

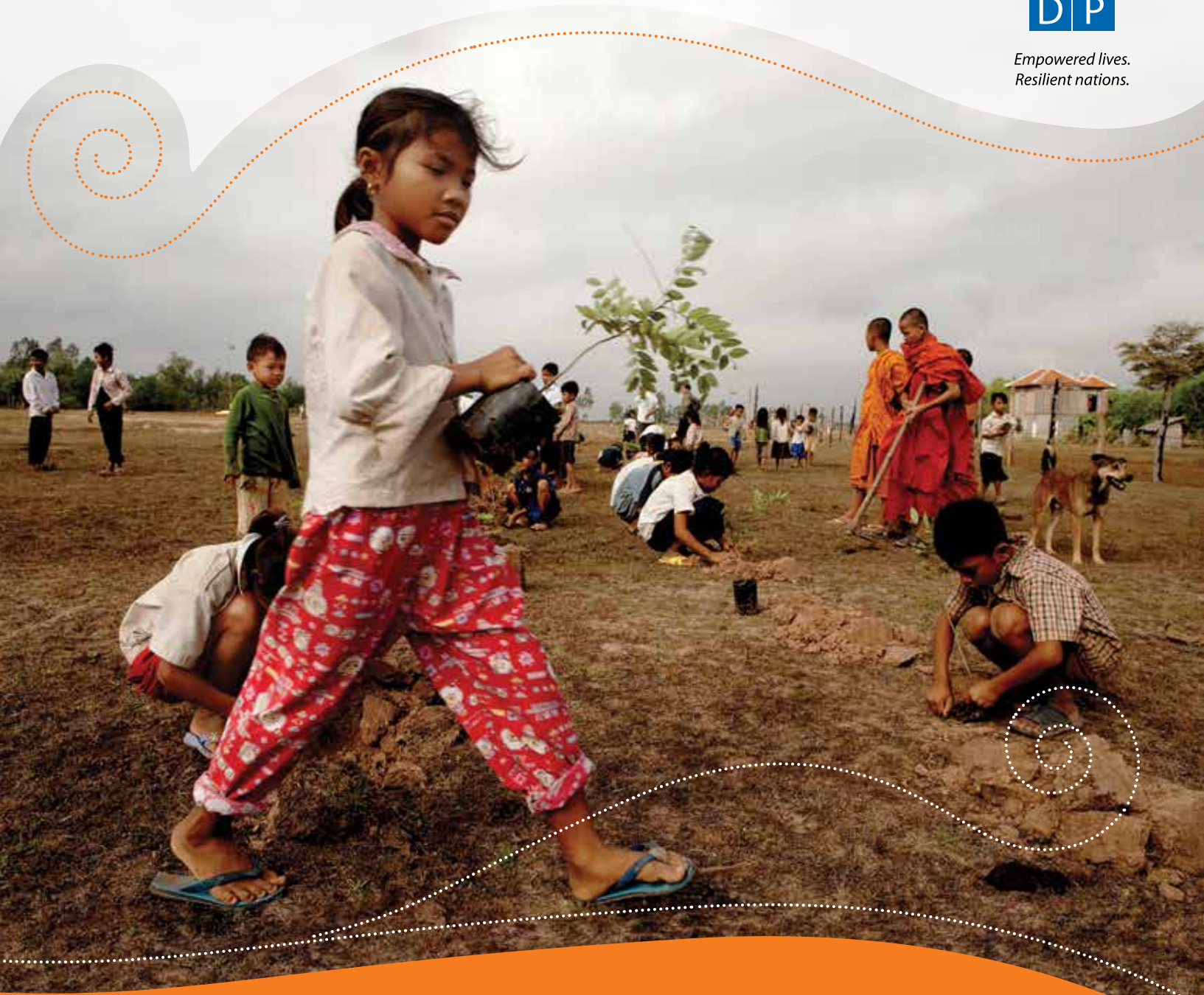


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# Effective law and regulation for disaster risk reduction: a multi-country report

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**Front cover photo:** Six-year-old Van Lyna plants a small tree on 'Green Day' in Prey Veng province, in south-east Cambodia  
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# Acknowledgements

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# Foreword

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Disasters caused by natural hazards are now among the greatest threats to long-term development worldwide. Over the last 20 years, they have killed 1.3 million people, affected 4.4 billion, and caused over US\$ 2 trillion in economic losses. Not only do disasters cause suffering, they also undermine the fight against poverty.

Massive destructive events, like the 2010 earthquake in Haiti, the 2011 drought and food crisis in the Horn of Africa, and 2013's Typhoon Haiyan in the Philippines, justifiably capture public and media attention across the globe. While it is of course imperative to respond to these large scale events, we must not lose sight of the fact that most disasters are smaller in scale, and do not secure world headlines. In fact, the cumulative impact of these smaller scale disasters can be even more detrimental than larger catastrophes.

Climate change will load the dice even more against the poor. Disasters are striking in new places and becoming more extreme. It is the most marginalized and excluded who will pay the heaviest price, whether in lives lost, homes destroyed or livelihoods extinguished.

However, there is no single governmental agency, infrastructure development, or education campaign that can by itself safeguard populations against the threat of disaster. There needs to be an integrated approach that addresses all sectors – and this includes the legal framework under which disaster risk reduction operates. There is a clear need for common rules, well-defined legal mandates and plans. This was articulated in the 2005 Hyogo Framework for Action, which recognized that legislation is a key tool for establishing disaster risk reduction as a national and local priority, and called for the adoption or modification of laws as well as “regulations and mechanisms that encourage compliance and that promote incentives for undertaking risk reduction and mitigation activities.”

Surprisingly, however, there is very little information available about what works well and what does not when it comes to legislation for disaster risk reduction. Are there good models to follow? Pitfalls to avoid? What kinds of laws are most important? Why are legal rules not always implemented? What can countries learn from each other?

Both the International Federation of Red Cross and Red Crescent Societies (IFRC) and the United Nations Development Programme (UNDP) are committed to supporting governments with the best evidence and advice available on this important topic. Both our organizations have comparative advantages in the area of legal frameworks for disaster risk management. The IFRC is a global network of National Societies with decades of experience of risk reduction at the community level. Over the last twelve years, it has supported National Societies in over 40 countries to advise their governments on legal preparedness for disasters. UNDP is recognized for its longstanding technical expertise in disaster risk reduction. Since the adoption of the Hyogo Framework for Action it has provided advice on strengthening the institutional and legislative frameworks for disaster risk management in 58 countries, becoming a trusted partner of governments. These qualities make for an ideal partnership in seeking answers to the questions addressed in this report.

This report is a first step toward a better understanding of how legal frameworks affect disaster risk reduction. As the international community moves toward a successor to the Hyogo Framework, we hope that it will spur a wider discussion about ways to maximize the impact law can have on disaster risk reduction activities.

We are proud to have had the opportunity to work together on this project and look forward to continued collaboration with each other.



**Helen Clark**  
Administrator, UNDP



**Bekele Geleta,**  
Secretary-General, IFRC



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# Acronyms and abbreviations

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<b>CARICOM</b>	Caribbean Community
<b>CCA</b>	Climate change adaptation
<b>CDEM</b>	Civil Defence and Emergency Management
<b>CDEM Act</b>	Civil Defence Emergency Management Act (New Zealand)
<b>CENAPRED</b>	National Disaster Prevention Centre (Mexico)
<b>CFR</b>	Code of Federal Regulations (United States)
<b>CISDL</b>	Centre for International Sustainable Development Law
<b>CONRED</b>	National Coordination for Disaster Reduction (Guatemala)
<b>CSO</b>	Civil society organization
<b>DMA</b>	Disaster Management Act (India)
<b>DRM</b>	Disaster risk management
<b>DRR</b>	Disaster risk reduction
<b>DRMA</b>	Disaster Risk Management Act (Namibia)
<b>DRRM Act</b>	Disaster Risk Reduction and Management Act (Philippines)
<b>DRRM Fund</b>	Disaster Risk Reduction and Management Fund (Philippines)
<b>EIA</b>	Environmental impact assessment
<b>ENAPROC</b>	National School for Civil Protection (Mexico)
<b>EW</b>	Early warning
<b>EWS</b>	Early warning system
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FEMA</b>	Federal Emergency Management Agency (USA)
<b>FONDEN</b>	National Disaster Fund (Mexico)
<b>FOPREDEN</b>	Natural Disaster Prevention Fund (Mexico)
<b>GAR</b>	Global Assessment Report on Disaster Risk Reduction
<b>GFDRR</b>	Global Facility for Disaster Reduction and Recovery
<b>GNDR</b>	Global Network of Civil Society Organisations for Disaster Reduction
<b>GWP APFM</b>	Global Water Partnership Associated Programme on Flood Management
<b>HFA</b>	Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters
<b>IASC</b>	Inter-Agency Standing Committee
<b>ICRC</b>	International Committee of the Red Cross
<b>IDLO</b>	International Development Law Organization
<b>IDRL</b>	International Disaster Response Laws, Rules and Principles
<b>IFRC</b>	International Federation of Red Cross and Red Crescent Societies

<b>ILC</b> .....	International Law Commission
<b>ILM</b> .....	International legal materials
<b>ILO</b> .....	International Labour Organization
<b>INSIVUMEH</b> .....	National Institute of Seismology, Volcanology, Meteorology and Hydrology (Guatemala)
<b>IRIN</b> .....	Integrated Regional Information Networks
<b>ITC-ILO</b> .....	International Training Centre of the International Labour Organization
<b>IWLRI</b> .....	University of Dundee International Water Law Research Institute
<b>KENSUP</b> .....	Kenya Slum Upgrading Programme
<b>MLJ</b> .....	Malayan Law Journal
<b>MRT</b> .....	Mandatory Rules of Thumb (Nepal)
<b>NEMA</b> .....	National Emergency Management Agency (Nigeria)
<b>NGO</b> .....	Non-governmental organization
<b>OECD</b> .....	Organisation for Economic Co-operation and Development
<b>PIFACC</b> .....	Pacific Islands Framework for Action on Climate Change
<b>SDC</b> .....	Swiss Agency for Development and Cooperation
<b>SINAPRED</b> .....	National System for Disaster Management and Prevention (Nicaragua)
<b>SINAPROC</b> .....	National Civil Protection System (Mexico)
<b>SPREP</b> .....	Secretariat of the Pacific Regional Environment Programme
<b>UN</b> .....	United Nations
<b>UNDP</b> .....	United Nations Development Programme
<b>UNEP</b> .....	United Nations Environment Programme
<b>UNFCCC</b> .....	United Nations Framework Convention on Climate Change
<b>UN-Habitat</b> .....	United Nations Human Settlements Programme
<b>UNISDR</b> .....	United Nations Office for Disaster Risk Reduction
<b>UNU-EHS</b> .....	United Nations University - Institute for Environment and Human Society
<b>WMO</b> .....	World Meteorological Organization

# Executive summary

Over the past 20 years, disasters due to natural hazards have affected 4.4 billion people, claimed 1.3 million lives and caused 2 trillion USD in economic losses.<sup>1</sup> These disasters not only brought death and destruction, they did so disproportionately to the poor and marginalized. Disasters have become one of the main threats to sustainable development on a global scale, yet they are preventable.

Today, it is well accepted that the actions and decisions of individuals, communities and nations make a significant difference as to whether or not a natural hazard turns into a disaster. Choices made with the aim of reducing the human impact of natural hazards can be described as disaster risk reduction (DRR) in the broadest sense. There is widespread agreement that legal frameworks are a critical tool for governments to shape those choices, both for themselves and for others. This was recognized by 168 United Nations member states in 2005 when they adopted the *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters* (HFA), and remains so today, as states and other stakeholders discuss its successor agreement. HFA's first Priority for Action is to ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation, notably through policy, legislative and institutional frameworks for disaster risk reduction. However, some DRR experts and activists have expressed doubts and disappointment with the legislative route, arguing that the many new laws and policies that have been developed to address DRR seem not to have made the difference they promised, citing, in particular, gaps in implementation at the community level. Numerous reports relating to HFA implementation have also indicated slow progress in reducing disaster risk at the community level, and a lack of clear information and analysis on the role of legislation.

The aim of this report is to support legislators, public administrators, DRR and development practitioners and advocates to prepare and implement effective disaster risk management (DRM) legal frameworks for their country's needs, drawing on examples and experience from other countries. For this purpose, the report has looked at aspects of different countries' legislation according to how it addresses relevant themes in the HFA, as well as issues identified by state parties and the International Movement of the Red Cross and Red Crescent in a 2011 International Conference resolution.<sup>2</sup>

The report considers both legislative provisions and stakeholder views on implementation. Its four objectives are to:

- present examples of DRR legal provisions from different country contexts and legal systems as a resource for DRM practitioners and legislators;
- identify factors that have supported or hindered the implementation of DRR as a priority within DRM laws and selected sectoral laws;
- make recommendations for legislators, practitioners, and policy makers engaged in reviewing or drafting DRM laws and selected sectoral laws;
- provide an analytical framework against which DRM laws and selected sectoral laws can be assessed at the country level in terms of effective support for DRR.

The report finds that in order to support a whole-of-society approach, legal frameworks for DRR should include institutional mandates, allocate dedicated resources, facilitate the participation of communities, civil society and vulnerable groups, and establish the responsibility and accountability of relevant actors. Effective frameworks facilitate the mainstreaming of DRR into relevant sectors, are sustainable within the available resources and capacity of government at national and local levels, and fit within the overall legal and institutional structure of the country.

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<sup>1</sup> UNISDR, *Impacts of disasters since the 1992 Rio de Janeiro Earth Summit* (2012).

<sup>2</sup> Resolution 7, 31<sup>st</sup> International Conference of the Red Cross and Red Crescent, November 2011, convening all state parties to the Geneva Conventions, with the IFRC, the International Committee of the Red Cross (ICRC) and the 189 National Red Cross and Red Crescent Societies.

The report draws on research from a sample group of 31 countries, undertaken in the form of desk surveys, as well as case studies in 14 of these countries for a more comprehensive analysis of the laws and their implementation. The 31 sample countries were chosen for geographical representation, and to cover a variety of risk profiles, income and human development levels (see Annex). The country studies focused on legal frameworks that support the reduction of risks arising primarily from natural hazards and that affect the most vulnerable. Within these parameters, the focus was on:

- laws that enable national and local DRM systems;
- a selection of sectoral laws that underpin planning for development, i.e. on buildings and land use, including informal settlements, as well as environmental planning.

The studies took as a point of departure the fact that regulatory frameworks for DRR cut across sectoral laws and regulations. Hence, 'DRR legislation' is an ensemble of laws and rules, beyond any dedicated DRM law or law on a specific hazard, or field of safety regulation.

## Figure 1: Overview of desk surveys and case studies<sup>i</sup>

### North America

USA (Federal, Illinois, Louisiana)

### Europe and Central Asia

Austria  
Italy  
**Kyrgyzstan**  
Ukraine

### Asia-Pacific

Australia (Federal, Victoria)  
China (PRC, Hong Kong SAR<sup>ii</sup>)  
India (Federal, Odisha, Punjab)  
Japan  
**Nepal**  
**New Zealand**  
Philippines  
Vanuatu  
**Viet Nam**

### Latin America and the Caribbean

**Brazil**  
**Dominican Republic**  
Ecuador  
**Guatemala**  
**Mexico**  
**Nicaragua**  
St. Lucia  
Uruguay

### Sub-Saharan Africa

Angola  
Kenya  
**Ethiopia**  
**Madagascar**  
**Namibia**  
Nigeria  
**South Africa**

### Middle East and North Africa

Algeria  
**Iraq**

<sup>i</sup> Case studies in bold  
<sup>ii</sup> SAR= Special Administrative Region



# DRM laws

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DRM laws define the priorities, institutional mandates and other aspects of a national DRM system. DRM laws vary in the extent to which they include themes such as national DRM policy and planning, local government responsibilities, resource allocation, community and civil society participation, early warning systems (EWS), and education and public awareness. In some cases, these themes are part of the dedicated DRM law, and in others, they are included in separate or companion laws that also form part of the legal framework. Although DRR is highly prioritized and integrated into the DRM laws in some sample countries, there is still considerable potential in many of the other countries to make DRR a higher priority in their respective legal frameworks and in their implementation. DRR is often a more distinct priority in policies, plans and strategies, which can be used both to set the agenda for the law reform process and as a key tool to guide the implementation of laws.

A single agency, such as a national disaster management agency or a civil defence office, is often established as the national focal point for cultivating a whole-of-society approach to DRR and providing national leadership and policy direction. However, these offices often need to strengthen their coordination with other sectors and stakeholders, especially those related to development planning and climate change adaptation (CCA). They also need to be given clear legal mandates and authority for DRR, matched with mandated resources and capacity.

Funding for DRR from the national to the local level has been a challenge that has hampered implementation in many of the sample countries. The issue is not only one of overall resource constraints for DRM. DRR is rarely separated from general support to DRM, so that it sometimes may not compete favourably with urgent matters of emergency response and recovery.

Some DRM laws in the sample countries make special provision for the participation of civil society and communities, including women and those who may be especially vulnerable, such as the socially excluded, the elderly, people with disabilities, children and the poorest people. However, in practice, there is often less participation in the advisory and implementing institutions than the law may intend. The input of civil society organizations, communities, women and vulnerable groups is a key part of DRR strategies because it recognizes communities' rights to be involved in their own risk management and takes special account of the needs of vulnerable groups.

EWS in the sample countries have been developed in a variety of ways. Some are regulated by law, and others are governed by policy. Many EWS are designed only for specific major hazards, so that not all relevant risks in a country are necessarily covered by their mandates. Some DRM laws include specific provisions on risk mapping, an essential underpinning of effective EWS.

Some of the sample countries' legal frameworks feature provisions on education and public awareness on DRR, such as requiring public authorities to conduct community education on DRR and disaster preparedness drills in schools, as well as to include the subject in school curricula. Some laws also mandate the establishment of special training facilities or curricula aimed at adult professionals as a long-term strategy to build national capacity in DRR and DRM.



# DRR in building, planning and environmental laws

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There are still significant gaps in the regulatory frameworks for safety in building and construction, as well as land use and spatial planning, which are essential forms of regulation to reduce underlying risk and avoid creating new risks in human settlements. However, many of the lower- and middle-income countries that do have extensive regulation in these areas are also experiencing challenges in ensuring that they are implemented. This appears to be due to a combination of insufficient resources at the local government level and a weak 'culture of compliance', resulting in local authorities not sufficiently prioritizing DRR. This requires an investment of resources and capacity building for technical experts at the local level, public awareness and education campaigns on how the laws promote safety, and possibly, an increased use of sanctions for non-compliance in major developments.

Urban informal settlements represent the most challenging aspects of building and planning regulation since, by definition, they fall outside the usual regulatory frameworks. Since few countries have established specific legal frameworks for public safety or DRR in informal settlements, the default position is often to simply treat these settlements as illegal. In the sample countries that have passed laws on safety in informal settlements, the approach of gradual regularization seems most likely to be effective. When relocation is necessary, the frameworks that provide for community consultation and respect for residents' procedural and substantive rights establish important safeguards against arbitrariness and abuse.

Environmental laws, including climate change laws, are in most cases administered separately from much of the building and spatial planning regulation, and also from DRM laws. As a result, there is often little coordination between these sectors, even though all of them have a role in the reduction of underlying risks linked to development and the management of emerging risks due to climate change. An important aspect of environmental regulation deserving more study is the potential use of environmental impact assessments (EIAs) as a DRR tool concerning the construction of new developments.

## Cross-cutting areas of law in support of DRR

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This report also considers other legal underpinnings for DRR, all of which are identified as requiring further study. Rights related to DRR that are enumerated in constitutions, DRM laws and other laws such as human rights laws, may have potential as advocacy tools. In some cases they may also provide a mechanism for compensation for preventable disaster losses. Accountability, legal responsibility and liability for DRR may be used to increase incentives to carry out DRR responsibilities and as sanctions for non-compliance. Legal frameworks for insurance and other risk-sharing mechanisms can be used to redistribute risk and act as an incentive for DRR. Finally, customary or indigenous law has potential to facilitate DRR in societies where dual or pluralist systems of law operate, especially at community level. The degree to which any of these tools are working on the ground requires further research.

# Overview of recommendations

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Based on the findings outlined, the report makes a number of recommendations concerning the preparation and implementation of laws and regulations that support DRR efforts. These are practical proposals for the consideration of legislators, public administrators, DRR and development practitioners and advocates working at country level. The full recommendations are set out in Part V of this report. They cover the following themes.

A first set of recommendations concerns the adaptation of DRM laws to the DRR needs and context of each country. They include:

- criteria for assessing DRM laws' support for the DRR priorities in the country context;
- proposals for the integration of DRR law with policy approaches;
- approaches to legally establishing DRR mandates of local institutions that are sustainable.

In addition, they suggest that:

- specific DRR resource streams be established under law;
- lawmakers consider more comprehensive legal provisions to facilitate the participation of communities in DRR, promote the participation of women, and ensure that the specific needs of women and vulnerable groups are addressed;
- legislative support be established for risk mapping and early warning systems as essential underpinnings for DRR;
- specific legal mandates are adopted to promote DRR education and awareness.

A second set of recommendations concerns sectoral laws relating to building safety, land use planning, informal settlements, environmental and natural resource management, and the newly emerging laws on climate change adaptation. A number of specific approaches are suggested, such as:

- including more specific DRR or natural hazard criteria in these laws;
- adapting and implementing building codes along with community awareness to create a culture of compliance;
- adopting specific laws to improve safety in informal settlements ensuring the participation of affected communities;
- integrating land use planning with building safety and environmental management;
- involving communities in environmental impact assessments that include natural hazard criteria for new development approvals;
- ensuring that new mandates on climate change adaptation are integrated with other regimes relevant to DRR.

The final recommendations relate to four cross-cutting themes, which are:

- the relevance of constitutional and legislative human rights for government DRR responsibilities;
- mechanisms for monitoring and accountability for implementation of laws related to DRR, as well as legal responsibility and accountability of government and private persons for failing to reduce risk or for creating new risks;
- legal bases for disaster insurance and other risk-sharing mechanisms;
- the use of customary and traditional law to support DRR at community level in countries where it is recognised or practiced.



The recommendations encourage a greater focus on each of these areas when reviewing legal frameworks for DRR, while also recognising a need for further study on the role of law in each of them, and suggesting specific areas requiring investigation.

A key theme in the recommendations is that DRM laws can be seen as part of an overall system of risk governance that includes many sectoral laws and local government mandates rather than a stand-alone system for DRR. Hence, legislators and administrators are encouraged to use law to create formal links between the mandates and institutions created by DRM laws and those that exist or are newly created under sectoral and local government laws. Likewise, the recommendations propose that the legislative mandates for the different sectors and themes discussed can also be adapted to improve coordination by making formal links between the relevant institutions in each sector, thus encouraging joint policy approaches that give specific support to DRR, but also mainstream DRR concepts and practice into development.

UNDP-supplied sprinklers help small-scale farmers grow food during the dry season and improve income ©UNDP/Tom Cheatham



# Disaster risk reduction terminology

**Disasters** are usually described as a result of the combination of conditions of: vulnerability; insufficient capacity or measures to reduce or cope with the potential negative consequences; and exposure to a natural hazard. “Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social wellbeing, together with damage to property, destruction of assets, loss of services, social and economic disruption, and environmental degradation.”<sup>i</sup> Hence, the term ‘natural disaster’ is not entirely accurate, since the conditions that lead to the catastrophic impacts of a natural hazard are linked to the prevailing socio-economic conditions that are not natural, but rather, determined by human actions and decisions. The widely used United Nations Office for Disaster Risk Reduction (UNISDR) terminology thus defines ‘disaster’ as “a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.”<sup>ii</sup>

**Disaster risk** can be defined as ‘the potential disaster losses in lives, health status, livelihoods, assets and services that could occur to a particular community or a society’ in the future.<sup>iii</sup> For the purpose of this report, disasters are therefore understood as the outcome of conditions of risk.

**“Disaster risk governance** refers to the way in which the public authorities, civil servants, media, private sector and civil society coordinate at the community, national and regional levels in order to manage and reduce disaster and climate related risks.” This requires that “sufficient levels of capacity and resources are made available to prevent, prepare for, manage and recover from disasters. It also entails mechanisms, institutions and processes for citizens to articulate their interests, exercise their legal rights and obligations,” and mediate their differences.<sup>iv</sup>

**Disaster risk management (DRM)** refers to the “systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster [...]. This term is an extension of the more general term ‘risk management’ to address the specific issue of disaster risks.” DRM “aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness.”<sup>v</sup>

**Disaster risk management (DRM) law** refers, for the purposes of this report, to a country’s national law (or identified ensemble of laws) that establishes responsibilities, priorities and institutional frameworks specifically for DRM, regardless of the exact terminology used in the law’s title, or its translation.

**Disaster risk management system or arrangements** refers to the legal, policy, administrative and institutional frameworks established within a country for coordinated and systematic DRM.

**Disaster risk reduction (DRR)** refers to the “concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.”<sup>vi</sup>

**Early warning system (EWS)** refers to the “set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.”<sup>vii</sup>

**Emergency management**, also frequently referred to as ‘disaster management’, can be defined as “the organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular, preparedness, response and initial recovery steps.”<sup>viii</sup>

**Exposure** refers to the people or assets located in a particular hazard zone that are thereby subject to potential losses.<sup>ix</sup> Processes of human development and disaster risk are intimately related. Rapid economic and urban development can lead to a growing concentration of people and economic assets in areas that are prone to natural hazards, such as earthquakes, droughts, floods and storms. The risk increases if such exposure grows faster than countries are able to strengthen their risk-reducing capacities.

“**Natural hazards** are naturally occurring physical phenomena caused either by rapid or slow onset events which can be geophysical (earthquakes, landslides, tsunamis and volcanic activity), hydrological (avalanches and floods), climatological (extreme temperatures, drought and wildfires), meteorological (cyclones and storms/wave surges) or biological (disease epidemics and insect/animal plagues).”<sup>x</sup> Climate change is increasing the frequency and magnitude of a range of climate related hazards.

**Vulnerability** is defined as the “characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard [...] There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors.”<sup>xi</sup>

<sup>i</sup> *UNISDR Terminology on Disaster Risk Reduction* (United Nations Office for Disaster Risk Reduction, 2009); and as updated, UNISDR, The United Nations Office for Disaster Risk Reduction: Terminology, [www.unisdr.org/we/inform/terminology](http://www.unisdr.org/we/inform/terminology).

<sup>ii</sup> Ibid.

<sup>iii</sup> Ibid.

<sup>iv</sup> Issue Brief: Disaster Risk Governance (UNDP, 2013).

<sup>v</sup> *UNISDR Terminology on Disaster Risk Reduction*.

<sup>vi</sup> Ibid.

