and effectiveness of formal social protection schemes, and of individual projects led by civil society organisations (CSOs) and UN agencies, who are 'currently filling gaps left from social welfare programmes and cultural safety nets' (HFA, 2014: 37).

As of 2015 there was limited coordination between agencies responsible for social protection, disasters and climate change; thus the potential for shock-responsive social protection has not yet been explored (World Bank, 2015).

#### 17. To what extent do risk-financing mechanisms exist?

At the start of the HFA, Fiji was recorded as having a small insurance base which consequently limited financial risk sharing. There were complications where it did exist, with instances of insurance being removed for flooding in Nadi Town and the NDMO attempting to bring this to the attention of the Commissioner of Insurance. By the end of the HFA period, Fiji had the second-largest non-life (general) insurance market in the Pacific Island Countries (GFDRR, 2015: 4). Seven local insurers operated with total premium income of $78 million, while 17% of the market was with offshore insurers. Furthermore, Fiji is partnering with the World Bank to explore options for Catastrophe Risk Insurance and other financial risk sharing modalities (HFA, 2014).

#### 18. Are there effective land-use planning and building codes in place?

In response to an ambition by the insurance and civil engineering sectors to address the need for better preparedness to cyclones, the National Building Code (Government of Fiji, 2004) Fiji Islands Regulations (Government of Fiji, 2004) emerged (HFA, 2011). Key infrastructures including schools and hospitals are subject to the Code; however, it does not apply

to village housing, which remains vulnerable and largely unprotected (HFA, 2014: 66).

Though Fiji primarily consists of rural dwellers, the rise in unplanned urban settlements has led to increased Government focus on establishing policies to regulate urban infrastructural development (HFA, 2011). Manuals for building design exist, but the enforcement and monitoring required to ensure effective implementation is limited (HFA, 2011). For specific areas, risk mapping is being undertaken, such as in pilot programmes in Nadi with the Ministry for Town and Country Planning, in combination with the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI).

Fiji is a signatory to the United Nations Convention to Combat Desertification (UNCCD), which is also to combat land degradation, and as such Fiji has an obligation to support sustainable land-use planning. Fiji endorsed the National Rural Land Use Policy in 2005 and the National Action Plan to Combat Desertification in 2007, which includes reference to DRR and early warning for drought (UNCCD, 2007). In addition, the Environmental Management Act (2005) includes provision for coastal zone management committees to beestablished, and under those the preparation of coastal zone management plans (Jupiter et al., 2012).

## HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

### 19. Are there national and local contingency plans in place?

National and local contingency plans exist, but hazard coverage and quality varies greatly. Under the Pacific Island Countries Regional Framework for DRM, there is a focus on preparedness and response, which is translated at the national level through the National Disaster Management Plan. Under this framework there are several support plans in place for predictable and seasonal hazards, for example the Cyclone Support Plan 1997 (HFA, 2014). Though many contingency plans exist, these are often designed in isolation – for schools, lifeline utilities, Fiji Islands Maritime Safety Administration (FIMSA) for oil spills etc. (HFA, 2014: 49). The effective coordination of contingency and preparedness plans and corresponding activities was reported as a challenge, right up to the end of the HFA reporting period. Constraints on contingency plans include a lack of financial resources to undertake drills and to stockpile materials. In the final years of the HFA, the Ministry of Education worked with Disaster Management Clusters in developing multi-stakeholder Extended Dry Period Response Plans for 51 schools (PRRP, 2015).

### 20. Is there an emergency fund?

The Prime Minister's Relief and Rehabilitation Fund provides small sums for response (HFA, 2011). In addition, government departments are able to use existing budgets in the event of an emergency, though no specific emergency or contingency fund exists by sector. For major response and recovery needs, regional and international support is often required and called upon. The UN humanitarian funding for relief has been regularly accessed through the Office for the Coordination of Humanitarian Affairs (OCHA) emergency cash grants (HFA, 2011), and Fiji has well-established channels to seek assistance from donors including the Asian Development Bank and World Bank.

A National Contingency Fund exists and includes a small reserve accessible to the NDMO in response operations. Funds allocated for preparedness and mitigation have increased over the 2013–2015 reporting period, and it is reported that the resources of the Prime Minister's Public Appeal Fund are 'accumulated for future's next need' (HFA, 2014: 51). There is no explicit budgetary provision for DRR in recovery and rehabilitation activities (HFA, 2011), though there is an expectation to use funds with a view to 'build back better', for example in the design of new infrastructure. Each ministry is expected to incorporate and therefore fund elements of DRR relevant to its sector (HFA, 2011).

A report by the World Bank GFDRR in 2015 articulated the two primary sources of funds for relief: National Disaster Relief and Rehabilitation Fund, releasing up to $0.5 million, and the newly established Rehabilitation Fund, which receives $1 million annually (GFDRR, 2015).

Following Tropical Cyclone Evan, 0.3% of the total national budget ($3.7 million) in 2012 was reallocated to response by the Government of Fiji, with a further $9.1 million in 2013, equal to 0.7% of total expenditure (GFDRR, 2015: 3).

### 21. Is there a culture of volunteerism and participation?

There is a strong culture of volunteerism in Fiji – through the Red Cross, through church groups, and supported by funding mobilised from overseas diaspora – as was the case following major disasters such as Tropical Cyclone Winston in 2016.

As of 2012, an Emergency Management Volunteer Service had been established. Volunteers are provided with community-based DRM training, including initial damage assessment. This structure extends to the village and settlement level, with the aim of strengthening community self-reliance and participation in DRM activities (UNISDR/UNDP, 2012).

Fiji also hosts a Red Cross with active volunteerism. The Fiji Red Cross Disaster Preparedness and Response Plan was approved in 2000 (FRCS, 2007), and subsequently updated in July 2017 (FRCS, 2007).

# Annex 4: Guinea Bissau

## Introduction

Guinea-Bissau is a medium-risk country with an overall 2015 INFORM risk rating of 4.9. The country scores 2.3, 6.2 and 8.4 for hazard exposure, vulnerability and coping capacity respectively.

Guinea-Bissau is a small low-income country on the west coast of Africa, with a population of approximately 1,700,000 people. In recent decades the country has experienced drought, storms, wildfire and most frequently floods, with floods responsible for the biggest impact in terms of disaster mortality (Preventionweb, 2015). The country also experiences major health epidemics, and political instability presents a significant challenge. A military coup took place in 2012, and a new government was democratically elected in 2014.

The country reported in the 2009–2011 and 2013–2015 reporting periods of the Hyogo Framework for Action 2005–2015 (HFA). Progress is reported against each of the HFA's five pillars, with an average improvement of 0.818, but the greatest progress is reported against pillar 1 (1.75).

Relative to the other country case studies, there is limited evidence available on disaster risk reduction (DRR) in Guinea-Bissau. Much of the text in the strategies and progress reports consists of intentional statements that do not commit the government to concrete or time-bound action. Thus, Guinea-Bissau's policy documents are rather vague. Independent research regarding the state of DRR in the country is very limited. The HFA progress reports are also vague, and provide little evidence, making it difficult to track actual progress.

## Changes across the 5 HFA pillars – Trajectories and rates of change

### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

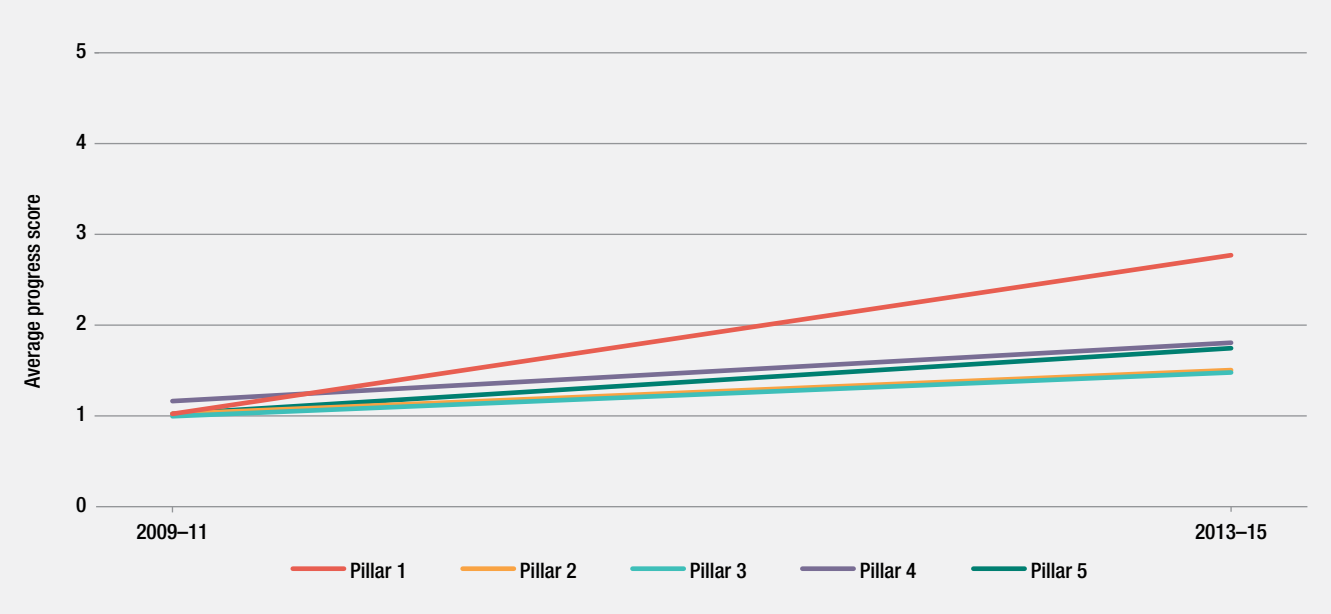
#### 1. Does a national platform for DRR exist?

The establishment of a National Platform was first mentioned in 2009, as a goal of the National Committee for Installing a National Service of Civil Protection (see below). However, while the 2013 National Strategy for Disaster Risk Management (see below) recommended the creation of a National Platform for Disaster Risk Management, by 2015, regulatory texts relating to the creation of this Platform were still awaiting approval.

#### 1.a. How comprehensive is the DRR legislation?

At the start of the reporting period, it appears there was no existing national legislation for DRR. The process began in 2009, when the Commission to Establish the National Civil Protection Service (CISNPC) was established

**Changes in average HFA progress scores – Guinea-Bissau**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

with assistance from the United Nations Development Programme (UNDP) (HFA, 2011). This inter-ministerial committee aimed to develop a law of Civil Protection, and to lay the institutional and legislative foundations for a National Platform for DRR, in addition to mobilising internal and external resources for DRR and raising the profile of risks at the national level (CISNPC, 2010).

In June 2011, the Basic Law of Civil Protection was passed (Lei de Bases da Protecção Civil), becoming the first law pertaining to DRR in the country. This led to the creation of the National Service of Civil Protection (Le Service National de la Protection Civile, SNPC) later the same year (HFA, 2011). To support this, an evaluation of institutional capacities of the primary agencies to be involved in the SNPC had been conducted in 2010 at the request of the CISNPC. The SNPC is made up of political institutions including the People's Assembly and national and local government agencies, and 'operational and technical institutions' including Relief and Protection Centres, though civil society is not represented (da Silva, 2013; HFA, 2015).

A National Council of Civil Protection (Conselho Nacional de Proteção Civil, CNPC), created under the SNPC in 2011, is mandated with responsibility for legislative reforms and planning for civil protection, coordination of agencies involved, and international cooperation for civil protection (da Silva, 2013). It is a multi-sectoral consultative and coordinative body composed of sectoral ministries relating to civil protection, the President of the SNPC, and representatives from the military, local government and humanitarian organisations (da Silva, 2013).

#### 2. Is there a national DRR strategy in place?

The National Strategy for Disaster Risk Management was published in June 2013 (da Silva, 2013). The strategy identifies disasters relevant for the country, ranks their likelihood and categorises them as 'natural' or 'man-made'. Examples given of natural disasters include parasitic infections and landslides, while examples of man-made disasters include drug trafficking and internal conflict (ibid). It determines that the most probable risks in the country are: 1) epidemics; 2) food insecurity; 3) rains, floods, cyclones and fires; 4) internal displacement due to political instability; and 5) an influx of refugees from neighbouring countries (ibid). The National Strategy highlights the importance of integrating DRR across all relevant policy areas, and a series of recommendations are made to begin this process (ibid), including an outline of the responsibilities of specific government ministries in reducing risk (ibid).

The strategy notes a number of challenges, including obstacles to coordinating agencies for DRR and to mobilising relevant agencies during disaster events, and a proliferation of committees presided over by the Prime Minister. To advance DRR in the country, recommendations given in the National Strategy include a revision of the Basic Law of Civil Protection, the creation of a National Platform of Disaster Risk Management, and the development of a five-year plan to implement the strategy, among other points (da Silva, 2013).

However, there is no evidence that the five-year plan has been developed, and aside from activities underway as part of a 2015 programme led by UNDP, SNPC and partners (see below), the Strategy does not appear to have been implemented. No budget is officially allocated to DRR, and the 2015 progress report suggests that most of the regional budgets for civil protection are spent on fuel for emergency vehicles and vehicle maintenance (HFA, 2015).

#### 2.a. To what extent do local DRR strategies exist?

There are no local strategies in place for DRR. In 2015, a joint programme between the UNDP, UN Volunteers (UNV), United Nations Children's Fund (UNICEF), Food and Agriculture Organization of the United Nations (FAO), SNPC and a number of international non-governmental agencies (NGOs) was underway, with aims including the integration of climate and disaster risks in community development plans, and the establishment of disaster management response mechanisms at community level (HFA, 2015).

#### 2.b. How many sectoral DRR plans exist?

Harmonisation and coordination of sectoral plans relating to DRR was recommended in the National Strategy. Given Guinea-Bissau's assessment of DRR priorities in the National Strategy for Disaster Risk Management, several sectoral policies are relevant. These include a National Programme for Food Security 2008–2012 (HFA, 2011) and a National Committee of Refugees and Displaced People (Pires, 2015), both introduced in 2008. Also in 2008, a 1998 Holistic Strategy to Combat Infectious Disease and Ensure Preparedness against Epidemics was being revised (Ministério de Saúde Pública, 2008).

A National Strategy for Poverty Reduction 2011–2015 (DENARP II), introduced in 2011, stated that disaster prevention, preparedness, response and reconstruction are major areas of focus (HFA, 2011). As with the National Strategy for Disaster Risk Management, DENARP II stressed the need for integration of DRR into the school curriculum, the formulation of contingency plans, greater community involvement in DRR, and increased institutional, technical and financial capacities to enable a culture of prevention at all levels of government (Ministry of Economic Planning and Regional Integration, 2011).

However, the government's ability to integrate DRR principles as part of DENARP II implementation is said to be dependent upon available funding and external assistance (Ministry of Economic Planning and Regional Integration, 2011). In 2011, HFA progress reporting stated that DRR was not yet included in the country's

development plans (HFA, 2011), and no further progress was made within the HFA reporting period.

#### 3. Is community participation mandated in the DRR policies and mechanisms?

There is no community participation mandated in DRR policy and mechanisms, aside from the National Committee for Volunteers outlined below.

#### 4. Is gender explicitly recognised in DRR policies and mechanisms?

The 2013 National Strategy for Disaster Risk Management recognises that women are more vulnerable to disasters in Guinea-Bissau as a result of their limited access to land and property, but it introduces no concrete measures to address this (da Silva, 2013). By the end of the reporting period, the need to address the specific needs of men and women in DRR and response plans was recognised, but this had not occurred (HFA, 2015).

## HFA pillar 2. Identify, assesss and monitor disaster risks and enhance early warning

#### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

There was no baseline review of disaster impacts, nor was the status of DRR undertaken to track progress for the HFA or for Sendai implementation.

#### 6. Has a national risk assessment ever been completed? How frequently?

By the end of the reporting period, although there were intentions to introduce risk assessments into sectoral development planning, particularly under the Ministry of Health and through the SNPC, no comprehensive risk assessments had been conducted (HFA, 2015). In 2015, the joint programme underway between the UNDP, SNPC and other partners was aiming to facilitate vulnerability and capacity assessments, to support development of community risk profiles (HFA, 2015).

#### 7. Is loss information systematically collected?

A database that includes information on losses reportedly does exist (HFA, 2015), but concrete data is thin on the ground; this is evidenced by, for instance, a workshop held shortly after the establishment of the CISNPC in 2011, where sharing of information on disaster losses among participants was based on their personal experience rather than on data. Creation of a database of major historic disasters was a recommendation of the National Strategy for Disaster Risk Management (da Silva, 2013). However, information is not systematically collected and the database is not used for planning purposes (HFA, 2015). In 2016 there was a National Workshop for the Implementation of the National Database for Disaster Loss and Damage in Guinea-Bissau (UNDP Guinea Bissau, 2016).

#### 8. Do early warning systems exist?
#### 8.a. Are they multi-hazard?
#### 8.b. Do they have 'good' coverage?

By 2011, Guinea-Bissau had an early warning system for food insecurity in place (HFA, 2011), and the 2013 National Strategy for DRM states that there are already early warning systems in place for cholera, pandemic flu and anthrax. Following an upgrade of its local infrastructure in 2011, the National Meteorological Service transmits radio bulletins about weather systems – though it is not clear whether these bulletins provide early warning of weather and climate risks (HFA, 2011). In 2015, the SNPC and the National Meteorological Institute were in the process of developing hazard monitoring at central, regional and municipal levels, to support an early warning system and for use in risk assessments (HFA, 2015). No time frame was specified for its completion, but a national workshop has been held to develop a proposal for an early warning system, and this has been submitted to the Global Environmental Facility for funding (UNDP Guinea-Bissau, 2017).

#### 8.c. Are longer-range climate forecasts conducted?

If foreign funding and assistance can be secured, improvements to the country's forecasting capabilities may come through efforts to adapt to climate change. Guinea-Bissau's National Adaptation Programme of Action (NAPA) states that enhancing meteorological data and forecasting capability is a central aim; it outlines a programme for establishing a national centre for 'meteorological and hydraulic prevention' to provide meteorological information and forecasts through the national committee, and for enhancing public awareness of climate risks. (Ministry of Natural Resources and Environment, 2007). However, during the HFA reporting period no longer-range forecasting was conducted.

## HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

#### 9. Is DRR a formal part of the school curriculum?

Despite a recommendation in the National Strategy to introduce DRR into all levels of the school curriculum, by the end of the reporting period this had not yet occurred (HFA, 2015). A joint programme between the UNDP, SNPC and other partners was underway, aiming to facilitate the development of DRR and climate change modules in primary education (HFA, 2015). However, the joint program is now closed due to lack of funding (UNDP Guinea-Bissau, 2017).

#### 10. Are there training and capacity-building programmes as part of DRR plans?

The 2015 progress report suggested that very limited training and capacity-building for the SNPC and other agencies had taken place (HFA, 2015).

#### 11. Are there public awareness and media outreach campaigns?

Public awareness campaigns have centred around health and hygiene. Following a severe outbreak of cholera in 2008, UNICEF supported the Ministry of Health to deliver a campaign to raise awareness of preventative measures and good hygiene practices, including through radio broadcasting and targeting of schoolchildren (UNICEF, 2009). This was coupled with water and sanitation interventions and the distribution of emergency supplies. The campaign reached 400,000 people. Further public health and hygiene campaigns took place in 2009 and 2010 (HFA, 2011), but it is not clear what the focus of these campaigns was or whether these initiatives have continued. More recently, the implementation of community education campaigns was among the aims of the 2015 programme led by UNDP, SNPC and other partners (HFA, 2015).

### HFA pillar 4. Reduce the underlying risk factors

#### 12. To what extent is DRR included in national climate change adaptation policies?

DENARP II recognises that climate disasters (both rapid onset climate hazards and environmental degradation) undermine development objectives, and that there is a need to integrate climate risks into sectoral policies, planning processes and investment decisions in order to adapt to climate change. However, no progress appears to have been made in this regard.

Guinea-Bissau's NAPA, released in 2007, highlights the prevention of natural catastrophes as a key priority (Ministry of Natural Resources and Environment, 2007). However, implementation of the measures prioritised within the NAPA relies on external funding, which is still being sought (Ministry of Natural Resources and Environment, 2007; UNDP Guinea-Bissau, 2017).

#### 13. Is DRR included in environmental management policies/ environmental impact assessments?

Several environmental impact studies are said to have been conducted by 2015, and disaster risk is reportedly taken into account in environmental impact assessments (HFA, 2015), but it is not clear when these were introduced, or whether they have been used in decision-making (HFA, 2015).

#### 14. Are hospitals 'safe'?

There are no reported measures regarding 'safe' hospitals.

#### 15. Are schools 'safe', and have there been any initiatives to ensure schools are built in accordance with DRR guidelines or policies?

There are no reported measures regarding 'safe' schools.

#### 16. Are there any shock-responsive or social safety net schemes?

According to the 2015 reporting, microfinance programmes existed and the country was seeking assistance from the UN to deliver guaranteed employment plans (HFA, 2015).

#### 17. To what extent do risk-financing mechanisms exist?

In 2015, Guinea-Bissau was seeking assistance from the UN to deliver insurance schemes for crops and property and risk-transfer schemes (HFA, 2015).

#### 18. Are there effective land-use planning and building codes in place?

At the start of the HFA period, effective land-use planning was lacking; colonial land regulation still applied, and there were no laws pertaining to protected areas or natural resource management regulations (World Bank, 2006). By 2015, risk was said to be integrated into land regulations and laws pertaining to private property development, and masons were being trained in safer building construction (HFA, 2015).

### HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

#### 19. Are there national and local contingency plans in place?

By 2015, there were no national contingency plans in place (HFA, 2015); but there are sectoral contingency plans (UNDP Guinea-Bissau, 2017).

#### 20. Is there an emergency fund?

By 2015, no emergency fund was in place owing to a lack of state funds (HFA, 2015).

#### 21. Is there a culture of volunteerism and participation?

A National Committee for Volunteers was in place at the start of the HFA period, having been established by the Youth Institute in 2002. Its activities stagnated, but were boosted in 2011 following support from the UNDP (UNDP, 2013a). The Committee meets every fortnight, and over 40 organisations are reported to be active members, including youth organisations, NGOs and cooperatives working on human rights, health, education, environment, youth and community development (UNDP, 2013a). According to the National Strategy for DRM, the Red Cross of Guinea-Bissau has teams of local volunteers ready to act in case of an emergency, who are trained in first response (da Silva, 2013).

# Annex 5. Mexico

## Introduction

The INFORM database puts Mexico in the 'medium' risk category with a score of 4.8. Yet disasters have had a major impact on infrastructure and the economy. Mexico lies within the North Atlantic and Eastern Pacific tropical cyclone belts, and both coastlines are affected by hurricanes between June and November. Hurricanes have produced the most damage of any hazard type, but the 1985 Mexico City earthquake caused the most fatalities in Mexican history. Over 8,000 people were killed, and 150,000 houses in the city's dense historic centre were destroyed (Kreimer et al., 1999). Mexico is also affected by droughts, forest fires, floods, landslides and volcanic eruptions.