<sup>vii</sup> Ibid.

<sup>viii</sup> Ibid.

<sup>ix</sup> Ibid.

<sup>x</sup> IFRC, Types of disasters: Definition of hazard, <http://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/definition-of-hazard/>.

<sup>xi</sup> *UNISDR Terminology on Disaster Risk Reduction*.



# Part I: Introduction

Local people working on improving Osh and Jalal-Abad city infrastructure through a public works project launched by UNDP upon request from local authorities. ©UNDP







# Chapter 1: Background

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Over the past 20 years, disasters due to natural hazards have affected 4.4 billion people, claimed 1.3 million lives and caused 2 trillion USD in economic losses. These disasters not only brought death and destruction, they did so disproportionately to the poor and marginalized. Disasters have become one of the main threats to sustainable development on a global scale, yet they are preventable.

Today, it is well accepted that the actions and decisions of individuals, communities and nations make a significant difference as to whether a natural hazard turns into a disaster. Choices made with the aim of reducing the human impact of natural hazards can be described as disaster risk reduction (DRR) in the broadest sense. There is widespread agreement that legal frameworks are a critical tool for governments to shape these choices, both for themselves and for others. This was recognized by 168 UN member states in 2005, when they adopted the *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters* (HFA), and is likely to be recognized in its successor agreement, the post-2015 framework on disaster risk reduction, often referred to as 'HFA 2'. The HFA's first Priority for Action is to "ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation," notably through "policy, legislative and institutional frameworks for disaster risk reduction." However, some DRR experts and activists have expressed doubts and disappointment with the legislative route. They argue that the many new laws and policies developed to address DRR seem not to have achieved the expected results, citing in particular gaps in implementation at the community level.

## Report objectives:

This report addresses a clear gap identified in numerous reports relating to HFA implementation, which have indicated a lack of readily available information and analysis on the role of legislation, and a slow pace of change in reducing disaster risk at the community level. The aim of this report is to support legislators, public administrators, DRR and development practitioners and advocates in preparing and implementing effective laws and regulations for DRR, drawing on examples and experience from other countries. For this purpose, the report has looked at different countries' legislation according to how they address relevant themes in the HFA, as well as issues identified by states and the Red Cross Red Crescent Movement in a 2011 resolution.<sup>3</sup> The report's four objectives are to:

- present examples of DRR legal provisions from different country contexts and legal systems as a resource for DRM practitioners and legislators;
- identify factors that have supported or hindered the implementation of DRR as a priority within DRM laws and selected sectoral laws;
- make recommendations for legislators, practitioners and policy makers engaged with reviewing or drafting DRM laws and selected sectoral laws, and;
- provide an analytical framework against which DRM laws and selected sectoral laws can be assessed at the country level in terms of effective support for DRR.

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<sup>3</sup> Resolution 7, 31<sup>st</sup> International Conference of the Red Cross and Red Crescent, November 2011, convening all state parties to the Geneva Conventions, with IFRC, the ICRC and the 187 National Societies.

# Chapter 2: Context

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## The Hyogo Framework for Action:

The HFA served as an important starting point in the design of the country studies and of this report. Adopted at the World Conference on Disaster Reduction in Hyogo, Japan, in January 2005, it sets out three strategic goals to support the reduction of disaster losses:

- The integration of disaster risk into development planning.
- The development and strengthening of institutions, mechanisms and capacities for building resilience.
- The incorporation of risk reduction approaches into emergency preparedness, response and recovery programmes.

The HFA also identifies five Priorities for Action:

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

The HFA provides a comprehensive strategy that includes specific activities to be taken by different stakeholders in implementing its priorities and goals. It has also created a structure for reporting, including specific indicators for monitoring progress on each Priority for Action.

Multi-stakeholder reviews of HFA progress have been presented every two years at the Global Platform for Disaster Risk Reduction, which is coordinated by the United Nations Office for Disaster Risk Reduction (UNISDR). The Platform was established in 2006 as the main international forum for strategic advice, coordination and partnership for addressing global exposure and vulnerability to natural hazards.<sup>4</sup> The HFA progress reviews have shown an overall trend of gradual improvement in HFA implementation since they began in 2007, albeit with uneven progress across the five Priorities for Action and throughout the world. A mid-term review highlighted three strategic areas requiring further attention: (i) a more coherent and holistic approach to implementing the HFA; (ii) further delegation of authority and allocation of resources for local level implementation; and (iii) better integration of DRR and climate change adaptation.<sup>5</sup>

There is now extensive discussion on a successor international agreement to the HFA, i.e. the post-2015 framework for disaster risk reduction, or HFA 2. This process began at the 2012 World Ministerial Conference on Disaster Risk Reduction in Sendai, Japan, and has continued in other conferences, including the 4<sup>th</sup> Session of the Global Platform for Disaster Risk Reduction in 2013. A general consensus has emerged that the new framework should build on the current HFA, prioritize the poorest and most vulnerable, and focus on outcomes, with clearly defined responsibilities.<sup>6</sup> Of particular relevance to the current study is a call for greater accountability and enforcement through law, including a proposal to make DRR a legal obligation with duties for governments to provide early warning systems (EWS), risk assessments and access to risk information for citizens.

The HFA 2 consultation process also coincides with discussions on the post-2015 development agenda. The United Nations Secretary-General's High-Level Panel on the post-2015 development agenda has indicated that DRR will be granted greater recognition due to the linkages between climate change and disaster risk and the threat that disasters pose to achievements in poverty reduction.<sup>7</sup>

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<sup>4</sup> UNISDR has also convened regional platforms for the same purpose.

<sup>5</sup> UNISDR, *HFA: 2005-2015 Mid-term Review* (2011).

<sup>6</sup> Chair's Summary, 4<sup>th</sup> Session of the Global Platform for DRR, Geneva, 21-23 May 2013.

<sup>7</sup> Report of the High-Level Panel of Eminent Persons on the post-2015 development agenda, *Eradicate Poverty and Transform Economies through Sustainable Development* (2013).

The legal and institutional structure for DRR is highlighted in the first Priority for Action of the HFA, and also cuts across the other four priorities. In the years following the launch of the HFA, a significant amount of new legislation has been adopted in various parts of the world aimed at strengthening the focus on disaster risk reduction. However, important gaps still remained at the time of the 3<sup>rd</sup> Session of the Global Platform for DRR in 2011, when this report was conceived, particularly with regard to the impact of legislation at the community level. These gaps were highlighted in a number of reports prepared around the time of the mid-term review of the HFA and in the 2007 UNDP *Global Review: Support to Institutional and Legislative Systems for DRM*, as well as in four initial DRR law country case studies carried out by the IFRC during 2010-11.<sup>8</sup> It was noted that communities were not well enough informed, engaged or resourced to take an active part in reducing disaster risks and that regulations to deter risky behaviour, particularly in construction and land use, are often unenforced. While legislation is not the only way to address some of these issues, it can certainly play an important role.

### **Resolution of the 31<sup>st</sup> International Conference of the Red Cross and Red Crescent:**

At the 31<sup>st</sup> International Conference of the Red Cross and Red Crescent in 2011, state parties and the International Red Cross and Red Crescent Movement took up the issue of insufficient community level information, engagement and resources for disaster risk reduction. The resulting resolution encouraged states, with support from their National Red Cross and Red Crescent Societies (National Societies), IFRC, UNDP and other relevant partners, to review their existing legislative frameworks in light of the key gap areas identified in the IFRC report to the Conference, and to assess whether they adequately:

- make DRR a priority for community level action;
- promote disaster risk mapping at the community level;
- promote communities' access to information about DRR;
- promote the involvement of communities, National Societies, other civil society actors and the private sector in DRR activities at the community level;
- allocate adequate funding for DRR activities at the community level;
- ensure that development planning adequately takes into account cost benefit analysis and local variability in hazard profiles, exposure, and vulnerability;
- ensure full implementation of building codes, land use regulations and other legal incentives;
- promote strong accountability for results in reducing disaster risks at the community level.

Together with the HFA, this 2011 Resolution set the framework for undertaking this multi-country report, in particular by stressing the importance of civil society and community participation, emphasizing the significance of building codes and land use planning to reduce underlying risks, and considering accountability and legal liability as potential legal incentives for DRR.

During the preparation of this report, the 4<sup>th</sup> Session of the Global Platform for Disaster Risk Reduction was held in 2013, where many different stakeholders highlighted the continuing need to improve legal frameworks to support DRR and for more effective implementation of existing DRM and development planning laws.<sup>9</sup>

### **IFRC and UNDP engagement:**

IFRC and UNDP have pursued this joint initiative on law and DRR as a natural evolution of their engagement with countries at the national and community levels. Both see DRR as an integral part of their development work, and appropriate governance as fundamental to effective DRR. Since 2006, while participating in consultations on legal preparedness for international disaster response (IDRL), IFRC has received increasing numbers of requests from state officials and National Societies asking for support to include DRR in legislative frameworks, since this was an area where they felt they had insufficient knowledge and resources.

8 UNDP, *A Global Review* (2007); GNDR, *'Clouds But Little Rain'* (2009); IFRC, *HFA: Red Cross Red Crescent Mid-Term Review* (2010); UNISDR, *HFA: 2005-2015 Mid-Term Review* (2011); GNDR, *'If we do not join hands...'* (2011); IFRC, *Brazil Case Study* (2012); IFRC, *Dominican Republic Case Study* (2012); IFRC, *Nepal Case Study* (2011); IFRC, *South Africa Case Study* (2012).

9 *Report of the Chair's Summary, 4<sup>th</sup> Session of the Global Platform for DRR, Geneva, 21-23 May 2013.*

For more than a decade, UNDP has been involved in supporting countries with high levels of disaster risk to develop their DRM capacity at national and local levels. A substantial part of this support has been devoted to strengthening governance arrangements for DRR, including legislative frameworks, institutional systems and policy guidance for managing natural hazard risks. In recent years, requests for advice on the legal aspects of DRM and DRR and access to comparative experiences from other countries have become more prominent.

## Chapter 3: Scope and methodology

### Scope of analysis:

The country studies on which this report is based, focused on legal frameworks that support the reduction of risks from natural hazards, which disproportionately affect women and the most vulnerable groups, including the poorest people, those who are socially excluded, the elderly, people with disabilities, and children.<sup>10</sup> Within these parameters, the analysis concentrated on two types of laws: first, specific DRM laws that enable national and local DRM systems, and take the form of either a single dedicated law or a collection of interacting laws to manage different aspects of disaster risk; and second, a range of sectoral laws that underpin planning for development (i.e. on building and spatial planning, including informal settlements, as well as on assessments of human risk in changes to the environment and the effects of natural hazards in development planning). The rationale for including the second type of law is that regulatory frameworks for DRR cut across sectoral laws and regulations, in the same way as disaster risk reduction and management are cross-cutting issues. Hence, legislation for DRR is an ensemble of laws and rules, beyond any dedicated DRM law or law on a specific hazard, or field of safety regulation.

Ten themes that are essential for implementation of DRR legal frameworks were investigated during the study. They were chosen based on key aspects of the HFA Priorities for Action as well as Resolution 7 of the 31<sup>st</sup> International Conference of the Red Cross and Red Crescent, as follows:

- level of priority given to DRR in DRM laws and the established institutional structures and mandates, including resource allocation and local institutions;
- level of DRR integration in hazard specific regulations (such as for fires, floods, or earthquakes);
- provisions on EWS in legislative frameworks;
- inclusion of community and school education and awareness on DRR in legislative frameworks;
- specific mention of DRR in regulations for urban settings, including references to building codes, land use planning, land tenure and informal settlements in legislative frameworks;
- specific mention of DRR in regulations for rural settings, including references to agriculture and covering slow onset disasters, environmental management and the effects of climate change in legislative frameworks;
- inclusion of rights, accountability, responsibilities and liability for DRR in legislative frameworks;
- provisions on risk-sharing and insurance in legislative frameworks;
- reference to community and civil society participation, including National Societies as auxiliaries to government in humanitarian assistance in DRM laws;
- recognition of the particular DRR needs of vulnerable groups in DRM laws.

Not all of these themes yielded substantive findings. Some are therefore recommended for further study.

<sup>10</sup> Such hazards include floods and landslides, wildfires, storms, earthquakes and tsunamis, volcanic activity, drought and related famine, insect infestations and crop plagues.

## Methodology:

This report draws on research from a sample group of 31 countries (the sample countries), undertaken in the form of both desk surveys and case studies (see Figure 1). The sample countries were chosen for geographical representation and to cover a variety of risk profiles, income and human development levels (see Annex). They include five lower-income countries, nine lower middle-income countries, ten upper middle-income countries and seven high-income countries.<sup>11</sup> For the case studies, there was greater focus on countries with developing economies, both low- and middle-income, with substantial levels of disaster risk. New Zealand was the only case study of a high-income country given its recent experience of a major earthquake. The country choices also relied on the availability and interest of local partners.

The sample countries cover a spectrum of disaster risk levels, including four of the top 15 countries most at risk from disasters triggered by earthquakes, cyclones/hurricanes, droughts, floods and sea level rise (Vanuatu, the Philippines, Guatemala and Nicaragua).<sup>12</sup> Four others are classified as very high risk (Japan, Viet Nam, Dominican Republic and Madagascar) and ten are classified either as high or medium risk.<sup>13</sup> These measures of risk are not only based on a country's exposure to natural hazards, but also on its capacity to manage the risk, including factors such as vulnerability, susceptibility, coping capacities and adaptive practices.<sup>14</sup>

The methodology took a two pronged approach to obtain the required information given resource constraints. Country studies comprised desk surveys of legal provisions, seeking a broad view of the types of legislative approaches found across the sample countries. They also comprised in-depth case studies which sought to obtain a greater understanding of the level of implementation of legal provisions.

For 27 out of the 31 of the sample countries, desk surveys were undertaken in 2012-13, gathering information through internet and library sources. In four of these countries with federal structures, desk surveys were also undertaken at sub-national level, because in federal systems the state or provincial level of government often has the main legislative powers relevant to DRR. The desk surveys were based on a set of standard questions to analyse the characteristics of legislative provisions concerning DRR and the issues they covered, based on the themes listed above.

Although the laws of a total of 31 countries were surveyed, the available resources were not sufficient to carry out detailed case studies in all of them. Four case studies had already been undertaken in 2010-11, and a further 10 were undertaken in 2012-13 in countries where desk surveys had been completed, making a total of 14 case studies. All the case studies built on prior desk research and involved stakeholder interviews with government officials at all levels, civil society, international organizations involved in DRR, technical experts and communities. The interviews and community focus groups were conducted as semi-structured discussions without the use of fixed questionnaires, allowing for variation according to the country context and legal structure, and the spheres of knowledge of stakeholders interviewed. They focused primarily on the implementation and effectiveness of the laws in reducing disaster risk. In particular, the ten most recent country case studies used community focus groups in sample regions to obtain information on the impact of DRR regulation at the community level as one indicator of the laws' success. While this anecdotal evidence on implementation from small samples of stakeholders cannot be taken as conclusive evidence of the effectiveness of the DRR related laws in each country, it is nevertheless a valuable source of information on common issues and concerns in implementation.

The standard questions used in the desk surveys and the guiding questions used for stakeholder interviews and community focus groups during the case studies are available online.<sup>15</sup>

11 World Bank, *Development data 2012*. One country changed income status during the study: Uruguay changed from UMI to HI from 2011 to 2012.

12 Alliance Development Works, *World Risk Report 2012*, at 11-17, 66-68.

13 High risk: Algeria, Ecuador, Ethiopia, Kyrgyzstan, Nigeria; Medium risk: Angola, China, India, Kenya, Mexico, South Africa. Alliance Development Works, *World Risk Report 2012*, at 66-68.

14 Alliance Development Works, *World Risk Report 2012*, at 11-17.

15 The majority of the desk studies, 14 case studies and background information are available online at [www.drr-law.org](http://www.drr-law.org).

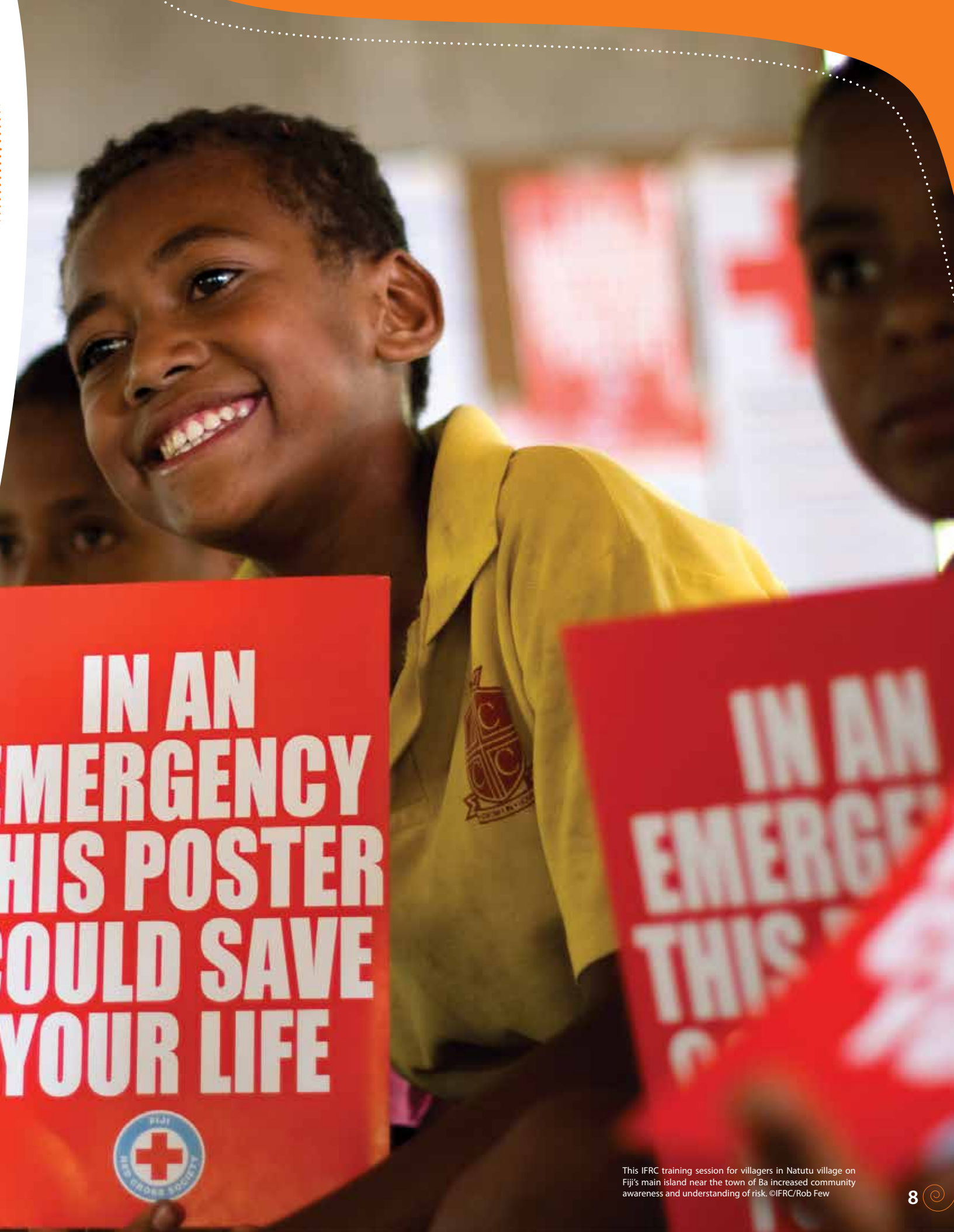
## Chapter 4: Navigating this report

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This report does not attempt to summarize all of the country data presented in the desk surveys and/or case studies. Rather, it is a synthesis of the findings from the analyses of the legal provisions based on the themes introduced above. It draws on the country case studies to identify successes and common challenges in implementation. The analysis and conclusions are based on the five report objectives outlined in Chapter 1.

Part I has provided details on the objectives of the report, the broader context in which it is placed, as well as the scope and methodology used. The following three parts present detailed findings from the analysis of the ten themes of investigation. Part III analyses the extent to which DRR is given priority in the sample countries' dedicated DRM laws and institutional and policy frameworks. It provides a typology of DRM laws according to how they support disaster risk reduction objectives and the role they play in overall risk governance in different country contexts. Part II analyses a range of sectoral laws relevant to DRR and risk governance, including building codes, development planning and environmental management laws which also cover issues of environmental impact assessments (EIA) and climate change adaptation (CCA). Part IV reviews cross-cutting areas of law that may underpin effective DRR and risk governance more broadly, including human rights, accountability and liability, insurance and risk-sharing, and customary law. Finally, Part V makes recommendations derived from this report's analysis and identifies themes requiring further study.





**IN AN  
EMERGENCY  
THIS POSTER  
COULD SAVE  
YOUR LIFE**



This IFRC training session for villagers in Natutu village on Fiji's main island near the town of Ba increased community awareness and understanding of risk. ©IFRC/Rob Few

# Part II: DRM laws

## Chapter 5: How disaster risk reduction is prioritized in DRM laws

This chapter analyses the extent to which DRR is given priority in DRM laws in the sample countries and the institutional mandates and structures they create. Special emphasis is placed on whether dedicated national DRM legislation includes elements of DRR within its scope and whether it gives clear DRR mandates to institutional structures.

In considering the extent to which DRM laws accord priority to DRR, it is recognized that the term ‘disaster risk reduction’ is not consistently used in national legislation, even in laws established specifically to manage disaster risk. Many national jurisdictions have other preferred terminology, particularly where DRR is not easily translatable into the local language. For example, the Viet Nam law of June 2013 (not yet in official translation) is currently known in English as the Law on Natural Disaster Prevention and Control. It uses the concept of ‘prevention and control’ to encompass DRR as well as other aspects of DRM, since the term DRR is apparently not translatable into Vietnamese.<sup>16</sup>

Another example is the United States of America (United States), where neither the federal law nor the state DRM legislation reviewed uses the terminology of ‘disaster risk reduction’, but rather, consistently uses the terms ‘hazard mitigation’ and ‘preparedness’.<sup>17</sup> Other national laws use the terms ‘disaster management’, ‘disaster risk management’ and ‘comprehensive disaster management’, or simply describe the activities involved in early warning and risk mapping /assessment. Some very current laws with a strong DRR focus also continue to use the terms ‘civil protection’ and ‘civil defence’, such as in New Zealand and Mexico.<sup>18</sup>

The title of the relevant law or group of laws, therefore, often provides little indication of the extent to which DRR is a priority in the mandates they confer and the responsibilities they allocate. It has thus been necessary in this analysis to look at how these terms are defined and the objectives of the laws and the DRR mandates they assign. At times, the same term in different laws covers DRR holistically, and at other times, it only focuses on the limited concept of preparedness.

<sup>16</sup> Law on Natural Disaster Prevention and Control (Viet Nam, 2013).

<sup>17</sup> IFRC, USA Federal Desk Survey (2012); IFRC, Illinois, USA, Desk Survey (2012); IFRC, Louisiana, USA, Desk Survey (2012).

<sup>18</sup> IFRC, New Zealand Desk Survey (2012); IFRC, New Zealand Case Study — Draft (2013); UNDP, Mexico Case Study — Draft (2013).





Communities review flyers explaining proper fixings of tarpaulins, how to build stronger foundations and how to improve bracing for future construction. ©IFRC/Patrick Fuller

## 5.1 Disaster risk reduction in the objectives of DRM laws

Taking differences in terminology into account, the following analysis shows that, although DRR is highly prioritized and integrated into the DRM laws in some of the sample countries, there is still great potential to make DRR a higher priority in many of the countries' legal frameworks, as well as in their implementation.

One likely indicator of whether DRM laws establish an effective framework for DRR is that the laws make DRR a clear priority in the objectives they set out and the institutional mandates they establish. Of the 31 sample countries, all but one have DRM laws, whether as a stand-alone law or as part of a linked set of laws. In order to provide an overview of how DRR is reflected in these laws' objectives and the institutional mandates they establish, they can be classified under three broad categories according to whether they give a low, medium or high priority to DRR.

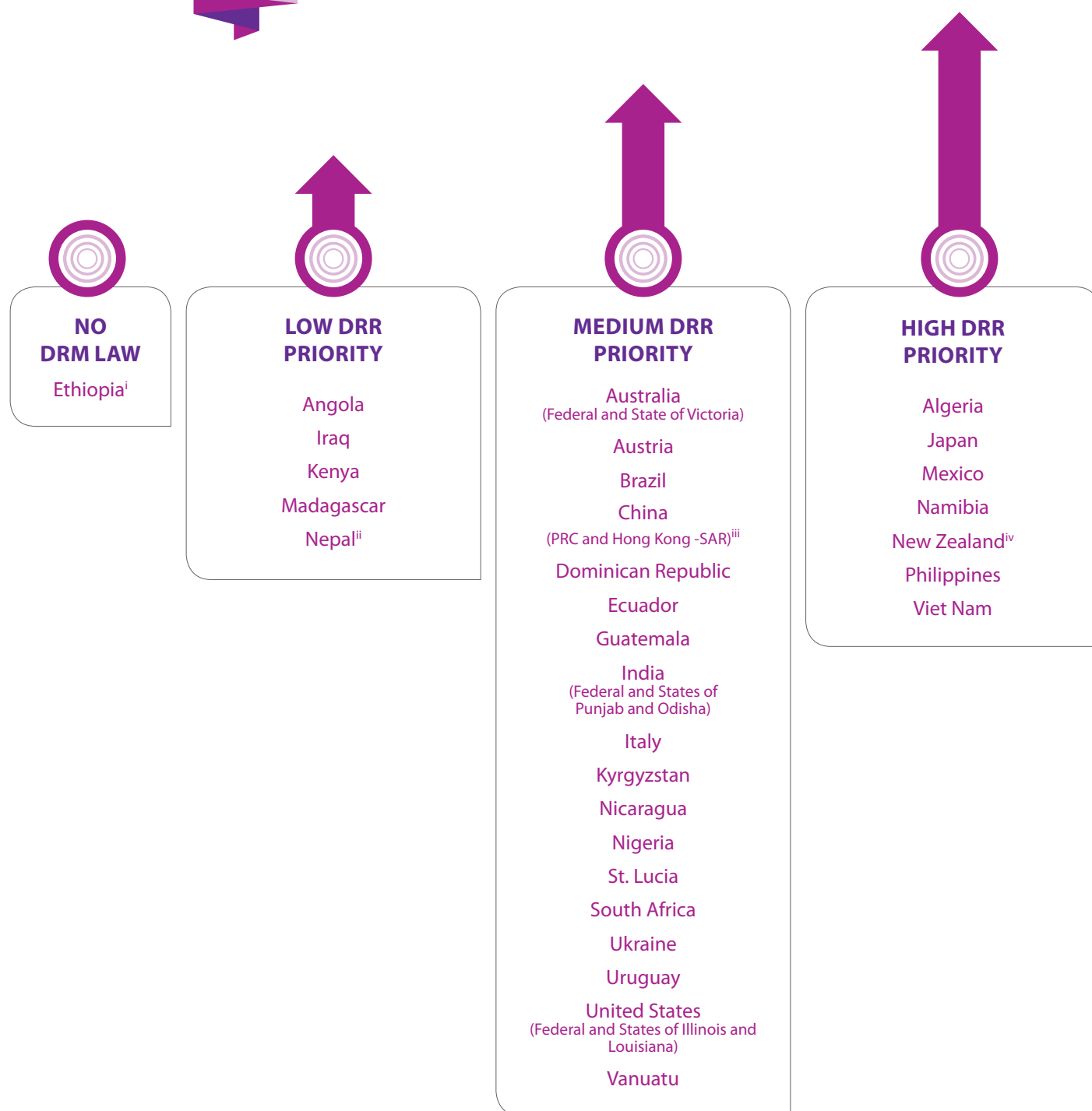
- **Low priority for DRR** - The DRM laws in this group are primarily focused on emergency management and preparedness, including response and recovery. Their focus is often reflected in their titles, such as 'national calamity' or 'emergency' laws. Their objectives and mandates are characterized by an emphasis on rapid response and recovery assistance rather than risk reduction. In countries with high exposure to disasters, such laws tend to be older laws that have been in force for decades and have not been reviewed, or where the country has had limited capacity to update the framework even when a need has been identified. However, such DRM laws can also be found in countries which have strong DRR regulation through sectoral laws and overall governance capacity.
- **Medium priority for DRR** - The DRM laws in this group take a more holistic approach to DRM in their objectives and mandates, tending to focus on all key DRM functions such as prevention, mitigation, preparedness, response and recovery. They may have a multi-hazard approach and may include some elements of DRR, such as EWS or community education. But DRR is not identified as a central priority in the objectives or institutional mandates established. Most of these laws are found in countries with high levels of risk from natural hazards, usually adopted in the 1990s and early 2000s, and not substantially updated in the last decade. Thus, they do not reflect the language and priorities that have emerged from the HFA.
- **High priority for DRR** - The DRM laws in this group tend to cover all the elements of the medium priority laws, but also give disaster risk reduction a high priority within the stated purpose of the law and as a distinct mandate for the institutions it establishes. Even if DRR terminology is not used, these laws expressly aim to achieve a fundamental change in DRM towards a whole-of-society approach to reducing risk. Some of these laws are part of long-standing legislation that has been regularly updated in countries where disaster risk governance is well established. Others have been adopted very recently as a major change in focus in light of national risk assessment results, the experience of disaster events, or discussions around implementing the HFA Priorities for Action.

Based on this classification, the DRM laws of sample countries can be grouped as set out in Table 1. The majority of laws give a medium priority to DRR, while seven laws give a clear high priority to DRR. The seven DRM laws that give a high priority to DRR include four different examples of well established DRM laws – in Algeria, Japan, New Zealand and the Philippines. They also include three rather recent DRM laws, dating from 2012 to 2014, in Namibia, Mexico and Viet Nam.<sup>19</sup>

Giving clear priority to DRR in a national DRM law is an important step for many countries in moving towards more effective risk reduction. This prioritization is an obvious indicator of commitment to DRR, and in many contexts is needed in order to ensure that DRR is a priority in national and local governance. However, it should be noted that in countries where underlying risk is effectively regulated through well implemented sectoral laws and local government mandates, disaster risk may be managed effectively even if the DRM law itself gives only low or medium priority to DRR.

<sup>19</sup> IFRC, *Namibia Desk Survey* (2012), UNDP, *Mexico Case Study – Draft* (2013); *Law on Natural Disaster Prevention and Control* (Viet Nam, 2013); IFRC, *Viet Nam Desk Survey* (2012); IFRC, *Viet Nam Case Study – Draft* (2013).

**Table 1: Disaster risk reduction in the objectives and mandates of DRM laws**



<sup>i</sup> Ethiopia has a formal policy giving high priority to DRR.

<sup>ii</sup> Iraq and Nepal have draft laws giving high priority to DRR.

<sup>iii</sup> China has three key national laws and five main regulations considered together to give medium priority to DRR, rather than one dedicated DRM law, or a framework DRM law that gives high priority to DRR as in Japan and New Zealand.

<sup>iv</sup> Japan and New Zealand both have sets of laws that formally interact to support the DRM system, but with a single framework DRM law that gives high priority to DRR.

**Country examples:** It is useful to consider in greater detail how the DRM laws in the seven countries mentioned above have given high priority to DRR in order to better understand how the institutional structures are set up to this end. It is noteworthy that some of these laws also have a focus on mainstreaming DRR into development planning:

- **Algeria's** *Law on the Prevention of Major Risks and Disaster Management in the Context of Sustainable Development of 2004* (DRM law) takes an integrated approach to DRR.<sup>20</sup> It not only makes DRR a high priority, but also integrates it with development planning and local government functions. This law includes requirements for risk assessment and risk mapping, land use planning and building safety, and integrates the work of the National Committee on Major Risks and a Directorate-General on Civil Protection, based in the Ministry of the Interior, with decentralized local governance structures.<sup>21</sup> The law-making was triggered by reviews following major earthquake disasters, and the best way identified to manage this risk was through integrating disaster risk management with land use planning and building regulation.
- **Japan's** *Disaster Countermeasures Basic Act of 1961* (DRM law) is regularly updated, and complemented by prefectural and municipal ordinances.<sup>22</sup> The law establishes the Central Disaster Management Committee, which works with a special Minister of State for Disaster Management. It gives these entities clear mandates for disaster 'prevention' and 'preparedness' (DRR terminology is not used in translation since it has no equivalent in Japanese), which involve working across sectors and at different levels of government.<sup>23</sup> It also integrates technical sectors in gathering hazard data, hazard mapping and in establishing highly efficient EWS.<sup>24</sup> The DRM law is only one element of a complex and integrated system of risk reduction that includes legislative provisions for a range of specific natural hazards, as well as a high level of regulation in the planning and building sectors.<sup>25</sup> This provides a clear indication of how deeply DRR is entrenched in Japan's overall legal framework.
- In **Namibia's** *Disaster Risk Management Act of 2012* (DRM law), the term DRR is used and corresponds with the internationally accepted definition. One of its four main objectives is to provide for an integrated and coordinated DRM approach that includes a focus on preventing or reducing risks (as well as emergency preparedness, response and recovery).<sup>26</sup> Its provisions aim to incorporate DRR as a priority within the DRM system at the national and local levels, as well as to integrate DRR with development and include it in school education through the national and local institutional mandates and structures. The Directorate of Disaster Risk Management is required to facilitate and coordinate specific DRR strategies, while national focal persons in each government institution are charged with facilitating training of their national and regional staff in DRR. Regional, local and settlement DRM committees established by the Act are then mandated with similar responsibilities.<sup>27</sup>
- **New Zealand's** *Civil Defence Emergency Management Act of 2002* (DRM law) does not indicate from its title that it gives a high priority to DRR, but the law has been described as being based on five key principles: risk management, integration, comprehensiveness, subsidiarity, and an 'all hazards and all risks' approach to emergency management.<sup>28</sup> It describes an entire DRR process, from risk assessment to monitoring and review. Another interesting feature of the New Zealand DRM law's objectives is the use of the terms 'sustainable management of hazards', 'acceptable levels of risk', and 'cost-effective risk reduction'. These place government efforts on DRR within the broader context of national development, recognizing that there may be limitations on the resources and/or capacity available to manage hazards sustainably.<sup>29</sup>

20 Loi n° 04-20 du 25 décembre 2004 relative à la prévention et à la gestion des catastrophes dans le cadre du développement durable (Algeria, 2004); IFRC, *Algeria Desk Survey* (2012), at 26, 29-30.

21 IFRC, *Algeria Desk Survey* (2012), at 31-32, 36.

22 IFRC, *Japan Desk Survey* (2012), at 18-30.

23 Ibid., at 18-32.

24 Ibid., at 80-89.

25 Ibid., at 15, 18-19, 36, 72, 89-101. Significant DRR-focused laws have also evolved over time regarding the specific risks of earthquakes, fires, floods, volcanoes and landslides. Some of these laws, such as the fire and flood laws, date back to the 1940s, and the most recent one, relating to earthquakes, was passed in 1995 and has since been updated.

26 UNDP, *Namibia Case Study* (2014), at 20.

27 Ibid., at 22.

28 IFRC, *New Zealand Desk Survey* (2012); IFRC, *New Zealand Case Study — Draft* (2013), citing Helm P., *The New Principles of Emergency Management*, Department of the Prime Minister and Cabinet, Wellington, (2001).

29 CDEM Act (New Zealand, 2002) in its s. 3, s. 17(3) lists a range of other legislation with different implementing agencies, any of which may have responsibilities under this Act depending on the nature of the emergency. These laws govern biosecurity, building, fire service, forest and rural fires, hazardous substances and new organisms, health, health and safety in employment, local government and resource management.



- The **Philippines** *Disaster Risk Reduction and Management Act of 2010* (DRM law) repealed a 1978 law and shifted the country's DRM approach from reactive emergency management and disaster response, to proactive disaster risk reduction and management.<sup>30</sup> The law seeks to adopt “a disaster risk reduction management approach that is holistic, comprehensive, integrated and proactive in lessening the socio-economic and environmental impacts of disaster, including climate change, and promoting the involvement and participation of all sectors and stakeholders concerned at all levels, especially the local community.”<sup>31</sup>

The Philippines DRM law and its implementing regulations provide for the development of policies and plans and the implementation of actions and measures pertaining to all aspects of DRR and DRM through a whole-of-society approach.<sup>32</sup> These include good governance, risk assessment and early warning, knowledge building and awareness raising, the reduction of underlying risk factors, and preparedness for effective response and early recovery, all of which are required to be gender responsive and sensitive to indigenous knowledge systems. It also highlights the need for institutionalizing DRM policies, structures, coordination mechanisms and programmes with continuing budget appropriation on DRR from national to local levels.<sup>33</sup>

- **Mexico's** *General Law on Civil Protection of 2012* (DRM law) also does not indicate, from its title, that its driving principle is risk reduction.<sup>34</sup> It establishes new and clear institutional mandates on full integration of DRR within Mexico's national DRM system (SINAPROC).<sup>35</sup> The DRM law is the key element in a federated national DRM system in which states have autonomous legislatures, while municipalities have devolved powers under the constitution that include civil protection, land use planning, building permits and environmental management. It thus supports a multi-level legal framework. This law is the culmination of a ten year process that has redefined the civil protection approach towards a holistic and integrated risk management approach. It recognizes that risks are generated by multiple factors, including political decisions, land use planning and cultural aspects, and its objective is to mainstream the DRR approach throughout all government levels and the social and private sectors.<sup>36</sup>
- With the passage of **Viet Nam's** new *Disaster Prevention and Control Law of 2013* (DRM law), which entered into force on 1 May 2014, the country has moved from a complex ensemble of laws relevant to DRM, to a single DRM law that gives a high priority to DRR. The law's basic principles include: proactive prevention; a whole-of-society approach to DRM under the leadership of government; integration of DRM with national and local development planning; use of scientific data combined with traditional experience in prevention; use of structural and non-structural solutions; and protection of the environment and adaptation to climate change. The law also ensures that such DRR activities are well coordinated, decentralized and adapted to the level of risk, as part of the State's role and policies.<sup>37</sup>

Viet Nam's DRM law thus mainstreams both DRM as a whole, and DRR as an element of it, into normal government functions, from the national to the local level, rather than establishing specialist or parallel institutions. It is noteworthy that the law mentions the rights and responsibilities in DRM for individuals, communities, business, civil society, government and professional organizations. It sets out their rights to risk information and to participation in prevention planning, as well as their obligations to take concrete DRR measures on their own behalf, to implement local plans, and generally to take the initiative in DRR. This conveys a strong message that DRR is a whole-of-society responsibility for a general social benefit.<sup>38</sup>

*In summary*, the seven DRM laws outlined above are diverse in the institutional structures they establish and do not necessarily have only one main law for DRM. However, the key common characteristics are that: legislation has been used to establish strong national systems for the coordination of DRM and to establish local responsibilities for DRM implementation; and DRR is given a clear priority as an essential underpinning of DRM laws. They also create stronger connections between DRM and development planning, and include community education and awareness as part of a holistic approach to DRR.

30 *DRRM Act* (Philippines, 2010).

31 *Ibid.*, s. 2(d).

32 *DRRM Act Regulations* (Philippines, 2010).

33 Although the Philippines is not a case study country, implementation information is available online from the Government of the Philippines, e.g. the Department of the Interior and Local Government Training Materials: [www.lga.gov.ph/sites/default/files/knowledgeExchange-pdf/pampanga/PRB-M1- RA%2010121.pdf](http://www.lga.gov.ph/sites/default/files/knowledgeExchange-pdf/pampanga/PRB-M1- RA%2010121.pdf); *SONA Technical Report* (Philippines, 2013), at 82-89; or the Philippines HFA National Progress Report 2009-2011.

34 *Ley General de Protección Civil* (Mexico, 2012).

35 UNDP, *Mexico Case Study — Draft* (2013).

36 *Ibid.*

37 *Law on Natural Disaster Prevention and Control* (Viet Nam, 2013), Arts. 4, 5, 10.

38 *Ibid.*, Ch. II, Section 1, Arts. 34-35.

The ways in which these laws involve communities, the business sector and citizens in DRR vary. Nevertheless, they all strongly convey that DRR is not simply a formal government responsibility, but rather, a whole-of-society endeavour.

## 5.2 Mainstreaming of disaster risk reduction in DRM laws

Of the seven DRM laws that give high priority to DRR, **Algeria** sets out the clearest principles and mechanisms to integrate DRR with development planning and local government, as reflected in the title of its law, *Prevention of Major Risks and Disaster Management in the Context of Sustainable Development*.<sup>39</sup> Although significant challenges in the implementation of its DRM law have been identified in other studies, its legal provisions have far-reaching potential in mainstreaming DRR into development planning.<sup>40</sup> The DRM laws of **Mexico** and the **Philippines** also govern some aspects relevant to development planning and local governance, especially Mexico's risk mapping process, and focus on safe construction. Mexico's DRM law seeks to achieve cultural changes in how risk is understood and reduced by the whole society, as well as establishing a multi-level system for implementation and integrating sectoral laws that have an impact on the reduction of underlying risk. **Namibia's** DRM law also expresses the aim of integrating DRR with development planning, although the precise mechanisms are not specified.<sup>41</sup> The **Viet Nam** law utilises the existing implementation mechanisms of sectoral ministries and provincial and local government bodies to discharge the new DRR priorities as part of a coordinated and mainstreamed DRM system under the new law.

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The *Civil Defence Emergency Management Act* is just one of four key laws recognized as the legal framework for the DRM system. The others are the *Local Government Act of 2002*, the *Building Act of 2004*, and the *Resource Management Act of 1991*. The principle of integration is thus built into the New Zealand DRM law. The national Ministry for Civil Defence and Emergency Management has key responsibilities, but the law requires all relevant government departments, emergency services, and lifeline public utilities to participate in civil defence and emergency management. It also mandates the establishment of regional groups consisting of local government representatives.<sup>42</sup> This system provides a national framework and leadership on DRR, but in fact most implementation is devolved to local government.

The DRM laws of **New Zealand** and **Japan** aim for a similar level of DRR integration into cross-sectoral and local government planning. However, they use an ensemble of laws rather than a single DRM law. In addition, they facilitate mainstreaming by formally linking their DRM laws into a system of other laws and institutions that are responsible for implementing DRR and development planning. Japan's DRM law, the *Disaster Countermeasures Basic Act*, for example, is complemented by prefectural and municipal ordinances, integrates technical sector laws, and is part of a system of risk reduction laws on specific natural hazards, and on planning and building.<sup>43</sup> Similarly, New Zealand's primary DRM law, the *Civil Defence Emergency Management Act*, cross-references a range of sectoral laws relating to specific hazards.<sup>44</sup> Under this ensemble of laws, in both Japan and New Zealand, the implementation of DRR has been mainstreamed into other sectors and devolved to local government.

39 IFRC, *Algeria Desk Survey* (2012), at 29-31.

40 UNISDR, *Making Algeria Resilient* (2013), at 8.

41 UNDP, *Namibia Case Study* (2014), at 20.

42 IFRC, *New Zealand Case Study — Draft* (2013), citing *CDEM Act* (New Zealand, 2002), s. 2(c), (d) and (f).

43 IFRC, *Japan Desk Survey* (2012), at 17-28.

44 IFRC, *New Zealand Case Study — Draft* (2013); IFRC, *New Zealand Desk Survey* (2012), at 5. *CDEM Act* (New Zealand, 2002), especially s. 17(3). Many other implementing agencies become part of the DRM system depending on the nature of the hazard, as and when required.

### 5.3 Factors influencing the priority given to disaster risk reduction in DRM laws

The seven DRM laws described above all resulted from legislative and policy review processes concerning the need for better risk reduction, whether as part of a long-standing practice of systematic review such as in Japan, or major system reviews triggered by national disasters or other policy considerations. For example, **Algeria's** current DRM law is the result of two clear stages of review triggered by national earthquake disasters (1980, 2003), each of which led to significant law reforms. Also, **Namibia** first established its National Disaster Risk Management System by executive regulation in 1994, triggered by the 1992/1993 drought emergency.<sup>45</sup> Namibia then carried out a further review in line with its commitments to DRR under the HFA, beginning with the National DRM Policy of 2009, which gave the Office of the Prime Minister overall responsibility for the operation of the national DRM system and for maintaining the Directorate of DRM.<sup>46</sup> On this basis, it then developed its DRM law to update the system. Namibia's 2012 law thus built on a process that had begun almost two decades earlier.

Mexico and Viet Nam's processes towards a higher DRR priority law are also noteworthy. The approach taken by **Mexico** over the last decade shows how a combination of legal, policy and institutional reforms can be used to move a complex national coordination system from one that was essentially response based in 2000 to a DRM law in 2012 that supports a whole-of-society approach to DRR. With its first national DRM system initially triggered by the massive destruction caused by the 1985 earthquake, and later followed by detailed cost-benefit analysis of DRR, Mexico's approach to DRM regulation has evolved under a clear policy framework.<sup>47</sup> In 2000, the *General Law on Civil Protection* was essentially based on emergency management. Then, the 2006 reforms to this law broadened the DRM focus, including revisions to the national civil protection manual in that same year in support of the revised law.<sup>48</sup> The 2006 legal reforms were supported by policy and planning processes such as the 2001–2006 National Development Plan, which expressly aimed to move from a reactive to a preventive system.<sup>49</sup> In an evolutionary process, the amended law was then replaced by the 2012 *General Law on Civil Protection* (DRM law). The 2012 law thus builds on both the 2006 legal reforms and the policy framework of the National Civil Protection Programme 2008–2012.<sup>50</sup> In many ways, the new law confirms Mexico's policy and strategy innovations of recent years, giving higher priority to DRR. It also establishes new and clear institutional mandates on full integration of DRR within SINAPROC.<sup>51</sup>

Since Mexico is a federation, it was essential for the national government to work with states and municipalities in establishing the new national legal framework, due to their autonomous devolved powers under the Constitution. Accordingly, these changes could not be made rapidly, but the resulting system demonstrates a high level of DRR integration in a multi-level legal framework. Hence, both the law and the process of arriving at the current legal framework in Mexico may provide a model for other federations, or countries that simply have large territories with highly decentralized governance.

**Viet Nam's** new DRM law was conceived and passed over a relatively short period of time. Since the country is highly exposed to natural hazards, it was seeking new ways to improve implementation of DRR. At the time that the country case study was undertaken, from late 2012 to early 2013, Viet Nam had begun a legislative drafting process. It already had a legal framework establishing its DRM system that, although effectively implemented at the local level in most respects, had three main issues.<sup>52</sup> One issue was the sheer complexity of the system's range and number of laws and regulations, making it difficult for any individual or government ministry to have a good overview of responsibilities and implementation. The second was the almost exclusive focus on the major risks of floods and storms in coastal regions, with insufficient coverage of other natural hazard risks, including those affecting the hinterland. The third was the relatively low priority given to DRR as an overall principle of DRM, although some aspects were well regulated. These and other issues were addressed by the new DRM law passed in mid 2013, with the aim of giving greater priority to DRR and rationalizing the DRM system as a whole.<sup>53</sup>

45 Cabinet Action Letter 5<sup>th</sup>/15.02.006 cited in IFRC, *Namibia Desk Survey* (2012), at 32, 43; UNDP, *Namibia Case Study* (2014), at 24.

46 *National DRM Policy* (Namibia, 2009), s. 5.5.4.

47 UNDP, *Mexico Case Study — Draft*, Eng. trans. (2013); *Improving the Assessment of Disaster Risks to Strengthen Financial Resilience*, A Special Joint G20 Publication by the Government of Mexico and the World Bank, 2012.

48 *Ley General de Protección Civil* (Mexico, 2000).

49 UNDP, *Mexico Case Study — Draft* (2013).

50 *ibid.*

51 *ibid.*

52 IFRC, *Viet Nam Case Study — Draft* (2013).

53 Other issues included, at that time, the absence of a coordination mechanism to receive international humanitarian assistance during a major disaster.

The need to integrate and strengthen DRR aspects in a legislative system that is dominated by emergency management may be very clear to governments and legislatures. However, other factors such as conflict and constitutional deadlocks may make it difficult to carry out such legal reforms. This has recently been the case to different degrees in three of the case study countries, Iraq, Nepal and Madagascar, which have used alternative strategies during periods of reduced law making capacity, and tackled these challenges in different ways.<sup>54</sup> **Iraq** is currently considering a specific DRR law to complement its now outdated emergency management law, rather than making more fundamental reforms to the existing law at this stage. **Nepal** has developed a comprehensive draft DRM law giving high priority to DRR that has been awaiting finalization and passage while the new Constitution was agreed. It has also developed and is implementing a detailed complementary national strategy to integrate DRR into the DRM system. **Madagascar** did not have legislative reform initiatives under way at the time of the case study, but had developed informal institutional mandates to give greater priority to DRR.

**Ethiopia** has been undertaking a review to establish a DRM system for the first time through a formal policy mechanism.<sup>55</sup> This is an example of potential interest to a number of other countries that do not yet have DRM laws or formalized DRM systems, especially in Africa.

The country examples above lead to the question of what other factors have prompted countries to move from laws that give DRR a medium priority to those that make DRR a central focus. Similarly, it is worth pursuing the question of what might be the barriers to countries taking this next step.

Countries with high exposure to natural hazards that face resourcing challenges for their current systems may reject giving higher priority to DRR in their laws if it is perceived only as an additional cost rather than as a longer term saving. For these countries, perhaps, systematic cost-benefit analyses of DRR versus the human and economic costs of disasters may support the necessary political commitment and prioritization of resources, as was the case in Mexico. Other countries may decide to wait until the resources and capacity are in place to implement a new law.

Some countries in the sample group do not experience high levels of natural hazards, and thus may not perceive it as a high priority to invest extensively in the reduction of natural hazard risks that may not have a great impact on human lives or livelihoods, or national development and economic growth. **Austria, Ukraine** and **Uruguay** may fall into this category, although Uruguay has identified emerging and likely future DRR needs related to climate change.<sup>56</sup>

Other countries face significant natural hazards in their territory, but there are reasons for which they might not be able to, or might not need to, implement a national DRM law that makes DRR a high priority. For example, **Australia** and the **United States** are both federations where DRM is a state and local government responsibility. Therefore, even though their vast territories have high exposure to natural hazards, they do not necessarily need an elaborate national structure, particularly if emergency management is handled well at the state level, and local governments generally manage underlying risks through regulated development planning. Federal mechanisms can then be reserved for matters such as DRR funding incentives, disaster compensation, and emergency management for very large scale natural events.

Even where effective transition to a DRR focused national DRM system is identified as the desired outcome, it can rarely be achieved overnight. Therefore, it may be necessary to adjust the pace of law reform to advances in a country's overall governance capacity, rather than pass a non-implementable law that simply sits in the statute books. Some countries face much greater challenges than others in any national process of law reform due to factors such as size, federal structures, population density and national income. For example, **India** is a federal union of 28 states and seven territories spread over a vast geographical area, subject to a whole range of natural hazards (including high levels of both flood and drought risks), and with a population approaching 1.3 billion people, which is also placed among the lower middle-income countries. Not surprisingly, it faces particular challenges in implementing DRR through a national legislative framework.

54 UNDP, *Iraq Case Study — Draft* (2013); IFRC, *Nepal Case Study* (2011), at 7; IFRC, *Madagascar Desk Survey* (2013), at 4; IFRC, *Madagascar Case Study — Draft* (2013).

55 IFRC, *Ethiopia Desk Survey* (2012), at 2-3; IFRC, *Ethiopia Case Study* (2013), at 4.

56 IFRC, *Uruguay Desk Survey* (2012), at 19, 25.

India's federal *Disaster Management Act of 2005* (DRM law) is based on shared powers with the states and territories, and the National Disaster Management Authority leads the national DRR agenda under the law.<sup>57</sup> Until the enactment of the DRM law, India did not have a comprehensive law on DRM at the federal level, although there was legislation on specific safety aspects, e.g. fire, hazardous chemicals and environment, both at federal and state levels. The State of Gujarat was the first state in the country – even before the enactment of the federal law – to have a comprehensive disaster management law when it enacted the *Gujarat State Disaster Management Act of 2003*. The State has a very comprehensive DRM regime. However, most of the states at present follow the national DRM law because they do not have such law at the state level. For example, both Odisha and Punjab rely on the federal law, though they have their own disaster management policies.<sup>58</sup> India's 2005 DRM law has moved the country's approach forward significantly, although some states have implemented the provisions more comprehensively than others. To improve this, a Task Force was appointed to examine issues of implementation of the federal law and recommend several amendments to the DRM law. Hence, due to the sheer scale of governance in some countries, a gradual approach is the only realistic option if laws are to be effectively implemented as just one pillar in an overall DRR effort.

The above analysis of legislative provisions on DRR shows that there are many ways to support DRR in laws. DRR mandates can be given to both new and existing institutions according to the most sustainable structure for each country; implementation can be allocated through one law or a coordinated group of laws; and some laws that aim to give DRR a high priority in the DRM system also seek to mainstream it into development. In terms of the processes of legislative change, it is evident that both the pace of change and the style of legislation need to be adapted to each national context, and that the need for extensive DRR provisions in the DRM law may also vary, depending on national disaster risk levels and the strength of risk governance in other sectors and at local levels.