Hyogo Framework for Action 2005–2015 (HFA) progress reports are relatively detailed but do not reflect improvements in any of the pillars: scores were already high for the 2009–2011 reporting period and dropped for the 2011–2013 and 2013–2015 reporting periods. Governments changed, and some civil protection programmes disappeared and new ones were brought in, making it difficult for those reporting on HFA implementation to compare progress on outputs with respect to previous time periods.

## Trajectories and rates of change

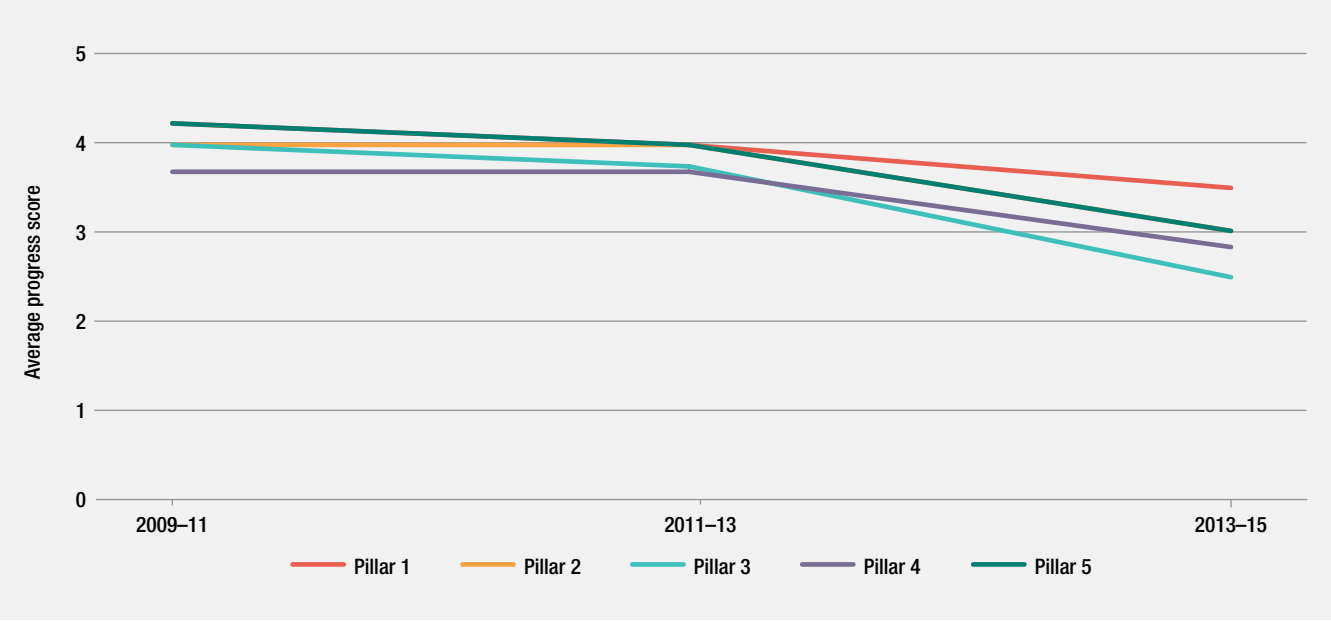
### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

#### 1. Does a national platform for DRR exist?

The National System of Civil Protection (SINAPROC) was established in 1986 following the Mexico City earthquakes. It is an organised group of structures, functional relations, methods and procedures involving all levels of government and engaging the private sector and non-governmental and civil society organisations. The largest stakeholder deliberation forum within the system is the National Civil Protection Council, made up of the Mexican President, heads of the federal ministries, the governors of 32 states, and representatives from civil protection commissions in congress (Colorado et al., 2014). This platform is led and coordinated by the Interior Ministry, in which the Civil Protection agency sits.

In 2014, SINAPROC comprised 1,297 civil society organisations, 1,707 government sectoral agencies, and several private sector and women's groups (HFA, 2014).

**Changes in average HFA progress scores – Mexico**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

#### 1.a. How comprehensive is the DRR legislation?

The 2000 Civil Protection Law (LGPC) was the first piece of national legislation on DRR, updated in 2006 and again with important changes in 2012. The 2000 legislation characterised disasters as unpredictable events caused by natural phenomena and focused principally on responding to these events.

The 2000 law underlined the autonomy of municipalities, building on the principle of subsidiarity. Only if municipal capacity is surpassed can the state government intervene; and similarly for state capacity.

Twelve years after the first national law, a new LGPC (2012) was ratified, focusing on building resilience and DRR mainstreaming into other sectors. The law adopts the concept of integrated risk management and strengthens links to urban development, housing and the built environment, climate change and education (Colorado et al., 2014: 2). Thre years later, regulations were finally approved to implement the law. Sectoral legislation on urban development, housing and construction, land tenure and human settlements was not well linked to the LGPC, however (HFA, 2014). After the end of the HFA reporting period, new legislation on human settlements, land use and urban planning and a revision to Article 3 of the Planning Law improved these linkages, highlighting the need to conduct risk assessments and adopt necessary mitigation measures before handing out planning permits, and referring directly to the LGPC.

Every state has a State Civil Protection Law, but these laws vary in focus according to when they were passed. The most recent laws have a greater level of detail – they are more in-line with the national law of 2012, paying greater attention to coordination between state and municipal governments.

In 2011, only 41% of all municipalities had a local civil protection regulation, partly due to the lack of resources and capacities, especially in small rural municipalities (2014).

#### 2. Is there a national DRR strategy in place?

The first National Civil Protection Programme (2001–2006) predates the HFA. It represents a shift from a reactive system to one capable of anticipating disasters and alleviating impacts (SEGOB, 2001). The programme dealt mainly with actions to prepare for imminent disasters (Wilkinson, 2011).

Influenced by the HFA and other international policy documents, the next National Civil Protection Programme (2008–2012) adopts international DRR language and terminology. This notion of integrated disaster risk management (DRM) is described as a 'sustainable development policy' to be carried out by 'strengthening cooperation between the federal government, states and civil society' (SEGOB, 2008).

A series of measures and proposals were announced by the federal government in early 2013 to consolidate this transition process. The National Development Plan (2013–2018) aims to safeguard citizens and their goods from natural and man-made disasters (HFA, 2014). Priorities include consolidating the Risk Atlases at federal, state and local levels; promoting DRR as an integrated policy across government with the participation of private and social sectors; and the strengthening of existing policies on human settlements in hazard-prone areas (Colorado et al., 2014).

#### 2.a. To what extent do local DRR strategies exist?

Under the 2000 law, states and municipalities have autonomy to develop their own DRR policies. State and municipal councils have been set up throughout the country (SEGOB, 2004), but most of these only convene to discuss preparedness (for example at the start of hurricane season) and emergency response coordination across government departments and with participation of the National Red Cross Society (Wilkinson, 2012).

Local governments have legal responsibility for DRR in Mexico, and many have developed DRR plans, but they do not receive earmarked funds to implement them. As most municipalities are unable to raise more than 5% of revenues locally, funds for DRR have to be allocated from unconditional transfers. These represent 36% of total municipal income on average, but DRR's share of this tends to be less than 1%. Funding from central government is available through the Fund for Disaster Prevention (FOPREDEN): for every 3.1% of the budget assigned to the Natural Disasters Fund (FONDEN), 0.1% is allocated to FOPREDEN. State governments can access the fund, but review can take a long time and the requirements for approval can be difficult for local authorities to meet (Wilkinson, 2012). The new LGPC also encourages state governments to set up a civil protection fund to pay for training, equipment and other costs related to state and municipal civil protection, implying there may be some earmarked resources for DRR.

State governments maintain considerable control over municipal plans – for example, all bylaws and local development plans have to be approached and municipal budgets reviewed by state legislatures – and the federal government controls most of the DRR budget so DRR policy-making remains highly centralised in practice (Wilkinson et al., 2014).

#### 2.b. How many sectoral DRR plans exist?

Sectoral emergency plans in Mexico predate national DRR legislation. The National Defence Secretariat's (SEDENA's) 1966 Plan to Aid Civilian Disaster (Plan DN-III-E) sets out how military operations are to be coordinated to assist civilians in times of disaster (SEGOB, 2011; Castro Garcia and Reyes Zúñiga, 2006). The National Water Law (2004) and the Sustainable Rural Development Law (2001) included relevant provisions on drought risk management and food security (Colorado et al., 2014).

The Law on Housing (2006) contained several stipulations relating to DRR: the National Housing Programme should promote actions for the relocation of people residing in at-risk areas of disaster-affected zones (Colorado et al., 2014: 28). However, risk assessments are not generally conducted in planning or investment decisions, with the exception of health and education sectors and in road infrastructure (HFA, 2014).

#### 3. Is community participation mandated in the DRR policies and mechanisms?

The report submitted to the World Conference on Disaster Reduction (WCDR) 2005 does not explicitly state how community participation is mandated through DRR framework in Mexico (CENAPRED, 2004). Under article 41 of the LGPC (2012) populations at risk have the right to be informed and to participate in risk management actions. Yet the law 'lacks practical provisions to guarantee the mainstreaming of important topics such as gender equality and indigenous population rights' (Colorado et al., 2014).

The HFA interim report (2014) acknowledges that a lot of work still needs to be done to strengthen and empower local communities and community-based organisations (CBOs). Inclusion and community participation are promoted in legislation and plans but in practice the participation of urban and rural communities, the mainstreaming of gender equality, and the inclusion of indigenous and vulnerable groups remains weak (Colorado et al., 2014).

#### 4. Is gender explicitly recognised in DRR policies and mechanisms?

Gender was not mentioned in the first report submitted to the WCDR in 2005 (SEGOB, 2004). Five years into the HFA, the government stated that the integration of gender into Mexico's DRR framework was limited due to lack of understanding amongst state and municipal civil protection authorities (HFA, 2010).

The national women's institute (INMUJERES) worked with UNDP from 2010–2012 in the southeast of Mexico on integrated risk management with a gender perspective (SEGOB, 2011: 5), and there have been important advances in disaggregating data – for the risk atlas and in loss assessments (HFA, 2014), but this could be further institutionalised: the national law still lacks provisions to promote the mainstreaming of gender and indigenous rights in DRM (Colorado et al., 2014).

## HFA pillar 2. Identify, assess and monitor disaster risks and enhance early warning

#### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

A report submitted to the WCDR in 2005 summarises institutional commitments, risk assessment, knowledge management, instruments for risk management, contingency planning, risk management practices, priorities for action (GoM, 2005). This provides a baseline for HFA implementation on institutional capacities.

#### 6. Has a national risk assessment ever been completed? How frequently?

In 2004 the Social Development Ministry (SEDESOL) produced a methodology for hazard identification in urban areas (used for zoning), that serves as a starting point for zoning (ECLAC, 2007: 46).

At the start of the HFA, the Centro Nacional de Prevención de Desastres (CENAPRED) began to develop a 'Risk Atlas'. It provides a common framework for gathering risk data, and by 2006–2007 six states had developed their own Risk Atlases. In 2013, 28 out of 32 states had a State Risk Atlas with another two in development (OECD, 2013). At the local level, 175 municipalities had developed their own.

The LGPC (2012) states that the atlas should be used by government authorities before authorisation of any type of construction, infrastructure or human settlement. Similarly, the General Law on Climate Change (LGCC) (2014) encourages its use in state and municipal development plans, building codes and land-planning regulations, with a focus on the most exposed areas and for potential relocation decisions.

According to the Economic Commission for Latin America (ECLAC, 2007), the Mexican Risk Atlas has nationwide risk information but is incomplete and lacks resolution for local or municipal decision-making. Risk (principally seismic) study projects are focused only on the main cities. This assessment is confirmed by the government: more detailed studies of risk in a particular area are needed and required by the LGPC (2012) (HFA, 2014). Consolidating and standardising the Risk Atlas is considered a priority by the current government (Colorado et al., 2014).

CENAPRED also developed a scenario visualisation system (SAVER) for spatial analysis and impact modelling (Colorado et al., 2014). In 2013, this was being integrated with the State Risk Atlases, but the system was not subsequently supported by national government and no longer exists.

Additional information on catastrophic risk is collected and analysed through the R-FONDEN system, principally on roads, housing, health and education infrastructure (HFA, 2013).

#### 7. Is loss information systematically collected?

Systematic socioeconomic impact assessments of all major disasters have been carried out every two years since around 2000 (Bitrán Bitrán et al., 2001), with some events covered as far back as 1980. The information can now be

consulted online using the Risk Atlas tool. According to ECLAC (2007), however, the reports underestimate losses due to lack of information on some occasions and because smaller events are not included.

#### 8. Early warning systems

The tropical cyclone early warning system (SIAT_CT) has reportedly been working effectively since 2000 (SEGOB, 2004). A national seismic monitoring network has been set up to standardise data collection and monitoring, while observation and EWSs are also in place for all active volcanos, and Popocatépetl has been monitored by CENAPRED since 1994 (SEGOB, 2004). The National Alert System for Tsunamis has been functioning since 2013 (CENAPRED, n.d.; HFA, 2014).

Operational aspects of decisions around EWSs are made centrally (Wilkinson et al., 2014: 22). This can make it difficult for local municipalities to develop locally appropriate communication systems, although alert levels (and recommended actions) have been adapted locally for tropical cyclones. A Hydro-meteorological Warning System was being planned at the local level, as well as a National Tsunami Warning System (Colorado et al., 2014), but at the time of writing this local system did not exist.

The creation of a National Alert System is planned to cover all hazards including those not currently monitored (Presidencia de la República, 2013). The aim is to improve alerts and response so that numbers affected annually by disasters can be reduced from 1.84% of the population in 2013 to 1.34% in 2018 (HFA, 2014).

## HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

#### 9. Is DRR a formal part of the school curriculum?

The first report submitted to the WCDR outlined a plan to pilot an educational programme in schools to promote a culture of civil protection (SEGOB, 2004).

Text books for primary schools on disaster prevention were then updated by the Public Education Ministry in 2011–2013 (HFA 2013). The new LGPC (2012) defines civil protection as a compulsory subject in school curricula for all educational levels and in line with the law, a National Civil Protection School was set up (Colorado et al., 2014).

#### 10. Are there training and capacity-building programmes as part of DRR plans?

Training programmes for seismically resistant construction techniques and reconstruction predate the HFA (SEGOB, 2004). CENAPRED ran a training programme on the administration of temporary shelters and on action during emergencies; and the training of a national network of community volunteers also began before 2005.

The Programa de Accion de Urgencias Epidemiológicas y Desastres (2007–2012) developed six training manuals for health professionals to respond to disasters (SEGOB, 2011).

The Mexican College of Civil Protection (ENAPROC) was set up under CENAPRED in 2014/2015 (CENAPRED, 2017) and the LGPC (2012) contains a clause obliging all public servants in the field of civil protection to have a qualification (HFA, 2013).

In addition, there are lots of accredited university programmes with DRM qualifications.

#### 11. Are there public awareness and media outreach campaigns?

Awareness-raising programmes on DRR predate the HFA, but they were focused on emergency response. The Health Ministry's radio campaign about the importance of hygiene in the event of a disaster is considered an example of good practice (SEGOB, 2004). Public awareness campaigns are conducted routinely during hurricane season and disseminated through national and local media. These now focus on preparedness measures, encouraging behaviour and actions to minimise impacts.

## HFA pillar 4. Reduce the underlying risk factors

#### 12. To what extent is DRR included in national climate change adaptation policies?

The General Climate Change Law (LGCC) (2012) considers disaster risks and establishes a cross-cutting DRR approach. The LGCC and LGPC were developed in parallel through debate across two commissions in Congress and extensive consultation with civil society groups.

#### 13. Is DRR included in environmental management policies/ environmental impact assessments?

Environmental impact assessments (EIAs) do not yet take DRR into account; however, an EIA must be completed for all new developments and these must also take on board the requirements of the LGPC (2012), in which carrying out construction without conducting a risk assessment or taking necessary measures to reduce risk is a major crime (HFA, 2014).

#### 14. Are hospitals 'safe'?

For the WCDR, Mexico had identified hospital certification for safety as a priority. An initiative was introduced whereby all hospitals were given a safety certificate according to their structural and non-structural strength and ability to receive patients in an emergency (CNPC, 2004).

In 2006, the Safe Hospital Initiative was launched, promoted by the Pan American Health Organization (SEGOB, 2011). Under this programme, 380 evaluators were trained and 151 hospitals assessed in one year. The

LGPC (2012) stipulates that hospitals should consider Safe Hospital Programme guidelines when elaborating their internal civil protection programmes (Colorado González et al., 2014: 29).

By 2014, only 16% of hospitals had been risk assessed (HFA, 2014).

#### 15. Are schools 'safe', and have there been any initiatives to ensure school are built in accordance with DRR guidelines or policies?

In 2011, only 12% of educational buildings had undergone a safety assessment (SEGOB, 2011), but by 2014 this had increased to 87.6%, of which 3,074 have been deemed unsafe from disasters (HFA, 2014).

#### 16. Are there any shock-responsive or social safety net schemes?

Mexico has a large-scale social protection system in place with built-in mechanisms for rapid scale-up in response to a disaster – the Temporary Employment Public Works Programme (PET). In addition, the conditional cash trasnfer scheme, Oportunidades, can be expanded to provide support to additional households at risk of being pushed into poverty by severe shocks (Hallegatte et al., 2016).

#### 17. To what extent do risk-financing mechanisms exist?

In 2004, the Fund for Assistance to Micro, Small and Medium Enterprises (Fondo PyME) was set up. Limited funds were available to relieve the effects of disasters on affected firms.

In 2001, the Fund for Rural Assistance to Climatic Contingencies was established under the Sustainable Rural Development Law, operated by the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA). This fund provides insurance to limit the negative effects of disasters on agriculture, livestock, aquaculture and fisheries activities (GoM, 2001). The scheme is co-funded by federal and state governments.

It has been noted however that the microfinance market in Mexico is not very well developed and does not reach very vulnerable groups (HFA, 2014).

The LGPC (2012) also calls on states to establish risk-transfer and insurance instruments. Under Article 66 they must also establish a State Civil Protection Fund (Colorado González, 2014). For hurricanes Ingrid and Manuel in 2013, only about 20% of total losses were covered by insurance, according to the Mexican Insurers Association. However, schemes do exist to ensure temporary employment for those affected by disaster (HFA, 2014).

At the national level, risk transfer is well advanced. In May 2006, Mexico issued the world's first government catastrophe bond (CAT bond), Cat MEX (US$160 million), which is combined with a parametric reinsurance scheme (US$290 million) for coverage against earthquakes totaling US$450 million (US$150 million for each zone) and a three-year maturity' (Hofliger et al., 2012).Mexico issued another CAT bond for US$290 million in 2009 (to provide coverage against earthquakes and hurricanes), which led to the launch of the MultiCat Programme giving public entities access to international capital markets to insure against disaster risk (GFDRR, 2011). In 2011, Mexico launched its 3rd CAT bond for US$315 million (World Bank Treasury, 2012).

#### 18. Are there effective land-use planning and building codes in place?

Building regulations set out the minimum building safety standards for all hospitals and medical centres. Specific codes for disasters were being piloted in 2005 (CNPC, 2004). In 2004, the Ministry of Social Development (SEDESOL) published a guide on building in hazard-prone urban areas that sets down procedures for compiling information on natural hazards and risks in urban areas. The risk atlas is based on this (ECLAC, 2007). The General Human Settlement Law (LGAH) establishes that states (Art. 8) and municipalities (Art. 9) are responsible for formulating, approving and managing the state urban development planning and local urban development regulations, respectively. They should also undertake zoning and land-use planning, issue authorisations, licences and permits, and intervene in the regularisation of informal settlements (Colorado et al., 2014).

By 2010, 708 out of 2,457 municipalities had enacted a zoning and land-use regulation (29%) (INEGI, 2014). Many municipalities lack regulations due to limited resources and capacities. In other cases, regulations have not been updated (INEGI, 2014). Municipalities are responsible for controlling land use, and often promote initiatives to move people out of informal settlements in high-risk areas, but people often resettle in these locations even after a disaster, as occurred in the city of Monterrey after hurricane Alex in 2010 (OECD, 2013).Under the LGPC (2012), building and infrastructure construction without a risk analysis and without the authorisation of the relevant authority is a felony, and the authorisation of land-use permits by public servants without approval will be penalised (Colorado et al., 2014; see also GoM, 2012).

## HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

#### 19. Are there national and local contingency plans in place?

SEDENA's 1966 Plan to Aid Civilian Disaster (Plan DN-III-E) sets out how military operations are to be coordinated to assist civilians in times of disaster (SEGOB, 2011; Castro Garcia and Reyes Zúñiga, 2006).

In 2013, a new strategy was developed to enhance disaster contingency plans and information sharing between state agencies. Each agency is responsible for safety standards in its sector including functional responsibilities in emergency response (HFA, 2014).

A further emergency programme was launched to improve coordination between the three levels of government, with clearer protocols for action in emergency response (Presidencia de la República, 2013), but it has not yet been implemented. The creation of an integrated national emergency system with public and private sector actors is a key objective for the GoM.

DN-III (1966) and Plan Marina coordinate military and marine actions in emergency response (HFA, 2014). Gender is taken into account in contingency planning, but no specific plans are in place to assist the elderly or disabled in shelters or medical centres. More investment and support is needed to strengthen contingency planning and training and to standardise emergency procedures (HFA, 2014).

Businesses are involved in response functions and there is a central communication and operations centre, but improved coordination with international non-governmental organisations is needed to ensure efficient use and distribution of resources (HFA, 2014).

#### 20. Is there an emergency fund?

In 1996, with support from the World Bank, the Natural Disasters Fund (FONDEN) was created as the principal resource for disaster response and recovery (World Bank, 2015). FONDEN funds are mainly used to replace uninsured public infrastructure and private property of low-income families. It started out as a reactive instrument, but FONDEN underwent important reforms allowing it to promote DRR in different public entities – for example, rules now require agencies to insure rebuilt public infrastructure. FONDEN encourages relocation of housing in high-risk areas and rebuilding houses using techniques and materials that are more resistant. Article 37 of the Federal Budget and Fiscal Responsibility Law establishes that public expenditures on FOPREDEN, FONDEN and the Fund for the Assistance of the Rural Population Affected by Climatic Contingencies should be equivalent to at least 0.4% of the total programmable expenditure (Colorado et al., 2014) and funds that go unspent are used to acquire insurance amongst other things (ECLAC, 2007: 60).

In 2003 the Fund for the Prevention of Disasters (FOPREDEN) was created. Resources allocated to FOPREDEN quadrupled in five years: from 2004-2009, 97 projects were approved (although the number of projects approved from 2012-2015 is not stated in the HFA reports). Most of the state government projects were to develop risk maps and improve early warning systems.