## 5.4 Experiences with implementing DRM laws

For some of the case study countries, a lack of human and/or financial resources to fund the DRM system established by law is a major challenge. This has been the case in the **Dominican Republic** (2011 data), where the aim of the *Disaster Risk Management Act of 2002* is to establish an integrated DRM system with DRR as a medium to high priority.<sup>59</sup> Stakeholders perceived that resources within the system tended to be spent on response and recovery rather than DRR, including the National Fund for Disaster Prevention, Mitigation and Response.<sup>60</sup>

Although **Algeria** was not the subject of a case study for this report, a recent UNISDR study provides some insights into the challenges experienced in implementing its DRM law.<sup>61</sup> Even though the law gives a high priority to DRR, as well as to its integration into development planning and decentralized local government, it is not currently backed by an effective DRR implementation strategy. However, since the publication of that report, a key national committee has been put in place (in 2012) and there is now a mechanism for implementing the DRM law.<sup>62</sup>

For **Namibia's** new law, it is too early to reach a conclusion on its implementation, but the case study highlights that "current government DRR activities are extremely limited in scope, and in practice, the government relies heavily on international organizations such as the United Nations, and [non-government organizations] such as the Namibian Red Cross for both DRR training and implementation of activities."<sup>63</sup> An example given is a Red Cross programme to develop Community Disaster Risk Management Committees (DRMCs) in three regions. While such community committees are required under the National DRM Policy, they are not mandatory under the law. As at mid 2013, the Community DRMCs supported by the Red Cross represented the only functioning DRMCs at the local level, while the more formal committees mandated by

57 IFRC, *India Desk Survey* (2012), at 16-17.

58 IFRC, *Odisha, India, Desk Survey* (2012), at 7-8, 18-20; IFRC, *Punjab, India, Desk Survey* (2012), at 18.

59 IFRC, *Dominican Republic Case Study* (2012), at 5, 24.

60 Ibid, at 28, 37.

61 IFRC, *Algeria Desk Survey*, at 26-28, 41.

62 UNISDR, *Making Algeria Resilient* (2013), at 8.

63 UNDP, *Namibia Case Study* (2014), at 22.



the law were not yet established in most constituencies, local authorities and settlements. In general, most government officials — especially at the local level — have very limited knowledge of DRR and focus on response, while capacity building and training is generally only provided by external organizations.<sup>64</sup>

Even in a highly developed, high-income country such as **New Zealand**, the case study highlighted that it is also the local government level that presents the greatest challenge in implementation. Here, local governments must choose between spending their local tax revenues on DRR or on all the other routine governance functions. This becomes most acute in rural municipalities with little revenue due to low population density in their area, especially if located in a geologically high-risk area.<sup>65</sup>

These challenges in implementation of DRM laws in general, as well as the particular aspects intended to prioritise DRR, indicate that the broad question of capacity for local implementation and the specific question of resource allocation for DRR efforts, remain important issues.

## 5.5 Summary of key findings

The above analysis of DRR as a priority within DRM laws makes it clear that there is more than one way to integrate and prioritize DRR in a national legal framework. While it seems clear that DRR in most of the sample countries would benefit from a stronger legal framework, the need to establish such a framework depends on the extent to which DRR is already regulated in current laws. There appears to be clear value in having a dedicated national DRM law that highlights DRR and oversees its implementation. However, from a purely regulatory perspective, the same level of rule setting can sometimes be accomplished instead through a collection of laws, as in Japan and New Zealand, provided that they are coordinated and their hierarchy is well established.

The overwhelming majority of the sample countries have established DRR as either a medium or high priority in their DRM laws' objectives and institutional mandates. This provides a strong indication that: (a) significant progress has been made on the incorporation of DRR into legal frameworks; and (b) many countries regard legislative frameworks as an essential part of managing disaster risk, using DRM laws to establish an enabling framework for national efforts at all levels.

The sample countries have almost all chosen the legislative route as a key element in moving towards better DRR implementation, regardless of whether they currently have high or medium DRR priority in their laws. This is not only because the HFA suggests that it is important, but also because they see it as necessary based on experience of establishing the governmental institutions and mandates to implement such change. However, while in some cases a complex new institutional structure is considered necessary, as in Mexico, the examples of Japan, New Zealand and Viet Nam suggest that it is also possible to mainstream DRR into existing national and local government responsibilities, provided that the coordination mechanisms are in place.

In most of the sample countries, the institutions established under the DRM laws are the key national focal points for cultivating a whole-of-society approach to DRR, providing national leadership and policy direction, even though sectoral institutions may have primary responsibility for implementing DRR in areas such as land use planning, building codes and environmental and water management. However, due to the leadership role for DRM institutions, they need to strengthen their coordination with other sectors, and different stakeholders, especially those related to development planning and CCA. Therefore, part of giving DRR a high priority in DRM laws includes provisions for cross-sectoral coordination of DRR with development planning laws and institutions in order to support DRR mainstreaming into development.

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<sup>64</sup> Ibid.

<sup>65</sup> IFRC, *New Zealand Case Study — Draft* (2013), citing *CDEM Capability Assessment Report: Part 1*, April 2012, Ministry of Civil Defence and Emergency Management.



While almost all of the sample countries have DRR related policies (as discussed further below), the legal frameworks for DRM in most of them could give a higher priority to DRR. To date, only a few of the countries studied have implemented DRM laws that support a substantial reorientation towards risk reduction. The clearest examples of these include both well established laws that have been regularly reviewed and new laws inspired by the HFA priorities and national needs assessments that are only now being implemented. Algeria, Japan, Mexico, Namibia, New Zealand, the Philippines, and Viet Nam give a high priority to DRR in their DRM laws. Japan and New Zealand have a set of laws rather than single laws, but with strong national coordination mechanisms under their key DRM laws. Mexico, Namibia, and Viet Nam have new laws, which were passed in 2012 or 2013, and which are in the early stages of implementation.

There is now a body of legislative approaches and implementation practice on different ways to move towards a higher priority for DRR. However, some countries with strong risk governance through sectoral laws and at local government level may not need DRM laws to play the same broad role as it does in Mexico and the Philippines, for example. Also, smaller unitary states may not need the same level of complexity in the law or the institutions established by it, since effective coordination is possible through simpler structures. These could include existing governmental structures at the national or local level, such as in Viet Nam and New Zealand. Of note are the requirements for sustainability of DRR efforts in the New Zealand DRM law, which is an important factor for other countries to consider when introducing law reforms to improve support for DRR. In some countries, this may require an evolutionary approach to law reform for DRR, to ensure that policy and implementation mechanisms keep pace with the law.

## Chapter 6: The relationship between disaster risk reduction policy and DRM legal frameworks

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National policy can provide insight into the extent to which DRR is a national and local priority in a country's DRM system. Although the country studies did not include an in-depth analysis of national policy frameworks for DRR, both the desk surveys and the country case studies provided some information on the subject. A very high proportion of the sample countries, 27 out of 31, had national policies or strategies that included DRR as a significant priority.

**Country examples:** As of 2011, the **Dominican Republic** had a draft policy.<sup>66</sup> Only three countries, **Austria**, **Iraq** and **Madagascar**, did not yet prioritize DRR in their respective policies. Most of the policies which prioritize DRR have been drafted or updated in recent years and have been created almost exclusively since the HFA was adopted in 2005. This shows a clear trend towards policies that are in keeping with the HFA and DRR in general, even when they are not matched by legal frameworks that give the same level of priority to DRR.

The relationship between DRR policy and legal frameworks is complex. In some cases, such as in **Mexico**, the policy framework has set the direction for legal reform. This has also been the case in **Ethiopia**, where the entire system for DRM has been re-engineered through a formal policy process, which may yet form the basis of a law. Such a gradual approach from policy setting to law making, seems to be well suited to the Ethiopian economic and political context, because the resources and capacities are not yet in place to fully implement a vertically integrated DRM law at the local level. This can be described as an 'evolutionary approach', which other large countries with similarly limited resources may find useful, especially when there is not a clear consensus initially about the form that the national system should take.

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<sup>66</sup> IFRC, *Dominican Republic Case Study* (2012), at 26-27.

### Focus: Ethiopia

Ethiopia's formal DRM policy framework is the result of a 'business process re-engineering' over the last six years. The National Policy on Disaster Prevention and Management establishes both DRM priorities and an institutional mandate and structure for DRM – the special purpose Disaster Risk Management and Food Security Sector (DRMFSS) under the Ministry of Agriculture. There are two major directorates within the DRMFSS: the first is concerned with early warning and response, and the second, with food security coordination. These directorates reflect the risk profile of the country, which consists primarily of drought and flood risk.<sup>67</sup> DRR is built into this framework through a 'multi-sectoral and multi-hazard risk management approach' to manage all aspects of the 'disaster cycle', from prevention, mitigation and preparedness to response, recovery and rehabilitation.<sup>68</sup> Given the devolution of legislative powers to regional states under Ethiopia's evolving federal system, it might ultimately be necessary to establish a firm legislative base for the system. And since policy is very closely related to legislation in the country, due to similar approval processes, the recently approved DRM policy may now be used as the basis for developing a DRM law.<sup>69</sup>

In many cases, national policies and strategies are designed to provide detailed content and implementation mechanisms for the DRM law. For example, in the **Philippines**, the law tasks the Disaster Risk Reduction and Management Council with developing a comprehensive DRM Plan and Framework and requires DRR programmes to be incorporated in development plans at various levels of government. In **Nepal**, on the contrary, the development of a cutting edge DRR policy and strategy has outpaced the law making process due to delays in the legislative system, and now features more far-reaching provisions on DRR than does the law.

*In summary*, the sample countries indicate that DRR is a more distinct priority in policies, plans and strategies than in legal frameworks. However, the interaction between law and policy appears to be both complex and essential for successful implementation. Policy supports the law reform process and provides details for the implementation of new laws, as well as extending the reach of old laws by specifically taking up the DRR issue within a general DRM mandate. Policy can also, at least temporarily, substitute for legal mandates on DRR, as in **Ethiopia** and **Nepal**, provided that there is sufficient clarity in institutional responsibilities to avoid overlapping mandates. Above all, the inclusion of DRR as a significant national policy priority is an indicator in its own right of countries' commitments and progress towards integrating DRR into their DRM systems, since policies often explain the rationale or motivation for moving towards DRR.

A simultaneous use of law and policy can be particularly successful in effecting change. Countries rarely tackle the fundamental reform towards DRR without a specific legal framework, since the DRM laws often set the priorities and mandates of implementing institutions. However, they also combine legal reform with key policy processes, which has helped to advance new law reforms, as in Mexico and Nepal. However, the legal framework can also be a key part of implementing policy, as the laws often mandate further regulations (secondary legislation), policies, plans and strategies, as in Mexico and the Philippines.

<sup>67</sup> IFRC, *Ethiopia Case Study* (2013), at 4, 11, 12, 20-21, 28.

<sup>68</sup> *Ibid*, at 21-23.

<sup>69</sup> This information is based on unofficial communications with Ethiopian government officials.

# Chapter 7: Institutional frameworks for decentralized implementation in DRM laws

## 7.1 Background

The analysis of the country studies indicates that a key role in DRR was allocated to local governments in most of the sample countries' DRM laws and sectoral laws, reflecting broader moves towards decentralized disaster risk governance. This in turn reflects a global trend towards decentralization in recent decades, with particular implications for local DRR and DRM. A commitment to decentralization is embedded in many aspects of the HFA priorities, in particular Priority for Action 1, concerning the need to make DRR a national and local priority, and to provide a strong institutional basis for its implementation. Priority for Action 1 comprises: the need for institutional and legislative frameworks to recognize the importance and specificity of local risk patterns and trends, and to decentralize responsibilities and resources for disaster risk reduction to relevant sub-national or local authorities; the need to allocate resources for DRR at all levels; and the importance of promoting community participation in DRR, including through the attribution of roles and responsibilities, and the delegation and provision of necessary authority and resources.<sup>70</sup> A considerable body of literature has argued, at both the practical and theoretical levels, that decentralization is also a key component of good governance and development.<sup>71</sup>

Other studies have focused on the specific issue of the relationship between DRR and decentralized governance (subsidiarity).<sup>72</sup> These studies register a tension between the theory that government closer to the community is more effective and accountable, and the reality that decentralized government often fails to achieve these goals, especially in developing economies or countries in transition from conflict or disaster.<sup>73</sup> Moreover, as concerns DRM, there is little empirical evidence that decentralized governance necessarily strengthens DRR, and some sources suggest that decentralization may even have a negative effect on disaster risk if legal authority is not matched by resources and capacity.<sup>74</sup> Indeed, decentralization raises severe specific challenges in relation to coordination, financing and capacity for implementation of DRR.<sup>75</sup>

One of the key issues identified in the literature is the importance of symmetrical delegation, or devolution of authority.<sup>76</sup> In essence, this requires that political, administrative and fiscal powers are devolved evenly, since when they are not - usually described as asymmetrical decentralization - implementation issues are most likely to arise. In some cases, political decentralization to municipal governments has been associated with an increase in the number of deaths and people affected by disasters. However, when accompanied by fiscal decentralization, local governments became more responsive to the needs of vulnerable people, and losses from disasters could be reduced.<sup>77</sup>

Even if local leaders and politicians have the resources, they do not necessarily share the risks or incentives of poor people in their communities who are most at risk from disasters. In addition, they may choose not to allocate resources for DRR or may even divert earmarked DRR funds to other areas, in the absence of

70 HFA (2005), at 6-7, HFA Priority for Action 1, Key activity (1) (d); Key activity (ii) (e) and (f); and Key activity (iii), (h).

71 White, *Government Decentralization* (2011), at 1 and following literature review. See also SDC, *Decentralization Processes in Developing and Transition Countries* (2011); UNDP, *Evaluation of UNDP Contribution to Strengthening Local Governance* (2010); and website of Democratisation, Decentralisation and Local Governance Network: <http://www.sdc-decentralization.net/>.

72 See, for example, Iqbal and Ahmed, *Disaster and Decentralization* (2009); UNDP, *Study on Disaster Risk Reduction* (2011); and White, *Government Decentralization* (2011).

73 White, *Government Decentralization* (2011), at 5.

74 Iqbal and Ahmed, *Disaster and Decentralization* (2009).

75 UNDP, *Study on Disaster Risk Reduction* (2011), at iv-v.

76 White, *Government Decentralization* (2011), at 2, describing a broad consensus on decentralization emerging from the literature is that it falls into three basic models: deconcentration – where the local presence is made up of what are essentially field offices in a system of central governance; delegation – where governmental functions are delegated to local government entities that remain accountable to the central government; or devolution – where decision-making and fiscal responsibility are vested in quasi-autonomous local government units.

77 Iqbal and Ahmed, *Disaster and Decentralization* (2009), at v-vi.

accountability mechanisms and incentives. Local DRR will almost always be enhanced by a strong national entity to oversee, coordinate and, where necessary, enforce a system of clear accountability and reporting lines between different levels of government.<sup>78</sup> The following presents an analysis of legislative provisions on decentralized DRM institutional frameworks in the sample countries.

## 7.2 Country examples of legal provisions on decentralized institutional frameworks

A number of the sample countries have chosen to establish specific institutional arrangements for DRR from the national to the local level under their DRM laws. But the way in which they are established varies in that DRM responsibilities may be an adjunct to general governance functions at the provincial and local levels, or a parallel system managed directly under the line Ministry for DRM, or a mixture of these two approaches.

As summarized in Table 2, the analysis of the institutional arrangements established by the relevant DRM laws indicates that the laws allocate DRR responsibilities and mandates to institutions at the local level in approximately two thirds (21) of the sample countries. In two other countries, Ethiopia and Nepal, DRR responsibilities and mandates are allocated on the basis of policy alone.

**Specifically established DRM institutions:** In some cases, these responsibilities are allocated to specifically established DRM institutions. For example, **Guatemala's** DRM law mandates regional, departmental and local committees specifically for DRM; and **Namibia's** 2012 DRM law has four tiers of special DRM committees that are being established from the national to the local and community level.

**Mandates delegated to local government:** In other countries, the implementation of DRR mandates is delegated to local government. For example, under **New Zealand's** DRM law, local governments hold primary responsibility for DRR along with their other governance responsibilities, albeit under a centralized DRM national legal framework and coordination mechanism, which is also supplemented by regional bodies.<sup>79</sup> **Italy** has even more highly decentralized governance structures, and local authorities are key players in the multi-level National Civil Protection Service.<sup>80</sup> In **Iraq**, now a federation, governance is also decentralized, and local authorities are a central part of the civil protection system.<sup>81</sup> Under **Viet Nam's** new DRM law, implementation is through the long-standing governance structure of provincial and local People's Committees.

**Hybrid system:** The most common approach among sample countries is a hybrid of the two types of institutional responsibility that features specifically mandated DRM institutions and allocation of responsibility to local government. In **South Africa**, many responsibilities related to DRR are allocated to the municipal government under the Constitution. In addition, the DRM law provides for discretionary establishment of both Provincial and Municipal Disaster Management Advisory Forums.<sup>82</sup> However, the DRM law also allocates additional responsibilities to the municipal government. In **Algeria**, the DRM law requires municipalities to have specific decentralized DRM responsibilities under a constitutional mandate of decentralization.

## 7.3 Experiences with implementing legal provisions on decentralized institutional frameworks

Examples of the implementation issues identified in the allocation of DRM responsibility to the local level can be found in Algeria, the Dominican Republic, Ethiopia and South Africa. In **South Africa**, DRR responsibility has been allocated to the local government level under the DRM law, so far without the accompanying resources (asymmetrical decentralization), and hence has formed what stakeholders describe as an 'unfunded mandate'. Although the *Local Government Municipal Systems Act of 2000* requires that resources

78 Ibid, at v-vi.

79 IFRC, *New Zealand Case Study — Draft* (2013); IFRC, *New Zealand Desk Survey* (2012), at 16.

80 IFRC, *Italy Desk Survey* (2012), at 15-16.

81 UNDP, *Iraq Case Study — Draft* (2013).

82 IFRC, *South Africa Case Study* (2012), at 52, citing *Disaster Management Act* (South Africa, 2002), ss. 37, 51.

be included whenever national or provincial laws allocate responsibilities to local government, as at 2011, this had reportedly not occurred for their new responsibilities under the DRM law.<sup>83</sup>

In **Algeria**, the DRM law allocates specific DRM responsibilities to municipalities as part of their constitutional decentralized powers. However reportedly, “resources and capacities at the municipal level remain limited” and “additional support is required to empower municipalities to undertake effective DRM actions, through the provision of adequate budgets and capacities.”<sup>84</sup>

In the **Dominican Republic**, as at 2011, the municipalities had not received the designated portion of the national budget for their operations, yet many DRR related powers are devolved to the local government level by the decentralization law.<sup>85</sup> This has added to the burden on national DRM institutions, which already suffer from a lack of resources.

Similar implementation challenges related to resources and capacities at the local level have also been reported in the preliminary stages of **Namibia**’s DRM law and in **Guatemala**’s National Coordination for Disaster Reduction (CONRED) system. These examples highlight the important link between allocation of responsibility at the local level and the allocation - or indeed availability - of resources and capacity to carry out such responsibilities on a sustainable basis.

## 7.4 Summary of key findings

A number of the sample countries have legal frameworks for specifically established local DRM institutions, others allocate DRR and DRM responsibilities to the local government under their DRM laws and/or their decentralization laws, while most use a combination or hybrid of these two models. There are arguments for and against DRR either being mainstreamed into local governance, or implemented under specific DRM structures that have DRR mandates. The most effective model depends on the local context and method of resource allocation. Specially mandated DRM structures can give clear public priority for DRR, and the resource allocation to DRR may be much more transparent. However, if local government institutions are in place, they already represent a substantial investment of national resources, and it may be unnecessary or unsustainable to add new structures at the local level, especially in small rural communities where these institutions may in fact be made up of the same individuals. However, even high-income countries have limits on how many layers and types of local institutions they can afford to maintain as effective operational units, so even a country like New Zealand has preferred to use existing local governments for local DRR implementation.

Based on stakeholder reporting of effectiveness at the community level, the key to effective local institutional DRM structures is that they have clear authority combined with mandated resources and capacity, which can also be enhanced through DRR training and education. It emerges from the country case studies and the secondary literature on decentralization that the most important factor is whether the capacity and resources are adequate for the DRR mandate. It is relatively easy to create institutions on paper, but their effectiveness relies on them becoming part of the system of governance in a way that is most suitable to a country’s culture, system of governance and resources.

Decentralization was observed as a clear trend in the sample countries, just as it is globally, where increasing responsibility for DRR, CCA and natural resource management is being placed on elected and relatively autonomous local governments, which are often struggling under these demands. It may be useful for countries wishing to reform their institutional and legislative systems for DRM to reflect on whether local governments can be supported to carry out their DRR responsibilities more effectively with increased community and civil society participation.

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83 Ibid, at 16, 21.

84 UNISDR, *Making Algeria Resilient* (2013), at 8.

85 IFRC, *Dominican Republic Case Study* (2012), at 28.

# Chapter 8: Financing of disaster risk reduction in DRM laws

## 8.1 Background

As was established in the previous chapter, resource allocation for DRR is a recurring issue in implementation of government responsibilities under DRM laws, especially at the local level. It is also a key concern voiced within the HFA and related consultation processes.<sup>86</sup> The following analysis of resource allocation for DRR in the sample countries focuses on the legislated funding models identified and includes some notes on implementation. Resource allocations within national budgets are complex and are not necessarily governed by distinctly titled laws, but often occur under the general fiscal management processes of the state. Therefore, these findings do not cover comprehensively the legal frameworks for DRR budgeting in the sample countries.<sup>87</sup> Given the diversity of approaches in the sample countries, this has been identified as an area requiring further study in cooperation with expert organizations before more substantive conclusions can be drawn on the role of legislation. Nevertheless, some key funding models established by legislation for DRR in the sample countries are identified.

## 8.2 Country examples of legal provisions on DRR financing

As summarized in Table 2 (p. 40), many sample countries have specific budget lines for DRM established by law, and some include identifiable elements for DRR within them. In addition, a number of countries' laws establish special funds for DRR, or DRM more generally, especially as a source of funds for local level government projects. Others include elements of DRR in operating budgets for other sectors relating to specific risks. The following provides an outline of some of the different approaches, noting some trends in legislative provisions.

**DRR as a special budget line:** The study did not identify any countries that had legally mandated budgets or percentages of revenue for DRR alone, at both the national and local levels, although a very close approximation was found in the **Philippines'** funding criteria for local disaster funds, described under the analysis of special funds below.

**DRR budget under general DRM allocations:** Around two thirds (19) of the sample countries bundle DRR with their national DRM budgets, either through law or policy. For example, in the **United States**, federal expenditure on DRR (mitigation) is channelled through the general budget of the Federal Emergency Management Agency (FEMA), although it also runs specific mitigation funds.

**Nigeria, Mexico, the Philippines and Viet Nam** are four examples where DRR is funded under the overall DRM budget through a mandate in the DRM law. Among these, only **Nigeria's** DRM law specifies percentages of the national budget for DRM (although the other three also establish special DRM funds that include DRR). The Nigerian National Emergency Management Agency (NEMA) prepares the DRM budget as part of its functions, for which the DRM law guarantees 20 percent of a national budgetary allocation for mitigating ecological problems and the underlying risk factors.<sup>88</sup> Since this budget line represents a guaranteed 1 percent of the national budget, the DRM law guarantees NEMA 0.2 percent of the national budget.<sup>89</sup>

<sup>86</sup> HFA Priority 1, (i) (d)-(h); UNISDR, *Synthesis Report Consultations* (HFA2) (2013), at 20-22.

<sup>87</sup> See, for example, Gordon, *Exploring Existing Methodologies for Allocating and Tracking Disaster Risk Reduction in National Public Investment* (2013).

<sup>88</sup> *National Emergency Management Act* (Nigeria, 1999).

<sup>89</sup> IFRC, *Nigeria Desk Survey* (2012), at 20, citing *National Emergency Management Act* (Nigeria, 1999), Part V, s. 13. As a desk survey, this study did not highlight implementation.



Many other sample countries fund DRR under regular government budgetary mandates. These mandates can include any or all of a budget for the DRM system institutions, DRR funding in other sectors (even if DRR is given a different name) and budget allocations for devolved local government functions, including DRR. Provided that there is a DRM system budget with DRR priorities, these sample countries are classified as allocating DRR within the DRM budget.

Varied approaches to DRR budgeting through general budget allocations can be found in **China, Japan and Kenya**, none of which have taken the legislative route, but instead use regulations and national budgetary processes and policies. For example, in **China**, DRR is the main element of the national and provincial budget lines for implementation of regulations relating to prevention and control of geological disasters. Although DRR is not specifically identified, it is also part of the budget for disaster relief.<sup>90</sup> In **Japan**, the DRM budget is allocated under the national budgetary process, but not through the DRM law. On average, the DRM budget in Japan amounted to approximately 5 percent of general accounts (1995–2004). Disaster prevention and preparedness made up 23.6 percent while national land conservation made up 48.7 percent of the DRM budget.<sup>91</sup> Taken together, this is an impressive DRR investment of around 3.6 percent of Japan's national budget. **Kenya's** 2009 policy proposes that 5 percent of the annual national budget be allocated for DRM, as well as a budget line item in each ministry for DRR activities.<sup>92</sup>

**Special DRR funds:** A number of sample countries have established special DRR funds. The two main models are the federal model (from annual recurrent funds) and the special fund law (to build a reserve and allow local project applications). The federal model is exemplified in **Australia** and the **United States**. In these countries, the national government has limited powers in DRR, but federal funding programmes are available to states and local governments for disaster resilience and disaster mitigation and preparedness. This mechanism has been adopted within these federal structures to provide financial incentives to autonomous state and local governments to engage in DRR. In Australia, at the time of the national law desk survey, this was backed by a policy agreement between all the governments on a national resilience strategy. In the United States, it is mandated by the *Stafford Act*, implemented by the Federal Emergency Management Agency (FEMA).<sup>93</sup> **Austria** and **Brazil** have also adopted similar models.<sup>94</sup>

The model of establishing a special national DRR fund by law is exemplified in the **Dominican Republic, Guatemala, India, Mexico, Namibia, Uruguay**, the **Philippines** and **Viet Nam**.<sup>95</sup> This list excludes funds that do not have clear DRR criteria, such as disaster contingency funds. In addition, **Nepal** has a policy based fund for DRR projects that is specifically for communities, and **Nicaragua** has a fund tailored for response that is also potentially available for DRR on the basis of a policy guidance manual.<sup>96</sup>

**Mexico's** special fund, the Natural Disaster Prevention Fund (FOPREDEN) has a more varied and secure resource base than a number of the other national funds. It is more expressly directed to DRR than are the Namibia or Viet Nam funds, and is more DRR focused than the Philippines fund. First established in 2003, FOPREDEN has a specific DRR focus and a legally mandated mechanism outside the regular government budget process to make funds available for DRR alone. It was established through legislation independently from the Natural Disaster Fund, FONDEN, which is focused on emergency response.<sup>97</sup>

In **Namibia**, prior policy commitments were given a legal footing in the 2012 DRM law, which establishes the National Disaster Fund. The Fund is administered by the National Disaster Risk Management Committee, and draws its income from various sources. It serves as a contingency fund for the development and promotion of DRM in Namibia, which is a broad mandate not specific to DRR. In the **Philippines**, the former calamity fund was revised by the 2010 DRM law to become the National Disaster Risk Reduction and Management Fund (DRRM Fund) and Local Disaster Risk Reduction and Management Fund Funds (Local

90 IFRC, *China Desk Survey* (2012), at 29.

91 IFRC, *Japan Desk Survey* (2012), at 38–39.

92 IFRC, *Kenya Desk Survey* (2012), at 44–45. The policy is available at: [www.ifrc.org/docs/idrl/1058EN.pdf](http://www.ifrc.org/docs/idrl/1058EN.pdf)

93 IFRC, *USA Federal Desk Survey* (2012), at 21, 24–25; IFRC, *Australia Desk Survey* (2012), at 27–35.

94 IFRC, *Austria Desk Survey* (2012), at 17; IFRC, *Brazil Case Study* (2012), at 22, 25, 28, 34–35.

95 IFRC, *Dominican Republic Case Study* (2012), at 5, 26, 28, 37, 57; IFRC, *Guatemala Desk Survey* (2012), at 23; IFRC, *India Desk Survey* (2012), at 23–24; UNDP, *Mexico Case Study — Draft*, Eng. trans. (2013); UNDP, *Namibia Case Study* (2014), at 21, 23; IFRC, *Uruguay Desk Survey* (2012), at 26–28; IFRC, *Philippines Desk Survey* (2012), at 3, 41–43; IFRC, *Viet Nam Desk Survey* (2012), at 22.

96 See website of Nepal Risk Reduction Consortium flagship programme: [www.flagship4.nrrc.org.np/minimum-characteristics/disaster-risk-reduction-drr-funds](http://www.flagship4.nrrc.org.np/minimum-characteristics/disaster-risk-reduction-drr-funds); and IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012).

97 UNDP, *Mexico Case Study — Draft* (2013); Secretaría de Gobernación, Estados Unidos Mexicanos, *El Fondo para la Prevención de Desastres Naturales* (2012).

DRRM Funds).<sup>98</sup> The National DRRM Fund is to be used for “disaster risk reduction or mitigation, prevention and preparedness activities.” Thirty percent is to be allocated as a quick response or standby fund for relief and recovery programmes. This implies that 70 percent would be available for other uses not related to emergency response, many of which could come under the rubric of DRR. The more notable feature of the Philippines system, however, is that the DRM law also requires local government units to allocate at least 5 percent of their estimated revenue from regular sources to the Local DRRM Fund.<sup>99</sup> If the 30 percent of funds set aside for quick response are not required in a given year, they must be invested in a trust fund, which is to be used solely for DRR and DRM.

In **Viet Nam**, the new DRM law mandates the establishment of a special fund for each province, although it is not spelled out how or whether these legislative provisions guarantee resources for DRR, and many specific examples given in the law relate to response and recovery.<sup>100</sup> The question of whether a dedicated DRR budget or percentage allocation is required will no doubt become more apparent as the new system is implemented.

### 8.3 Experiences with implementing legal provisions on DRR financing

DRM or DRR funds are often not only for annual recurrent expenditure, but also for building financial reserves and undertaking longer-term DRR projects. However, they need to be established with a sustainable resource base. For example, the **Dominican Republic** National Fund for Disaster Prevention, Mitigation and Response had not yet funded DRR projects, although they were within its mandate.<sup>101</sup> Similarly, the **Guatemala** National Fund for Disaster Reduction, which under the CONRED law was to be funded from state and donor contributions, has not yet been able to operate as intended, and stakeholders report that sub-national levels of government do not have access to sufficient resources for DRR.<sup>102</sup>

Concerning the implementation of **Namibia’s** fund, evidence from government officials indicated that much of the Fund’s resources are currently aimed at the ongoing drought response. Moreover, due to the relatively small financial contribution to the Fund, DRR relevant activities such as training, capacity building and community outreach work are not currently being prioritized. However, since the Fund is a relatively recent development, time is needed for its management and application to develop.<sup>103</sup> Also, in the **Philippines**, according to online budget reporting, it seems that the Government has been reluctant to use the national fund for DRR projects; rather, it is running the fund at a surplus.<sup>104</sup> Both of these examples suggest that DRR may not always compete successfully for resources within general DRM funds.

In **Madagascar**, communities reported that they did not receive DRR resources or even the appropriate levels of recovery assistance from their local authorities, although they believed there were budgetary allocations.<sup>105</sup> Communities in **Ethiopia** attributed such local deficits in DRR spending to an overall lack of resources in their localities, which may be a question of priorities at the next higher level of government, or simply a shortage of national funds in one of the world’s poorest countries.<sup>106</sup> By contrast, the communities in **Viet Nam** appeared confident that they knew how much DRR resources were allocated and that they had a role through Local People’s Committees in their expenditure according to defined priorities.<sup>107</sup>

98 *DRRM Act* (Philippines, 2010), ss. 21–22.

99 *Ibid.*, s. 21.

100 *Law on Natural Disaster Prevention and Control* (Viet Nam, 2013), Arts. 9, 19.

101 IFRC, *Dominican Republic Case Study* (2012), at 28 (2011 data).

102 IFRC, *Guatemala Desk Survey* (2012), at 23; IFRC, *Guatemala Case Study — Draft* (2013).

103 UNDP, *Namibia Case Study* (2014), at 23.

104 See website of the Department of Management and Budget Republic of the Philippines, Calamity and Quick Response Funds ([http://www.dbm.gov.ph/?page\\_id=2584](http://www.dbm.gov.ph/?page_id=2584)).

105 IFRC, *Madagascar Case Study — Draft* (2013).

106 Ethiopia was classified by the World Bank in 2012 as lower-income country, with an annual GNI per capita of US\$1,017, and in 2012, Ethiopia ranked 173<sup>rd</sup> in the UNDP’s human development global ranking.

107 IFRC, *Viet Nam Case Study — Draft* (2013).

## 8.4 Summary of key findings

Despite these implementation challenges, special DRR or DRM funds can play a significant role in supporting DRR projects at state and local levels. They can also play a role in raising awareness of the need for DRR programming. However, they need sustainable resourcing mechanisms, which in some countries will require external donors. They are thus a supplement to regular funding through government revenues at all levels, not a substitute. Models that ensure certain percentages of revenue, if not to DRR alone, then at least to the global activities encompassed within the DRM legal framework, would seem a more secure means of ensuring that DRR activities are supported as part of a whole-of-society approach to DRR. However, some of the country experiences point to a need within such resource streams to designate resources for DRR to ensure it has priority relative to emergency management activities.

Establishing a dedicated DRR budget line item by law may be most opportune when a country is in the transition process from an emergency management focused system to one that gives higher priority to DRR. In many cases, DRR may be the newer and less defined activity, and it is therefore easier for individuals and agencies to default to the activities they know best, namely preparedness, response and recovery. Thus, a dedicated DRR budget allocation can be a form of 'affirmative action' for DRR. However, once the country has moved to an integrated legislative and policy system where there is a high level of understanding of and priority for DRR, a separate allocation may no longer be necessary at the national level. At this stage, accounting for a separate budget could even work against a full integration of DRR into cross-sectoral programmes.

This situation may be quite different for local governments. Studies on DRR and decentralization suggest that risk reduction priorities of local communities may not always be met at this level without other accountability mechanisms to ensure that DRR funds are spent as intended.<sup>108</sup>

The following three types of legislatively enabled funding may provide useful guidance for other countries. The first type is a guaranteed budget percentage specifically for DRR at the national and sub-national levels, mandated by law. Although the Philippines is the only sample country that has clearly adopted this model of financing for DRR, and only at the local level, a number of other countries establish in their DRM laws a funding formula or guarantee for DRM more broadly. The second type is the federal funding model, where DRR is primarily a state power, but federal revenues are made available annually in the form of DRR funds (for prevention, mitigation, resilience), and can provide a financial incentive for state and municipal governments to initiate DRR projects. The third type is a dedicated fund for DRR projects under DRM laws or special laws outside regular government budgeting. Such a fund can be established to receive both government revenues and donor funding, thus providing more resources and ensuring a specific priority for DRR projects. These provide a supplementary source of DRR project funding, often directed towards local initiatives. They can also be established by policy, as is the case with Nepal's fund, which has the added element that communities can apply directly to the national fund for DRR projects. Table 2 (p. 40) summarizes these different funding models.

Given the variability between the sample countries, including in their decentralization models, it is not possible to propose a general DRR funding formula. However, the case study findings suggest that there may be a need at the local government level to put in place specific accountability mechanisms for DRR activities, especially on the allocation of resources, possibly through fixed percentages for local government spending. In this respect, the Philippines model for local DRM funds may be a useful approach for other countries.

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108 UNDP, *Study on Disaster Risk Reduction* (2011); Iqbal and Ahmed, *Disaster and Decentralization* (2009); White, *Government Decentralization* (2011).

# Chapter 9: Participation of civil society and communities under DRM laws

## 9.1 Background

One of the challenges identified in relation to HFA implementation has been the effective implementation of DRR programmes at the community level. This has been noted in a range of reviews and reports published since the HFA was adopted, including those of the Global Network of Civil Society Organisations for Disaster Reduction (GNDR).<sup>109</sup> In addition, one of the reports from the global campaign 'Making Cities Resilient' concluded that "improved urban and local governance is usually built in partnership between competent and accountable local government and an active civil society that can articulate needs and priorities."<sup>110</sup> Most recently, the Chair's summary of the 4<sup>th</sup> Session of the Global Platform for Disaster Risk Reduction in 2013 included strong messages from the conference that risk governance must involve civil society and communities if it is to be successful.<sup>111</sup>

The sample country legal frameworks were analysed according to whether or not the DRM laws and formal policies prescribe a role for civil society and communities in DRM institutions, and if so, how the role is defined. Mechanisms were also sought that would ensure a voice for all elements of the community in DRR, which included provisions for women and vulnerable groups.

## 9.2 Country examples of legal provisions on participation

As summarized in Table 2, some DRM laws in the sample countries make special provisions for civil society and community participation in the advisory and implementing institutions, often including a specific role for National Societies as an auxiliary to public authorities in the humanitarian field, or mandating the inclusion of civil society in DRM committees, or community participation at the local level.<sup>112</sup> In total, 13 countries had such specific legislative provisions, while three countries had such provisions in their national policies.<sup>113</sup> A further 10 DRM laws include general obligations to be inclusive of non-government stakeholders, without specifying how.<sup>114</sup> No such provisions were identified in the national laws of five of the sample countries.<sup>115</sup>

It should be noted that there are different concepts of 'community' in the traditions of sample countries. In some countries, especially in rural areas, 'community' refers to village level groups. In countries following the Western tradition it is the elected local government that represents the community, such as in Australia, Austria, Italy, New Zealand, and the United States, where the local government's obligation to consult with its constituency is often seen as equivalent to community participation. In the communist traditions of China and Viet Nam, Local People's Committees are both local government and community representatives at the same time, so their involvement as part of DRM institutions is also a form of community participation.

109 See, in particular, reports of the GNDR's Views from the Frontline (VFL) programme, which surveyed tens of thousands of civil society participants in over 70 countries, in 2009, 2011 and 2013: [www.globalnetwork-dr.org](http://www.globalnetwork-dr.org); Gibson, *Building Community Resilience* (2013); and UNDP, *Evaluation of UNDP Contribution to Strengthening Local Governance* (2010), at viii.

110 UNISDR, ITC-ILO, UNDP, *Local Governments and Disaster Risk Reduction* (2010).

111 *The Proceedings of the 4<sup>th</sup> Session of the Global Platform for DRR* (2013), at 13.

112 IFRC, *Dominican Republic Case Study* (2012), at 35, 45; IFRC, *Nicaragua Desk Survey — Spanish* (2012), at 36.

113 Angola, Dominican Republic, Ecuador, Guatemala, Italy, Mexico, Namibia, Nicaragua, Nigeria, Philippines, South Africa, United States, Vanuatu. Note, there are also formal policies in Ethiopia, Kenya and Nepal.

114 Algeria, Brazil, China, Iraq, Japan, Madagascar, New Zealand, St. Lucia, Ukraine, Viet Nam.

115 Australia, Austria, India, Kyrgyzstan, Uruguay. Note, Australia and Austria do not have national DRM laws, since there it is a state responsibility. India has shared national and state powers, and the issue of participation is regulated at the state level.

The **Dominican Republic, Italy, Iraq, Namibia** and **Nicaragua**, as well as the **Philippines** have specific legislative provisions for participation in the institutions established by the DRM law, for example, by including National Societies or a certain number of civil society representatives on national or local DRM committees.<sup>116</sup>

In countries where the DRM law requires the government to include civil society and communities in the DRM system the method of inclusion partly depends on the style of the law. In some framework laws, detailed mechanisms for participation are left to regulations, policies or plans. In **New Zealand**, for example, the DRM law includes broad purposes and objectives for civil society and community participation with the aim to “encourage and enable communities to achieve acceptable levels of risk.”<sup>117</sup> However, in part due to the principle based nature of the law, the means of participation is not further specified. In New Zealand, the concept of community is generally equivalent to a municipality or local government area (except for the distinct Maori indigenous communities, which are perceived as separate), and these elected governments are required to consult with their communities.<sup>118</sup>

In the **Philippines**, civil society and/or communities are specifically included in DRM institutions. The DRM law mentions in its objectives “promoting the involvement and participation of all sectors and stakeholders concerned at all levels, especially the local community.”<sup>119</sup> The Office of Civil Protection is charged with creating an enabling environment for substantial and sustainable participation of civil society organizations (CSOs), private groups, volunteers and communities, and recognizing their contributions in the government’s DRR efforts, while the local civil protection offices and barangay (neighbourhood) committees have similar responsibilities. This is matched by mandated representation of CSOs and the Philippines National Red Cross on the national and local councils established by the DRM law.<sup>120</sup> Even more locally, the barangay committees are required to “facilitate and ensure the participation of at least two CSO representatives from existing and active community based people’s organizations representing the most vulnerable and marginalized groups in the barangay.”<sup>121</sup>

### 9.3 Experiences with implementing legal provisions on participation

Implementing legal mandates on participation is not always easy, even when they provide for specific representation. For example, in **Nicaragua**, the *National System for Disaster Management and Prevention Law* (SINAPRED Law) provides for both civil society in general, and the Nicaraguan Red Cross Society specifically, to be represented on SINAPRED national and regional committees.<sup>122</sup> There is, however, a special accession procedure for NGOs to become part of these bodies. Although a number have applied, none have yet been approved. Hence, there is reportedly no national civil society involvement in any of the SINAPRED national or regional entities, except for the Red Cross, which is able to play a key role but was never intended to be the only such organization. On the other hand, the communities visited in Nicaragua were actively involved in the local committees for disaster prevention, mitigation and response.<sup>123</sup>

In the **Dominican Republic**, civil society was represented, but stakeholders felt that the law was not clear on exactly what their roles should be, while in **New Zealand**, the overall success of community representation through local government was not matched for Maori communities, who are reportedly not yet well integrated into pre-disaster planning and emergency response.<sup>124</sup>

116 IFRC, *Dominican Republic Case Study* (2012), at 35, 45; IFRC, *Italy Desk Survey* (2012), at 21. In Italy, the system is complex, since Presidential and Legislative Decrees are frequently used for details on implementation within the framework of the *Law on the Institution of the National Civil Protection Service 1992*, as well as being part of a decentralized system of governance. UNDP, *Iraq Case Study — Draft* (2013), citing Resolution No. 12 (1992): Civil Defence Teams Service in Residential Areas, adopted under the *Civil Defence Law* (Iraq, 1978). IFRC, *Namibia Desk Survey* (2012), at 47-54; IFRC, *Nicaragua Desk Survey — Spanish* (2012), at 36, citing *Ley SINAPRED* (Nicaragua, 2000), Art. 17; and IFRC, *Philippines Desk Survey* (2012), at 197-198.

117 *CDEM Act* (New Zealand, 2002), s. 3(b).

118 IFRC, *New Zealand Case Study — Draft* (2013).

119 IFRC, *Philippines Desk Survey* (2012), at 22-25, citing *DRRM Act* (Philippines, 2010), s. 2(d).

120 *Ibid*, citing ss. 5, 9, 11-14. Nationally, it designates the Philippine National Red Cross, four CSOs and one private sector representatives, while locally, it requires four accredited CSO representatives and a designated representative of the Red Cross.

121 *Ibid*, citing *DRRM Act* (Philippines, 2010), s. 12(d).

122 IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012); IFRC, *Nicaragua Desk Survey — Spanish* (2012), at 36.

123 IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012).

124 IFRC, *Dominican Republic Case Study* (2012), at 45; IFRC, *New Zealand Case Study — Draft* (2013), citing Kenney et al., *Addressing Risk and Resilience — An Analysis of Maori Communities and Cultural Technologies in Response to the Christchurch Earthquakes* (2012), 373-376.



## 9.4 Summary of key findings

Most of the sample countries include some provisions for the representation of civil society and/or communities in their DRM laws. This recognizes that moving to a whole-of-society approach to DRR cannot be achieved by governments alone, and that the input of civil society and National Societies, as part of their auxiliary role to the public authorities, is a key part of such a strategy.<sup>125</sup> More particularly, for communities, this recognizes their right to be involved in their own risk management. However, community and civil society participation in the DRM system at all levels would be greatly enhanced in many cases by more specific and defined roles mandated by the DRM laws.

# Chapter 10: Inclusion of women and vulnerable groups in DRM laws

## 10.1 Background

The HFA promotes a gender perspective to be “integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training,” as well as taking account of cultural diversity, age, and vulnerability.<sup>126</sup> However, it has been recognised that the implementation of the HFA has been particularly weak with respect to issues of both gender and social vulnerability.<sup>127</sup> Evidence has shown that women and vulnerable groups, such as children, youth, the elderly, ethnic minorities, people with disabilities and people who are socially excluded, may be disproportionately affected by disasters due to greater vulnerability arising from individual capacity levels, social exclusion, or lack of public awareness or discrimination. Therefore, it may be expected that their inclusion in decision-making processes can help ensure that DRR measures take account of their specific needs and draw on their particular experiences and capacities in DRR.

## 10.2 Country examples of legal provisions on women and vulnerable groups in DRM law

The country studies investigated how DRM laws facilitate the participation of women and vulnerable groups, and ensure that their needs are met in the implementation of DRR. The analysis found a varied situation where different styles of legislation are more specific on certain types of provisions, such as describing who should be represented in DRM committees at various levels, whereas others set out more general objectives. Most of the DRM laws reviewed feature some kind of legislative mandate on the inclusion of women and vulnerable groups in DRM institutions, but many of these are general aspirational statements without specific mechanisms for implementation.

**National, state and community level participation:** In five countries and one state in a federation, there is a commitment in the DRM law to consult extensively with women and vulnerable groups, and to provide mechanisms for facilitating their inclusion, as for example, in Ethiopia (policy), India (Punjab State), Namibia, Nepal (policy), the Philippines, and Vanuatu. In three other countries and one sub-national region (Hong Kong-SAR, Kenya, Nigeria and the United States), there is a specific requirement for the representation of women in at least one relevant Ministry or organization in the DRM institutions. In ten other countries, there is some reference made to the specific needs of women, usually of a very general and aspirational nature.<sup>128</sup> For the remaining sample countries, no specific provisions were identified in the DRM law or national policy.

<sup>125</sup> This role is often defined in a separate Red Cross or Red Crescent law.

<sup>126</sup> HFA (2005), A. General Considerations, (d) and (e), at 4; Priority 2 (ii) Early Warning, (d), at 7; and Priority 3 (ii) Education and Training, (d), at 9-10.

<sup>127</sup> UNISDR, *Issues of Vulnerability with Specific Reference to Gender in the Asia Pacific* (2013).

<sup>128</sup> Angola, Australia (State of Victoria), Guatemala, India (Federal and Orissa State), Iraq, Japan, Madagascar, New Zealand, Uruguay and Viet Nam.

At the community level, the legislation or formal policy in six countries provides for inclusion of vulnerable groups within community level DRM, i.e. in Ethiopia (policy), Guatemala, Namibia, Nepal (policy), South Africa and Vanuatu. In twelve countries there are provisions recognizing that these groups may have specific needs that should be met.<sup>129</sup> For the remaining countries, no specific provisions were identified in the DRM law or policy, although almost all of them include a general aim to involve communities without specifying vulnerable groups.

**Women's participation:** Some DRM laws provide for specific representation of women. For example, the **Philippines** DRM law requires the Government to ensure that both DRR and climate change measures are gender responsive. In terms of formal participation in DRM institutions, the Philippines National DRRM Council includes a representative from the National Commission on the Role of Filipino Women and the local councils include the Head of the local Gender and Development Office as members.<sup>130</sup> Some countries do not include women's participation in law, but do so in policy. For example, **Japan's** Basic Disaster Management Plan calls for the need to expand women's participation in the policy and decision-making process of DRM, and to establish a DRM system based on gender equality that gives proper consideration to the different perspectives of men and women.

Some laws expressly include women as a potentially vulnerable group whose needs must be met, but do not address the broader question of gender balance and women's participation in decision-making. The **Philippines'** law does both. It includes the representation of women in DRM institutions, wherein they can act as advocates and experts on the needs of women as well as general issues in DRR. The same law defines vulnerable and marginalized groups as "those that face higher exposure to disaster risk and poverty including, but not limited to, women, children, elderly, differently abled people and ethnic minorities."<sup>131</sup> **Ethiopia's** formal policy also includes women in the list of especially vulnerable groups, and representation in DRM institutions is enabled by the Minister of Women's Affairs sitting on the Federal Disaster Risk Management Council. Participation is further emphasized in the policy mandate for Ethiopia's Federal Disaster Risk Management Units, which are required to "promote the involvement of communities and other stakeholders particularly women and other vulnerable groups in the design, planning, implementation, and monitoring and evaluation of sectoral DRM strategies."<sup>132</sup>

**Participation of vulnerable groups:** The DRM laws that include provisions on vulnerable groups tend to focus on the importance of addressing their needs, without necessarily ensuring that they are represented in DRM institutions. However, members of vulnerable groups may well be leaders of change and strong advocates for DRR. The **Philippines'** DRM law aims to "develop and strengthen the capacities of vulnerable and marginalized groups to mitigate, prepare for, respond to, and recover from the effects of disasters," while **Ethiopia's** formal policy holds the general guiding principle that "DRM systems will give due attention to especially vulnerable groups such as women, children, the infirm, people living with HIV/AIDS, the disabled and the elderly."<sup>133</sup>

### 10.3 Experiences with implementing legal provisions on women and vulnerable groups

The country case studies did not yield sufficient data on the implementation of legal provisions on the participation of women and vulnerable groups in DRM institutions to draw any general conclusions. The stakeholder interviews and focus group discussions covered multiple issues related to DRM and DRR in a short timeframe. It was notable that questions of gender and vulnerability were rarely raised and attracted little discussion when mentioned, including at community level. The approach to community focus groups was to arrange women only groups where possible as a way to ensure that women's voices were heard. These, however, did not yield sufficient data to draw any concrete conclusions about the practical participation

129 Angola, Australia - State of Victoria, India, Italy, Kenya, Mexico, Nicaragua, Nigeria, the Philippines, the United States, Vanuatu and Viet Nam.

130 DRRM Act (Philippines, 2010), s. 11.

131 IFRC, *Philippines Desk Survey* (2012), at 25. DRRM Act (Philippines, 2010), s. 3(oo).

132 IFRC, *Ethiopia Desk Survey* (2012), at 31-32, citing translation of the *Draft National Policy and Strategy on Disaster Risk Management* (Ethiopia, 2009), s. 31.4.1.4.10.

133 IFRC, *Philippines Desk Survey* (2012), at 25. DRRM Act (Philippines, 2010), ss. 2(j) & (n); IFRC, *Ethiopia Desk Survey* (2012), at 31, citing translation of the *Draft National Policy and Strategy on Disaster Risk Management* (Ethiopia, 2009), s. 2.3.12.

of women and vulnerable groups in DRM institutions. Further study, using methodologies that focus on these specific issues, is recommended in order to obtain more comprehensive information on legislative provisions that give a voice to and address the needs of women and vulnerable groups, and to identify the extent and type of implementation gaps.

## 10.4 Summary of key findings

Although most of the DRM laws reviewed regarding the involvement of women and vulnerable groups do feature some kind of general aspirational statements, they do not include specific mechanisms for implementation. If these provisions are accompanied by regulations or policies that are more specific, they could be very effective. However, from the perspective of guaranteeing the representation of women and vulnerable groups within communities, the laws or policies that make more specific provisions for their participation may provide useful guidance.

Although many of the sample countries have separate constitutional provisions and legislation promoting equality, which also apply generally to DRM laws, the country studies indicate that the specific inclusion of women and vulnerable groups is not a significant practice in DRM laws.<sup>134</sup> Hence, the inclusion, in law and practice, of the voices and needs of women and vulnerable groups within DRM institutions has been identified during this project as an area requiring further study.

# Chapter 11: Early warning and risk mapping in DRM legal frameworks

## 11.1 Background

Early warning is one of the most crucial functions of any DRM system, because the information yielded enables rapid and lifesaving action by those exposed to even the most forceful natural hazards. Risk mapping is important for a number of reasons, both for targeting mitigation and preparedness efforts, as well as prioritizing the focus areas of EWS.

EWS and risk mapping receive significant attention in the HFA, which mentions that they: (i) require legal and institutional frameworks that make DRR a national priority (HFA Priority for Action 1); (ii) require the integration of scientific knowledge and innovation (HFA Priority for Action 3); and (iii) substantially contribute to strengthening disaster preparedness (HFA Priority for Action 5).<sup>135</sup> However, EWS and risk mapping are also specifically targeted as separate elements of great importance in HFA Priority for Action 2, which calls on countries to “identify, assess and monitor disaster risks and enhance early warning.”<sup>136</sup>

Accordingly, the study sought examples of legislative provisions in DRM laws or companion laws that either mandate or support the establishment and operation of effective EWS, and similar legal frameworks that ensure that risk assessments and risk mapping are undertaken. Transparency in disaster risk governance, such as making risk information publicly available, has been identified as important for maximizing individuals’ and communities’ self-help capacity.<sup>137</sup> IFRC experience also indicates that this benefit is further enhanced

<sup>134</sup> IFRC, *Nicaragua Desk Survey* — Spanish (2012), at 36-37.

<sup>135</sup> HFA (2005), 7-8.

<sup>136</sup> Ibid.