Resources for prevention remain significantly less than for reconstruction. The proportion of resources assigned to each fund is unequal: in 2013, FONDEN expenditure amounted to USD 294m, and FOPREDEN USD 17m (Colorado et al., 2014). However, these proportions are slowly changing in favour of DRR (Hofliger et al., 2012).

A new Reconstruction Fund for state-level governments was introduced on a pilot basis in the 2011 Federal Budget (Hofliger et al., 2012).

FONDEN has declared 78 states of emergency in 26 states and assisted 2.5 million people (HFA, 2014: 12).

#### 21. Is there a culture of volunteerism and participation?

There are a number of initiatives to train people in civil protection as part of the National Community Brigades programme (HFA, 2008).

In 2014 the government declared its intention to increase this programme to cover all 299,993 localities in the country (HFA, 2014).

## Drivers of change

Progress has been made across all four pillars, with action on pillars 1 and 5 in particular predating the HFA. The advancement of risk-financing mechanisms in Mexico has been well described in the literature on DRM. At all levels – from crop insurance for farmers, to national CAT bonds to transfer risk to the private sector for major disasters, Mexico has prioritised and invested in financing mechanisms to minimise the impact on the economy of extreme events. There have therefore been significant changes in financing aspects of pillars 4 and 5.

### What factors appear to stimulate or accelerate change?

Major disaster events have prompted important legislative and policy reforms in Mexico. The 1986 Mexico City earthquakes led, eventually, to the LGPC being passed in 2000. The creation of a decentralised civil protection system is also linked to political and institutional reforms taking place in the 1980s and '90s in Mexico. Democratisation and decentralisation processes were already underway, and when the earthquake hit and the government was not prepared, it became apparent that greater participation of local governments and civil society was needed in emergency preparedness and response (Wilkinson, 2011).

The devastating impacts of hurricanes Wilma in 2005 (MXN$1,723 million in damage), Dean in 2007 (MXN$877.6 million) (SEGOB, 2015) and Jimena in 2009 (MXN$985 million) (García Arróliga et al., 2010) spurred the development and expansion of Mexico's catastrophe bond (SEGOB, 2011: 2).

In parallel, flooding in the State of Tabasco in late 2007 (with an estimated MXN$2,918.6 million in damage) (SEGOB, 2015) prompted a substantial investment in the 'Plan Hídrico Integral de Tabasco', one of Mexico's most important engineering projects ever (Government of Tabasco, 2011).

During the HFA period, other political reforms took place and local governments gained greater autonomy in

some parts of the country and experimented with different forms of local governance. In states and municipalities where civil society had begun to play a more dominant role, local civil protection planning processes were also more participatory (Wilkinson, 2012).

DRR is increasingly mentioned in national development plans and integrated within the activities of key sectors (particularly urban development, transport and infrastructure) and in some ministries. The focus on developing a climate change law has helped to raise the profile of disasters as an environmental and development problem in Mexico (not just a public safety and emergency management issue).

The Civil Protection system sits within the Interior Ministry, and policy and legislative reform has been driven from there, although increasingly cross-party debate and support on legislative issues is sought between civil protection and climate change commissions in Congress.

The new Ministry of Agrarian, Land and Urban Development (formerly Urban Development) has been a key institutional actor in DRM from around 2006, and this has raised the profile of 'risk management' in urban planning decisions where avoiding risk creation in the future is critical.

## What factors appear to prevent or restrain change?

Progress on DRR is subject to some of the same constraints as other policy issues in Mexico, particularly those where decentralisation of responsibilities and resources is critical. Tensions between governments led by opposing political parties can sometimes constrain the development of effective policies (Wilkinson, 2012).

Size is also a constraint. Mexico has 2,430 municipalities, some of which are very small and lack significant resources to develop and implement plans and regulatory tools to manage risk. Hence, for all DRR actions that require local implementation, this is a major limiting factor.

Other challenges specific to DRR during the HFA period included very limited coordination between government departments implementing DRR measures. The inter-institutional linkages and coordination promoted by the LGPC was constrained by the lack of join-up planning (Colorado et al., 2014).

Another constraint on progress is the lack of systematic engagement of civil society and the private sector in DRR decision-making. With the exception of the consultations for the LGPC 2012, participation of no-government stakeholders in DRR decision-making beyond emergency preparedness planning, only occurs in some parts of the country and is not always sustained when governments change. National and state-level civil protection programmes would benefit from engaging the capacity building and awareness raising skills that civil society groups can offer.

## What evidence is there of DRR discourse in the policy/political arena?

DRR is increasingly mentioned in national development plans and integrated within the activities of key sectors (particularly urban development, transport and infrastructure) and in some ministries. The focus on developing a climate change law has helped to raise the profile of disasters as an environmental and development problem in Mexico (not just a public safety and emergency management issue).

## What and who drives the policy debate on DRR and resilience? (e.g. institutions [local, national and supra-national], policy entrepreneurs, politicians).

The Civil Protection system sits within the Interior Ministry, and policy and legislative reform has been driven from there, although increasingly cross-party debate and support on legislative issues is sought between civil protection and climate change commissions in Congress.

The new Ministry of Agrarian, Land and Urban Development (formerly Urban Development) has been a key institutional actor in DRM from around 2006, and this has raised the profile of 'risk management' in urban planning decisions where avoiding risk creation in the future is critical.

# Annex 6. Nepal

## Introduction

In 2015, Nepal was in the 'high' INFORM risk category, with hazard exposure at 5.1, vulnerability 4.2, coping capacity 6.0 and an overall risk score of 5.0.

Owing to Nepal's topology, its active seismic zone and its annual monsoon rains, the country is particularly at risk of major earthquakes, floods and drought (OCHA, 2017) as well as landslides and glacial lake outburst floods. These events are often exacerbated by soil and environmental degradation (IFRC, 2011: 7); whilst Nepal's mountainous landscape creates considerable challenges to effective disaster response (OCHA, 2017).

Nepal submitted three Hyogo Framework for Action 2005–2015 (HFA) National Progress Reports for the periods 2007–2009 (HFA, 2008), 2009–2011 (HFA, 2011) and 2013–2015 (HFA, 2015).

## Trajectories and rates of change

### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

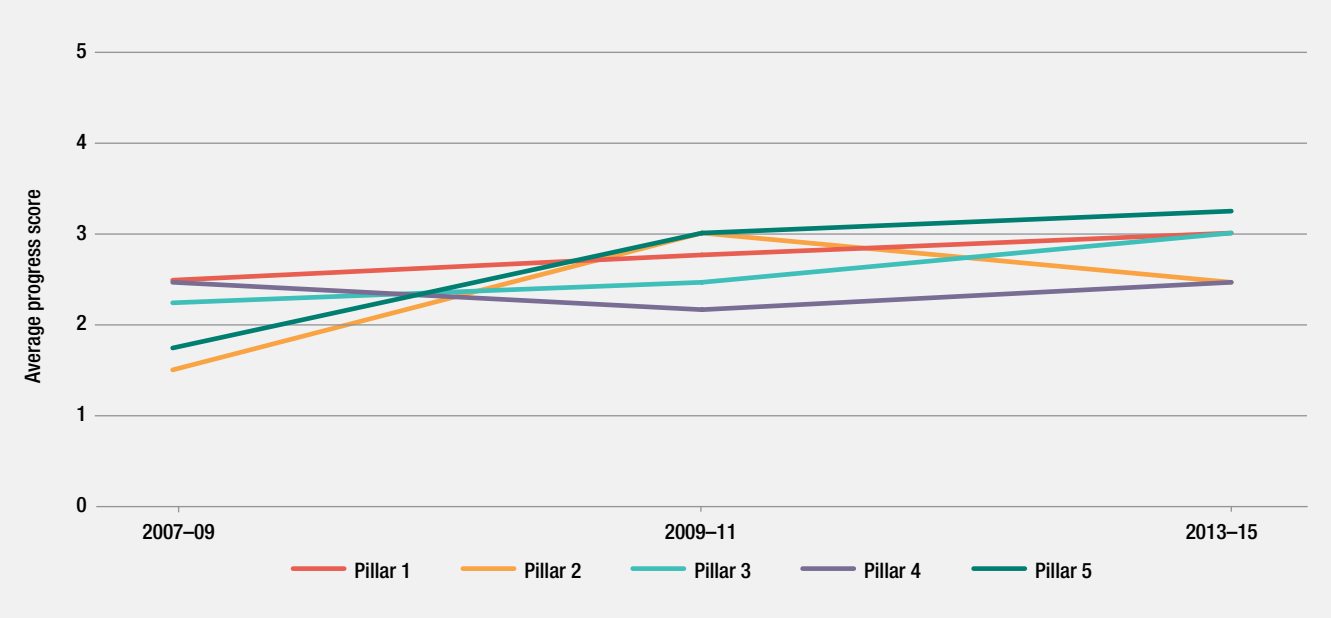
#### 1. Does a national platform for DRR exist?

In 2005 the Central Natural Disaster Relief Committee was listed as the primary state organ overseeing assistance to those affected by disasters, with representatives from 25 ministries and departments (Government of Nepal, 2005: 1–2). By 2008 a National Platform was established, initially as a closed group of government and non-government actors and later as a loose network accommodating a range of agencies working in disaster management (HFA, 2015: 89).

A significant development in 2009 saw the establishment of the Nepal Risk Reduction Consortium (NRRC), a partnership between the Government of Nepal (GoN), humanitarian agencies and multilateral banks. Prior to the establishment of the NRRC, the National Strategy for Risk Management (Ministry of Home Affairs (MoHA), 2009) was prepared, and the NRRC helped prioritise 5 areas out of 29 activities identified by the National Strategy (MoHA, 2008). A set of Flagship priorities were launched in 2011, and the NRRC helped the GoN in implementing the strategy.

The National Strategy for Disaster Risk Management approved in 2009 (see point 1.a.) (MoHA, 2008) proposed the formation of a National Council for Disaster Management (NCDM) to oversee all disaster policy mechanisms and response activities. The body is to be chaired by the Prime Minister, include representatives from key ministries and operate a National Disaster Management Authority (NDMA) (IFRC, 2011: 11; CEDMHA, 2015: 36). However, this legislation is under preparation and, as a result, the NCDM is yet to be instated.

**Changes in average HFA progress scores – Nepal**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

#### 1.a. How comprehensive is the DRR legislation?

Prior to 2005, pre-existing DRR legislation included the Natural Calamity (Relief) Act (MoHA, 1982), which focused on disaster relief and response, and the Local Self-Governance Act (Ministry of Law and Justice, 1999), which prescribed the mainstreaming of DRR and the management of district plans and disaster information, and delegated first responder responsibilities to village and municipal committees (CEDMHA, 2015: 45).

Since 2009, attempts have been made to replace the 1982 Natural Calamity (Relief) Act (MoHA, 1982) with the Disaster Management Act, which, it is hoped, will create more comprehensive legislation for disaster preparedness and mitigation as well as response (GFDRR, 2009: 180). The Disaster Management Act was forwarded to the legislative parliament in April 2012. Owing to the dissolution of the Constituent Assembly in May 2012 and the devastating impacts of the 2015 Gorkha earthquake, it has remained under review (HFA, 2015: 26). The Disaster Management Act was submitted to parliament a second time in 2014, and in 2015 was amended to integrate lessons learnt in the Gorkha earthquake response (HFA, 2015: 26). Minister of Home Affairs Bimalendra Nidhi confirmed that the National Bill on Disaster Management is in its final stages of preparation and will soon be enacted (as of April 2017).

#### 2. Is there a national DRR strategy in place?

The National Strategy for Disaster Risk Management (NSDRM) (MoHA, 2008) was approved in 2009, previously no strategy existed. By 2011, district governments had established disaster management plans under the strategy (IFRC, 2011: 8).

The NSDRM (MoHA, 2008) identified 5 priority areas along with 29 activities. Based on the NSDRM priorities, the NRRC helped identify 5 flagship areas. Each of these flagships was led by a government ministry or department and was coordinated by a development partner. A total budget of $131.1 million was allocated to delivery (IFRC, 2011:33; HFA, 2015: 27).

In 2013, the National Framework for Disaster Response was launched, setting out time-specific targets and goals to achieve effective preparedness and response by government and humanitarian agencies (MoHA, 2013a: 5–14).

In response to the 2015 earthquake, the National Reconstruction and Rehabilitation Policy was approved in February 2015 and a five-year Post-Disaster Recovery Framework (PDRF) was convened by the National Reconstruction Authority (NRA). The NRA is mandated as a coordinating and facilitating body to manage, oversee and coordinate the reconstruction work, with the aim of improving post-earthquake recovery efforts (UNDP, 2016: 1).

More recently, the GoN has started a process to craft a new national strategy – building on the lessons of the NSDRM (MoHA, 2008) and the experiences of recent disasters such as the 2015 earthquake, and in alignment with the Sendai Framework.

#### 2.a. To what extent do local DRR strategies exist?

In 2005, local DRR strategies did not exist. However, mechanisms such as the District Natural Disaster Relief Committees, whose representation includes local government, are cited as the chief bodies that identify measures to reduce local risk (Government of Nepal, 2005: 1–2).

Individual initiatives exist. For example, the 2004–2005 Kathmandu Valley Earthquake Preparedness Initiative established a network of Red Cross volunteers and ward-level Disaster Management Committees, mapped local hazards and storage facilities and strengthened community training in basic rescue and first aid (NSET, 2011).

#### 2.b. How many sectoral DRR plans exist?

Specific sectors are guided by long-standing legislation relating to DRR. For example, the 1982 Soil and Watershed Conservation Act (Nepal Law Commission, 1982) – revised in 2010 – includes provision for 'controlling natural calamities such as flood, landslide and soil erosion' in the interests of the convenience and economic interests of the public (preamble) (Nepal Law Commission, 1982: 1).

In 2012 the Ministry of Health and Population developed the Mass Casualty Management Strategy in collaboration with a World Health Organization (WHO)-led consortium (NRRC, 2013: 22). This was followed by the introduction of district-level Mass Casualty Planning and Rapid Response Training as part of the NRRC's Flagship programme, and the allocation of $1.28 million to improve the ability of the health care system to manage mass casualty incidents (ibid: 41).

Further relevant sectoral plans include building and construction codes (reviewed under point 19), the National Adaptation Programme of Action (NAPA) to climate change (see point 13) and the National School Safety Initiative (see point 15).

#### 3. Is community participation mandated in the DRR policies and mechanisms?

Community participation in DRR policies and mechanisms was not legally mandated, though policies and legislation have been developed which facilitate and support a degree of community involvement, particularly through community-based DRR committees.

Pre-existing legislation provided for Community Based Disaster Risk Reduction Committees (CBDRRCs) to be registered under the Associations Registration Act (Nepal Law Commission, 1977). This allowed communities access to government assistance and local development funds, supporting accountability and formalising community participation in local DRR processes (IFRC, 2011: 57). Although the establishment of CBDRRCs was recognised

as good practice by the GoN, it was not made mandatory (ibid: 35).

In 2013 guidelines on the formation of Community Disaster Management Committees (CDMC) were published as part of the 2011 Local Disaster Risk Management Planning Guideline (Government of Nepal, 2011). Commentators believe these have been crucial in facilitating community engagement in the national disaster risk management (DRM) architecture and supporting the sustainability of community-level structures through increased access to funding (Grünewald and Carpenter, 2014: 19).

However, the final national progress review (HFA, 2015) notes that effective local governance and community participation has been constrained during the trajectory of the HFA by the country's 12-year insurgency (ending in 2007) and a consequent lack of locally elected representatives (HFA, 2015: 10).

#### 4. Is gender explicitly recognised in DRR policies and mechanisms?

Gender has been increasingly included into key policy and strategy documents over the lifetime of the HFA. In the initial HFA reviews, gender did not feature (Government of Nepal, 2005). It is stated that gender is not yet recognised in the DRR framework in Nepal and that the framework uses 'a blanket approach for both male and female', with a lack of disaggregated data or programmes tailored to gender (HFA, 2008: 17).

By the design of the National Strategy for DRM, gender was included in its key guiding principles (MoHA, 2008). The strategy states that 'DRR programs including emergency response and relief should be gender-sensitive based upon an understanding that class, caste, and ethnicity further complicate the scenario'. The strategy does not specify ways in which gender inequality could be addressed by agencies across scales, merely stating that this demands 'special attention especially at times of disaster response and recovery' (MoHA, 2008: 25). Gender is otherwise not consistently referred to throughout the rest of the strategy.

The National Framework for Disaster Response makes just one reference to gender in relation to controlling gender-based violence amongst disaster survivors (MoHA, 2013a: 10).

## HFA pillar 2. Identify, assess and monitor disaster risks and enhance early warning

#### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

At the inception of the HFA, no systematic assessment of disaster impacts, policies or institutions had taken place. By 2011 no comprehensive baseline data was available, though some efforts had been made in hazard mapping for specific hazards for select municipalities.

#### 6. Has a national risk assessment ever been completed? How frequently?

The first nationwide risk and vulnerability assessment was completed by the GoN in 2010 in collaboration with various agencies. It covered key sectors, included hazard mapping, and recommended the adoption of a range of mechanisms and policies to address the risks identified, including the Natural Disaster Management Act (ADPC, 2011).

However, the study has not been replicated since. In 2011, regional risk assessments and climate forecasting were conducted as part of the NRRC Flagship 3, which focused on flood risk reduction in the Koshi river basin (United Nations Nepal Information Platform, 2012).

#### 7. Is loss information systematically collected?

The National Emergency Operations Center (NEOC) has loss reports available from 1991 to 2010 for earthquakes, floods, fires and landslides (NEOC, 2017). These include information about the number of injured people, casualties, and destroyed houses, but economic loss data is not reported consistently. The GoN has begun to improve loss data collection systems, developing minimum information standards, tools and platforms which are intended to link to key ministries for the purpose of improved post-disaster needs assessments (NRRC, 2013: 35). Ambition also exists to align these with international approaches, such as the IASC multi cluster/sector initial rapid assessment (MIRA) tool (NRRC, 2013: 35).

#### 8. Do early warning systems exist?
#### 8.a. Are they multi-hazard?
#### 8.b. Do they have 'good' coverage?

Early warning systems for flood hazards exist in Nepal, though coverage is fragmented.

In December 2010, under the Minister of Home Affairs, the National Emergency Operations Center (NEOC) was mandated to coordinate and communicate disaster information across the country, in collaboration with government agencies and other response and recovery stakeholders, such as Nepal Red Cross Society, UN agencies, international non-governmental organizations (INGOS) and NGOs (MoHA, 2012).

In 2013 the National Disaster Response Framework outlined a plan to develop emergency communications systems and disseminate early information within 0–7 hours of a disaster (MoHA, 2013a: 9). In 2013 a draft National Early Warning Strategic Action Plan (MoHA, 2013b) was introduced as part of the National Strategy for Disaster Risk Management, and responsibility for its implementation was delegated to a range of state departments and relevant ministries (MoHA, 2013b). The proposed plan aims to implement EWS across the country

within 15 years (ibid: 7) and is to be complemented by action plans drawing on indigenous knowledge (ibid: 6).

A plethora of initiatives exist between government departments and NGOs, each seeking to enhance EWS for specific hazards in specific districts, often with a strong focus on community engagement (MoHA, 2013b: 12).

#### 8.c. Are longer-range climate forecasts conducted?

Nepal's capacity to conduct accurate seasonal forecasts has been enhanced through the establishment of the South Asian Climate Outlook Forum (SASCOF). SASCOF is supported by the World Meteorological Organization's (WMO's) Global Framework for Climate Services (WMO, 2016a, 2016b) and provides climate information through forums between experts at a regional scale.

Specific sectoral initiatives exist, such as the Agriculture Management Information System, and the Department of Hydrology and Meteorology's Building Resilience to Climate Related Hazards (DoHM, 2015), both of which seek to build the capacity of sectors to access and use climate forecasts to improve decision-making.

## HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

#### 9. Is DRR a formal part of the school curriculum?

Following the impacts of the 2008 monsoon, the Ministry of Education trialled the incorporation of disaster management into secondary-level education (Gautam, 2009: 182). This led to increased advocacy for DRR mainstreaming. Efforts to achieve DRR mainstreaming have been supported by a number of NGO-led projects and by the Ministry of Education and Curriculum Development Centre. The publication of resources such as Disaster Sensitivity of School Curriculum, Textbooks, and Teacher Training Packages (CPReC, 2007) and capacity-building workshops with Curriculum Development Centre staff in 2008 (MoHA and DP Net-Nepal, 2011) further contributed to the mainstreaming agenda.

In 2011, the NRRC stated that over $1 million would be invested to better integrate DRR into the school curriculum (NRRC, 2013: 90). It was hoped this would go some way towards addressing key constraints limiting universal integration of DRR education, namely a lack of financial resources and fully qualified teachers. More recently, initiatives to integrate climate change into the school curriculum have been led by the Ministry of Population and Environment, with support from the Asian Development Bank.

Although the integration of DRR into the school curriculum remained optional in 2015, a curriculum review had been conducted up to secondary level and DRR resources and teacher orientation had been conducted for over 2,500 teachers (HFA, 2015: 25). However, there is still a lack of clarity about its status and contents, including how professionals and communities would be trained in EWS, and reports by the NRRC (2013: 32) highlighted a need for capacity-building among search and rescue teams.

#### 10. Are there training and capacity-building programmes as part of DRR plans?

#### 11. Are there public awareness and media outreach campaigns?

A number of public awareness raising campaigns were initiated during the HFA trajectory with most seeking to improve the interface between disaster experts, the media and public behaviour.

Nepal has participated in various international campaigns including the International Natural Disaster Reduction Day. The GoN is signatory to the Making Cities Resilient: 'My City is getting ready!' campaign launched in May 2010 (MoHA and DP Net-Nepal, 2011: 49) and has initiated national campaigns including the annual National Earthquake Safety Day. International DRR-related campaigns such as the Red Cross 'Support to first responders' programme have also been rolled out in Nepal (Grünewald and Carpenter, 2014: 15).

Despite efforts by the Municipal Authority for Disaster Risk Management (MADRM) and Ministry of Information and Communication to improve public communication about DRR, details about specific campaigns are scant, as is evidence of their impact. At the end of the HFA reporting period, the Ministry of Home Affairs (MoHA) continued to highlight the need for policy that creates better partnership between state DRR actors and the media to facilitate improved dissemination of emergency information and encourage the reporting of risk data (HFA, 2015: 17).

## HFA pillar 4. Reduce the underlying risk factors

#### 12. To what extent is DRR included in national climate change adaptation policies?

Nepal's MoHA reports that integration of DRR into climate adaptation policies has been poor, as the issues are the remit of separate ministries: Ministry of Science, Technology and the Environment oversees climate change, and MoHA oversees DRR (HFA, 2015: 33).

In 2010, the Ministry of Environment published Nepal's NAPA. The plan identifies priorities that dovetail with those of key agencies working on DRR, such as better enforcement of building codes (Ministry of Environment, 2010: 48) and the launch of an initiative to prevent disasters relating to glacial lake outburst floods (ibid: 39). However, there is very little integration of DRR or explicit consideration of ways in which DRR can be included in the plan. The crossover between DRR policy legislation and adaptation plans is not made explicit, and 'disaster risk' is not referenced (MoSTE, 2011).