<sup>137</sup> For example, the findings in the following UNDP studies emphasize such transparency as a good practice of institutional and legal systems for EWS and risk assessment: UNDP, *Institutional and Legislative Systems for EW and DRR: Thailand* (2009); UNDP, *Institutional and Legislative Systems for EW and DRR: Sri Lanka* (2009); UNDP, *Institutional and Legislative Systems for EW and DRR: Indonesia* (2009).

when there are community driven risk assessments and EWS that are linked with national EWS.<sup>138</sup> Hence, a particular emphasis was placed on the extent to which the laws facilitate EWS and risk mapping down to the local level, and whether they require or invite community participation in these systems and processes.

An important underpinning for DRR generally, and for EWS in particular, as identified in the HFA, is baseline data on the risks in each locality, usually described as risk mapping, in which technical institutions often play a key role.<sup>139</sup> Therefore, another aspect considered was whether relevant technical and scientific bodies such as national meteorological and hydrological services, and seismic monitoring centres have legislative mandates to support EWS, and whether they are coordinated with other institutional mandates under DRM laws.<sup>140</sup> Such coordination may be important to ensure formal channels for transmitting risk information, and clear responsibility and accountability for issuing public warnings, even if such technical bodies are established under their own statutes. Speed and effectiveness in issuing and transmitting warnings is an obvious priority, but for many communities, it is also important that they have the ability to operate community driven EWS that are also linked with the national systems, including feeding key information into the EWS.<sup>141</sup>

## 11.2 Country examples of legal provisions on early warning and risk mapping

EWS in the sample countries have been established in a variety of ways. Many are hazard specific, some are regulated by law, while others are still developed by policy alone. Twenty of the sample countries have legislative mandates to establish EWS, as summarized in Table 2 (p. 40), some of which are general requirements that the relevant institutions must plan and implement, while others are very specific and directive. Since many of these mandates also operate under special regimes for specific major risks, not all relevant risks in each country are necessarily covered by them. In **Viet Nam**, the legally mandated system of flood and storm committees at the national, provincial and local levels has long been the key pillar of its EWS. At the local level, these committees are involved in the alert system, backed up by public media broadcasts, thus also involving the community in formal EWS.<sup>142</sup> Ten countries have policy based EWS mandates and systems, including **Ethiopia's** successful drought warning system that has been in place since 1976, making it one of the oldest in Africa.<sup>143</sup>

Some countries that include specific mandates on risk mapping and EWS in their DRM laws include **Algeria, Dominican Republic, Guatemala, Italy, Mexico, Nicaragua, South Africa** and **Viet Nam**. **Nicaragua** is one of the few examples with a legislatively mandated EWS that includes a 'bottom-up' mechanism that requires communities' contributions to risk information (in addition to more traditional 'top-down' mechanisms).<sup>144</sup>

**Italy's** former stand-alone EWS regulations, the Operational Guidelines for the Management of the National Warning System for Hydro-Meteorological Risk, have now been updated to include seismic, volcanic and other risks, and form the basis for a national EWS that combines daily technical input and the publication of risk assessment notices.<sup>145</sup>

The **Dominican Republic** DRM law (Art. 7) is an example of a legislative provision that gives clear responsibility to the National System for Disaster Prevention, Mitigation and Response to undertake risk analysis and establish EWS. A similar approach can be observed in **Guatemala**, where the CONRED system is given responsibility for EWS through the implementing regulations of its DRM law (CONRED Law), although the responsibilities outlined are general. This provides for EWS to be mainstreamed into the CONRED system

138 IFRC, *Community early warning systems: guiding principles* (2012), at 13-17, 29.

139 World Meteorological Organization, *Analysis of the 2006 WMO DRR Country-level Survey* (2008), at 4-5.

140 Ibid.

141 IFRC, *Community early warning systems: guiding principles* (2012), at 22, 34-35, 55-57.

142 IFRC, *Viet Nam Case Study — Draft* (2013). Although the stand-alone flood and storm control regulations that mandated these committees are repealed by the new DRM law in Viet Nam, the law itself provides for such regulations and it seems likely these EWS will be regulated under its mandate. See *Law on Natural Disaster Prevention and Control* (Viet Nam, 2013), Art. 46.

143 IFRC, *Ethiopia Case Study* (2013), at 28-30.

144 IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012).

145 IFRC, *Italy Desk Survey* (2012), at 38, 43, 57, 62-63, citing *Prime Ministerial Decree n. 13690* (Italy, 2004).



institutions, and not to be set up separately for each hazard, so that the system's coordinating committees (national, regional and local) are in charge of operating the EWS.<sup>146</sup> However, for hydro-meteorological and geological hazards, they must use information from the technical advisory body on these matters, the National Institute of Seismology, Volcanology, Meteorology and Hydrology (INSIVUMEH). The aim of the CONRED Law is that all these systems operate at the national, regional, and local levels.

The approaches in Algeria and Mexico are of particular interest because they integrate risk mapping and EWS with the reduction of underlying risks through development planning. In **Algeria**, the EWS and risk mapping are mandated primarily through the DRM law and related decrees.<sup>147</sup> The law requires the establishment of EWS, including a prevention plan for each major risk identified therein. The development of these plans involves an assessment of the risk and/or disaster impact at each level to underpin national and local EWS, as well as a warning system for each sensitive site. An executive decree allocates data collection responsibilities to technical institutions with expertise in climate change, meteorology, astrophysics, geophysics and seismology, thus ensuring that the technical level is clearly mandated and integrated.<sup>148</sup> In **Mexico**, risk mapping and EWS are both systematized in the 2012 DRM law as part of the national DRM system, SINAPROC.<sup>149</sup> The law requires the National Disaster Prevention Centre, CENAPRED, to oversee the development of risk atlases at federal, state and municipal levels.<sup>150</sup> Mexico's approach to EWS, therefore, establishes a strong legislative basis in three main respects: (i) the federal law establishes clear resourcing and institutional responsibility for developing and implementing EWS and risk mapping; (ii) the EWS are tailored to the different types of hazards relevant in different regions of the country; and (iii) scientific expertise is well integrated into risk monitoring for the EWS systems, which in turn operate as part of the civil protection system.

### 11.3 Experiences with implementing legal provisions on early warning and risk mapping

Evidence from some of the case studies suggests a varied situation in risk mapping and EWS implementation. The **Dominican Republic**, although struggling against severe resource limitations, had made considerable progress at the national level by 2011, establishing a number of EWS in accordance with its DRM law requirements.<sup>151</sup> This included a hydro-meteorological warning system in the high-risk north-west, a forest fire EWS, and a tsunami EWS managed by the national meteorological office, in cooperation with its counterpart in Puerto Rico. However, these systems had not yet formed an integrated system. Also, the community EWS being developed with assistance from the Dominican Red Cross and NGOs were not yet integrated into the national system.<sup>152</sup>

In **Guatemala**, which has similar provisions to the Dominican Republic, no EWS had yet been implemented in the communities that were consulted. Implementing an effective EWS requires a high level of capacity at the local level, which stakeholders indicated is still lacking. When such capacity is present, the communities are seen to run EWS independently, as demonstrated in a successful community based EWS on landslides.<sup>153</sup> However, while such independent community EWS works for risks where local knowledge or technology alone can detect an approaching hazard, they are less effective for hazards that require scientific and technological methods of prediction or warning, such as volcanoes and storms, and hazards that may occur only infrequently, such as earthquakes.

146 IFRC, *Guatemala Desk Survey* (2012), at 53-54.

147 IFRC, *Algeria Desk Survey* (2012), at 93-97, citing *Loi n° 04-20 du 25 décembre 2004 relative à la prévention et à la gestion des catastrophes dans le cadre du développement durable* (Algeria, 2004), Arts. 16 & 17.

148 *Décret exécutif n° 05-375* (Algeria, 2005).

149 *Ley General de Protección Civil* (Mexico, 2012), Art. 23.

150 UNDP, *Mexico Case Study — Draft* (2013), citing *Ley General de Protección Civil* (Mexico, 2012), Arts. 7(III) and 19(IX).

151 IFRC, *Dominican Republic Case Study* (2012), at 29, 35, 38-39, 58.

152 *Ibid*, at 29.

153 IFRC, *Guatemala Case Study — Draft* (2013).

**Mexico's** new DRM law has already made significant progress in risk mapping to underpin its EWS. The development of the risk atlases has progressed rapidly, with resources invested by the national DRR fund, FOPREDEN. A 2013 survey showed that the federal risk atlas has been completed and that 28 of the 32 states had state risk atlases; the other atlases were in progress and targeted for completion by the end of 2013. While 175 municipalities have developed their risk atlases, the main challenge is to ensure that the remaining municipalities are equipped with sufficient capacity and resources at the local level in order to reach the target.<sup>154</sup> Progress has also been made on EWS, which began over a decade ago under the previous DRM law. Implementation of EWS has progressed relatively rapidly at the federal level and is beginning to be developed for states according to their risk profiles. In such a vast country, which is subject to multiple types of natural hazards, the establishment of these EWS is a considerable achievement, although the system is far from complete.

In **Nicaragua**, the DRM law that establishes the national system, SINAPRED, allocates a range of EWS related tasks to the community level to be carried out by volunteers.<sup>155</sup> These tasks include: risk surveillance, informing and receiving guidance based on EWS, and facilitating communication between communities and higher levels. However, since many communities in the country are very poor, this has presented additional challenges for community level implementation. For example, some have not had adequate resources to maintain monitoring equipment or to secure vital emergency communications equipment against looting.<sup>156</sup> On a positive note, some communities particularly appreciated their involvement in participatory risk mapping as part of the official DRM system.<sup>157</sup>

At times, a law may seem fit for purpose on paper, but may be impractical when those who are mandated by law are under pressure to decide whether to issue a disaster warning. This may be the case with **South Africa's** DRM law concerning early warning.<sup>158</sup> The law distinguishes between four separate institutional duties: (i) assessing the threat, (ii) deciding on the need for a warning, (iii) issuing the warning, and (iv) transmitting the warning. These duties are divided between several authorities at different levels of government.<sup>159</sup> This system did not function as intended, since most authorities involved in the EWS were unsure about the timing or the distinction between their roles, leading to the case study conclusion that clear channels of communication for EWS were not adequately addressed in the law.<sup>160</sup>

## 11.4 Summary of key findings

Even where laws have been established to support national and local EWS, it is a significant challenge in most of the sample countries to set up EWS that provide timely information to communities for all relevant hazards and in all vulnerable areas. Lack of resources and gaps in capacity are the main reasons for the lack of comprehensive EWS that reach the local level. Many aspects of EWS do not require a legal framework, but rather, technical capacity and good plans and systems. However, it is essential that there are clear legal mandates giving authority to assess hazard and risk, and to make timely decisions to issue warnings. Other aspects of risk mapping and EWS can also be enhanced by clear legislative mandates that establish inter-institutional cooperation to bring technical data and expertise from national research and monitoring systems into the EWS.

At the community level, responsibility for maintaining local warning equipment such as sirens needs to be clearly allocated. If this is to be a community or local government responsibility, then a legal framework may be required to ensure that it is clearly mandated and that the resources and capacity are present. Overall, the lack of mandates to integrate community EWS with official EWS, or to involve communities more actively in official EWS may be a missed opportunity in most of the sample countries.

<sup>154</sup> *Ley General de Protección Civil* (Mexico, 2012), Arts. 84, 86.

<sup>155</sup> IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012).

<sup>156</sup> *Ibid*, at 34.

<sup>157</sup> *Ibid*, at 21.

<sup>158</sup> *Disaster Management Act* (South Africa, 2002).

<sup>159</sup> IFRC, *South Africa Case Study* (2012).

<sup>160</sup> *Ibid*, at 9, 22-23, 45, 48.

In particular, the approach of integrating the processes of risk mapping, development of EWS and technical support may provide a useful model for countries wishing to achieve greater integration of risk mapping and EWS. This clearly requires a very substantial investment of resources, including earmarked funding which may need to be mandated by law.

In accordance with the HFA, the implementation of a fully functioning and timely EWS for all major hazards should be one of the highest priorities in institutional and legislative systems for DRM because it can save lives, even in the face of the most forceful natural hazards. However, it is a significant challenge both in terms of integrating relevant legal frameworks and implementing them in support of national and local EWS. Some countries have achieved high levels of integration of EWS through legislative mandates, but most have not used the potential of legal frameworks to fully clarify roles and responsibilities, or to integrate communities into EWS as givers as well as receivers of hazard and risk information.

## Chapter 12: Education and public awareness in DRM legal frameworks

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### 12.1 Background

Education and community awareness are two key elements of HFA's third Priority for Action, which identifies the need to "use knowledge, innovation and education to build a culture of safety and resilience at all levels."<sup>161</sup> Education, in particular school education, can also play a key part in implementing the fifth Priority for Action which is to "strengthen disaster preparedness for effective response at all levels."<sup>162</sup> Accordingly, the research sought examples of laws that provided specific mandates on community education and participation in building a culture of risk reduction and laws that mandate the inclusion of DRR in the education curriculum. It also sought examples of legal frameworks that enable schools to become centres of community education while improving preparedness within the schools through disaster drills and preparedness plans.

### 12.2 Country examples of legal provisions on DRR education and public awareness

Nineteen sample countries have laws in place that require public authorities to conduct community education on disaster risk reduction, albeit at a very general level of their mandates (see Table 2, p. 40). In seven countries, this also requires including DRR in school curricula or conducting disaster preparedness drills in schools. Another seven countries that did not have legislative provisions to this effect had relevant policies in place. Many of these provisions are simple statements in the objective clauses of the DRM laws, while some are in education laws, or both.

In addition to general community awareness and school education on DRR, two laws mandate the establishment of special training facilities and curricula aimed at public sector workers as well as other potential trainees as a long-term strategy to build national capacity in DRR and management (Mexico and the Philippines).

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<sup>161</sup> HFA (2005), at 9-10.

<sup>162</sup> Ibid, at 12-13.

**DRR education:** Mandates for school and formal education on DRR were identified in seven of the sample country laws, i.e. **Algeria**, the **Dominican Republic**, **Ecuador**, **Guatemala**, **Nicaragua**, **Mexico** and the **Philippines**.<sup>163</sup> Since most of these are Latin American countries, this indicates a regional trend towards including DRR in school education. In the **Dominican Republic**, it is the Ministry of Education under the *General Education Act* that is responsible for DRR education, while in **Ecuador**, **Nicaragua** and the **Philippines**, the responsibility to coordinate with the Ministry of Education is under the leadership of the DRM system (and in the case of Nicaragua, even to approve the curriculum). In **Guatemala**, the Regulations of the *CONRED Law* also require the coordinating committees of the CONRED system (national, regional and local) to work with public and private education authorities to establish curricula aimed at developing a DRR culture. However, this mandate is very general and does not specify a mechanism to achieve this.

**Mexico's** legal framework mandates two main types of formal DRR education initiatives: the inclusion of civil protection (encompassing DRR) in the school curriculum at all levels with a requirement for the Ministry of Interior to coordinate and develop the content for it; and the establishment of a civil protection professionalization system to strengthen the public sector, especially the National Civil Protection School for training, accreditation and a certification system.<sup>164</sup> The school offers both academic education and job level certification.

The DRR educational approach in the **Philippines** similarly covers both school education and formal adult training. The DRM law requires educational and training authorities to work with the civil protection institutions to ensure that DRR education is integrated into the school curricula at the secondary and tertiary levels, including the National Service Training Programme, as well as addressing learning in many other forums, such as technical, vocational, indigenous and out of school youth courses and programmes, as well as barangay youth councils (Sangguniang Kabataan Program).<sup>165</sup> The Philippines National Disaster Risk Reduction and Management Council is also required to develop “a national institutional capacity building program for DRRM to address the specific weaknesses of various government agencies and [Local Government Units],” to be based on biennial baseline assessments.<sup>166</sup> In particular, the Office of Civil Defense is required to establish a disaster risk management training institute to train public and private individuals, both at the local and national levels.<sup>167</sup>

**DRR public awareness:** There is a wide range of provisions on public awareness in the sample countries. In **New Zealand**, the general responsibility to promote and raise public awareness of the DRM law is placed on the regional coordinating groups of local government representatives.<sup>168</sup> In **Ecuador**, the national DRM coordinator is required to design and implement capacity building for community leaders and civil servants, and to develop a national strategy on raising awareness on risk management.<sup>169</sup>

Two of the more specific mandates on public education for DRR are found in DRM laws in Mexico and the Philippines. In **Mexico**, the DRM law includes a chapter on developing a civil protection culture (defined as including a strong DRR focus) and allocates the responsibility for fostering such a culture to authorities at all three levels of government, including through public campaigns and programmes.<sup>170</sup> This is then complemented by the *General Law on Education of 1993* that requires each municipality and public primary school to operate a community council for public awareness and school emergency planning, including drills and simulations.<sup>171</sup>

163 IFRC, *Algeria Desk Survey* (2012), at 130; IFRC, *Dominican Republic Case Study* (2012), at 50-51; IFRC, *Ecuador Desk Survey* (2014), at Q. 170 citing *Decreto reglamento No. 486* (Ecuador, 1996), Arts. 25-27; IFRC, *Guatemala Desk Survey* (2012), at 84-85; IFRC, *Nicaragua Desk Survey — Spanish* (2012), at 137-141; UNDP, *Mexico Case Study — Draft* (2013); and IFRC, *Philippines Desk Survey* (2012), at 6-7, 35, 38.

164 *Ley General de Educación* (Mexico, 1993), Art. 7(XI) and Art. 19(XVI). *Ley General de Protección Civil* (Mexico, 2012), Arts. 46-48 and Ch. IX, Arts. 49-50. The Escuela Nacional de Protección Civil (ENAPROC). Similar schools had already been created in some states, such as the Chiapas State Instituto de Protección Civil.

165 *DRRM Act* (Philippines, 2010), s. 14.

166 *Ibid.*, s. 6(1).

167 *Ibid.*, s. 9(i).

168 *CDEM Act* (New Zealand, 2002), s. 17(1)(g).

169 *Decreto reglamento No. 486* (Ecuador, 1996), Arts. 25-27. This is the main legal base for the DRM system in Ecuador.

170 UNDP, *Mexico Case Study — Draft* (2013), citing *Ley General de Protección Civil* (Mexico, 2012), Ch. VII, Arts. 41-45.

171 *Ibid.*, citing *Ley General de Educación* (Mexico, 1993), Arts. 69 (j) and 70 (h).

In the **Philippines**, the DRM law mandates the provincial, city and municipal DRRM Offices or Barangay DRRM Committees to organize and conduct training and public education and awareness on DRRM at the local level. This includes raising public awareness of the DRM law and promoting compliance with it as well as raising awareness on “hazards, vulnerabilities and risks, their nature, effects, early warning signs and counter measures.”<sup>172</sup>

## 12.3 Experiences with implementing legal provisions on DRR education and public awareness

Since some of the legislative mandates described are very general, particularly with respect to community education, it can be difficult to determine levels of implementation. Legislative provisions that make school curricula on DRR the responsibility of the DRM system institutions without specifying a concrete mechanism seem unlikely to succeed without further policy impetus. Gaps in resources and capacity in either the DRM or the education system are challenges for implementation in some countries that have legal mandates for DRR education in schools. In **Guatemala**, a general obligation is placed on national, regional and local coordinating committees in the DRM system to ensure DRR education in schools, yet, these institutions are already under-resourced, and in some cases, are not established at local levels. In the **Dominican Republic**, where the Ministry of Education is responsible for DRR education under its own law, stakeholders indicated that implementation had been partial due to resource constraints.<sup>173</sup>

In contrast, the provisions in **Mexico**’s education law requiring schools to operate community based councils for public awareness and school emergency planning were reported to be widely established and functioning well, including in rural areas.<sup>174</sup> However, Mexico’s National Civil Protection School faced significant challenges in the form of a shortage of qualified and experienced instructors, in obtaining sufficient resources, and in establishing the regulatory framework for certification.<sup>175</sup>

## 12.4 Summary of key findings

Many countries may be able to implement effective school education and community awareness programmes on DRR without a specific legal framework by using policy or curriculum based approaches. However, in analysing the extent to which legal frameworks mandate DRR education and public awareness in the sample countries, they tend to be very general objectives without specific guidance for implementation. Only a small group have legislative provisions that directly mandate DRR education in schools. This may be a missed opportunity to include DRR education and awareness in an overall strategy to engender a cultural change from a response to a prevention oriented approach, starting with the younger generation. It may also be a missed opportunity to ensure that children in schools are made safer from natural hazards through disaster preparedness drills. Some countries have also used legislative mandates to establish national training initiatives for adults in order to increase national capacity for DRR and broader public awareness.

Table 2 summarizes the data discussed in Part II of this report for each sample country. First, it identifies whether DRM laws give a low (Lo), medium (Med) or high (Hi) priority to DRR in the law’s overall objectives and in the institutional mandates it establishes. This analysis, however, relates to the DRM legislative provisions only. The findings from the case study countries on implementation indicate progress on DRR through policy mechanisms, as well as challenges in implementing laws that give DRR priority.

The table also indicates whether or not there are relevant provisions in the DRM legal frameworks on financing for DRR, local DRM institutions, participation of civil society and communities, EWS and DRR education.

172 DRRM Act (Philippines, 2010), s. 14, s. 12(c)(4).

173 IFRC, *Dominican Republic Case Study* (2012), at 50-51.

174 UNDP, *Mexico Case Study — Draft* (2013), citing *Ley General de Educación* (Mexico, 1993), Arts. 69 (j) and 70 (h).

175 UNDP, *Mexico Case Study — Draft* (2013).



**Table 2: Disaster risk reduction in  
DRM legal frameworks**

Yes  
 No  
 No data

	DRR priority in objectives & mandates		Local DRR mandates		Financing (budget line)		Financing (special fund)		Civil society & community participation		EWS		DRR education	
Sample Countries	Law	Policy	Law	Policy	DRR	DRM	DRR	DRM	Law	Policy	Law	Policy	Law	Policy
Algeria	Hi			-			-	-		-				-
Angola	Lo			-		-	-	-		-		-		
Australia	Med			-		-		-	-	-				
Austria	Med		-	-					-	-				
Brazil	Med			-		-		-		-				-
China	Med			-						-		-		
Dominican Republic	Med									-				
Ecuador	Med			-			-	-		-	-	-		
Ethiopia	-					-								
Guatemala	Med					-		-		-		-		
India	Med						-		-	-				
Iraq	Lo							-		-		-		-
Italy	Med			-			-	-		-				-
Japan	Hi			-				-		-				-
Kenya	Lo			-		-	-	-		-				
Kyrgyzstan	Med			-						-		-		
Madagascar	Lo					-		-						-
Mexico	Hi													
Namibia	Hi									-				
Nepal	Lo			-	-									
New Zealand	Hi						-	-						
Nicaragua	Med			-						-				
Nigeria	Med													
Philippines	Hi													
South Africa	Med													
St. Lucia	Med													
Ukraine	Med			-								-		-
United States	Med			-	-					-		-		-
Uruguay	Med			-						-		-		-
Vanuatu	Med					-								-
Viet Nam	Hi						-					-		

Note: The findings on women and vulnerable groups were not sufficiently comprehensive to be included in this table. Please refer to Chapter 10 for a discussion of these provisions.

# Chapter 13: A typology of DRM laws

The previous chapters have illustrated considerable variation across the sample countries in terms of how DRR is included in DRM laws and the general scope of these laws. Nevertheless, certain patterns emerge that may be useful for countries embarking on either law reform or developing new DRM legislation to help determine what type of DRM law they need. Indeed, there are discernible types that serve different purposes within a country's disaster risk management framework.

Table 3 proposes a typology that groups DRM laws into four main types: **type 1 laws** focus on preparedness and response; **type 2 laws** have a broad DRM focus; **type 3 laws** give DRR priority with a high level of detail; and **type 4 laws** give DRR priority with a low level of detail. Arguably, some DRM laws found in the sample countries may be difficult to clearly assign to any one type. For example, **China's** legal framework is difficult to classify, since it has a group of laws that cover most major hazards and include elements of DRR, but no dedicated DRM law that gives DRR a high priority across multiple hazards. The scope of China's legal framework is most similar to a type 2 law, even though it is spread across three main laws (emergency response, flood control, and earthquake disaster protection and mitigation) and five national regulations.

The aim here is not to plot each sample country according to this typology, but rather, to establish broad categories of the main types of DRM laws that are in use in the sample countries. This could be a starting point for other countries wishing to determine the type of law they need.

Each DRM law is the result of a combination of a process of historical evolution, country level reviews triggered by national disasters, and other influences such as the HFA, and the law reforms of neighbouring countries in the region that face similar disaster risks. Indeed, some countries have DRM laws that are based on extensive reviews to identify national needs. Other countries have identified a need for better legislative support for DRR and are currently engaged in review processes, or have draft DRM laws in preparation. However, there are certainly countries in the sample group that may not yet have determined what they need from a DRM law and thus whether or not their DRM law is the most effective for their needs. Table 4 (p. 44) then illustrates how the above typology may be useful in helping countries identify the most effective type of DRM law for their specific local context. In practice, this would require an analysis of overall disaster risk governance capacities within key sectors and in local government.

The sample countries cover a broad spectrum of disaster risk levels. Based on the World Risk Index, 16 sample countries have high or very high exposure to natural hazards, six have medium exposure, and the remainder have either low or very low exposure.<sup>176</sup> However, after taking into account the other factors that increase or reduce risk, it is evident that high exposure of a country's population and assets to natural hazards does not necessarily mean that they are at high risk of disaster, or vice versa. For example, while Australia and New Zealand have high exposure to natural hazards, they both have low disaster risk. Although Japan has the fourth highest exposure to natural hazards globally (after Vanuatu, Tonga and the Philippines), it is ranked only 16<sup>th</sup> in the World Risk Index, behind 12 other countries that have significantly lower exposure to hazards.<sup>177</sup> Ethiopia and Nigeria, on the other hand, have very low and medium exposure to hazards, respectively, but both have high disaster risk levels. Therefore, the relationship between exposure and level of disaster risk depends on the level of 'disaster risk governance', i.e. the range of measures that a government and its people are able to take to reduce the impact of natural hazards.

176 High or very high exposure – Algeria, Australia, Dominican Republic, Ecuador, Ethiopia, Guatemala, Japan, Kyrgyzstan, Madagascar, New Zealand, Nicaragua, Philippines, Vanuatu, Viet Nam; medium exposure – Austria, India, Mexico, Nigeria, South Africa and the United States of America; low or very low exposure – Angola, Brazil, Ethiopia, Namibia, Nepal, Iraq, Italy, Kenya, Ukraine and Uruguay.