### 13. Is DRR included in environmental management policies/ environmental impact assessments?

Pre-existing environmental management policies include the Environment Protection Act, and Rules 1997 and Environment Impact Assessment (EIA) Order (Nepal Law Commission, 1997). The International Federation of Red Cross and Red Crescent Societies (IFRC) notes that there is 'ample scope' for DRR to play a greater role in Nepal's EIA, with moderate modifications (IFRC, 2011: 36).

### 14. Are hospitals 'safe'?

Evidence of coverage of 'safe' hospitals is patchy. The final progress report (HFA, 2015) states that a detailed assessment of 60 hospitals in Nepal is ongoing with 10 detailed structural plans to be completed by 2015. Health facilities in the Kathmandu Valley have been mapped, and hospital emergency preparedness is being carried out with lead support from Tribhuvan University Teaching Hospital. Bheri Zonal Hospital and Patan Hospital are already retrofitted (HFA, 2015: 46). Prior to this commitment, in 2008, a number of earthquake risk reduction projects were implemented through the Department of Urban Development and Building Construction. Among them were projects to retrofit public buildings, including hospitals, for earthquake resilience. During the 2015 earthquake, significant damage was incurred by government and public buildings and by hospitals (WHO, 2015).

### 15. Are schools 'safe', and have there been any initiatives to ensure schools are built in accordance with DRR guidelines or policies?

At the onset of the HFA, the pre-existing National School Safety Initiative aimed to train masons in earthquake-resistant construction, retrofit public school buildings, and instruct teachers, parents and students in disaster preparedness (Selby and Kagawa, 2012). Such initiatives have continued, though no legislation or policy yet exists that stipulates how schools (or hospitals) should be made safe.

School safety has been prioritised, for example, through the Master Strategy for School Safety and Asian Development Bank (ADB) supported School Sector Programme (ADB, 2009), but progress remains slow. Through the Government's School Earthquake Safety Programme, 265 school buildings in the Kathmandu valley have been retrofitted since 1990. The Government has increasingly recognised that investing in retrofitting schools has proven effective, and they have sustained less damage during disasters. Despite this, multi-hazard risk assessments are not consistently carried out on school (or hospital) buildings. Gaps also remain in the monitoring of school construction, the retrofitting of private educational establishments, and the enforcing of the Building Code for all new schools and classrooms built (10,000 per year) (HFA, 2015: 46).

### 16. Are there any shock-responsive or social safety net schemes?

The GoN have yet to develop a comprehensive shock-responsive safety net. In 2015, safety net schemes remained sporadic, with numerous micro loan and finance schemes being provided by NGOs (HFA, 2015). The GoN have identified the need to develop a pilot for post-disaster microfinance as well as a 'financial risk-sharing mechanism and risk-transfer mechanism' to insure vulnerable populations against disaster and climate change (HFA, 2015: 24–25).

Provisions are given to affected individuals in the aftermath of disasters, though coverage is not universal. For example, following the 2008 Koshi floods, government 'return packages' were provided alongside compensation (MoHA and DP Net-Nepal, 2011: 100–101). In 2013, the National Disaster Response Framework included requirements to provide support to specific vulnerable groups including unaccompanied children, disabled people and the elderly (MoHA, 2013: 10).

### 17. To what extent do risk-financing mechanisms exist?

Risk-financing mechanisms do not yet exist, but initiatives are funded to facilitate their development. In 2011 the national progress review (HFA, 2011) stated that neither bonds nor insurance mechanisms existed to support effective response and recovery. Specific sectors have identified possible opportunities to safeguard assets. For example, the Ministry of Agriculture and Cooperatives highlighted the need for extension of livestock insurance in DRM frameworks and the introduction of crop insurance (MoAC, 2010).

### 18. Are there effective land-use planning and building codes in place?

Existing legislative infrastructure includes: 1994 National Building Code, 1998 Building Act, 2007 National Urban Policy, 2009 Building Regulation, and 2012 National Land Use Policy (IFRC, 2011; Government of Nepal, 2005: 2; MoHA, 2008: 51). The impact that land-use and building regulations have had upon DRR in Nepal has been fundamentally limited by inadequate enforcement and implementation. For example, the 1998 Building Act makes specific provisions to regularise construction and increase the resilience of buildings to withstand earthquakes and fires and could significantly reduce the number of mortalities following a disaster if consistently enforced (DUDBC, 2015: 46).

In 2007 the National Urban Policy was passed and incorporates aspects of DRR. However, the continued growth of informal settlements in earthquake-prone areas is testimony to the policy's poor implementation (GFDRR, 2009: 182). In 2008, the National Strategy for DRR contained an objective to improve local implementation of the national building codes through 'adapting the generic national bylaws to the local conditions' (MoHA, 2008: 19). In 2012, the National Land Use Policy was also

introduced. Although it also explicitly references DRR, implementation has been patchy and poorly monitored (HFA, 2015: 36).

In recognition of the shortcomings of building regulations, in 2014 the NRRC established the Technical Support Group (TSG) on Safer Urban and Semi-Urban Building Construction. The group sought to establish common approaches to improving the implementation of regulations for safer building construction. A National Plan of Action for Safer Building Construction was endorsed by the Building Construction Management Upgrading Committee in 2015, though this remains in draft form while amendments are incorporated following lessons from the 2015 earthquake (DUDBC, 2015). More recently, the GoN is in the process of preparing a National Strategy for Resilient Urban Communities, and a draft has been produced.

### HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

#### 19. Are there national and local contingency plans in place?

At the HFA's inception in 2005, local contingency plans were implemented by Regional and District Natural Calamity Relief Committees under the pre-existing Natural Calamity (Relief) Act (MoHA, 1982). The Act included provision for local, district and regional committees to access relief funds from the National Calamity Aid Fund (IFRC, 2011: 30). By the final progress report, it was stated that national and local contingency plans were in place (HFA, 2015), with 'all 75 districts having prepared Disaster Preparedness and Response Plans' (HFA, 2015: 48).

By 2008, national contingency plans were being developed for each thematic area in the NRRC, and in addition the Ministry of Home Affairs was overseeing disaster preparedness and response planning workshops at national, regional and district levels (MoHA, 2008).

A number of constraints exist that limit the effectiveness of contingency plans: there is no state-funded search and rescue team; business is yet to be fully included into contingency plans as a proactive partner; there is a lack of coordination between different stakeholders developing local-level contingency plans; monitoring of disaster response policy implementation is inadequate; and local budgets and the delivery of short one-off trainings are inadequate (HFA, 2015: 48–49).

#### 20. Is there an emergency fund?

Two main sources of funding for response and recovery exist: the Prime Minister's Disaster Relief Fund and the Ministry of Home Affair's Central Disaster Relief Fund (CDRF) (MoHA, 2008: 16). Following a disaster, the Central Disaster Relief Committee (CDRC) meets to review the needs of the affected populations, and has the option to commit funds from the CDRF, which is occasionally supplemented by the Prime Minister's Disaster Relief Fund (GFDRR, 2009: 180).

In addition, the 2015 progress report cites the GoN's dedicated fund of NRs50 million for emergency response (HFA, 2015: 50). For isolated mega disasters, as was the case for the 2015 earthquake, a Flash Appeal may be launched and the GoN may request funds from the international community (MoHA, 2013a: 4).

#### 21. Is there a culture of volunteerism and participation?

A great number of voluntary organisations exist within Nepal acting as 'support agencies' in the event of a disaster. Of note is the Nepal Red Cross Society (NRCS), established in 1963 and now a key player in disaster management. The Red Cross has volunteers in all 75 districts who are mobilised in the event of a disaster (NRCS, 2017; Grünewald and Carpenter, 2014: 15).

Following the 2015 earthquake, 'A number of volunteer groups, local people, youths, civil societies, media and political parties provided significant assistance to the affected people during the response' (HFA, 2015: 20). Calls have been made for better volunteer management and coordination during relief efforts and greater clarity on how these voluntary groups are integrated into the disaster response framework beyond supporting NEOC's search and rescue efforts (MoHAa, 2013: 12).

## Drivers of change

Nepal experienced different trajectories of change across the HFA pillars. At the start of the HFA, pre-existing legislation for disaster relief and recovery was in place, providing a foundation for HFA Pillar 1. The 2009 National Strategy for Disaster Risk Management bolstered the institutional basis for DRR, supported by the formation of NRRC to help GoN in translating some of its key actions on the ground, and also supported by 2011 District Disaster Management Plans. However, connections across scales are limited, and the NRRC's Flagship programmes have been criticised for failing to provide an adequate framework for incorporating community-based DRR into the state's frameworks (IFRC, 2011). Despite community-based DRR being a Flagship 4 priority, the NRRC limited its interventions to selected geographical areas, including Kathmandu and Kosi. Moreover, systematic and meaningful integration of gender, class, caste and ethnicity are lacking.

There are significant weaknesses in progress against HFA Pillar 2, with fragmented and piecemeal efforts constrained by time-bound donor funding cycles. While there is a historical record of disaster occurrence and impacts in Nepal via DesInventar, nationwide multi-hazard risk assessment covering the most common disasters for the country are not systematically conducted – though efforts by ADPC and others have sought to address this gap. Local-level risk assessments remain largely

non-existent, limiting the viability of putting into action local DRM plans where they exist. The GoN has ongoing programs to build capacity to conduct accurate seasonal forecasts through the Climate Investment Fund's Building Resilience to Climate Related Hazards project supported by the World Bank.

The history of disasters in Nepal has contributed to high levels of awareness of disaster impacts, which has been complemented by numerous attempts to instil a culture of DRR in education and across technical and vocational industries, contributing to HFA Pillar 3. However, it remains the case that DRR is not mandatory in the school curriculum. Public awareness campaigns, though lacking in evidence of their relative impact, exist for key areas of vulnerability including urban areas, cities, earthquakes, and safer schools, helping to raise public awareness and knowledge of disaster risk. Such campaigns remain narrowly focused on emergency response.

The least progress has been made under HFA Pillar 4, owing to broader socio-political challenges related to the civil conflict and a subsequent slowing of development progress. This has been exacerbated by growing urban disaster risk due to a lack of enforcement of national building codes.

Established legislation and environmental management policies provide scope to integrate DRR into Environmental Impact Assessments, though this has not yet been capitalised. Similarly, no legislation or policy exists that stipulates how hospitals or schools should be made safe, and support to at-risk communities largely remains focused on compensation and distribution of goods in the immediate aftermath of a disaster.

Finally, for HFA Pillar 5, Nepal has a long history of supporting local contingency planning, from national to local level, and this has continued through the HFA, building on local plans formed under the pre-existing Natural Calamity (Relief) Act (MoHA, 1982). Through NRRC, national contingency planning has taken place by sector. A number of financial mechanisms focused on response allow for post-disaster distribution of funds including emergency funds, annual allocation for response, and a history of collaboration with international actors in Flash Appeals. Volunteerism is strong across Nepal and supported by Red Cross, which mobilises and builds the capacity of local communities to respond to disasters. Overall, initiatives remain orientated towards action post-disaster.

## What factors appear to stimulate or accelerate change?

The formulation of the National Strategy for Disaster Risk Reduction and subsequent establishment of the NRRC provided significant impetus to consolidate the DRR agenda in Nepal, bringing together key stakeholders under a common framework. The decision for the NRRC to adopt a structure which identified a lead government department and associated development partner provided a space for stronger collaboration between national and international actors and the management of response efforts was made more coherent. This reflected in part the growing desire of the GoN to reinforce its role in leading and shaping the nature of disaster response (and risk reduction), particularly where the international community has traditionally played a role.

Over the lifetime of the HFA, mega disasters have catalysed change. The 2008 Koshi floods and 2015 Kathmandu valley earthquake being cases in point. The Koshi, the largest river in Nepal, burst its banks on 18 August 2008 in the Sunsari district of Nepal, displacing 7,000 families in Nepal alone (NRRC, 2013: 1). The floods intensified calls at the local level to set up a national platform on DRR, pushing forward momentum to establish the Nepal Risk Reduction Consortium (HFA, 2015). Flagship 3 of the NRRC's programme specifically aimed to better forecast floods in the region and implement improved EWS (NRRC, 2013: 2). A thematic/sectoral approach to disaster response was also introduced to the government's DRR framework shortly after the floods (Nepal Red Cross Society and ICRF, 2011: 17).

On 26 April 2015, an earthquake struck with a magnitude of 7.8 and epicentre north-west of Kathmandu. Dozens of aftershocks were reported, including another earthquake with a magnitude of 6.7 later on 26 April and another on 12 April, with a magnitude of 7.3 some 50 miles east north-east of Kathmandu. The death toll climbed to over 8,790 and more than 22,300 people were injured (OCHA, 2015). The scale of the quakes highlighted the urgency with which land-use planning policies and national building codes should be enforced.

Prior to the earthquakes there had been a disproportionate focus upon the soft integration of DRR into building codes and regulations as opposed to practical enforcement. This left acute vulnerabilities to disasters unchecked and later exposed (HFA, 2015: 21). In light of the devastation caused by the quakes, the Building Construction Management Upgrading Committee endorsed the National Plan of Action for Safer Building Construction with a series of amendments (NRRC, 2016). A Post-Disaster Needs Assessment by the GoN and a National Reconstruction Authority was conducted to coordinate recovery across the country. With assistance from multilateral organisations, the NRA has since put together a five-year Post-Disaster Recovery Framework (UNDP, 2016: 1).

A renewed emphasis on risk reduction, preparedness and planning for response followed these events as well as a revision of policies and guidance on land-use planning and construction standards. Significant influx of international aid accompanied these major disasters, and with that came increased attention to proactive risk management.

## What factors appear to prevent or restrain change?

Broader political changes across Nepal acted as significant barriers to the pace at which DRR progress took place. The dissolved constitution in 2012 and 'state of legislative stasis' prevented the Disaster Management Act from being passed, limiting the country's ability to move forward with crucial disaster management actions' (CEDMHA, 2015. The insurgency led to delays in the formal approval of revisions and general uncertainty regarding responsibility for DRR across governance structures.

The period of insurgency also stymied community development planning processes. In addition, the lack of sustained resourcing to local government and local disaster management structures was and remains a constraint on progress, limiting the ability of local actors to operationalise contingency and disaster management plans. More generally, low levels of development progress have limited the ability of actors to integrate and adopt DRR practices. For example, the lack of fully trained teachers has prevented the integration of DRR in curricular programmes.

Progress has also been restrained where there is a lack of clarity about responsibilities for DRR governance and actions. This is the case across a number of plans and strategies. For example, the MoHA's draft National Early Warning Strategic Action Plan (MoHA, 2013b) lacked clarity about how professionals and communities will be trained in EWS and who is responsible for this training. Similarly, the National Strategy for DRR includes objectives for building codes, construction practices and technical capacity-building, yet enforcement remains a barrier to effective change: 'Land use planning is not clearly regulated and institutional responsibility for it is divided between the Ministry of Physical Planning and Works (MoPPW) and Municipal authorities' (IFRC, 2011: 51). Examples from Kathmandu and Lalitpur illustrate the failure to adopt effective building codes, with no inspection system and no effective penalties for non-compliance (ibid).

The lack of actionable disaster risk assessment and information remains a key hurdle for taking the DRR agenda forward in Nepal. While numerous hazard assessments have taken place – often in the same geographical areas – there is an absence of effective mechanisms to support cross-agency coordination of hazard, exposure and vulnerability assessments. The absence of risk information was felt strongly during the 2015 earthquake emergency response and subsequent recovery programme.

Interestingly, the frequency and impact of hazards in Nepal has resulted in a strong political culture of talking about and acting on DRR. At least on paper, DRR is present in disaster and sectoral policies and priorities. Translating this into a systematic consideration of risk management across sectors and scales remains a challenge, as does the need to put equal emphasis on ex ante risk reduction, in complement to response. For example, several public awareness raising campaigns throughout the HFA reporting period focus on emergency response. There is less consistent messaging and communication of good practice in disaster preparedness.

There is consensus that risk-sensitive land-use planning is required, but plans to take this forward are nascent. Wholesale government-led shock-responsive social safety net schemes do not exist, though micro loan and finance schemes are provided by the third sector for some social groups in some locations. The need for proactive financing of risk reduction is widely acknowledged. When in operation, the NRRC had an ambition to bring together the Ministry of Finance, National Planning Commission and Nepal Rastra Bank to address this gap – though there was little evidence of action. With the cessation of the NRRC, the GoN is in the process of preparing its National DRR Policy and Strategic Action Plan, which includes proactive risk-financing mechanisms.

Finally, Nepal has been actively engaged in national and international dialogues on climate change adaptation, and in the development of NAPAs and Local Adaptation Programmes of Action (LAPAs). However, Nepal's climate change adaptation policies poorly integrate DRR, largely because they are overseen by two separate ministries (HFA, 2015). Where risk management actions also contribute to climate adaptation, there are clear overlaps, but the separation in ministerial responsibility poses a challenge for ensuring coherence in operationalising the programmes of action.

# Annex 7. Saint Kitts and Nevis

## Introduction

Saint Kitts and Nevis is a low-risk country with an overall 2015 INFORM risk rating of 2.0. The country scores 0.9, 2.5 and 3.7 for hazard exposure, vulnerability and coping capacity respectively.

Saint Kitts and Nevis is a small two-island nation in the Caribbean with a population of just over 54,000 people, with central administration in Saint Kitts. It was classed as an upper-middle-income country in 2005, and as a high-income country in 2015, by the World Bank. In recent decades, the islands have experienced hurricanes, floods and fires; hurricanes have had the biggest impact in terms of mortality and economic losses (PreventionWeb, 2017). Saint Kitts and Nevis also faces earthquake, volcanic and tsunami risk.

The country reported in all three of the reporting periods reviewed for this study, over which time progress was reported only under Pillar 4.

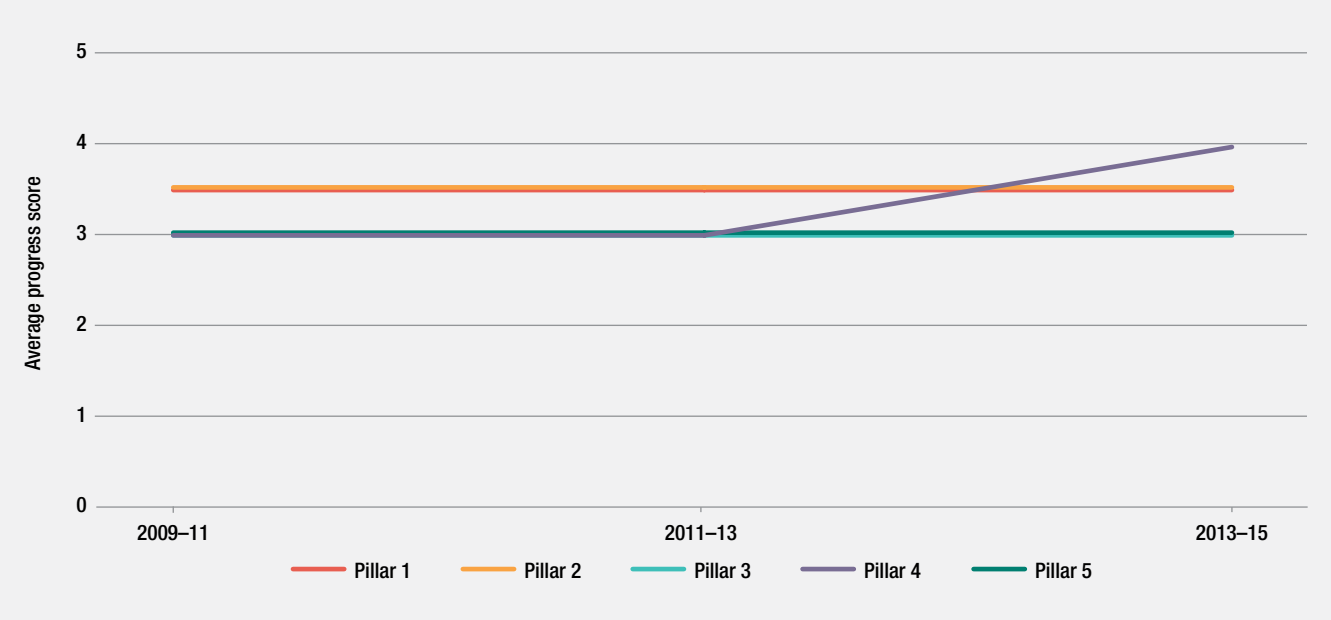
## Trajectories and rates of change

### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

#### 1. Does a national platform for DRR exist?

The National Disaster Management Act came into force prior to the Hyogo Framework for Action 2005–2015 (HFA), in 1999, as the first legal framework for disaster risk management in Saint Kitts and Nevis. The Act established the National Disaster Mitigation Council as a national multi-sectoral platform to facilitate progress toward mainstreaming DRR in the country (HFA, 2010). The Council is a representative body composed of the Deputy Prime Minister, the Minister of Communication, the Permanent Secretaries and Heads of each Government Ministry Department, and representatives of the National Emergency Management Agency (established in 1995), the Chamber of Industry and Commerce, the Hotel and Tourism Association, the St Kitts and Nevis Police Force, and the National Red Cross Society, and three representatives from the (separate) Nevis Island Administration; it meets quarterly and as necessary during hurricane season (HFA, 2010).

**Changes in average HFA progress scores – Saint Kitts and Nevis**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

However, while the National Disaster Mitigation Council has played the role of a National Platform since it was established in 1999, including throughout the HFA reporting period, this is not an official National Platform (Preventionweb, 2017).

#### 1.a. How comprehensive is the DRR legislation?

The National Disaster Management Act (established in 1998, and entered into force in 1999) pre-dated the HFA. In 2013, the National Disaster Management Act was revised and the new Saint Kitts-Nevis National Disaster Plan 2013 was released. It covers the island of Saint Kitts and the island of Nevis, and takes into consideration the 2005 Nevis Disaster Plan (see below). The plan is reviewed and updated after significant disaster events. The Saint Kitts-Nevis National Disaster Plan aims to create a 'culture of disaster management' that empowers the relevant agencies and the general public to prevent, mitigate, prepare, respond and recover from disasters, though the emphasis is on preparedness and response (NEMA, 2013).

#### 2. Is there a national DRR strategy in place?

The Saint Kitts-Nevis National Disaster Plan 2013 sets out a national strategy for creating a disaster management culture, as mentioned above, through the development of comprehensive operational plans for DRR, dedicated disaster management staff, disaster education from primary to tertiary levels, the development of early warning systems, and other actions. This is embedded within the 2013 Plan.

In parallel, representatives from Saint Kitts and Nevis were involved in the development of the Caribbean Disaster Emergency Management Agency's (CDEMA) Regional Comprehensive Disaster Management (CDM) Strategy 2014–2019, and a corresponding Country Work Programme 2014–2019, which aimed to integrate disaster management considerations into the development planning and decision-making process of CDEMA's participating States (CDEMA, 2014a; Herbert, 2017).

#### 2.a. To what extent do local DRR strategies exist?

Alongside the national framework, in the year that the HFA came into force, Nevis Island Administration enacted its own sub-national 2005 Nevis Disaster Plan. Similarly to the National Disaster Management Act, the Nevis Disaster Plan established the Nevis Disaster Management Committee and the Committee's coordination mechanism. It also set out the structure of the various emergency committees and the roles and functions of Government Ministries, key departments, public utilities and other bodies with regard to DRR. The island of Saint Kitts does not appear to have an equivalent plan of its own.

#### 2.b. How many sectoral DRR plans exist?

Efforts to integrate DRR into sectoral and long-term development planning were bolstered following a major disaster event in 2008. Following Hurricane Omar, the government developed a growth and poverty reduction strategy to guide its medium-term reform agenda, with the help of the international community. The reform agenda was intended to help Saint Kitts and Nevis recover from the setbacks caused by Hurricane Omar and transition the economy toward a path of strong, sustainable growth (IMF, 2009).

Since 2010, DRR has been included in sectoral plans for education, health, tourism, infrastructure and agriculture, and DRR activities in these sectors have been 'regularly dealt with' during National Disaster Mitigation Council meetings (HFA, 2010; HFA, 2015; Herbert, 2017).

Alongside this, a national social protection policy and plan of action to support poor and vulnerable populations was implemented in March 2012 as part of a poverty reduction and economic strategy, though there is no explicit outline of implications for DRR.

#### 3. Is community participation mandated in the DRR policies and mechanisms?

Community participation is mandated in Saint Kitts and Nevis disaster policy and mechanisms.

Community participation is encouraged; and DRR training activities have been implemented at community level, though this needs more funding (HFA, 2010; HFA, 2012; HFA, 2015). Initiatives at the household and community levels have been undertaken with the aim of fostering a 'culture of resilience'; for example, residents have been encouraged to install water storage facilities (HFA, 2015).

The National Disaster Plan 2013 promotes the election of community members as District Managers, with the objective of strengthening the disaster response capacity of communities and developing local response mechanisms. The role of these District Managers falls within the framework of District Emergency Committees, which are tasked with identifying and networking with community-based organisations and sensitising and training community leaders (and through them, the residents). District Emergency Committees provide links between the communities they represent and NEMA.

#### 4. Is gender explicitly recognised in DRR policies and mechanisms?

The National Disaster Plan 2013 states that 'gender perspectives should be mainstreamed in all disaster management activities in Saint Kitts-Nevis to ensure gender equity', including in vulnerability and risk assessments, post-disaster needs assessments, and disaster management legislation, policy and programmes. To help achieve these goals, the Ministry of Gender Affairs is a member of the National Disaster Committee and the National Disaster Executive. According to HFA progress reports (2010, 2012 and 2015), measures are taken to address gender issues in recovery measures, with special attention to female-headed

households given as an example. Despite the intentions of the National Disaster Plan 2013 to mainstream gender in post-disaster needs assessments, HFA reporting highlights as a weakness the lack of dedicated provision for women in relief, shelter and emergency medical facilities (HFA, 2015).

#### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

There does not appear to have been a baseline review of disaster losses or the status of DRR policy or institutions undertaken at the start of the HFA period, against which to track progress, or for Sendai implementation.

## HFA pillar 2. Identify, assess and monitor disaster risks and enhance early warning

#### 6. Has a national risk assessment ever been completed? How frequently?

Sources from 2010 paint contradictory pictures regarding the state of risk assessment. According to the country's 2009–2011 progress report, significant aspects of planning are not informed by current risk data, and while a multi-hazard risk assessment for key sectors was undertaken in 2001 following 1998's Hurricane Georges, it needs to be updated (HFA, 2010). However, other sources report that comprehensive hazard mapping studies were completed in Saint Kitts and Nevis in 2001, focusing on volcanic, hurricane and flood risks, though at a 1:20,000 scale with limited local applicability (GFDRR, 2010; Herbert, 2017). Vulnerability studies have been completed for government buildings and in particular for schools (GFDRR, 2010).

#### 7. Is loss information systematically collected?

There is no digital database of disaster information; instead, a hard-copy database of disaster losses is maintained, and data collection is not systematic. There is a recognised need to shift to a digital system (HFA, 2010; HFA, 2012; HFA, 2015).

#### 8. Do early warning systems exist?

#### 8.a. Are they multi-hazard?

Yes, there are early warning systems for meteorological hazards.

#### 8.b. Do they have 'good' coverage?

Meteorological monitoring and early warnings are provided by the National Meteorological service, which issues bulletins to the public and the National Emergency Management Agency (NEMA) on the approach of storms. The office receives weather satellite imagery access and forecasting support from the US National Oceanic and Atmospheric Administration (GFDRR, 2010). However, there is a recognised need for enhanced communications systems and protocols for early warning of meteorological hazards. In addition, there is a need to establish a mechanism for early warning of technological hazards, including tsunamis (HFA, 2010; HFA, 2012; HFA, 2015).

#### 8.c. Are longer-range climate forecasts conducted?

There is no longer-range climate forecasting in Saint Kitts and Nevis. A proposed National Meteorological and Climatological Authority – which would provide climatological data and create a National Drought Surveillance System, a National Early Warning System, and a National Climate Forecast system (Medeiros et al., 2011) – have not materialized (Herbert, 2017). A need for forecasting of wet and dry periods, particularly, was noted in 2015 (Droiterre Inc. and Associates, 2015).

## HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

#### 9. Is DRR a formal part of the school curriculum?

By 2010, DRR was included in the Social Studies Curriculum at primary level, and some secondary teachers had been trained on DRR via workshops, but the structure of the primary and secondary school curricula does not allow the inclusion of DRR and other non-traditional subjects/themes as standalone subjects (HFA, 2010; Herbert, 2017).

#### 10. Are there training and capacity-building programmes as part of DRR plans?

In 2010, NEMA delivered a campaign of training and public information through press releases and workshops (GFDRR, 2010). In 2012, a public education campaign was extended, engaging communities in DRR training workshops (HFA, 2012), which are ongoing (Herbert, 2017).

#### 11. Are there public awareness and media outreach campaigns?

Mechanisms for public awareness include a weekly radio show; this was produced by the Public Relations Office at the Disaster Management Office in St Kitts together with that in Nevis, both of which were established within the HFA reporting period (HFA, 2010). Other channels for public awareness include television, internet and newspapers (HFA, 2012). The radio show is considered a particular accomplishment for advancing DRR in the country, though it is recognised that the programme needs to be expanded to reach the growing non-English-speaking population (HFA, 2010). Each island has a full-time Community Outreach Officer, and there are annual campaigns using flyers; the media, including newspaper information items; and other modes of communication. NEMA issues an annual public address at the beginning of each hurricane season, and provides regular public service announcements to promote public awareness and disaster preparedness (GFDRR, 2010).

## HFA pillar 4. Reduce the underlying risk factors

### 12. To what extent is DRR included in national climate change adaptation policies?

According to the 2013 National Disaster Plan, NEMA works closely with the Ministry of the Environment to encourage consideration of climate change and adaptation in the disaster management process, including in risk assessment and disaster management legislation (Saint Kitts and Nevis National Disaster Plan 2013). In addition, the Climate Change Policy was in draft stage from 2010 through 2015, and while it was completed in 2016 it is not yet publicly available (HFA, 2010; HFA, 2015; Herbert, 2017). Saint Kitts and Nevis has no National Adaptation Programme of Action, though national adaptation planners participated in a NAP Global Network workshop in October 2016.

### 13. Is DRR included in environmental management policies/ environmental impact assessments?

By 2010, Environmental Impact Assessments (EIA) were required for all major development projects, and by 2015 disaster risks were reportedly taken into account in these EIAs (HFA, 2010; HFA, 2015).

### 14. Are hospitals 'safe'?

Hospitals and public health facilities were assessed in 2009; and from 2010 to 2015, policies and programmes for hospital safety existed including training and drills for emergency preparedness (HFA, 2010; HFA, 2012; HFA, 2015).

### 15. Are schools 'safe', and have there been any initiatives to ensure schools are built in accordance to DRR guidelines or policies?

In the early HFA reporting period, regular drills and exercises were not conducted, and the cost of procuring safety equipment for schools was considered prohibitive (HFA, 2010). By 2010, vulnerability studies had been completed for schools, and schools and shelters had been retrofitted to a degree to reduce risk (GFDRR, 2010). Policies and programmes for school safety lagged behind hospitals, but in 2013, a Schools Safety Programme was established with funding from the United Nations Educational, Scientific and Cultural Organization (UNESCO), which trained teachers in safety and DRR, equipped schools with emergency tools, and introduced regular safety drills (St Kitts and Nevis Natcom for UNESCO, 2014).

### 16. Are there any shock-responsive or social safety net schemes?

HFA reporting from 2010 states that there are social safety nets in existence in Saint Kitts and Nevis, but gives no details as to what form this takes (HFA, 2010). By 2015, there was some progress in the provision of crop and property insurance, conditional and unconditional cash transfers, and microfinance (HFA, 2015).

### 17. To what extent do risk-financing mechanisms exist?

In 2007 the Caribbean Catastrophe Risk Insurance Facility (CCRIF) was formed as the first multi-country risk pool in the world, and was the first insurance instrument to successfully develop parametric policies backed by both traditional and capital markets. It was designed as a regional catastrophe fund for Caribbean governments to limit the financial impact of devastating hurricanes and earthquakes by quickly providing financial liquidity when a policy is triggered (CCRIF, 2017). Therefore, catastrophe insurance facilities are available on a regional basis, though by 2015 St Kitts and Nevis had not yet issued catastrophe bonds (HFA, 2015). However, the tourism sector, a major contributor to the Saint Kitts and Nevis economy, is largely insured by commercial underwriters (GFDRR, 2010).

### 18. Are there effective land-use planning and building codes in place?

Prior to the start of the HFA period, and shortly after the National Disaster Management Act was established, a Development Control and Planning Act 2000 was enacted, and the Saint Kitts and Nevis Building Code upgraded. A National Physical Development Plan (NPDP) was approved in 2006, which includes DRR considerations to some degree (CDEMA, 2011). The NPDP incorporates a comprehensive land-use guide, and by 2009 the country had revised the building code and zoning laws, increased the number of building inspectors, undertaken sea defence works, invested in drainage infrastructure in flood-prone areas, and provided safe land for low-income households (HFA, 2010). However, there was no further progress following these developments, and the enforcement of building codes and zoning laws remained a challenge throughout the remainder of the HFA reporting period (HFA, 2015).

## HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

### 19. Are there national and local contingency plans in place?

There are preparedness and contingency plans in place, involving an operations and communications centre, search and rescue teams, stockpiles of relief supplies, shelters and secure medical facilities (HFA, 2013; HFA, 2015).

### 20. Is there an emergency fund?

There is a national contingency fund, but this is not specifically for DRR; there is recognition that a dedicated fund is needed (HFA, 2015).

**21. Is there a culture of volunteerism and participation?**
There are no numbers available regarding numbers of Red Cross volunteers, and outside of the District Committees framework mentioned previously, no particular culture of volunteerism and participation is reported.

## Drivers of change

### Factors that stimulate or accelerate change

Over the period reviewed in this study, progress is reported under Pillar 4 but not elsewhere, despite new DRR legislation in the form of the National Disaster Plan, which came into force in 2013. The progress reported under Pillar 4 may be a reflection of efforts to make schools and hospitals 'safe'.

It is clear that two major disaster events have spurred DRR efforts in Saint Kitts and Nevis. The 2009–2011 HFA reporting credits the establishment in 1999 of the Saint Kitts and Nevis National Disaster Mitigation Council as significant, facilitating progress towards mainstreaming DRR in Saint Kitts and Nevis. Hurricane Georges in 1998 was a major driver in establishing the National Disaster Management Act that created the Council. Similarly, Hurricane Omar in 2008 spurred efforts to integrate DRR into sectoral and long-term national planning under the 'reform agenda', and an intention to transition towards a sustainable, disaster-resilient economy appears to be there. The inclusion of DRR in sectoral plans since 2010 could be a significant step forward. However, there is limited detail given in HFA reporting as to what this entails or what has been achieved through the National Disaster Mitigation Council, and it is not clear what the implications of the reform agenda have been.

Regional bodies and initiatives such as CDEMA appear to have played a role in advancing DRR in the country, for example in development of the innovative Caribbean Catastrophe Risk Insurance Facility. In addition, integration of climate change and DRR appears to be stronger at the regional level, for instance in efforts to integrate climate change within the Caribbean Disaster Emergency Management Agency 2007–2012 plan (NEMA, 2013). Similarly, support from the international community has been a driver in some areas, such as in developing a growth and poverty reduction strategy following Hurricane Omar, and the Schools Safety Programme, which came into force in 2013 with funding from UNESCO and appears to have had some impact. The timing of the Schools Safety Programme may be associated with the launch of the National Disaster Plan the same year, and/or a push from the United Nations International Strategy for Disaster Reduction (UNISDR) on DRR in school curricula in 2011 and 2012.

### Factors that prevent or restrain change

Through the HFA reporting period, there was little change in national policy for DRR until the 2013 National Disaster Plan. However, it is not clear from HFA reporting reviewed for this case study what impact the Plan has had in practice or to what degree it is enforced. Overall, it appears that the policies and plans for effective DRR are in place in Saint Kitts and Nevis, but implementation lags behind. Similarly, the lack of enforcement of building codes and zoning laws under the 2006 National Physical Development Plan remained a challenge throughout the HFA reporting period.

A lack of financial and technical resources is highlighted regularly, throughout the HFA reporting reviewed, as a constraint and limit to progress. There is a need for more technical personnel and equipment in several institutions, and for external financial and technical support, to address disaster risk challenges.

By 2015 the national funding dedicated to DRR remained low, at less than 0.001% of the national budget, with similarly low funding for relief and reconstruction (HFA, 2015). The NEMA and the Nevis Disaster Management Department have both been described as being inadequately funded, resulting in limitations to programming (HFA, 2010). The need for additional financing for DRR is reflected in a statement made at COP22 in Marrakesh (Brantley, 2016), which highlighted the need for climate financing to support capacity-building and adaptation. The adverse impact of the global economic recession and the country's heavy debt burden is also highlighted multiple times in HFA reporting; this is said to severely restrict Saint Kitts and Nevis's participation in regional and sub-regional programmes, and to limit the country's investment in DRR (IMF, 2009; HFA, 2015).

# Annex 8. Sri Lanka

## Introduction

Sri Lanka is a medium-risk country with an overall 2015 INFORM risk rating of 4.9. The country scores 4.7, 4.6 and 4.1 for hazard exposure, vulnerability and coping capacity respectively.

Sri Lanka is a lower-middle-income country in South Asia, with a population of approximately 20,500,000 people. In recent decades, the primary natural hazards affecting the country have been floods, cyclones, landslides and most significantly the 2004 Indian Ocean Tsunami; during the period 1990–2014 the tsunami was responsible for over 95% of disaster mortality (Preventionweb, 2016). In addition, the Sri Lankan Civil War ran from 1983 to 2009, extending into the HFA period.

The country reported in the 2009–2011, 2011–13 and 2013–2015 reporting periods. A small degree of progress is reported against Pillars 1–4, between 2009–2011 and 2011–2013. No progress is reported against Pilar 5.

The HFA progress reports contain a wealth of detailed information regarding the state of DRR in the country, and there is little contradiction within this reporting.

## Trajectories and rates of change

### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

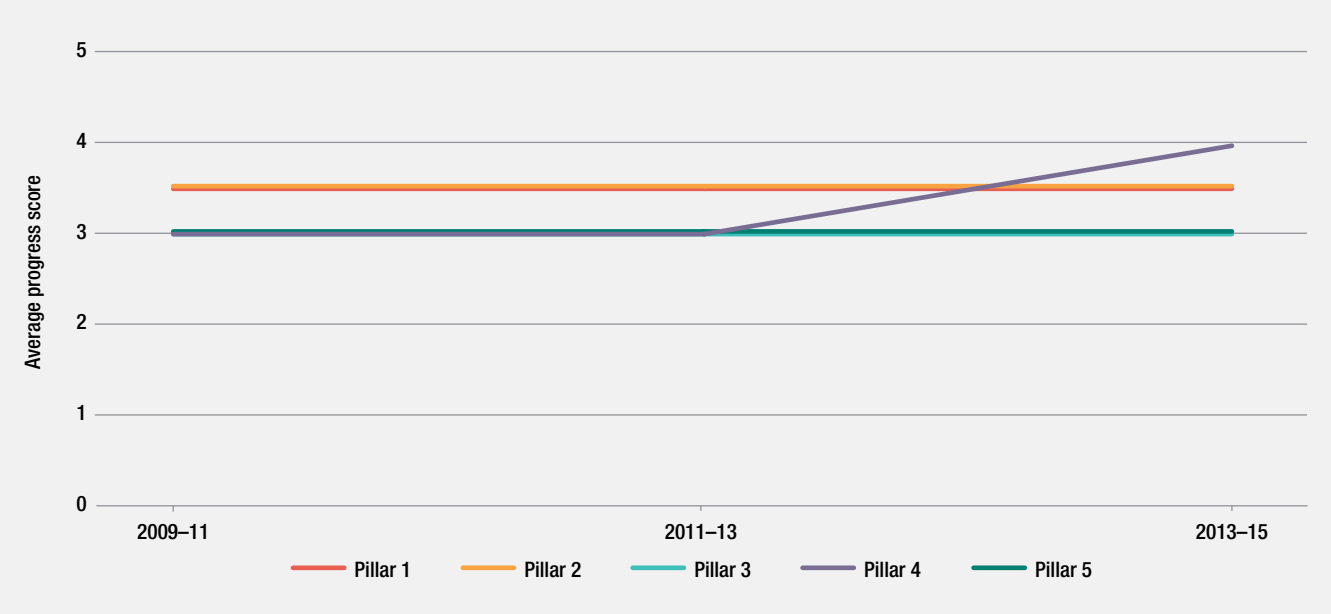
#### 1. Does a national platform for DRR exist?

In 2007, the Ministry of Disaster Management (MDM) established the National Disaster Management Coordinating Committee (NDMCC) as the National Platform, to coordinate activities of disaster management agencies (MDM, 2013). The NDMCC is a multi-sectoral organisation with representation from the public and private sectors, media, non-governmental organisations (NGOs) and research institutes (NDMCC, 2007). In order to improve the participation of government agencies, the NDMCC was restructured in 2010 and three core groups were established: 1) Training and Awareness; 2) Risk Reduction; 3) Response. Core groups were to meet monthly and report to NDMCC every three months (HFA, 2011). By 2014, the National Platform had over 80 member organisations (Aryasinha, 2014).

#### 1.a. How comprehensive is the DRR legislation?

In 2005, Sri Lanka enacted a National Disaster Management Act (No. 13, 2005), which established the institutional framework for disaster management and set out the functions of a National Council for Disaster

**Changes in average HFA progress scores – Sri Lanka**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

Management (NCDM) and Disaster Management Centre (DMC). NCDM has a leadership role, while DMC is the implemention and coordination arm of the NCDM. The NCDM is chaired by the President and includes the Leader of Opposition, sectoral Ministers and Chief Ministers of Provinces, among others.

Later the same year, the Ministry for Disaster Management (MDM) was established, which functions as the secretariat of the NCDM and supervises the Disaster Management Centre, National Building Research Organisation and Department of Meteorology (MDM, 2013). From 2006 to 2010, MDM also had a human rights function, becoming the Ministry of Disaster Management and Human Rights (MDM, 2013). A disaster relief function was added to the MDM's responsibilities in April 2010 having previously been under the purview of the Ministry of Disaster Relief Services. (HFA, 2011).

The National Disaster Management Act provided for the development of the National Disaster Management Policy, which was initiated in 2009 (MDM, 2013). In response to concerns that the DMC had insufficient authority to implement DRR policies, and that mandates of DRR agencies were unclear, approval of the Cabinet of Ministers was obtained in 2009 to amend the National Disaster Management Act, giving more authority to the DMC to implement DRR functions including the coordination of disaster relief, rehabilitation and reconstruction activities (HFA, 2015). The resulting National Disaster Management Policy was approved in 2014.

#### 2. Is there a national DRR strategy in place?

Among the first activities undertaken by DMC and MDM, in collaboration with a range of stakeholders, was developing a Road Map for Disaster Risk Management 2005–2015 (MDM, 2005). This Road Map prioritised activities to be implemented over the short, medium and long term, and was followed by the more detailed Road Map Volume 2, published in 2006 by MDM and the Ministry of Finance and Planning (HFA, 2009; MDM, 2006). In total, from 2004 to 2014, Sri Lanka was to invest over $500 million in the implementation of DRR activities across the country under seven thematic areas (Aryasinha, 2014). However, implementation of the Road Map was slow; by 2011, only 40% of the activities had commenced (HFA, 2011). A new strategy in the form of the National Disaster Management Plan 2013–2017 was developed, and the Comprehensive Disaster Management Plan 2014–2018 was launched as the implementation programme (HFA, 2015).

#### 2.a. To what extent do local DRR strategies exist?

In 2009 DMC assisted the Ministry of Local Government and Provincial Councils to incorporate DRR into the Local Government Policy (HFA, 2013). In 2011 a City Resilient Campaign was launched, reaching 15 Municipal Councils by 2013 with training to enhance local decision-making capacity for risk-informed development planning, emergency preparedness and response (HFA, 2013; HFA, 2015). These municipalities prepared Urban Development Plans incorporating DRR measures, with assistance from DMC, the Urban Development Authority and international NGOs (HFA, 2011). The Ministry of Disaster Management later conducted awareness-raising on urban DRR for officials of all Local Government Authorities in Sri Lanka, with the aim of engaging them in the City Resilience Programme (Aryasinha, 2014). By 2015, 35 municipalities had joined the campaign (HFA, 2015).

These efforts appear to have promoted the implementation of DRR measures in urban areas: by 2015, this included investment in drainage infrastructure in flood-prone areas, slope stabilisation in landslide-prone areas, and the provision of safe land and housing for low-income households and communities (HFA, 2015). In addition, by 2013 Disaster Preparedness Plans had been prepared for 16 districts, and by 2015 for all 25 districts (HFA, 2013; HFA, 2015).

Responsibilities between central and local authorities are well defined, but while local authorities have some powers to carry out relief and response activities, they lack resources to meet DRR requirements (HFA, 2009). Local Government Authorities could not allocate council funds for DRR, as disaster management was not a devolved issue (DMC, 2017). Across the country, local storage facilities and buffer stocks, and resources such transportation, communications and early response equipment are insufficient to meet needs (HFA, 2009).