177 Alliance Development Works, *World Risk Report 2012*, at 67-68.

## Table 3: Typology of DRM laws

### TYPE 1: Preparedness and response law

This type of DRM law focuses on emergency response to disasters due to natural hazards, although it may also include elements of immediate preparedness, early warning and recovery. It does not focus on managing or mitigating natural hazards in advance, or on the longer-term reconstruction process, nor does it include DRR in its objectives or institutional mandates. Such laws are found in different country contexts, ranging from: (i) countries with a low disaster risk level; to (ii) countries with high levels of disaster risk that have other effective disaster risk governance arrangements (e.g. in Australia, State of Victoria); and to (iii) countries with high disaster risk that, for various reasons, have not been able to update their legal frameworks to a greater focus on DRM or DRR, such as **Iraq** (1978), **Madagascar** (2003) and **Nepal** (1982).

### TYPE 2: Broad DRM law

This type of DRM law covers the full spectrum of DRM functions comprising prevention, preparedness, mitigation and response. It establishes specific national institutions for DRM and at least some local structures or responsibilities. Although it includes elements of DRR, this is not a specific priority or focus in the law, and it tends not to include cross-sectoral mechanisms for DRR, nor to regulate a range of related areas such as DRR resourcing, risk mapping, EWS, or specific mechanisms for DRR education. It is the most common type of DRM law found among the sample countries that face substantial risk from natural hazards. In particular, it is highly characteristic of a number of Latin American and Caribbean DRM laws passed in the 1990s and early 2000s, such as in **Brazil** (2010), the **Dominican Republic** (2002), **Ecuador** (2007), **Guatemala** (1996), **Nicaragua** (2000), **St. Lucia** (2006) and **Uruguay** (2009), but is also found in other regions in **India** (2005), **Nigeria** (1999) and **South Africa** (2002).

### TYPE 3: DRR priority law (high detail)

This type of DRM law covers the same themes as the broad DRM law, but in addition it gives clear priority to DRR, which may be expressed as enabling a whole-of society-approach. It specifies local institutional structures and/or responsibilities, and usually covers a number of related areas in addition to broad DRM, such as DRR resourcing, risk assessment and risk mapping, early warning, specific mechanisms for DRR education, and a commitment to DRR mainstreaming or cross-sectoral coordination. It can also be described as a 'post-HFA' DRM law, since most of these laws were passed or updated in the last decade – although Algeria's law of this type narrowly predates the actual HFA. They tend to use specific DRR language and reflect aspects of the HFA priorities. Examples from the sample countries include the DRM laws of **Algeria** (2004), **Mexico** (2012), **Namibia** (2012), the **Philippines** (2010) and **Viet Nam** (2013).

### TYPE 4: DRR priority law (low detail)

This type of DRM law is part of an ensemble of laws that are expressly designed to link together in order to manage disaster risk comprehensively. Here, the overarching DRM law gives clear priority to DRR, but does not encompass a comprehensive range of subject matter related to DRR or its implementation, since this is covered by other laws. These ensembles of laws may include laws on specific hazards, on natural resource management, building and construction, and on local governance. DRR priority laws (low detail) are found especially in sample countries that have developed disaster risk governance capacities over many decades, integrating a specific DRM law and institutions into existing governance structures, such as in **Japan** (1961) and **New Zealand** (2002).

In this context, while DRM laws are designed to manage risks from natural and related hazard events, sectoral laws on building, physical planning and environmental management can form a major part of disaster risk governance, although they are usually found outside the DRM system. Therefore, part of the decision-making processes at the country level on what kind of DRM law is required involves determining how much of its risk governance is covered by DRM laws and how much by other sectoral laws and routine local governance. This is also largely dependent on the respective capacity and resources for effective and sustainable implementation in the DRM system and in the development planning sectors and local government.

The DRM law typology can be used as a starting point in a country level assessment of the role that the DRM law needs to play given the overall disaster risk governance capacities of the country. Table 4 provides a matrix of different types of DRM laws across a range of country contexts that may be useful in conducting such an assessment. Applying the DRM law typology may be a starting point for countries planning to embark on legal review processes. Essentially, a national review of any DRM law should be accompanied by a review of disaster risk governance capacities in other key sectors and at the local government level.

A few scenario examples using the matrix are shown below:

**Countries with high exposure to natural hazards** will generally benefit from DRM laws that give a high priority to DRR in order to reduce the potentially dramatic losses and socio-economic impacts of disasters, especially among the poorest people. Nevertheless, the type of law may differ depending on the country context. A high exposure country, for example, with a **high level of disaster risk governance capacity** in other sectors and in local government may only need a **DRR priority law (low detail)**. This is possible because most implementation can be left to the sectors, such as building and planning, and to local government, under their own legal mandates. This is an example of a system of strong governance into which DRR is already mainstreamed, thus the role of the DRM law and the institutions it establishes does not need to be as pronounced. However, if a country has a high exposure to hazards and **low or medium disaster risk governance capacity** in other sectors and/or at local level, then it is more likely to benefit from a **DRR priority law (high detail)**. In such contexts, the DRM law and the institutions it establishes provide national leadership on DRR, implement a greater share of risk governance at the national and local levels, and cover a wider range of themes, such as risk mapping and land use planning, DRR education and CCA.

**Countries with medium levels of exposure to natural hazards** generally need to have a system of risk governance in place that deals with recurring and significant hazard events. Also in this scenario, different types of DRM laws may be indicated. For example, a country that has medium exposure to hazards, but **high disaster risk governance capacity** at the sector and local level may benefit from a **broad DRM law**. This is because it most likely needs a permanent institutional structure to manage disaster risks, including through preparedness, mitigation, response and recovery. The broad DRM law may not need to focus on aspects related to reducing underlying risks as long as the sectoral and local government laws and practices effectively prevent the creation of new risks in the development process. However, a country that has medium exposure to hazards, as well as **medium or low disaster risk governance capacity** in other sectors and at the local level, is more likely to benefit from a **DRR priority law (high detail)** since the reduction of underlying risk is not being achieved through other means. Another approach would be to focus on strengthening the other forms of disaster risk governance capacity, but this is often a long-term process that requires national leadership that DRM institutions or DRR champions could provide. Ideally, having a DRR priority law (high detail) and strengthening disaster risk governance capacity at the sectoral and local government level should be pursued simultaneously.

**Table 4: Matrix of DRM law typology and country context**

Country exposure to natural hazards	High	DRR priority law (high detail)	DRR priority law (high detail)	DRR priority law (low detail)
	Medium	DRR priority law (high detail)	Broad DRM law	DRR priority law (low detail)
	Low	Broad DRM law	Broad DRM law	Preparedness and response law
		Low	Medium	High
		Country disaster risk governance capacity through sectoral laws		

Countries that have a low level of exposure to natural hazards generally require a DRM law to manage the occasional or low-level hazards they face. Again, different types of DRM laws will suit different country contexts, but it is likely that countries with **lower levels of disaster risk governance capacity** at the sectoral and local government level will benefit from a more robust DRM law, such as a **broad DRM law**. In contrast, countries with **high disaster risk governance capacity** may only need a DRM law that deals with preparedness and response for low-level and infrequent natural hazards, essentially a **preparedness and response law**.



Workers digging an artificial pond. The pond is one of many initiatives supported by UNDP to bring water and temporary work to the drought-affected region of Borena in the Oromia region of Ethiopia. ©UNDP Ethiopia



# Part III:

## DRR in building, planning and environmental laws

The different types of DRM laws in the sample countries indicate that their role in a country's legal framework depends on its disaster risk profile as well as its disaster risk governance capacities at sectoral and local government levels. Some sectoral laws that are relevant to DRR in the physical planning aspects of development and settlements include building codes, spatial and development planning laws, as well as environmental management and climate change laws. These laws are key pillars of disaster risk governance, because they address underlying vulnerability, in particular by playing a central role in curbing the creation of new risks created through the development process. The regulation of risks in informal or high risk urban settlements warrants special attention. There are also important interactions between natural resource management laws and physical planning laws with regard to the reduction of risks associated with hazards such as forest fires, droughts and floods.

### Chapter 14: DRR in building and construction laws

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#### 14.1 Background

When creating an enabling regulatory environment for safer building and construction in low- and middle-income countries, there are a number of challenges which are known to affect compliance with building codes.<sup>178</sup> Local government mandates, for example, are often not sufficiently supported by resources and capacity, including the necessary technical capacity to approve and supervise the construction of engineered buildings. Also, excessive bureaucracy in formal building approvals adds significantly to the time and cost of construction and encourages informal or 'non-engineered' construction. Last but not least, local governments often lack accountability to the poor and do not recognize their particular building and construction needs.<sup>179</sup>

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<sup>178</sup> Johnson, *Creating an Enabling Environment for Reducing Disaster Risk* (2011).

<sup>179</sup> Ibid, at 30.

Risks from earthquakes and fires are increasing due to unregulated construction in Nepal's populous Kathmandu valley. Nepal Red Cross Society's community DRR projects mitigate these risks through awareness and training to create a culture of compliance in the building industry. © IFRC/Mary Picard





## 14.2 Country examples of legal provisions on DRR in building and construction laws

Approaches to the regulation of both building and spatial planning vary widely within the sample countries. Since overall income levels in some countries are clearly an issue in implementing building codes, setting priorities for resource allocation to achieve acceptable levels of risk is a constant factor, which can only partially be remedied by international cooperation. Another constant factor is that project approvals and monitoring of compliance with these standards are most often the constitutional or legislative responsibility of decentralized local governments, even when standards are set at the national or state level. However, as identified in earlier chapters of this report, resources and capacity for implementation are often not devolved along with these responsibilities. These issues, combined with different cultural traditions regarding such regulation, are a major challenge for most of the middle- and lower-income countries when implementing building codes.

**Coverage:** Table 5 (p. 56) provides an overview of sectoral laws on building and construction, land use and development planning in the sample countries. Twenty-six countries have extensive and legally enforceable building laws and codes that apply in the whole territory, whether nationally or on a state basis in federations. In the overwhelming majority of these countries, building approvals are granted by the local government, since this responsibility has been allocated to them in their national constitutions or decentralization laws. Four countries do not have legally binding codes that apply throughout their territory (**Guatemala, Nigeria, Uruguay, and Vanuatu**), although in all but **Uruguay**, technical codes or other guidance on building and construction are made available to sub-national levels of government to assist them in implementation.<sup>180</sup>

Some countries that do not have binding codes use a variety of approaches such as policy mechanisms or formalization of official guidance. An example is the national building code of **Nigeria**, which was approved by the Federal Executive Council in 2006, but must be adopted into law by each of the 36 states in order for it to become legally binding.<sup>181</sup> For the countries that do have binding laws applicable throughout their territories, the level of legal regulation is high, both in terms of the number of codes and in terms of how comprehensively they regulate the potential range of safety and DRR aspects of buildings. It is rare for these laws to use the term 'risk reduction', but this does not detract from the fact that DRR is a fundamental element in these laws, with the primary purpose of safeguarding people from poor construction or the effects of natural hazards on buildings.

A system of building regulation that is tailored to relevant hazards and applicable throughout the territory, and that includes sanctions for non-compliance, establishes a complete regulatory regime that has the potential to reduce natural hazard risks if implemented effectively. Examples of such regulation are found in a number of middle- and lower-income countries. For example, **China's Construction Law**, a national law implemented through the Ministry of Housing and Urban/Rural Development, requires compliance with administratively established quality codes for fire control, earthquake, general building design, flood protection, electrical storms and sanitation, and includes a range of sanctions for non-compliance.<sup>182</sup> However, the most comprehensive regulation and mechanisms for implementation of building and construction within the sample countries – generally but not always – correlate with higher income and high levels of development, such as in **Austria, Australia** (state laws), **Italy, Japan, New Zealand** and the **United States**.

Clearly, building codes need to address all relevant risks in the locations where they are used, such as earthquake or flood risk, in addition to common elements such as structural soundness, fire safety, and electrical, water and sanitation requirements. They can therefore become outdated as new building technologies – or indeed new hazards or increased levels of risk – are identified. Thus, a process of monitoring and updating the content and safety standards of these codes is a key element of regulatory frameworks.

<sup>180</sup> Data could not be obtained for the Iraq case study due to the difficult research conditions at the time.

<sup>181</sup> IFRC, *Nigeria Desk Survey* (2012), at 52-53.

<sup>182</sup> IFRC, *China Desk Survey* (2012), at 76-78.

Given the close relationship between the type of land and location of buildings, and the quality of construction with respect to safety and DRR, regulatory frameworks that combine and coordinate these two types of planning can also potentially lead to a reduction of underlying risks. Integration of such frameworks is common in the higher income countries such as Australia, Italy, Japan, New Zealand and the United States, where they are implemented through the responsibilities of local government (either solely through local regulation, or under a national or state law).<sup>183</sup> Examples of such integration were also found in the legislation of the middle- and lower-income countries of **Algeria, Angola, Madagascar** (*Urbanisation and Habitation Code*, including a 2010 amendment on cyclone resistant building) and **St. Lucia**.<sup>184</sup>

**Standards for schools, hospitals and other gathering places:** Many of the building laws in the sample countries establish higher standards for schools, hospitals, and public and private buildings where large numbers of people gather. These include: **Australia** (Victoria), **Austria, China** (also in Hong Kong-SAR), **Guatemala, India** (some state laws), **Kenya, Kyrgyzstan, Nicaragua, Nigeria, New Zealand, Ukraine, the United States** (some state laws), and **Uruguay**.<sup>185</sup> A commonly adopted approach in these countries is to define three categories of buildings, with more extensive regulation and higher standards required for the top category, variously defined as ‘public buildings’ (Kenya) or ‘essential structures’ (Nicaragua). These buildings usually include schools, hospitals and other gathering places, including privately constructed commercial buildings. Thus, a certain amount of priority setting is part of many codes. Some countries also impose still higher standards on government buildings, which often include hospitals and schools.

Other countries have passed specific regulations concerning these types of buildings, especially where recent experience has demonstrated a lack of resilience, such as in **China**, where many schools collapsed during the 2008 Sichuan earthquake, which resulted in extremely high levels of child fatalities.<sup>186</sup> China has prioritized these structures in recent regulation. Its *Construction Law* enables administrative measures to be taken by the Ministry of Housing and Urban/Rural Development. In addition to a previous *1988 Design Guidance on Shopping Centres and Apartment Buildings*, these measures include the *2008 Order on Fire Safety in Major Constructions*, the *2009 Order on Construction Standards for General Hospitals*, and the *2010 Order on Safe Design of Primary and Middle Schools*.<sup>187</sup>

**Reduced regulation for smaller buildings:** Less formal regulation may be appropriate for small owner-built housing on safe land, thus freeing stretched local government resources to assess and monitor larger engineered construction. Building codes often make a distinction between the standards required for public gathering places and other categories of building. Moreover, a number of the sample countries make additional allowances for smaller and rural dwellings. For example, **Kenya’s** building law allows municipal or county councils to relax provisions for small buildings in some circumstances; **Kyrgyzstan** has a separate regulation on individual residential construction, which also incorporates the principle of the right to individual residential housing; and **Nicaragua** has a streamlined and standardized procedure for permits for housing projects, which is designed to encourage more housing construction.<sup>188</sup> **Madagascar’s** law grants exceptions to the general building code outside urban areas, which it defines as those having populations of 2,000 or more, while the **Philippines** national building code exempts traditional indigenous family dwellings from regulation.<sup>189</sup>

One example of simplified regulations for small dwellings is found in **Ukraine**. The *Law on Regulation of Urban Planning and Construction* (Art. 27) includes a simple consent known as a ‘construction passport’ for small, self-built constructions. The law sets out technical and architectural requirements for, inter alia, individual (manor) houses, dachas with no more than two floors and a maximum area of 300 m<sup>2</sup>, and garages. The preparation of project documentation for such construction is not mandatory and may be carried out at the discretion of the developer.<sup>190</sup>

183 The national desk study on Austria, a federation, did not extend to this level of detail, as this is a State (*Länder*) function.

184 IFRC, *Algeria Desk Survey* (2012), at 99-102; IFRC, *St. Lucia Desk Survey* (2012), at 64-65.

185 *Building Act* (Victoria, Australia, 1993) s.25 regarding places of public entertainment; IFRC, *Austria Desk Survey* (2012), at 67; IFRC, *China Desk Survey* (2012), at 76-79; IFRC, *Hong Kong, China Desk Survey* (2012), at 68-69; IFRC, *Guatemala Desk Survey* (2012), at 56, 58, 60-61; IFRC, *Punjab, India, Desk Survey* (2012), at 71-72; UNDP, *Kyrgyzstan Case Study — Draft* (2013); IFRC, *Kenya Desk Survey* (2012), at 94; IFRC, *Nicaragua Desk Survey — Spanish* (2012), at 95-96; IFRC, *New Zealand Desk Survey* (2012), at 67; IFRC, *Ukraine Desk Survey* (2012), at 71; IFRC, *Nigeria Desk Survey* (2012), at 54; IFRC, *Uruguay Desk Survey* (2012), at 76-77; IFRC, *Illinois, USA, Desk Survey* (2012), at 74; IFRC, *USA Federal Desk Survey* (2012), at 94-95, providing the state law example from California, as this is not regulated federally. Other sample country laws may also make this distinction, but this level of detail was not always available to country researchers.

186 ‘China earthquake: School buries 900 students,’ *The Telegraph*, 12 May 2008; ‘Chinese Are Left to Ask Why Schools Crumbled,’ *New York Times*, 28 May 2008.

187 IFRC, *China Desk Survey* (2012), at 76-79.

188 IFRC, *Kenya Desk Survey* (2012), at 91-92; IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012), referring to Law No. 677 on Promotion of Housing Access (Nicaragua, 2009), Art. 43.

189 IFRC, *Madagascar Desk Survey* (2013), at 72; IFRC, *Philippines Desk Survey* (2012), at 114-115.

190 IFRC, *Ukraine Desk Survey* (2012), at 72.

### Focus: Ukraine

The Ukraine ‘construction passport’ is a simplified procedure in the context of an otherwise highly regulated building sector. It has the authority of law for a simplified permit, but also a voluntary element for submission of documentation for owners to choose to reduce their own risk through verification of plans. It provides some regulation and a set of safety standards, since the types of buildings it applies to have the potential to cause serious injury if faulty. However, the level of regulation is lower than that applied to larger buildings that present a greater public risk.

**Adapted technical requirements for masons and owner-builders:** Building codes are often highly technical documents, essentially designed for engineers. This can act as a barrier to compliance where there are not enough qualified engineers, where builders do not have access to engineering advice, and/or where people build their own small homes. Nepal and Nicaragua face all three of these issues and have adopted interesting solutions to extend the reach of their building codes. **Nepal’s** *National Building Codes* include a set of ‘Mandatory Rules of Thumb’ (MRTs). Nepal’s Department of Urban Development and Building Construction — with assistance from the UNDP Earthquake Risk Reduction and Recovery Project and the National Society for Earthquake Technology, Nepal (NSET) — developed, distributed and provided training on the MRTs as a set of voluntary guidelines for owner-builders to construct structurally sound earthquake- and fire-safe smaller buildings.<sup>191</sup> The MRTs pragmatically recognize that, especially in rural areas, most owner-builders do not have access to engineering advice (since 93 percent of Nepal’s buildings are non-engineered) and use local materials. This model could be replicated in other low-income countries with similar patterns of non-engineered construction where formal regulations do not yet exist, such as in rural villages in Madagascar. This could be a point of departure for improving safety in buildings that are not likely to be subject to any formal government supervision in the near future. They are developed by experts but designed for ordinary people to use, and are part of a capacity-building effort directed towards masons and skilled workers in the construction industry.

**Nicaragua’s** Ministry of Transportation and Infrastructure, with support from the DRR Programme of the Swiss Agency for Development Cooperation, produced the *New Construction Manual 2011* (*Nueva Cartilla de la Construcción*) as a guide to assist masons in complying with the country’s highly technical national building regulations. The implementation of the manual includes training for masons and foremen, and may eventually be rolled out to all municipalities. The manual has technical construction recommendations that take into account earthquakes, volcanic eruptions, landslides, hurricanes and floods. Currently, approximately 600 instructors have been trained across the country through the National Technological Institute.<sup>192</sup>

## 14.3 Experiences with implementing legal provisions on DRR in building and construction laws

**Partial coverage of binding codes:** Some of the sample countries still do not have comprehensive building codes, which presents particular challenges for local governments charged with responsibility for regulating building and construction. In some cases, there is partial coverage by binding codes, for example, in **Guatemala**, where construction approvals are delegated to local government, but comprehensive national codes in most cases are only enforceable in the capital.<sup>193</sup> In **Nepal**, the law is implemented only for larger buildings, since the accompanying regulations do not provide a mechanism for Village Development Councils to approve smaller buildings as envisaged in the law.<sup>194</sup> In **Ethiopia**, there are significant resource constraints in implementing its building codes, which as a result are not being consistently applied to the construction of private housing outside urban centres.<sup>195</sup>

<sup>191</sup> IFRC, *Nepal Case Study* (2011), at 8, 42-45, 52, 56, 58.

<sup>192</sup> IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012).

<sup>193</sup> IFRC, *Guatemala Case Study — Draft* (2013).

<sup>194</sup> IFRC, *Nepal Case Study* (2011), at 42. The Regulations do not provide an implementation mechanism for village buildings of less than three storeys.

<sup>195</sup> IFRC, *Ethiopia Case Study* (2013), at 5, 33-35.



Other countries with large territories and decentralized governance – in particular, federations – can face similar barriers in rolling out building codes to local government. For example, a particular challenge has emerged in **Mexico**, where a comprehensive federal building code is binding only in the Federal District around the capital, since the constitutional powers for this type of regulation lie with local municipalities in all other cases. The case study identified that, since few municipalities have the resources to develop their own codes, many have adopted the federal district law as a model, but without adapting it adequately to their local risk profiles. Hence, a recent Organisation for Economic Co-operation and Development (OECD) study has proposed developing a register of four to six national codes for different risk scenarios from which municipalities could choose the most relevant. This model makes better use of limited local government resources and could be suitable for other federations or decentralized structures.<sup>196</sup>

**Resource constraints:** The implementation of building codes is a pressing issue in the lower- and middle-income countries, even when they have comprehensive building codes. But there are exceptions. For example, **Kyrgyzstan** has comprehensive building codes and urban planning overlays that have been in place since the country's foundation (updated in 2011), which are strictly enforced regimes that include sanctions for non-compliance.<sup>197</sup> By contrast, although **Italy** is a high-income country, technical reports that emerged after the L'Aquila earthquake in 2009 identified major challenges in relation to earthquake-resilient construction.<sup>198</sup>

Moreover, some countries that do have excellent building and planning codes, including for large buildings, public health and education facilities, planned urban centres and small dwellings, find it very difficult to fund their implementation. For example, **South Africa** has up to date building and construction laws and regulations. Although implementation is one of the many responsibilities of municipal authorities under the 1994 Constitution, their building control units are reportedly understaffed, prosecutions are often delayed in the courts by more than 18 months, and the courts reportedly do not impose the statutory fines for non-compliance that are provided for in the legislation.<sup>199</sup> Similar challenges are observed in **Viet Nam**.<sup>200</sup> Also, in **Nicaragua**, local governments lack resources for implementation, and there is a lack of understanding of the country's highly technical codes. On a positive note, however, the less technical *New Construction Manual* to improve implementation is more widely applied in Nicaragua.<sup>201</sup>

**Namibia's** experience with building code implementation exemplifies both the successes and challenges that many countries face. Its *National Building Regulations of 1991*, combined with the *Local Authorities Act of 1992*, establish a comprehensive framework for building safety.<sup>202</sup> Implementation is a local government responsibility, with different levels of oversight from the Ministry of Regional and Local Government, Housing and Rural Development, depending on the type of local government (large urban municipalities have greater autonomy).

### Focus: Windhoek, Namibia

According to the case study findings, enforcement of – and compliance with – the national building law and codes in Windhoek are highly effective and well resourced through a Building Control Division of the City Council. It requires documented planning approval of all buildings and has an inspection regime. Although the Namibia law overtly sets out only a few criteria relevant to DRR, in particular, ensuring that buildings are resistant to floods and safe from 'other injurious factors', in practice, the criteria applied by the Windhoek Building Control Division include soundness of building structure, public safety, risk of flooding, drainage and access for emergency vehicles.<sup>203</sup> The building code's implementation system in Windhoek city thus provides a model that could be replicated in other urban centres in Namibia as well as in other countries. However, its effectiveness is dependent upon having a group of trained staff and dedicated funding within the local government budget. In practice, this system does not extend to rural villages, where small traditional dwellings are constructed with local materials.<sup>204</sup>

196 UNDP, *Mexico Case Study — Draft* (2013).

197 UNDP, *Kyrgyzstan Case Study — Draft* (2013), based on *Law on urban planning and architecture* (Kyrgyzstan, 1994), *Law on individual residential construction* (Kyrgyzstan, 1991) and *Law on basis of urban planning legislation* (Kyrgyzstan, 2011).

198 Gramling, 'When and why L'Aquila came tumbling down' (2009). A 2008 report by researchers at Italy's National Institute of Geophysics and Volcanology, which has an observatory in L'Aquila, labelled nearly half of the country as 'dangerous' with respect to seismic activity. And yet, according to the report, only 14 percent of the buildings in these seismically dangerous areas are built to seismic safety standards.

199 IFRC, *South Africa Case Study* (2012), at 42.

200 IFRC, *Viet Nam Case Study — Draft* (2013).

201 IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012).

202 The *National Building Regulations and Building Standards Act No. 103* (Namibia, 1977) and the *Standards Act 33* (Namibia, 1962) form a legislative base that predates independence, but remains in force and has been updated by the *National Building Regulations* (Namibia, 1991).