#### 2.b. How many sectoral DRR plans exist?

The National Disaster Management Policy developed in 2009 was intended to be incorporated into sectoral policies and strategies (HFA, 2009). Progress has been slower than anticipated, but MDM has taken steps to mainstream DRR into several sectors including housing, roads, health and education (Aryasinha, 2014). In 2011, the National Planning Department of the Ministry of Finance agreed to consider DRR in development planning decisions (HFA, 2011). By 2013, risk assessments were being used in decision-making in the urban development sector (HFA, 2013); by 2015, the list of sectors had expanded to include agriculture and tourism. A new division was created within the Irrigation Department to respond to flood and drought (HFA, 2015).

### 3. Is community participation mandated in the DRR policies and mechanisms?

By 2009, community based preparedness activities for hazards including tsunami, landslides and floods had been implemented in most disaster-prone areas (HFA, 2009). The emphasis of DRR at village level is on disaster relief (HFA, 2009). Community based DRM programmes provide first aid training, and have established local Disaster Management Committees and evacuation drills, for example. Later, guidelines for preparation of village-level hazard maps were provided to the Committees, and a local hazard monitoring system was being introduced (HFA, 2011).

### 4. Is gender explicitly recognised in DRR policies and mechanisms?

By 2009, gender was incorporated into community based DRM programmes, and women's participation in DRM at community level was promoted (HFA, 2009). The different needs of men and women are considered in evacuation plans, first aid training programmes and first responder training, (HFA, 2011). HFA reporting recognises increased domestic violence and sexual harassment experienced by women and girls following disasters, and while counselling, psychosocial and rehabilitation programmes were reportedly available in place to address this issue, the need for a strategy to address the root cause of the problem is noted (HFA, 2009). By 2013, gender disaggregated data was reportedly collected at local level, but not available at national level (HFA, 2013; DMC, 2017).

The National Disaster Management Policy, released in 2014, states that:

> *Disaster management should give special consideration to marginalised groups and those with special needs or otherwise vulnerable, including persons with disabilities, senior citizens, the sick, pregnant women, children and displaced persons;*
>
> *Disaster management should ensure gender equality and in particular the empowerment of girls and women.*

HFA progress reporting around this time stated that gender issues are not a significant concern in Sri Lanka because there are 'equal rights and opportunities for all men and women' and cultural norms discourage 'unequal treatment based on gender' (HFA, 2013).

However, many aspects of DRR have been gendered; for example, men are the recipients of relief grants (HFA, 2009). A livelihood recovery programme provided different training opportunities based on gender, and while the issue of access and ownership of livelihood assets by men and women was 'considered', it is not clear whether this led to change (HFA, 2011).

## HFA pillar 2. Identify, assess and monitor disaster risks and enhance early warning

### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

The NDMCC established baseline information for DRR – including regarding disaster risk profiles, national policies, strategies, capacities, resources and programmes – and issued guidelines for data collection within two years of operation (HFA, 2009). However, later reporting suggests that this baseline is weak and based on incomplete records, due to low technical capacity for data collection and analysis (HFA, 2013; HFA, 2015).

### 6. Has a national risk assessment ever been completed? How frequently?

Flood impact assessments were conducted in 2006 and 2008 for flood-affected districts (HFA, 2009). In 2009, the preparation of hazard maps and risk profiles was a priority, and there was a recognised need to build capacity of agencies responsible for this (HFA, 2009). Following an agreement between DMC and the United Nations Development Programme (UNDP), hazard profiles or maps were developed for floods, landslides, cyclones, tsunami, droughts, sea-level rise, storm surge and coastal erosion, by 2014, with the support of the Agriculture Department, Irrigation Department, National Building Research Organisation, Meteorological Department, National Universities and other technical agencies (HFA, 2013; Aryasinha, 2014). Hazard profiles are publicly available on a website maintained by DMC (DMC, 2017).

Limited sharing of data and information has been a barrier to developing risk information and risk-informed decision-making. In 2009, there was no system in place to exchange information across agencies, and some institutions were reluctant to share their data. To tackle this, an intra-governmental network was established, connecting the Irrigation Department, Meteorological Department and others, to share data needed for DRR (HFA, 2009). However, the need for this network to be strengthened has been known since its inception, and by 2015 HFA progress reporting stated that there was no proper mechanism for sharing of data across agencies (HFA, 2015). The intra-government network is used primarily during disaster response periods (DMC, 2017).

### 7. Is loss information systematically collected?

In 2009, DMC had built a database of disaster events from the last 30 years, hosted on desinventar.lk (HFA, 2009), though later reporting stated that the database was not effectively maintained (HFA, 2015). The systematic collection and use of risk information began in earnest following the 2007 inception of the NDMCC. Maintaining the database has been challenging; data on disaster losses and damages are not consistently reported by the various mandated institutions.

#### 8. Do early warning system exist?
#### 8.a. Are they multi-hazard?
#### 8.b. Do they have 'good' coverage?

Establishment of an early warning system for tsunami, cyclones, sea surges and coastal floods, covering the entire coastal belt of the island, commenced in 2007 and completed in 2012. The system is regularly tested and monitored. For landslides, a community based early warning system was developed, and manually operated rain gauges were issued to most of the vulnerable communities (DMC, 2017). Communities were trained to read the gauge and evacuate when gauges reach a threshold level (HFA, 2009). The Ocean Observation Centre (opened in 2007) and Geological Survey monitor oceanic data and geological hazards respectively, and by 2009 the Meteorological Department had the infrastructure in place to monitor meteorological hazards across the country (HFA, 2009). Sri Lanka also has links internationally to receive information from external providers; for example, information on cyclone risk in the Bay of Bengal is exchanged with regional institutions such as the Indian Meteorological Department (HFA, 2015). Hazard calendars have also been developed to inform early warning (HFA, 2013).

The hazard monitoring agencies, and the DMC, operate 24-hour Emergency Operation Centres (HFA, 2009). Early warnings are disseminated through towers established along the coastal belt; coverage of the towers increased between 2007 and 2015, when full national coverage along the coastal belt was achieved (HFA, 2015). Early warnings are also disseminated through TV, radio, mobile phones and other systems, and satellite systems ensure uninterrupted communication (HFA, 2009). It is unclear whether 2009 recommendations for adaptations to night-time early warning (HFA, 2009), were implemented. A Disaster Early Warning Network (DWEN), developed and tested successfully with the involvement of a private mobile telephone operator and the University of Moratuwa, was not expanded due to shortage of funds (DMC, 2017).

The HFA progress report (2009) states that early warning is effective and people-centred, using local communication methods; early warnings are acted on effectively, there is local-level preparedness and active involvement of the media in disseminating early warning (HFA, 2009).

By 2011, a system was also in place for early warning and rapid response for disease outbreaks, linked to regional and global networks and coordinated by the World Health Organization (WHO) and the Ministry of Health (HFA, 2011; Ministry of Health, 2010).

#### 8.c. Are longer-range climate forecasts conducted?

While research for forecasting of some hazards, including droughts and landslides, was underway in 2009, there appears to have been little capacity for long-range climate forecasting in Sri Lanka throughout much of the HFA period. In 2015, a programme for improving severe weather forecasting capacity at the Department of Meteorology was underway, aiming to enhance the Department's ability to provide decision-makers with effective and timely forecasts (WMO, 2016).

## HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

#### 9. Is DRR a formal part of the school curriculum?

National Guidelines for School Disaster Safety were published in 2008, putting in place school programmes for emergency preparedness and response (HFA, 2009). Schools have conducted multi-hazard awareness programmes, and mock drills to practice safe evacuation, with priority given to tsunamis along the coastal belt (HFA, 2009). By 2009 DRR had been introduced to the secondary-level curriculum (grades 6 to 9), and it was added to the primary curriculum in 2013 (HFA, 2009; HFA, 2015). However, in 2009, very few teachers had been effectively trained in DRR (HFA, 2009). School disaster safety was included in the Post Graduate Diploma in Education Management in 2011 (HFA, 2011).

At the higher education level, some universities have initiated diplomas, degrees and Masters programmes to produce qualified disaster management professionals (HFA, 2009). DRR concepts are also included in university curricula for engineering, town planning, geography and other relevant subjects (HFA, 2011).

#### 10. Are there training and capacity-building programmes as part of DRR plans?

By 2009, some efforts had been made to train officials in development agencies to 'include disasters' in development plans based on district-level historical disaster data; however, as seen elsewhere in this report, the necessary risk information is often not available to facilitate this in practice (HFA, 2009). In addition, personnel engaged in preparation of development plans lack knowledge of disaster risk and risk assessment methodologies (HFA, 2009). From 2013, a training module was being developed to improve the capacity of officials to collect disaster loss data and conduct post-disaster damage and loss assessments (HFA, 2013; HFA, 2015).

Capacity-building has not been limited to training and awareness programmes only: reporting in 2011 noted that efforts to strengthen capacity of local authorities to respond to disasters had consisted of provision of equipment and materials such as boats, portable generators, water pumps and other physical resources (HFA, 2011).

#### 11. Are there public awareness and media outreach campaigns?

To promote public awareness, 26 December was declared National Safety Day in 2006 and commemoration

activities involving the general public were held in district capitals. School-level essays and art competitions, TV and radio programmes were aired to increase public awareness (HFA, 2009). Posters, leaflets and videos have also been disseminated at community level (HFA, 2011). Special religious programmes were conducted to commemorate victims of the tsunami and raise awareness regarding disaster management (DMC, 2017).

## HFA pillar 4. Reduce the underlying risk factors

### 12. To what extent is DRR included in national climate change adaptation policies?

Statements from the People's Secretariat on Climate Change (2010) highlight DRR opportunities, such as the potential for more effective use of wetlands, and the National Climate Change Adaptation Strategy for Sri Lanka 2011 to 2016 mentions interventions for DRR and climate change adaptation. Integration of climate change adaptation into DRR activities is mentioned in the 2014 National Disaster Management Policy, and integration of DRR is included in the Strategic Interventions of the National Climate Change Adaptation strategy of Sri Lanka 2011–2016 (DMC, 2017).

### 13. Is DRR included in environmental management policies/ environmental impact assessments?

In 2009, DMC entered into an agreement with the Environment Authority to include disaster risk in Environmental Impact Assessments (EIAs), though it was noted that technical assistance was required to do so (HFA, 2009). By 2014, DRR had been incorporated in the EIA with the support of the DMC and other agencies (Aryasinha, 2014).

### 14. Are hospitals 'safe'?

National Guidelines for Improvement of Quality and Safety of Healthcare Institutions were published by the Ministry of Health in 2010 (HFA, 2011). In 2011, training on handling mass casualties was conducted for staff in several hospitals (HFA, 2011). The new planning and building codes introduced in 2013 (see below) for development in hazard-prone areas included guidelines for safer construction of hospitals (HFA, 2013). In addition, the United Nations Children's Fund (UNICEF) supported construction of earthquake resistant health centres and social care centres, located in places with low risk of flood and tsunami (UNICEF, no date), and a National Training on Safe Hospitals was delivered by WHO in 2014, though the reach of these programmes is unclear.

### 15. Are schools 'safe'? Have there been any initiatives to ensure schools are built in accordance with DRR guidelines or policies?

The new planning and building codes introduced in 2013 for development in hazard-prone areas included guidelines for safer construction of schools (HFA, 2013). In addition, UNICEF supported construction of earthquake-resistant schools, located in places with low risk of flood and tsunami (UNICEF, no date). A plan for two-storied school buildings incorporating DRR measures was developed by a technical committee appointed by the DMC, and designs were provided to the Ministry of Education in 2010 (DMC, 2017).

### 16. Are there any shock-responsive or social safety net schemes?

Several microfinance schemes have been in place since as early as 1988, though these have not focused on DRR specifically. Some microfinance schemes introduced by the government or by NGOs are available to support women's livelihoods following disaster events (HFA, 2009). Since 2011, employment guarantee schemes, conditional cash transfers, and welfare programmes have also been available (HFA, 2011).

### 17. To what extent do risk-financing mechanisms exist?

By 2009, flood, crop and property insurance were available, but the high insurance premiums restricted access. Pilot projects were underway to implement micro insurance schemes through community groups (HFA, 2009). There was also a recognised need to identify reinsurers for micro insurance schemes (HFA, 2009).

In 2014, the government launched a risk-financing scheme, 'Catastrophic Drawdown Option' (CAT DDO), with the support of World Bank, which enabled the government to draw funds up to $103 million in the event of a major disaster to support recovery programmes.

### 18. Are there effective land-use planning and building codes in place?

In 2009, a new land-use policy under the Ministry of Land was approved, and the preparation of land-use plans was in progress (HFA, 2009). One of the objectives of the policy is to take steps to minimise the vulnerability of land to natural and human-induced hazards. The government restricted construction of critical infrastructure in areas exposed to tsunami by declaring buffer zones along the coastal belt. Unauthorised construction of houses was prohibited and some communities were relocated. However, enforcement of these buffer zones was not successful due to pressure for land for housing, and to limited community participation (HFA, 2009). In areas prone to landslides, developers are required to obtain clearance from the National Building Research Organisation. However, the non-availability of digital maps at appropriate scales has restricted the implementation of this policy for all hazards (HFA, 2009).

In 2009, building codes did not consider disaster risk factors, and as a result, responsibilities for applying standards, and the guidelines for construction in disaster-prone areas, were not clear (HFA, 2009). Building codes that did exist were not followed, and training

of local authorities to enhance enforcement of codes was considered necessary (HFA, 2009). To address this, new building codes for construction in these areas were developed, but regulations were not formulated to facilitate implementation of building codes (HFA, 2009; DMC, 2017).

By 2011, enforcement of laws and regulations with regard to land use and building codes remained weak (HFA, 2011). Reasons include insufficient legal enforcement power under the Disaster Management Act (HFA, 2009). In 2013, new planning and building codes for construction in at-risk areas were developed (HFA, 2013). By 2014, efforts were underway to integrate 'disaster resistant construction' in the civil engineering curricula of technical colleges and universities (Aryasinha, 2014).

### HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

#### 19. Are there national and local contingency plans in place?

By 2011, disaster preparedness and response plans were in place for 16 districts, and in addition, Grama Niladari (village)-level preparedness plans were developed for some of the divisions (HFA, 2011). By 2013 there were national programmes or policies for disaster preparedness, contingency planning and response, and the institutional mechanisms for rapid mobilisation of resources in a disaster were in place (HFA, 2013).

#### 20. Is there an emergency fund?

Section 17 of the Disaster Management Act (No. 13, 2005) provides for the establishment of an emergency fund for implementation of disaster related activities. By 2009 the operational mechanism for the fund had not been finalised (HFA, 2009). However, in 2010, the Treasury did not approve the fund, and therefore the establishment of an emergency fund has not materialised (DMC, 2017).

#### 21. Is there a culture of volunteerism and participation?

Early warning and disaster response involves participation of volunteer teams (HFA, 2011). The Sri Lanka Red Cross Society (SLRCS) has a network of volunteers at local level trained and ready to engage within very short notice for disaster response and relief operation.

## Drivers of change

### Factors that stimulate or accelerate change

While several major flooding events as well as droughts, landslides and cyclones were recorded over the HFA period, the most significant events shaping national DRM policy and practice are the 2004 Indian Ocean Tsunami, which claimed over 30,000 lives in Sri Lanka, and the end of the Sri Lankan Civil War in 2009. The 2004 tsunami marked a turning point in DRR policy and implementation, and the end of the civil war accelerated implementation in the northern and eastern provinces (Klem, 2017). The 2005 National Disaster Management Act, and the Road Map and institutional framework for DRR that accompanied the Act, came just one year after the tsunami. Large-scale infrastructure and telecommunications investment following the war may also have played a role in stimulating progress (Klem, 2017).

While international loans and programmes have supported some elements, the bulk of DRR activity through the HFA period appear to have been driven and funded by the Government of Sri Lanka. The DMC has been a key driver, collaborating with a wide range of other agencies including the Urban Development Authority, Road Development Authority, and others.

### Factors that prevent or restrain change

While the National Disaster Management Act 2005 put in place regulations and guidelines for enhancing DRR in the country, implementation has lagged. A lack of technical capacity, mandate and authority have impeded progress. Enforcement of laws and regulations in many areas was still a problem even by the end of the HFA period, and the lack of high-resolution maps and elevation models continued to affect the accuracy of risk mapping (HFA, 2015). Technical capacity for DRR at all levels and across all sectors of government has been insufficient (HFA, 2009). As mentioned above, effective DRR has been slower to emerge in conflict-affected areas; the conflict was a constraint to the maintenance of drainage systems in the Northern and Eastern provinces, for example, leading to massive floods (HFA, 2011). Even by 2011 the two main groups said to be recovering from disasters were those affected by the 2004 tsunami and by the conflict (HFA, 2011).

A lack of funding has also been a significant constraint. This was made clear by Amarathunga (2015), who stated, "I wish to place on record that a large number of people in Sri Lanka, who were affected by disasters, are still languishing due to scarcity of funds. As a result, the process of reconstruction, rehabilitation and resettlement has taken an unduly extended length of time. The Government of Sri Lanka has tenaciously endeavoured to raise funds but, often, [this] has been abortive."

# Annex 9. Thailand

## Introduction

Thailand was classified as a lower-middle-income country at the beginning of the Hyogo Framework for Action 2005–2015 (HFA) period; however, it was upgraded to an upper-middle-income country in 2009. The INFORM database (2015) puts Thailand in the medium-risk category, with an overall risk value of 4.1 (hazard exposure 6, vulnerability 3.2, lack of coping capacity 3.7). Thailand experiences a range of hazards, including floods, droughts, coastal erosion, cyclones, earthquakes, landslides, flash floods and forest fires. National HFA reporting was completed for 2007–2009, 2009–2011 and 2013–2015.[16] Changes in the national average progress scores over time for each pillar can be observed in Figure 1. Interestingly, while Thailand made 0.7 average progress between 2007–2009 and 2009–2011 reporting periods, between 2009–2011 and 2013–2015 it reported an average progress of -0.5 across the pillars.

## Trajectories and rates of change

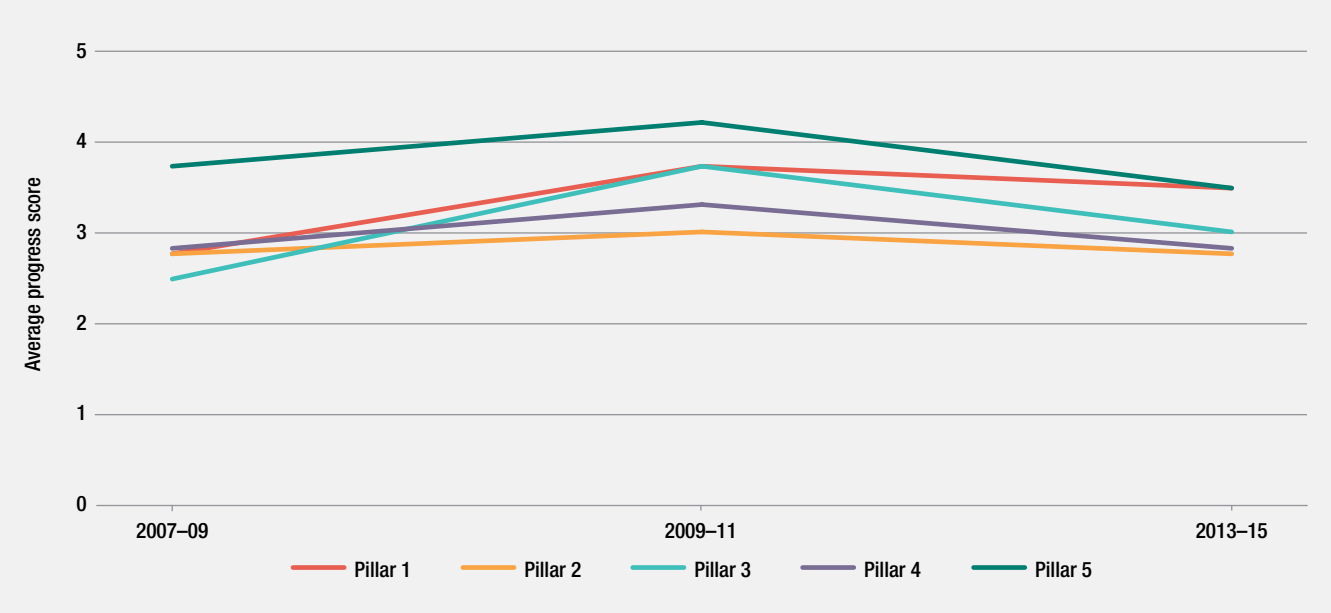
### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

#### 1. Does a national platform for DRR exist?

The coordinating lead institution for DRR in Thailand is the Department of Disaster Prevention and Mitigation (DDPM), which was established in 2002, under the Ministry of Interior. As mandated by the 2007 Disaster Prevention and Mitigation (DPM) Act, a National Disaster Prevention and Mitigation Committee (NDPMC) was also established to provide a framework and guidance on disaster management at the national, provincial and local levels. The committee is chaired by the Prime Minister and is composed of 22 members from relevant ministries and government agencies (ADPC, 2013). Nevertheless, the literature cites several functional limitations of the NDPMC, including lack of awareness, engagement, coordination, shared vision (particularly around climate change adaptation (CCA)), budget and expertise, as well as gaps in management (HFA, 2015; ADPC, 2013).

Thailand also participates in numerous regional disaster management platforms for coordination, cooperation,

**Changes in average HFA progress scores – Thailand**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

16 Progress data is available for all three reporting periods, while full reports are available for 2009–2011 and 2013–2015.

technical assistance and resource mobilisation. The country is a member of the Association of Southeast Asian Nations (ASEAN) and has signed up to the legally-binding ASEAN Agreement on Disaster Management and Emergency Response (AADMER), which was initiated in 2004 after the Indian Ocean tsunami and came into force in 2009 (ADPC, 2013); the current work programme covers the 2016–2020 period. In 2015, the 'ASEAN Vision 2025 on Disaster Management' was endorsed, and there have also been a number of declarations on DRM and resilience adopted. Moreover, Thailand is a member of the Asian Disaster Reduction Centre (ADRC), the Asian Disaster Preparedness Centre (ADPC)'s Regional Consultative Committee on Disaster Management (RCC), and United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), which provides an intergovernmental platform for member States on DRR and sustainable development, and enhances regional cooperation through multiple initiatives.

#### 1.a. How comprehensive is the DRR legislation?

The 2007 DPM Act replaced the 1979 Civil Defence Act and the 1999 Fire Prevention Suppression Act. The DPM Act became the basic legal mechanism for DRM in Thailand, with DDPM as the lead agency, and disaster management organisational structure, roles and procedures arranged around all administrative levels, including national, provincial, district, and sub-district (HFA, 2015; Government of Thailand, 2007a).

#### 2. Is there a national DRR strategy in place?

There were no structured mitigation or disaster management plans in Thailand during the 1990s International Decade for Natural Disaster Reduction (IDNDR) (Sinsakui and Lumjuan, 1998). During the HFA period, the National Civil Defence Plan (2005) served as the master plan for agencies concerning DRR activities until 2010, when the National DPM Plan (2010–2014) was approved. This new plan provided a basis for national-level DRM activities, including: a conceptual framework of disaster management; classification of disasters; roles and responsibilities across scales; and standard operating procedures. The Strategic National Action Plan (SNAP) (2010–2019) for DRR, contains four strategic components (prevention and mitigation, preparedness, emergency response and post-disaster management) and was intended to ensure DRR is mainstreamed in all sectoral development planning (ADPC, 2013). However, inadequate publicity of the SNAP within government institutions led to a lack of awareness and adoption of this plan (Kabir et al., 2011; UNDP, 2012a).

Thailand has developed numerous master plans for different hazard types (Mokkhavesa, 2009). Furthermore, several policies promote disaster management and emergency response, including the Eleventh National Economic and Social Development Plan (NESDP) (2012–2016), which, under its strategy of managing natural resources and environmental sustainability, stresses the role of preparedness for climate change and natural hazards; and the Climate Change Policy and Strategy (see question 12). In 2015, a new National DRM Plan (2015) was introduced, and other initiatives such as the United Nations Development Programme's (UNDP's) 'Mainstreaming Climate Change Adaptation and Disaster Risk Reduction in Development Planning in Thailand' (MADRiD) exist to help support the integration of DRR and CCA in national and sub-national development policies, plans and budget (UNDP, 2012b)

#### 2.a. To what extent do local DRR strategies exist?

After the government reformed in 2002, governance was decentralised. Following the 2007 DPM Act and the 2010–2014 DPM Plan, authorities at the national and provincial levels became responsible for developing their own DPM action plan and budget (while sub-district level authorities[17] were encouraged to do so) (HFA, 2015; ADPC, 2013). Small-scale disasters are the responsibility of the province, and while national funding and support is made available for provinces to carry out response and recovery activities if a disaster is declared, comparable funding for DRR and preparedness activities is absent (ADPC, 2013). All 76 provinces in Thailand are mandated to draft a 'Provincial Evacuation Plan and Drill', and are expected to conduct drills at least twice annually, in line with the 2007 DPM Act (HFA, 2015; Chvajarernpun, 2007).

Local governments have a legal responsibility to allocate financing for local DRR activities (HFA, 2011). This is achieved through 1–2% of local budgets, although the HFA report (2015) finds that DRR activities incorporated in local development plans tend to prioritise building infrastructure over DPM measures. Two administrative units have submitted local HFA progress reports: the Patong Municipality of Phuket (PMP) and Bangkok Metropolitan Administration (BMA).

#### 2.b. How many sectoral DRR plans exist?

Since 2002, the DDPM has been responsible for liaising with other government agencies on DRR. Many of these ministries have included DRM within their strategies and plans; however, there is evidence that coordination is often a challenge. For instance, there are more than 40 government agencies working on water and flood management in Thailand, leading to gaps in terms of coordination for response (ADPC, 2013). Consequently, following the 2011 floods, a Master Plan on Water

17 Provinces, Tambon Administrative Organisations (TAOs) and villages. A 'tambon' is the Thai administrative unit above the grassroot unit of a village: there are approximately 7,255 tambons in Thailand.

Management was developed in line with the Eleventh NESDP, which includes action plans for both short- and long-term water management (ADPC, 2013).

#### 3. Is community participation mandated in the DRR policies and mechanisms?

Whilst community participation is not mandated in the DPM Act, community participation in DRR and DRM programmes and projects has been driven through DDPM and local government initiatives. Mechanisms at the local level include: the Civil Defence Volunteer Group; the One Tambon One Search and Rescue (OTOS) project; and the Mr. Disaster Warning Project. These are reinforced and supplemented by several national initiatives that aim to support disaster management at the local level. Nevertheless, the 2013–2015 HFA report highlights that most government community based disaster risk management (CBDRM) initiatives do not have comprehensive monitoring and evaluation to ensure that knowledge and training can be transferred (HFA, 2015). Since 2005, the Thai Red Cross have also conducted CBDRM activities, with a focus on the inclusion of different groups.

#### 4. Is gender explicitly recognised in DRR policies and mechanisms?

Women and marginalised groups are recognised within the DPM plan (ADPC, 2013). The last HFA report states that gender disaggregated data is available and being applied for DRR and recovery decision-making (HFA, 2015); however, both the 2013–2015 HFA report and ADPC (2013) find that gender has not been explicitly considered as a critical part of DRM activities in practice. A 2001 Cabinet Resolution mandated every ministry or department to designate gender focal points, responsible for mainstreaming gender perspectives and drafting a gender equality master plan (HFA, 2011, 2015). Additionally, according to HFA reporting, a Gender-based Post-Disaster Response and Recovery Plan has been developed by non-governmental organisations (NGOs) and government agencies. Anti-discrimination provisions in the 2007 Thai Constitution mandated all consequent policies and laws to take a gender equality stance (Government of Thailand, 2007b). Since 2015, the Thai Red Cross have received training to integrate gender and diversity into vulnerability and capacity assessments (IFRC, 2016a).

#### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

According to an ADPC report, the DPM plan includes a 'general profile of the area, socio-economic profile, hazard and resources profile, hazard map (including evacuation route and safe areas)' and roles and responsibilities before, during, and after a disaster (2013: 9); nevertheless, the DPM plan was not available for review and there is no mention in the HFA reporting of a baseline study of disaster impacts, policies or institutions. There are, however, several post-disaster evaluations and needs assessments available, which could also serve as a reference point on the impacts of disasters and the effectiveness of existing policies and institutions.

### HFA pillar 2. Identify, assess and monitor disaster risks and enhance early warning

#### 6. Has a national risk assessment ever been completed? How frequently?

Whilst risk assessments were not undertaken during the IDNDR period, geohazard data was generated based on the DRR needs of the public and private sectors (Sinsakui and Lumjuan, 1998). More recently, Strategic component 1 of the AADMER Work Programme, 'Risk assessment, early warning and monitoring' and directives under the Eleventh NESDP have resulted in the undertaking of risk assessments (ADPC, 2013; HFA, 2011). Different agencies are responsible for carrying out risk assessments (ADPC, 2013), although there is a lack of commitment and coordination from different stakeholders/sectors to carry out multi-hazard risk assessments (HFA, 2015). Hazard maps of earthquakes, floods and landslides are not available for all regions, and these are undertaken by various agencies using different scales and parameters over different time periods; moreover, there is a lack of clarity about how information is shared or subsequently used due to lack of coordination and bureaucratic institutional arrangements (HFA, 2011). Whilst the undertaking of risk assessments appears to have improved by the 2013–2015 HFA reporting, and there have been initiatives such as UNDP's MADRiD project, which aims to support climate/disaster risk assessment and mapping for selected provinces (UNDP, 2012b), risk assessments still, at the time of reporting, had not been included within all sectoral development plans. In addition, while the last HFA report finds that a multi-hazard risk assessment exists, this is limited to risk-prone communities/areas through CBDRM, and multi-hazard risk assessments are not yet being systematically implemented at the national or provincial level (HFA, 2015).

#### 7. Is loss information systematically collected?

After the Thai 2011 floods, several post-disaster needs assessments were carried out, for instance Kabir et al., 2011. Nevertheless, the last HFA report, in 2015, finds that disaster losses and hazards are not systematically reported, monitored or analysed, and there is no database for disaster losses in Thailand (HFA, 2015); to date there is still no database available in the public domain. There is also an absence of agreed methodologies and procedures to assess damage, loss and needs when disasters occur, and data has not been collected in a systematic way, particularly at the local level and across sectors (HFA,

2015). While the last HFA report highlights that Thailand is initiating a 'disaster data warehouse' following the 2011 floods, it is not clear if this has been instigated, and the abovementioned challenges remain.

#### 8. Do early warning systems exist?

There were no early warning systems (EWS) in place at the end of the IDNDR assessment (Sinsakui and Lumjuan, 1998). In 2005, following the Indian Ocean tsunami in 2004, a National Disaster Warning Centre (NDWC) was set up to improve tsunami, earthquake and tropical cyclone warnings, to coordinate early warning information and to support evacuation notifications (Chvajarernpun, 2007; Pacific Disaster Centre, n.d.; ADPC, 2013); the centre created Thailand's first multi-hazard early warning and decision support tool, called DisasterAWARE (Pacific Disaster Centre, n.d.). The Thai Meteorological Department (TMD) also supports early warning of tropical cyclones and earthquakes, and other agencies are responsible for collecting and disseminating data on different hazards. At the national level, early warnings are disseminated through mass media, text messages and the Internet, while at the local level this is done through community radio towers, mobile units and sirens, warning towers (through a system of over 136 towers), as well as through the Mr Disaster Warning project and Civil Defence Volunteers (HFA, 2015). Despite progress in this area, lessons from the 2004 Indian Ocean tsunami and 2011 Thai floods demonstrate that national early warning information is often short term and often inaccurate, leading to confusion and lack of preparedness (ADPC, 2013: 11). Moreover, HFA reports highlight that EWS monitoring equipment is often limited, in terms of capacity and reach, and the media do not always prioritise the dissemination of early warning information (HFA, 2011, 2015).

### HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

#### 9. Is DRR a formal part of the school curriculum?

During the IDNDR period, DRR was not included in primary or secondary school curricula, although it was evident in some university courses, initially through the geological sciences of coastal zone management and natural hazards (Sinsakui and Lumjuan, 1998). The 2009–2011 HFA report highlights no change in the school curriculum, but finds greater inclusion in university courses, where several masters and doctoral degrees incorporated modules on DPM and DRM. By 2013, the Ministry of Education (MoE) had integrated DRR into the national educational curriculum at all levels (primary, secondary, university, and within professional education programmes) (ADPC, 2013; HFA, 2015). Nevertheless, DRR is still not a priority within the MoE's Framework, and DRR 'school curricula, education material and trainings are not promoted widely' in practice; moreover, there still tends to be a focus on post-disaster activities, except in some rural areas that are more at risk of disasters (HFA, 2015). There is evidence of activities over the HFA period aiming to improve disaster awareness in education; nevertheless, the 2013–2015 HFA report highlights that primary and secondary school teachers need to receive 'regular training on DRM to raise their safety awareness and better understanding on the necessity of DRM education' (HFA, 2015: 18).

#### 10. Are there training and capacity-building programmes as part of DRR plans?

Prior to the establishment of the DDPM in October 2002, disaster management training was conducted by various government agencies at the national level, including the Civil Defence Secretariat Office, the Office of National Safety Council of Thailand and the Fire Brigade of the National Police Bureau (DDPM, 2017). Since 2002, DDPM has become responsible for the administration of all disaster related training courses. In 2004 it set up the DPM Academy to act as the principle DPM training centre, targeting government officials at national and local levels, private sectors, and the public; this academy coordinates inter-agency and international knowledge production and training (Chvajaernpun, 2007). There are also several partnerships and information sharing mechanisms that exist within Thailand to coordinate on DRR across agencies. Civil Society and other agencies also provide training at the regional, national, provincial and local level. For instance, ADPC offers DRR training courses regionally, as well as Commuity Based EWS and CBDRM trainings locally through projects implemented in Thailand. The HFA (2015) report also highlights that Thailand is providing neighbouring countries with training packages in DRR, crisis management, and medical emergency management (HFA, 2015). At the local level, the Thai Red Cross and other agencies offer CBDRR training (see question 3), although not universally.

#### 11. Are there public awareness and media outreach campaigns?

During the IDNDR period, information on disasters and DRR was disseminated through posters and presentations (Sinsakui and Lumjuan, 1998). Since then, Thailand has made rapid advances in dissemination methods, and one of the objectives of the DPM Academy, set up in 2004, was to 'generate awareness among the public and to mobilise their participation for disaster management' (DDPM, 2017: 8). The DDPM has also collaborated with other ministries and departments and the Thai Red Cross to conduct participatory approaches to raise public awareness around the full disaster management cycle (HFA, 2011, 2015) and to help facilitate training at different scales (HFA, 2015). The public can access information on disasters through public information broadcasts over the

radio and television, through warning towers, via text messages, and through a central information website (HFA, 2015). At the community level, the Mr Warning officers and Civil Defence Volunteers are responsible for relaying information. Nevertheless, the HFA reporting (2015) notes that while a safety awareness promotion strategy exists, information is not disseminated proactively and risk and hazard information from the government is often inaccessible, meaning that people may ignore warnings. In addition, because much of the information on DRR and preparedness is available through networks and agencies, it does not always reach the community or local level, although social media is now playing an important role in the dissemination of DRM information. The HFA (2015) report also highlights that greater consideration should be given to indigenous knowledge when developing information, knowledge kits and plans at the local level (HFA, 2015: 17).

## HFA pillar 4. Reduce the underlying risk factors

### 12. To what extent is DRR included in national climate change adaptation policies?

Thailand's current climate change policy is articulated in the National Strategy on Climate Change (2008–2012), (2013–2017), and the Thailand Climate Change Master Plan (2012–2050). Strategy 1 of the 2008–2012 strategy is to 'build capacity for climate change adaptation and vulnerability reduction', under which 1.2.2. stipulates the 'development of disaster prevention and impact mitigation measures for natural disaster and human settlements' (HFA, 2011: 15). Whilst the National Strategy on Climate Change (2008–2012), which acts as the National Framework for DRR and CCA, defines several requirements for successful implementation, the HFA reports find that this has not been translated into practice due to limited understanding about how to integrate DRR and CCA. Consequently, the main agency responsible for CCA, the Office of Natural Resources and Environmental Policy and Planning, tends to focus on mitigation as opposed to DRR (HFA, 2015). Thailand is also developing a new strategic framework on green growth and climate change, where DRR will be included under human settlement and security (HFA, 2015).

### 13. Is DRR included in environmental management policies/ environmental impact assessments?

DRR was incorporated in the Eleventh NESDP strategy for managing natural resources and environment towards sustainability; this includes carrying out risk assessments on natural resources and environmental degradation (ADPC, 2013). The 2009–2011 HFA report found no mechanisms in place to protect and restore regulatory ecosystem services, nor any environmental impacts assessments (EIAs) – highlighting that there were barriers to environmental management, including lack of consideration of DRR, and lack of resources to initiate and maintain such projects. Conversely, the 2013–2015 HFA report found several mechanisms in place, including: protected areas legislation, integrated planning (e.g. coastal zone management), EIAs, and CCA projects and programmes (HFA, 2015), and while the report states that DRR is not being considered within EIAs, other sources demonstrate that environmental management initiatives are starting to take DRR into consideration (for example Chan-O-Cha, 2015).

### 14. Are hospitals 'safe'? and 15. Are schools 'safe'? Have there been any initiatives to ensure school are built in accordance to DRR guidelines or policies?

In the 2009–2011 HFA reporting, there were no investments in retrofitting infrastructure including schools and hospitals, no training or mock drills in schools and hospitals for emergency preparedness, and no policies and programmes for school and hospital safety. Since then, the 2013–2015 HFA report highlights that there are now investments in retrofitting school and hospital infrastructure, and training and mock drills are carried out (although it not does specify how frequently). Nevertheless, no multi-hazard risk assessments are undertaken for schools and hospitals according to the last HFA report (HFA, 2015). There were improvements to infrastructure and amenities for schools and hospitals over the period, including several joint projects for safer schools and hospitals. For instance, in 2011, through a collaboration between the United Nations International Strategy for Disaster Reduction (UNISDR) and the ministries of the interior, public health, and education, Thailand launched the 'one million safe schools and hospitals campaign', which is expected due to expand to schools and hospitals nationwide.

### 16. Are there any shock-responsive or social safety net schemes?

The 2009–2011 HFA report finds no social safety nets in place to increase the resilience of risk-prone households and communities. It also notes that while the national, provincial, local and CBDRM DPM plans identify procedures for prioritising minority groups and vulnerable people, there is little evidence of whether this is achieved in practice – before, during or after an emergency. Since then, the 2013–2015 HFA report states that a number of social protection initiatives have been put into place, including crop and property insurance and conditional and unconditional cash transfers. The report also recognises that the nature of Thai culture and the close extended family links within Thai society, particularly in rural areas, help to strengthen social safety nets (HFA, 2015: 23).

### 17. To what extent do risk-financing mechanisms exist?

The 2009–2011 HFA report states that no microfinance or microinsurance schemes are in place; however, the

2013–2015 HFA reporting finds that, in addition to the crop and property insurance and cash transfers mentioned in question 15, microfinance (such as savings and loans) and microinsurance mechanisms are in place. Nevertheless, the reporting notes that microinsurance is provided on a voluntary basis and has low uptake at the local level. The report suggests that greater incentives are needed to convince people to invest in insurance to support risk transfer (HFA, 2015).

#### 18. Are there effective land-use planning and building codes in place?

The HFA 2009–2011 report states that the Department of Public Works and City and Town Planning (DPT), Ministry of Interior, have formulated building construction regulations for earthquakes, as of 2007, and identify three earthquake risk zones across 22 provinces. Local officers in these areas have been ordered to 'strictly enforce' building codes and earthquake safe construction; and where local provinces do not have specialised officers, they are entitled to request support from the DPT provincial office. Nevertheless, both HFA reports find that law enforcement is an issue, stemming from either a lack of awareness or an intended disregard by building owners (HFA, 2015). An ADPC (2013) report also finds that industrial estates, households and the international airport have been constructed on flood zone areas, due to the fact that the BMA is found in a low-lying delta area, and it is hard to find safe land close to the city centre. Nevertheless, a number of initiatives have been launched to help prevent or reduce flooding to such areas, including since the 2011 floods.

### HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

#### 19. Are there national and local contingency plans in place?

The hazard master plan reports mandate national-, provincial- and district-level planners to conduct annual training and exercises to test, monitor and evaluate the efficiency of these plans. Disaster risks are anticipated through scenario development and preparedness planning; and the HFA (2015) report finds that these risk scenarios now consider climate change projections (HFA, 2015). As also seen in question 10, government and local administration staff, including civil defence volunteers, are trained to support CBDRM approaches, including 'firefighting, search and rescue, incident and command system' (HFA, 2015: 29). In addition, schools and health facilities have safety programmes and undertake training and mock drills to prepare for emergencies; nevertheless, the lessons learnt from response operations and drills are rarely included within subsequent planning or implementation (HFA, 2015). Several regional initiatives, such as the ASEAN Disaster Emergency Response Stimulation Exercises (ARDEX) also help promote contingency planning and knowledge exchange in the region (HFA, 2015).

#### 20. Is there an emergency fund?

As noted in question 2a, provinces can apply for national funds to support response efforts after they have declared a state of disaster. While the 2011–2013 HFA report states that there is no national contingency fund, catastrophe insurance facilities or catastrophe bonds, the 2013–2015 HFA report confirms that a national contingency and calamity fund, and catastrophe insurance facilities are now in place. It also highlights that institutional mechanisms have been set up to support the rapid mobilisation of resources after a disaster, including through public/private sector support (HFA, 2015). After the 2011 Thai floods, the Ministry of Finance Regulation allocated more than 50 million Thai Baht to support victim compensation, but the media reported limited transparency, delayed compensation and unreliable victim databases (HFA, 2011). In response, however, the government amended the budget allocation to support a more holistic approach to disaster management, with 10 million Baht allocated for preventive measures and 20 million Baht allocated for response/relief.

#### 21. Is there a culture of volunteerism and participation?

As highlighted in question 3, several community participatory initiatives exist in Thailand; these are primarily focused on early warning (such as the Mr. Disaster Warning Project, under which 6,455 villagers had been trained by 2007), and response (such as the One Tambon One Search and Rescue Team, which was launched in October 2005 in response to the 2004 Indian Ocean tsunami). DDPM have also promoted community-based volunteers such as the Civil Defence Volunteers, and the Ministry of Public Health has worked with Village Health Volunteers (ADPC, 2013). The Thai Red Cross, with a volunteer network of 1,195,222 volunteers, has led on CBDRM training, and focuses on supporting the distribution of relief during emergencies (IFRC, 2016c).

## Drivers of change

### Factors that stimulate or accelerate change

The December 2004 Indian Ocean tsunami was a major driving factor in the development of DRM and DRR activities both in Thailand and regionally. Several initiatives and platforms were set up to increase knowledge, resource mobilisation and regional cooperation in the ASEAN region. One example is the UNESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness, which aims to provide a reliable EWS for the region. Since the Indian Ocean tsunami, the greatest disasters to have affected the country are the 2008 Typhoon Mekkhala and associated

flooding, and the 2011 floods. During the 2011 floods, the Thai government placed an additional emphasis on business continuity. The floods also had a major impact on the development of DRM within policy and practice more broadly. Recurring disasters have continued to provide reminders to enhance policy and institutional frameworks, and key stakeholders continue to make improvements over time.

The wider regional environment has also been a major driving force in developing DRM and DRR activities. Numerous regional or sub-regional organisations are based in Bangkok, Thailand, including several UN regional agencies such as UNESCAP, UNISDR and UNDP Asia Pacific offices, which help to keep DRM and DRR issues at the forefront of policy and practice in Thailand. Moreover, within Southeast Asia there is a focus on regional cooperation for DRM, and ASEAN is an active network (as seen in question 1). In addition, the DDPM, in collaboration with UNISDR Asia Pacific, hosted the Sixth Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) in June 2014, at which the 'Bangkok Declaration on disaster risk reduction in Asia and the Pacific 2014' was issued. The Bangkok Declaration calls for governments and stakeholders to 'enhance resilience at the local level, improve spending and investment in disaster and climate risk management, encourage a shift in the private sector from response-oriented practices to a prevention mindset, promote innovation, science and technology, improve the transparency of and accountability of governance, and build coherence between the framework and processes for sustainable development and climate change' (Government of Thailand and UNISDR AP, 2014).

### Factors that prevent or restrain change

While Thailand has made great improvements in DRM, the pace of the policy and institutional reforms continue to lag behind the increasing incidence of disasters. The HFA reports acknowledge that while many achievements have been made over the HFA period, limitations in financing and operational capacities have remained significant barriers to progress (HFA, 2015). Lack of engagement and coordination between government ministries is a limitation, particularly when there is a lack of shared vision or awareness around issues such as the integration of CCA and DRM. Moreover, the collection and access to data has been a major constraint in terms of driving change across sectors and scales.

## Acknowledgements

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# Annex 10. Togo

## Introduction

According to the INFORM index, Togo is a medium-risk country with an overall score of 4.4, a hazard and exposure score of 2.5 (main hazards being hydro-meteorological phenomena, disease outbreaks and coastal erosion), a vulnerability score of 4.8 and a lack of coping capacity score of 7.1 (INFORM, 2015). Since the adoption of the Hyogo Framework for Action 2005–2015 (HFA), the consensus is that 'despite remarkable progress in relation to the experiences (i.e. disasters) from 2007 to 2014, disaster management still suffers from a lack of resources and management mechanisms (coordination and intervention)' (République Togolaise, 2015). Progress on each of the Framework's pillars is outlined in the graph below.

Data sources are sometimes unclear, and contradictory. Despite the HFA Progress Report claiming that no mechanism to systematically collect information on losses was in place, data on disasters and subsequent losses, for instance, was available on DesInventar. DesInventar is not, however, systematic. An important gap is the absence of an HFA Progress Report for the 2011–2013 period.

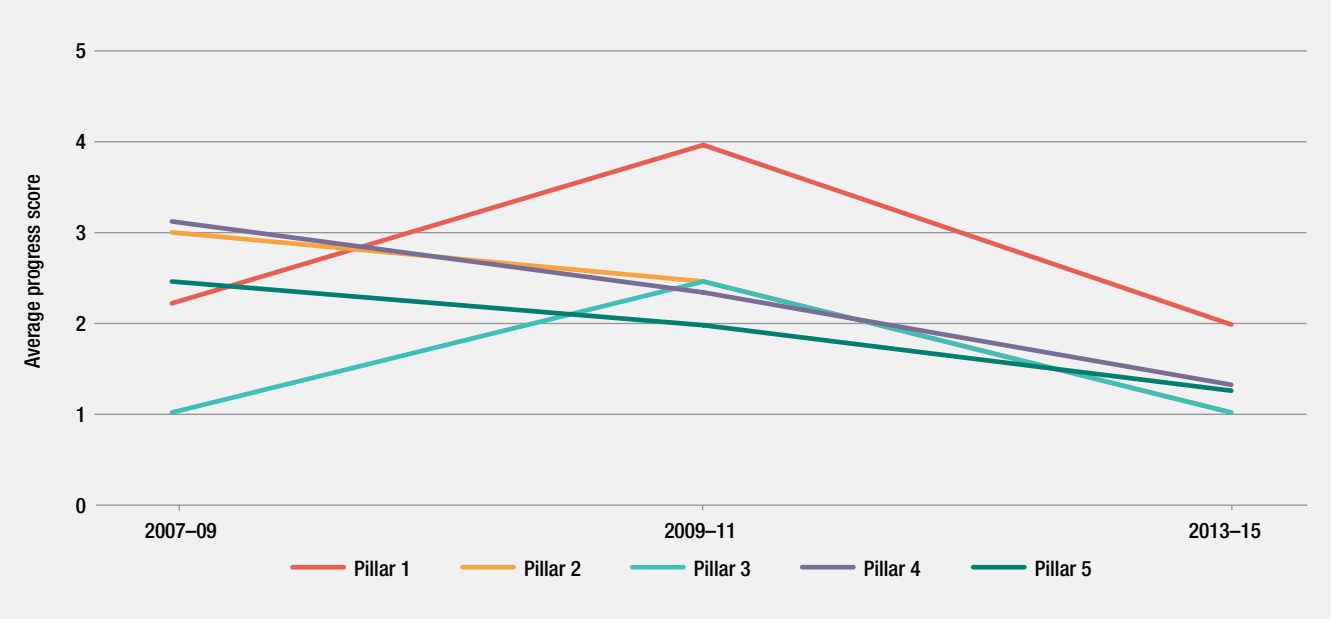
## Trajectories and rates of change

### HFA pillar 1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation

#### 1. Does a national platform for DRR exist?

The government of Togo established the DRR National Platform, under the responsibility of the Ministry of Environment and Forest Resources, in 2007 (HFA, 2009). This platform, however, only became operational in 2009, after a workshop organised by the Ministry of the Environment, with the support and participation of the United Nations Development Programme (UNDP) and the United Nations International Strategy for Disaster Reduction (UNISDR). The platform's mission was defined as preparing a work plan for the development of a national DRR strategy, improving early warning systems, decentralising the platform to the regional level, and establishing a National Institute for Cartography and a support fund for emergencies and disasters (GFDRR World Bank Group, 2011). The platform's plenary committee now meets every two months, upon being summoned by the President. In 2014, it included civil society representatives, national funding and planning

**Changes in average HFA progress scores – Togo**




*Source: HFA National Progress Query Tool, available at www.preventionweb.net/applications/hfa/qbnhfa.*

institution representatives, sectoral representatives, private

organisation representatives, members of scientific and academic institutions, and representatives from women's organisations (HFA, 2015; Projet Gestion Intégrée des Catastrophes et des Terres (PGICT), n/d a).

#### 1.a. How comprehensive is the DRR legislation?

The 30 May 2008 Environmental Law serves as the main legal frame of reference. In its article 133, the law states that the Ministry of Environment, in collaboration with relevant actors, must establish preventive rules, warning systems and DRR systems in order to develop resilience in the face of disasters (Plate-forme Nationale de Réduction des Risques de Catastrophes – Secrétariat Technique, 2013). DRR is, broadly speaking, integrated into the country's sustainable development policy, such as the Government's 2009–2011 Strategy for Poverty Reduction and Priority Actions Plan (HFA, 2011). The 2013–2015 HFA progress report notes that although institutional engagement is not lacking, weaknesses remain, including coordination issues, and similarities in the roles and responsibilities of different institutions intervening in DRR (at least three ministries lead DRR action in Togo: the Ministry of Security and Civil Protection, the Ministry of Social Affairs, and the Ministry of Environment). To remedy this, Togo undertook a process of institutional reform, and created on 2 March 2017 a National Agency for Civil Protection (ANPC), under the authority of the Ministry of Security and Civil Protection. It is hoped that this agency will better coordinate action and planning for DRR and DRM across sectors (République Togolaise, 2017).

#### 2. Is there a national DRR strategy in place?

A national DRM strategy was adopted in 2009 (Stratégie Nationale de Gestion des Risques et des Désastres), after the adoption of a national strategy was delayed by the 2007 and 2008 floods, which led the platform to focus on disaster response and reconstruction (GFDRR, 2011). Because of limited financial resources, the implementation of this first strategy was limited. A new national strategy for DRR was developed in 2013, which was based on the HFA and the five priorities it identified (*Stratégie Nationale de Réduction des Risques de Catastrophes Naturelles*). Despite persisting financial, capacity and coordination issues, the 2013–2015 HFA Progress Report credits this new strategy with reinforcing the capacities of state structures in charge of DRR, with the implementation of targeted projects such as the World Bank funded Project for Integrated Disaster and Land Use Management (PGICT) or the Emergency Project for the Rehabilitation of Electric Services and Infrastructures (PURISE), and with the execution of large-scale sanitisation works, rehabilitation of water basins and improvement of drainage systems, notably in the capital, Lomé (HFA, 2015; World Bank, 2016; Plate-forme Nationale de Réduction des Risques de Catastrophes – Secretariat Technique, 2013).

#### 2.a. To what extent do local DRR strategies exist?

Togo created five local platforms for DRM in 2009, whose number reached 18 by 2015.18 However, these platforms have no plan for action, and therefore have very limited access to funding (HFA, 2011). In every region, platforms for DRR, presided by the Prefect exist. In 2015, a joint team from the Ministry of Environment, Ministry for Security and Civil Protection and Ministry for Social Action, Promotion of Women and Alphabetisation attempted to revitalise the local platforms. The results of this action are unclear (Projet Gestion Intégrée des Catastrophes et des Terres, n/d). Local participation and concertation also occurs through regional and prefectoral committees, as part of the Plan for Organising Rescue (ORSEC) (Plate-forme Nationale de Réduction des Risques de Catastrophes – Secrétariat Technique, 2013).

#### 2.b. How many sectoral DRR plans exist?

Before the 2013 national DRR strategy, an integration of DRR across multiple sectors had already begun, notably in poverty reduction, agriculture and environmental policy (HFA, 2009; Plate-forme Nationale de Réduction des Risques de Catastrophes – Secrétariat Technique, 2013). Sectors dealing with disasters almost annually since 2007 also integrate DRR in their planning, although their main focus remains emergency rather than prevention (HFA, 2011). The 2013 national DRR strategy reinforced cross-sector integration by providing better coordination. DRR was integrated to the following sectors, in their planning and budgeting tools: environment, water and sanitisation, habitat and urbanism, agriculture, defence and civil protection, social action, health, education and research, finance and economy, transport, tourism, and communication (HFA, 2015). Importantly, DRR was identified as a priority in the Accelerated Growth and Employment Strategy (SCAPE), the national tool for development planning (HFA, 2015).

#### 3. Is community participation mandated in the DRR policies and mechanisms?

Community participation occurs through ORSEC. This participation is, however, limited, as local authorities have no DRR mandate or authority, and resources are scarce or non-existent at the local level (HFA, 2009). An added difficulty is that DRR is a new concept at the local level, making it harder to integrate to development planning (HFA, 2015). In 2015, community participation was encouraged through the creation of prefectoral or local

18 Email exchange with DRR and climate change adaptation (CCA) specialist, project lead for the Pool of Programmes and Projects at the Togolese Red Cross.

platforms for DRR. Although the results of this are not yet clear, it is hoped that the platforms will contribute to fostering a community culture of resilience in the face of disasters, to raising awareness and to integrating DRR to development programs at the local level (Lomebouge Info, 2015). The 2013–2015 HFA Progress Report still identified a lack of adequate resources – for the transmission of knowledge or local experiences and for the sharing of good practice at the local, regional and national levels – as an obstacle to community development (HFA, 2015).

#### 4. Is gender explicitly recognised in DRR policies and mechanisms?

Some evidence suggests that gender dimensions are beginning to be considered in DRR policies and mechanisms. For example, women's groups are represented in the national platform, and women were trained in the Maritime and Savannah regions to become 'DRR leaders', to reinforce their capacities and raise awareness in their communities (HFA, 2011). Although there is some recognition that further efforts to promote gender equality are needed, this remains, in practice, limited. Intervention plans do not consider gender specificities, and neither do post-disaster needs assessments. The specific needs of elderly people or disabled people are also neglected in rescues, shelters and emergency medical installations (HFA, 2015).

#### 5. Was a baseline study of disaster impacts, DRR policies or institutions conducted? From what date? How comprehensive?

No reference study of disaster impacts, DRR policies or institutions exists for Togo. However, some studies have documented the disasters experienced by Togo in the course of its history, providing basic data on the dates of the events, the scale, and the number of victims (HFA, 2011; Sodogas and Gomado, 2006). Particular attention has been paid to flood impacts, with detailed data available from a post-disaster needs assessment (PDNA) report conducted in 2010 with the support of the World Bank and UNDP (GFDRR, 2010). In 2015, the United Nations Economic Commission for Africa (UNECA) published a study assessing the mainstreaming and implementation of DRR in Togo, identifying good practice, lessons learned and challenges (UNECA, 2015).

## HFA pillar 2. Identify, assess and monitor disaster risks and enhance early warning

#### 6. Has a national risk assessment ever been completed? How frequently?

The non-governmental organisation (NGO) Plan-Togo conducted a minor risk analysis in 2006 (GFDRR, 2011). In 2009, the Technical Secretariat of the National Platform conducted a study in two out of five regions. The data provided is, however, insufficient to grasp the situation in terms of vulnerability at the national level. To this day, no national multi-risk assessment has been carried out, largely due to financial and technical constraints (HFA, 2015). However, the country conducted a national multi-hazard health emergency/disaster risk assessment (WHO, 2016), which has informed national health acts and policies covering DRM issues, the health sector disaster response plan and recommended processes of table-top exercises, simulations and periodic reviews (Kalambay et al., 2013).

#### 7. Is loss information systematically collected?

The 2013–2015 HFA Progress Report indicates that no system for data collection or database on loss exists. However, the Disaster Information Management System (DesInventar), provides an inventory for Togo, which includes data on deaths, injuries, houses destroyed, houses damaged, number of people affected, relocations, evacuations, economic losses, crops, education centres, hospitals, damages in roads, and spatial distribution of losses since 1960 (DesInventar, n/d). The data sources are, however, unclear; and the data available is not systematically collected or reliable.

#### 8. Do early warning systems exist?
#### 8.a. Are they multi-hazard?
#### 8.b. Do they have 'good' coverage?

The Togolese Red Cross initiated an early warning system (EWS) test program focused on floods in 100 test villages in 2009. This developed in 2011 into an EWS, with support from the Ministry of Environment and Forest Resources, covering Togo's main rivers, including the Mono, the longest (HFA, 2015). The development of a national EWS was held back by antiquated infrastructure, the absence of adequate training of personnel and awareness-raising among local communities (Plate-forme Nationale de Réduction des Risques de Catastrophes – Secrétariat Technique, 2013; HFA, 2011). In 2015, a national EWS for floods was launched by the national DRR platform. As of 2016, 19 local platforms covering an area of 23,864 km² meet periodically to ensure the smooth running of the EWS. This resulted in 150 alert messages from Red Cross volunteers in vulnerable areas being transmitted to the national platform Secretariat and to the Civil Protection Direction (PGICT, 2016). The Togolese Red Cross played an important role in the development of an EWA (HFA, 2015).

#### 8.c. Are longer-range climate forecasts conducted?

The Météorologie Nationale produces simulations of long-term variations in rainfall and temperatures, using data from previous decades, which inform Togo's National Adaptation Plan for Action (Ministère de l'Environnement et des Ressources Forestières, 2009).

## HFA pillar 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

### 9. Is DRR a formal part of the school curriculum?

In 2008, a documentary 'Prevention of Disasters Begins at Schools' was made and widely broadcasted (HFA, 2009). Because of financial constraints, limiting the possibility of changing the curricula and training educators, DRR was only officially integrated by the Government at the primary and secondary levels in 2014, with support from UNDP (HFA, 2015). In 2016, however, the Togolese Red Cross, supported by the German Red Cross, created and distributed 4,000 DRR and climate adaptation guides to high school students (collège and lycée) across Togo's 20 most vulnerable prefectures (AfreePress, 2016).

### 10. Are there training and capacity-building programmes as part of DRR plans?

In 2013, the PGICT reported that the Secretariat of the national platform for DRR had conducted a series of trainings to sensitise parliamentarians, women, journalists, students, planners and educators.

### 11. Are there public awareness and media outreach campaigns?

The Ministry of Environment publishes a monthly newsletter containing disaster prevention data (HFA, 2009). Every year, and especially before the start of the rainy season and in regions exposed to higher risk, the national platform for DRR organises meetings at the local and national levels to sensitise actors and populations. Due to financial constraints, these efforts remain limited, as does media outreach, which currently relies heavily on public media (HFA, 2011; HFA, 2015).

## HFA pillar 4. Reduce the underlying risk factors

### 12. To what extent is DRR included in national climate change adaptation policies?

One of the objectives of Togo's 2009 National Adaptation Program of Action (NAPA) is to provide an analysis of the vulnerability of the country's different regions, social groups and sectors to climate change. Devising adaptation strategies that address those vulnerabilities is another objective of the NAPA (Ministère de l'Environnement et des Ressources Forestières, 2009). In 2010, the Ministry of Environment and Forest Resources established a partnership with the University of Lomé to increase research efforts focusing on the links between disasters and climate change (HFA, 2011). The 2013–2015 HFA progress report for Togo calls for further efforts to articulate DRR with climate adaptation. It notes that despite institutional commitment, implementation of this is limited (HFA, 2015).

### 13. Is DRR included in environmental management policies/ environmental impact assessments?

The environmental law mentions and defines strategies of disaster prevention (HFA, 2009). In June 2011, the Government presented a National Program for Investment in the Environment and Natural Resources (PNIERN). This identified coastal erosion as a national priority and highlighted the necessity to manage degraded forests and land sustainably (Plate-forme Nationale de Réduction des Risques de Catastrophes – Secrétariat Technique, 2013). The National Action Programme Against Desertification (PAN) takes DRR into account but has not yet been implemented due to lack of financial resources (GFDRR, 2011).

### 14. Are hospitals 'safe'?

The 2013–2015 HFA report states that no program for the security of schools or hospitals exists in Togo.

However, the World Health Organization (WHO) reports that in 2016, Togo was one of only nine countries in Africa to have conducted a national multi-hazard health emergency and disaster risk assessment, and one of only eight African countries with an active training program for health agents on DRM at the local level (WHO, 2016). Nonetheless, the WHO survey also flagged that no health facilities assessments were conducted in Togo and no subsequent measures have yet been implemented to improve the safety and preparedness of existing hospitals.

### 15. Are schools 'safe', and have there been any initiatives to ensure schools are built in accordance to DRR guidelines or policies?

The HFA report for 2013–2015 states that no program to make schools safe exists in Togo. In 2016, Plan International UK helped 70 schools to create green spaces to serve as windbreaks as part of their safe schools plan (Plan, 2017).

### 16. Are there any shock-responsive or social safety net schemes?

The 2013–2015 HFA progress report considers that social safety nets are in place, indicating the existence of cash transfers, microfinance and microinsurance schemes, delivered by NGOs such as WAGES or by the private sector, notably by the microfinance cooperatives network FUCEC-Togo (AFD, 2013). An Agency for National Food Security exists, which regulates prices of agricultural goods to keep them affordable, as well as an Agency of National Solidarity, in charge of supporting vulnerable populations (HFA, 2011).

### 17. To what extent do risk-financing mechanisms exist?

Beyond the finance and insurance mechanisms indicated above, there are no property and crops insurances and no guarantees for temporary employment. Some sectoral initiatives exist, but they lack coordination with other interventions (HFA , 2015).

#### 18. Are there effective land-use planning and building codes in place?

Although building norms exist, they are generally not enforced. Uncontrolled urban development is taking place, especially in the capital, Lomé, and in the Zio riverbed, in the absence of a coherent national urban development policy (HFA, 2015; UNECA, 2015). The poorest populations are often relegated to high-risk areas, as land transactions are not adequately controlled (HFA, 2011). Some norms, such as giving buildings solid foundations, are not respected, especially among poor populations, as they are too costly (HFA, 2015). Moreover, high densities of population and economic activities along the coast are vulnerable to the risk of coastal erosion.

### HFA pillar 5. Strengthen disaster preparedness for effective response at all levels

#### 19. Are there national and local contingency plans in place?

In 2008, the Ministry of Security and Civil Protection, in coordination with UN agencies, including UNDP and WHO, finalised a rescue plan: Plan ORSEC (Organisation des Secours). This plan had shortcomings, notably the fact that it did not adapt response mechanisms to local contexts (GFDRR, 2011). By 2010, Togo had a national plan to organise rescues after disasters, and a national contingency plan. Other contingency plans also existed alongside it, among the Red Cross plan and a plan by the United Nations System. Coordination between different actors, decentralisation, funding, and increasing local resilience to disaster remained the main challenges (HFA, 2011). After the 2013 and 2014 floods, efforts were renewed to prepare for and respond to disasters, resulting in a new contingency plan, which proved useful in planning interventions across the country's five regions (HFA, 2015). A final multi-risk National Contingency Plan was adopted in 2015 by the Togolese Government, with support from the United Nations System, which provides a framework for decision-making, coordination, action and funding in order to minimise the impacts of disasters on the population (République Togolaise, 2015). Plan ORSEC has been reviewed to include local stakeholders, but knowledge and use of it continues to be limited (Plate-forme Nationale de Réduction des Risques de Catastrophes – Secrétariat Technique, 2013).

#### 20. Is there an emergency fund?

There is no national emergency fund, and Togo continues to rely on flash appeals after disasters. A workshop on the actualisation of the National Contingency Plan preconised the creation of such a fund, to be financed by the State, development partners and allocations linked to poverty reduction. The Economic Community of West African States (ECOWAS) Fund for Peace would also contribute to financing the mechanism (République Togolaise, 2015). Currently, key donors include: the World Bank, which supports the Government with the implementation of DRR plans; the European Union through the European Civil Protection and Humanitarian Aid Operations (ECHO), which funded anti-cholera and air reconnaissance missions over flood affected areas; the United States, which assisted with training of key personnel; China, which provided equipment and conducted infrastructure restoration; and the TerrAfrica mechanism, which funded the PGICT (UNECA, 2015).

#### 21. Is there a culture of volunteerism and participation?

Red Cross volunteers are involved in DRR projects, including in health and hygiene awareness-raising activities in communities prone to disease outbreaks (i.e. cholera). Since 2009, the Togolese Red Cross, with support of German Red Cross, have been training community Disaster Preparedness Teams. In total, 840 volunteers have been trained at community level and 59 volunteers at prefectoral level (from 2009 to 2015) according to a representative of the Togolese Red Cross.[19]

## Drivers of change

### Factors that stimulate or accelerate change

Floods and disease outbreaks are the main disaster events in Togo reported on Reliefweb for the past 10 years, with the Maritime and Savane regions being the most flood-prone. The combination of floods, torrential rains, and precarious sanitary conditions, particularly in the Central and Maritime regions, resulted in cholera outbreaks in 2013.

The intensification of flooding events yearly between 2007 and 2013 (excluding 2012) has been a determining factor in the development of DRR strategies in Togo (UNECA, 2015). In 2010, needs assessments were carried out for the implementation of an early warning system (UNECA, 2015), and the National DRR strategy was adopted in 2013.

Recurring floods, disease outbreaks, and the mobilisation that ensued, pushed the Togolese Government to put more emphasis on preparedness policies and needs assessments. For example, the country conducted a national multi-hazard health emergency/disaster risk assessment (WHO, 2016), which has informed national health acts and policies covering DRM issues, the health sector disaster response plan and recommended processes of table-top exercises, simulations and periodic reviews (Kalambay et al., 2013).

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Efforts supported by regional and international development banks, the Red Cross (German government), and UN partners (including the WHO, United Nations Population Fund (UNFPA), UNDP, the United Nations Children's Fund (UNICEF), etc.) were made to better integrate DRR in climate adaptation policies (Ministère de l'Environnement et des Ressources Forestières, 2009). The Government, as of 2011, also made significant efforts to provide cross-sector budgeting for preventative action (UNECA, 2015), for example to mitigate the impacts of floods in the capital, Lomé, through the implementation of water basins and drainage, which have resulted in less damage in the last three to four years.[20]

## Factors that prevent or restrain change

Efforts are underway to move beyond emergency flash appeals when disasters occur. Two major issues undermining DRR and DRM efforts remain the lack of technical capacities and the lack of other means to adequately respond to disasters (Ministère de la Sécurité et de la Protection Civile, 2016). Overall, the available documentation highlights the country's DRM efforts (including EWS), not necessarily a coordinated national strategy that focuses on addressing the underlying vulnerability factors of disaster risks in Togo. Togolese authorities, however, seem well aware of those issues, and to remedy them, Togo – with support from UNDP and following a 2012 ECOWAS directive – in 2014 began the process of creating a national agency dedicated solely to DRR and DRM (UNDP, 2014).

This agency was officially created by decree on the 2 March 2017. It is under the supervision of the Ministry of Security and Civil Protection, and will have its own funds (République Togolaise, 2017). It is hoped that the agency will solve the issue of lack of coordination and clearly defined roles at the institutional level, and improve preparedness and response to disasters by better planning interventions and by securing much needed funding and technical means (Ministère de la Sécurité et de la Protection Civile, 2016).

20 Email exchange with DRR specialist from OCHA, Regional Disaster Response Advisor for West and Central Africa.

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