203 UNDP, *Namibia Case Study* (2014), at 40-41.

204 UNDP, *Namibia Case Study* (2014), at 41.

**Updated safety standards:** Investment in updating building codes is an important basis for implementation when new risks emerge. For example, **Ethiopia's** building codes have recently been the subject of wide stakeholder consultation and are currently being updated by experts at the University of Addis Ababa.<sup>205</sup> The review found that the 1995 earthquake code was not fit for purpose and that seismic risk zoning of many towns in Ethiopia, on a scale of 1-4, is inaccurate. Zoning determines the seismic resilience code to be used, which is of central importance, especially since the populous capital city of Addis Ababa is reported to be zoned with a lower seismic risk than it actually has.<sup>206</sup>

A number of other sample countries that experience severe resource and capacity challenges in implementation have recently updated their codes, including the **Dominican Republic**, which has introduced new codes on seismic and wind resistance; **Ecuador**, which updated its extensive codes in 2013, including on seismic risk; and **Madagascar**, which has added a new cyclone building code to its existing system.<sup>207</sup>

Code reviews have often been triggered by catastrophic earthquakes, especially when the seismic risk was not predicted or was of a magnitude above that contemplated in the relevant codes. These reviews were carried out following the Great East Japan Earthquake and Tsunami, and the Greater Christchurch Earthquake in New Zealand.<sup>208</sup> Indeed, **Japan** has conducted detailed damage assessments and revised its building codes after every major earthquake since 1923.<sup>209</sup>

**Prioritized implementation:** While some countries include priorities for implementation within their regulations at the outset, for example, by excluding small traditional homes such as in the Philippines and Madagascar, other countries do so by default, for example, by not enforcing regulations in rural areas (e.g. in Ethiopia, Nepal and Namibia). The problem with default non-enforcement in rural areas is that it does not regulate large buildings made of solid materials that could constitute a potentially high risk. Even in small rural community projects, a minimum level of regulation – effectively implemented – may be necessary to avoid creating new risks in the built environment. For example, experts in **Iran** recently attributed over 200 deaths to a lack of earthquake resilience in village homes built from iron, cement, and brick in the province of East Azerbaijan when two earthquakes measuring 6.2 and 6 on the Richter scale hit the region. An Iranian seismologist stated that earthquakes of this magnitude would be expected to cause injury or death to only six people in a similarly populated area in a country where earthquake building codes are enforced.<sup>210</sup>

**Cultural norms:** The effective implementation of enforceable building and spatial planning standards at the local level is not just a matter of clear responsibility, resources and capacity, but may also reveal important cultural differences in perceptions of the appropriate role for government in imposing risk reduction measures on the owners or occupiers of land. This is especially true with respect to domestic housing construction outside large urban centres, which, in most of the lower- and middle-income sample countries, remains effectively unregulated. One of the reasons is that some landowners find it hard to accept that they must seek permission when building on their own property, and may well feel confident that they know how to manage their own risk in this respect.

In a number of countries, there is no history or culture of regulation for buildings or spatial planning. Governments seeking to implement long-term DRR – including planning for the predicted effects of climate change – often face the population's scepticism towards the validity of such regulation. For example, in **Nepal's** Kathmandu valley, the inspection department of one municipality used a lot of its resources in defending litigation by large developers who opposed its negative rulings on building permits, because regulation of building and construction has never been widely accepted.<sup>211</sup>

While recognizing that acceptance of the importance of building codes is central in achieving full compliance, there is also a strong argument that there must be both incentives and sanctions to ensure a minimum

205 IFRC, *Ethiopia Case Study* (2013), at 5, 34.

206 Ibid, at 34.

207 IFRC, *Dominican Republic Case Study* (2012), at 32, 39; *Norma Ecuatoriana de la Construcción* (Ecuador, 1996); IFRC, *Madagascar Case Study – Draft* (2013); IFRC, *Madagascar Desk Survey* (2013), at 69, 71, 73-74.

208 IFRC, *New Zealand Case Study – Draft* (2013).

209 Narafu and Ishiwatari, *Knowledge Note 1-2, CLUSTER 1: Structural Measures, Building Performance* (2012), at 17.

210 'Iran Quakes Show Danger In Laxity In Enforcing Building Codes,' *Bernama.com*, 13 August 2012.

211 IFRC, *Nepal Case Study* (2011), at 51.

level of public safety, particularly in large buildings and major urban developments. In **Nicaragua**, building permits in the Municipality of Villa Nueva are granted free of charge. Although permits are not requested frequently, visual inspections and advice are provided on demand. In one example, this had resulted in the demolition of a partially completed community house built at the edge of a river and vulnerable to floods.<sup>212</sup> Less inspiring examples were found in **Nepal** where some approved three storey buildings reportedly turned out to be six storeys when completed.<sup>213</sup> If such unregulated construction of large urban buildings is allowed to become the norm, then there is no commercial incentive for developers to comply with height limits or construction safety standards according to approved plans, since it is almost always cheaper to build unsafe buildings. Another example is the tragic collapse of the Rana Plaza building in Dhaka, **Bangladesh** in 2013, which killed at least 1,129 people, and which news reports indicated was just another non-compliant building among many in the city.<sup>214</sup> This type of problem is widespread, with many major building collapses reported throughout the world every year.<sup>215</sup> Allowing such developments to occur thus supports a 'culture of non-compliance'.

## 14.4 Summary of key findings

The overwhelming majority of sample countries have extensive building codes, some of which integrate construction and spatial planning, and others take a further step by integrating physical planning with that of broader development planning. Although most of the legislation in this area does not adopt the language of 'risk reduction', it usually contains the fundamental objective to address the underlying causes of disaster risk.

Countries are continuing to invest in these legal frameworks by updating building codes to higher natural hazard standards, developing alternative guidance for non-engineered buildings and passing new laws intended to coordinate this sector. Furthermore, countries without binding laws on building and construction have either produced other forms of guidance or are making efforts to establish such frameworks. Lawmakers and governments, across low- and high-income countries, regard building codes as key pillars of disaster risk governance as part of their fundamental responsibilities for the safety and welfare of their populations. However, there are still significant gaps in the regulatory framework of many of the sample countries.

Among the sample countries, responsibility for the implementation of building codes is almost universally allocated to local governments, even where the legal framework is established by national or state legislation. However, local government resources and technical capacities are often not sufficient to fully implement these laws in many low and middle income countries. Given the importance of these frameworks in reducing underlying risk from natural and other hazards, there is a need to increase as a matter of priority local government capacity in these areas, and awareness in recognizing the specific needs of the poor in building and construction.

Public education and awareness raising on the importance of building code compliance is critical in shifting community attitudes towards DRR and is an essential part of creating a 'culture of compliance'. The focus needs to be on both developing capacity and awareness in the building industry and basic skills at the community level.<sup>216</sup>

The 'culture of compliance' as a principal strategy in response to lack of government enforcement capacity is clearly most relevant to small constructions, especially in rural areas where the main types of buildings are non-engineered homes built by owners or local builders. However, safe building practices still need to be promoted for non-engineered constructions. In countries where there is little acceptance of safety

<sup>212</sup> IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012).

<sup>213</sup> IFRC, *Nepal Case Study* (2011), at 51.

<sup>214</sup> 'Bangladesh tragedy underlines how deficient building codes can fuel disasters,' UNISDR, 25 April 2013; 'Analysis: "Wake-up call" for Bangladesh's building industry,' IRIN News, 6 May 2013; 'Survivors of Bangladesh Factory Collapse Facing Uncertain Future,' *Time.com*, 10 June 2013.

<sup>215</sup> 'Accra tragedy shows that building code enforcement is critical to disaster risk reduction,' *IFRC Disaster Law News*, December 2012. 'Deadly secret of Egypt's leaning tower blocks,' *BBC News Middle East*, 24 January 2013: 24 January 2013, 28 people were killed when an eight-storey apartment block collapsed. The BBC reported that around 20 such tower blocks collapse each year in Egypt. '72 dead in Thane building collapse; 2 builders arrested,' *Hindustan Times*, 6 April 2013.

<sup>216</sup> Johnson, *Creating an enabling environment for reducing disaster risk* (2011), at 30-31.

regulation in home building, and where poverty is also a factor in community compliance, much simpler regulations may be appropriate. Building codes need to reflect the local reality, be flexible to accommodate changes, and be developed with local stakeholders in order to address customary building techniques. However, there is a need for appropriate and legally enforceable codes, at least for larger urban buildings, which are enforced through building approvals and inspections as a minimum requirement to ensure an acceptable level of public risk, especially when these buildings are located in areas prone to natural hazards. The question here is how governments should respond to gaps between regulatory requirements and capacity to oversee their implementation.

Faced with insufficient resources or capacity for local implementation and enforcement, a practical and effective approach is to give priority in building codes to schools, hospitals, places of assembly and/or to government buildings. These buildings, especially when located in hazardous areas, are widely agreed to be a priority for general safety, and should clearly receive special attention in building codes and their implementation.

Another challenge relates to the regulation of large private constructions in urban centres, which regularly cause large numbers of deaths and injuries through spontaneous collapse, inadequate fire safety, or collapse caused by earthquakes. These buildings need to be given higher priority for safety regulation, which will likely require more extensive engagement with builders, developers and owners, as well as much more stringent enforcement and penalties for non-compliance.

## Chapter 15: DRR in land use regulations

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### 15.1 Background

Land use planning is closely associated with building codes, and some countries regulate both using an integrated system of urban and rural development planning, as mentioned above. Clearly, effective land use planning and regulation – backed by risk mapping – can greatly reduce disaster risk in settlements. One approach is to prevent construction on land located in areas exposed to natural hazards, such as flood plains, unstable or contaminated land, or areas of especially high seismic risk. Land use and urban planning also govern plot size, development density, zoning of land use (e.g. residential, industrial and agricultural, public and private) and many other elements that affect the amenity and safety of both urban centres and rural settlements. Land zoning can also contribute to food security or famine prevention by reserving agricultural land for food production or by restricting the exploitation of unstable or fragile land to improve sustainability in the face of drought and flood risk.

In considering the extent and type of legal frameworks for land use planning that support DRR, the following elements were sought: (i) the existence of land use, spatial planning, or land zoning, legislation that applies to both urban and rural settings throughout the territory, regardless of whether the legal framework lies at the national, state or local level; (ii) the inclusion in these legal frameworks of either specific planning criteria related to DRR, or at least a key objective of public safety, particularly if related to environmental management of natural hazards and land zoning based on safety of locations; and (iii) the integration of land use planning with regulation of building and construction in ways that support DRR.

In addition to laws, the analysis sought examples from case study countries of institutional mechanisms and resources to implement the planning frameworks, as well as recurring challenges in implementation, especially in lower- and middle-income countries.

## 15.2 Country examples of legal provisions on DRR in land use regulations

At least 25 of the sample countries have national or state legislation that governs development or land use planning, as summarized in Table 5 (p. 56).<sup>217</sup> Three of the countries do not have national or state laws (Brazil, Nepal, and Guatemala), and consequently, land use planning is an exclusively local government responsibility. Also in countries that have national or state laws, the implementation of land zoning and granting of approvals is almost always devolved to local government. Hence, whether by direct devolution under constitutions or decentralization laws, or by delegation under national or state laws, almost all the countries rely on local governments to implement land use planning.

Responsibility for land use and development planning is often distributed between different levels of government, and is not necessarily governed by a single law. For example, **India** integrates development and physical planning by establishing model planning laws at the federal level for use by the states. Both of the Indian states surveyed have relevant legislation: in Odisha, a statutory body has been established, the Odisha Development Authority; and in Punjab, the *Regional and Town Planning and Development Act* has been in place since 1995.<sup>218</sup> In contrast, **Kenya** separates physical planning from general development planning in its *Physical Planning Act of 1996*, which is part of an ensemble of laws relating to street planning, local and county government responsibilities, as well as to the role of the newly created National Land Commission under a 2012 law, and the new *Land Act of 2012*.<sup>219</sup> Some countries also separate urban and rural land use planning using a complex range of zoning requirements, as in **Ethiopia**, while others, such as **China**, have a single urban-rural planning law and only four categories of land zones.<sup>220</sup> These variations indicate that there are many possible approaches to effective land use and spatial planning. The criteria for planning decisions in the laws and the degree to which they mandate a coordinated approach is more important than whether the planning regime is in one law, or one level of government.

Many of the sample countries have extensive planning laws, two of which provide striking examples in very different settings. The **Kyrgyzstan** *Land Code*, for instance, sets out functional planning requirements that include clear DRR criteria of the “provision of safety of populated settlements from natural and manmade impacts” as well as the “fulfilment of environmental, sanitary and hygienic requirements in accordance with norms of legislation.”<sup>221</sup> The Kyrgyz law also requires municipalities to develop and approve land use plans, programmes for the rational use of land, and certification of design and survey works. Part of this regime establishes plans for infrastructure facilities, including water supply, sewage and groundwater drainage in newly developing areas.<sup>222</sup> The legal framework therefore establishes high-level DRR and safety objectives, and allocates clear responsibility to the local government for implementation.

**South Africa's** *Spatial Planning and Land Use Management Act* came into force in August 2013. It is underpinned by four constitutional rights: a land use planning system that is protective of the environment for the benefit of present and future generations; protection of property rights, including access to land on an equitable basis; access to adequate housing and sustainable human settlements; and the progressive realization of the right to sufficient food and water.<sup>223</sup> Moreover, the objectives of the law seek to provide a “uniform, effective and comprehensive system of spatial planning and land use management” for the whole country, not only to promote social inclusion and redress past imbalances, but also to “provide for development principles and norms and standards” and to provide for “the sustainable and efficient use of land.”<sup>224</sup> Although this does not refer directly to natural hazards or DRR, the key elements of this new law allow for integration with development planning and a coherent national system based on the concept of sustainability in land use and human settlements.

217 The Iraq case study was unable to identify such laws due to difficult research conditions at the time of the study.

218 IFRC, *Odisha, India, Desk Survey* (2012), at 99-100; IFRC, *India Desk Survey* (2012), at 61, 67-69; IFRC, *Punjab, India, Desk Survey* (2012), at 69, 75, 77.

219 IFRC, *Kenya Desk Survey* (2012), at 100-101.

220 IFRC, *China Desk Survey* (2012), at 81-83.

221 *The Land Code* (Kyrgyzstan, 1999), Art. 23.

222 UNDP, *Kyrgyzstan Case Study — Draft* (2013), citing *the Land Code* (Kyrgyzstan, 1999), Arts. 14, 27.

223 *Constitution of the Republic of South Africa* (South Africa, 1996), Arts. 24-27.

224 *Spatial Planning and Land Use Management Act* (South Africa, 2013), Art.3.



## 15.3 Experiences with implementing legal provisions on DRR in land use regulations

In both New Zealand and Ethiopia, an increased focus on education and awareness of the legal frameworks for local authorities and communities was identified as a key element in the successful implementation of the laws. In **New Zealand**, the *Resources Management Act of 1991* controls “the use of land for the purpose of [...] avoidance or mitigation of natural hazards.”<sup>225</sup> The implementation of these controls is mainstreamed into local government responsibilities. This legal provision is, on the whole, effectively implemented in the country, which has a strong, representative local government that is relatively well resourced. This law takes an enabling approach to land use, rather than a restrictive one, based on the idea that private land can be used as the owners see fit, provided that any negative effects are avoided, remedied or mitigated. This can cause over-reliance on mitigation, however, rather than on prevention or avoidance. In particular, the recent experience of the Greater Christchurch Earthquake has highlighted the need to revise the law so that it focuses more on natural hazards, an issue that is being addressed by proposed amendments.<sup>226</sup> The case study also identified the need to raise community and local government awareness of earthquake risk and other natural hazards.

In contrast with New Zealand, **Ethiopia's** land use planning laws illustrate the complexities of this area of regulation in a federal structure, as well as the challenges for a low-income country of implementing laws that are well aligned with the local disaster risk context. Ethiopia has a complex constitution where most planning powers are devolved to the regional states. Therefore, it has established two national proclamations, the *Rural Land Administration and Use Proclamation*, and the *Urban Planning Proclamation*.<sup>227</sup> The latter promotes DRR, although without using that term. One of its basic principles is safeguarding the community and the environment. It also includes the principles of public participation, transparency and accountability, balancing public and private interests, and ensuring sustainable development. This law requires each city to have citywide and local development plans, and to detail land use classes, locations of future public infrastructure and residential precinct planning. However, in terms of implementation of these planning laws, the DRR focus could be improved with better community participation in local planning decisions.

## 15.4 Summary of key findings

The overwhelming majority of the sample countries have laws that govern spatial planning and urban and rural development. Some laws integrate spatial planning with building and construction, and some take the further step of integrating them with broader development planning. Although most planning legislation, in the same way as building laws, does not adopt the language of ‘risk reduction’, one of its fundamental objectives is to avoid poor planning and unsustainable development decisions that could contribute to increased risk levels. Countries are also continuing to invest in these legal frameworks by updating risk mapping as a basis for planning, as well as integrating them with building regulations. As with building codes, lawmakers and governments in low- and high-income countries alike regard spatial planning as a key pillar of disaster risk governance.

Among the sample countries, responsibility for the implementation of land use planning is almost universally allocated to local governments, even where the legal framework is established by national or state legislation. However, sample countries demonstrate a range of different approaches to land use or spatial planning. In rural settings, they tend to focus more on sustainability and development of agriculture and food security, and give less attention to safety concerns. Nonetheless, in drought affected countries, such regulation is an important element of DRR to combat the effects of drought (famine and/or economic loss). Human safety tends to be a more overt concern in urban planning laws, yet this is not always expressed as prevention or reduction of the impacts of natural hazards. Many planning regimes could be improved with more concrete criteria related to natural hazards. For a number of countries, it still remains a challenge to implement systematic land use planning even where there are legal frameworks. In this respect, the challenges for land use planning are similar to those for building regulation. While some of these challenges seem to derive from a lack of resources, others could be addressed through focused training of the government officials responsible for implementation, and raising community awareness on the importance of mainstreaming disaster risk reduction into land use planning. Increased involvement of communities, sometimes included in these frameworks, may be one way to improve the effectiveness of land planning law for DRR at the local level.

<sup>225</sup> IFRC, *New Zealand Case Study — Draft* (2013), citing *Resource Management Act* (New Zealand, 1991), s. 30(c) (iv).

<sup>226</sup> Ibid.

<sup>227</sup> *Rural Land Administration and Use Proclamation 465/2005* (Ethiopia, 2005); *Urban Planning Proclamation 574/2008* (Ethiopia, 2008).

**Table 5: Overview of laws on building, construction and land use planning**

Sample Countries	Territory-Wide Building Codes – National or State		Local Building Approvals/ Regulations		Land Use Planning – National or State		Local Land Use Planning Approvals/ Regulations	
	Law	Guide <sup>i</sup>	Law	Guide	Law	Guide	Law	Guide
Algeria								
Angola		-		-				-
Australia	n/a <sup>ii</sup>			-		-	-	-
• State of Victoria		-		-		-		-
Austria	n/a			-		-		-
Brazil	n/a			-				-
China (PRC)		-		-		-		-
• Hong Kong SAR				-		-		-
Dominican Republic							-	
Ecuador		-		-	-	-		-
Ethiopia		-	-			-		
Guatemala				-		-		-
India			-	-			-	
• State of Orissa		-			-	-		-
• State of Punjab		-		-		-		-
Iraq <sup>iii</sup>	-	-	-	-	-	-	-	-
Italy		-		-		-		-
Japan		-		-		-		-
Kenya		-		-		-		
Kyrgyzstan		-		-		-		-
Madagascar		-		-		-		-
Mexico		-		-		-		-
Namibia		-		-				-
Nepal						-		-
New Zealand		-		-		-		-
Nicaragua		-		-		-		-
Nigeria			-			-		-
Philippines		-		-		-		-
South Africa							-	-
St. Lucia			n/a	n/a		-	n/a	n/a
Ukraine		-		-		-		-
United States of America	n/a		n/a	n/a			n/a	-
• State of Illinois				-		-		-
• State of Louisiana		-		-		-		-
Uruguay		-		-		-		-
Vanuatu			-	-				
Viet Nam				-		-		-

Yes  
 No  
 No data

<sup>i</sup> The term 'Guide' refers to model laws or other specific national policy guidance for state or local regulators.

<sup>ii</sup> The term 'n/a' is used to indicate that a law is not possible at this level of government, such as in federations where the relevant powers are devolved to the states, or, conversely, a small island state such as St. Lucia that does not have a separate local government.

<sup>iii</sup> Although Iraq was a case study country, due to the difficulties of conducting research and stakeholder consultations within the country at that time, these aspects of regulation were not assessed.

# Chapter 16: DRR in regulations for informal settlements

## 16.1 Background

Significant proportions of housing and settlements in many countries are 'informal' in that they are constructed outside formal and government managed systems of building codes and land use planning, and often without residents having formal or legal land titles.<sup>228</sup> This does not necessarily make such housing and settlements dangerous or even especially vulnerable to natural hazards, provided that they are not located on high risk land, are built to withstand known risks, and have adequate access to water, sanitation and social services. Many traditional rural dwellings fit this description, although there is often room for improvement by locating housing away from riverbanks and flood plains. But the real issue for many developing economies is the increasingly large informal urban settlements around big cities. It is estimated that 863 million people were living in urban informal settlements in 2012, compared to 650 million in 1990 and 760 million in 2000, and it is expected that between 2000 and 2030, the urban areas of developing countries will absorb 95 percent of the world's population growth.<sup>229</sup>

In many countries, urban planning has not been able to keep up with population growth in urban centres, and as a consequence, the expansion of informal settlements remains rapid. Often termed 'slums' or 'shanty towns', these informal urban settlements are characterized by high population density, poor quality construction and materials, lack of water and sanitation, informal occupation of land without security of tenure or residency rights, and little or no access to social services such as water and sanitation facilities, waste management systems and electricity.<sup>230</sup> These settlements are occupied by the poorest people, many of whom have recently migrated to the city from rural areas, seeking livelihoods, or from neighbouring countries as refugees, and they are often located on environmentally vulnerable land or in hazardous locations.<sup>231</sup> From a DRR perspective, the two most obvious problems faced by residents of informal settlements are interrelated: tenure security and the provision of services. Government and private service providers are less willing to invest in water and sanitation infrastructure and other engineering works if dwellings in an area are likely to be removed. Moreover, occupants are also less likely to invest in upgrading the safety of their dwellings if eviction is possible at any time.<sup>232</sup>

Residents of informal settlements are often especially vulnerable to natural hazards, as well as to other health and safety risks. However, legislation, policies and government approaches towards informal settlements are diverse – from not regulating them at all, to focusing on eviction, resettlement or participatory upgrading.<sup>233</sup>

Governments often feel compelled to evict residents and demolish informal settlements in light of these risks. However, there are many potential difficulties with this type of approach. Even when informed of their risks, residents often do not want to leave, due to the need to be close to livelihood opportunities. Forcible evictions not only implicate a host of constitutional and human rights (even for those without recognized property rights), they can also be quite costly, both in terms of money and goodwill to governing authorities. Moreover, the social and economic reasons underlying the growth of these informal settlements are rarely addressed by mass demolition and eviction, and the elimination of one such settlement may simply lead to the creation of the next. In addition, many of these settlements are also so large and long established that this approach is not feasible, irrespective of human rights issues or community preferences.

228 Leeds and Leeds, *A Sociologia do Brasil Urbano* (1978).

229 United Nations Millennium Development Goals, Target 7.D.; UN-Habitat website, [www.unhabitat.org/content.asp?typeid=19&catid=292&cid=5957](http://www.unhabitat.org/content.asp?typeid=19&catid=292&cid=5957).

230 UN-Habitat website, [www.unhabitat.org/content.asp?typeid=19&catid=292&cid=5957](http://www.unhabitat.org/content.asp?typeid=19&catid=292&cid=5957).

231 IFRC, *World Disasters Report: Focus on urban risk* (2010), at 11-12, 15, 73 and 83. Fernandes, *Regularization of Informal Settlements in Latin America* (2011).

232 UN-Habitat, *The Challenges of Slums* (2003), at 105.

233 For a comprehensive list of various past and current trends, see UN-Habitat, *The Challenges of Slums* (2003), at 169, box 9.4.

The most common alternative in dealing with the problems of informal settlements is upgrading.<sup>234</sup> At its most basic level, this consists of improving their physical environment. According to the World Bank, this includes installing or retrofitting basic urban infrastructure such as water, sanitation, waste collection, storm drainage, access roads and footpaths, and street lighting. But upgrading also entails regularizing security of land tenure and investing in housing improvements, as well as improving access to municipal services, amenities and social support programmes (e.g. health and education).<sup>235</sup>

Policy makers and researchers have been discussing issues concerning informal settlements for many years, and the legal analysis in this report cannot cover all of the related aspects.<sup>236</sup> Nevertheless, it is important to come to at least a preliminary understanding of this issue in sample countries, since legislation is used to address DRR in informal settlements.

## 16.2 Country examples of legal provisions on DRR in informal settlements

In most countries, informal settlements might be considered ‘illegal’ in that residents rarely have a legal right of occupancy and the settlements are not approved, so that building and planning laws often give governments the authority to demolish these non-compliant dwellings. In just under half of the sample countries, the issue of urban informal settlements is not addressed through regulation in the building and planning laws, leaving demolition as the default position. For the higher-income countries in particular, this issue is not relevant since they do not have large populations residing in informal settlements (e.g. Australia, New Zealand, and most parts of the United States). For many others, however, it presents an acute problem of governance. Hence, 16 of the sample countries mention the issue in their laws, although in some cases, the aim is to emphasize their illegality and to authorize specific prevention measures.<sup>237</sup> Only a small number of them seek to take a more holistic approach. The following provides an overview of the approaches found in the sample countries.

**Prohibition:** The default position under general purpose planning, and construction and property laws, is that of general prohibition, which authorizes governments to demolish unauthorized structures. They are not designed to address precarious urban or rural settlements and hence they are not discussed in detail below.

**Prevention and resettlement:** In this approach, there is a specific regulation, primarily aimed at prevention, clearance and/or resettlement from precarious settlements to avoid residents’ exposure to hazards. Where a physical location or type of settlement is too precarious for human habitation, the option of systematic resettlement can provide an opportunity for community consultation to explore alternative ways of reducing risk as well as to respect the substantive human rights of residents (e.g. the right to housing) or procedural rights (e.g. the right to be given and to appeal an eviction notice).

In China, Ethiopia, India and Viet Nam, the regulations provide for the ‘upgrading’ of urban informal settlements, but in fact these laws mainly focus on demolition and resettlement, although they contain procedural rights for residents, even in the context of a clearance focus. **China**, for example, has implemented regulations that provide for urban renewal and/or eviction, which include a protective measure that resettlement by eviction is not enforceable unless there is agreement from a majority of the residents in the relevant ‘squatter area’, while Hong Kong - SAR has ‘upgrade’ provisions that focus on demolition, but include procedural protections for any eviction of residents.<sup>238</sup> **Viet Nam** established a regulation requiring the Government at all levels to work to reduce the proportion of non-approved housing to five percent by 2015 and to zero by 2020.<sup>239</sup> This is an extensive long-term scheme for resettlement of high-risk communities. **Nepal** provides an example of ad hoc policy based approaches to resettlement in the absence of a legal framework.

234 UN-Habitat, *The Challenges of Slums* (2003); Basab and Lall, *Assessing benefits of slums upgrading programs in second-best setting* (2006), at 3.

235 World Bank website, <http://go.worldbank.org/JQNRGF3HE0>.

236 See Abrams, *Man’s Struggle for Shelter in an Urbanizing World* (1964); Mangin, *Latin American Squatter Settlements* (1967), at 65-98; Turner, *Housing priorities, settlement patterns* (1968), at 354-363; Prado Valladares, *Passa-se uma Casa* (1978); Peattie, *Shelter, development, and the poor* (1987); and Rodwin and Sanyal, *Shelter, settlement, and development* (1987).

237 The 16 countries that have national, state or local laws that regulate informal settlements are: Algeria, Brazil, China, Dominican Republic, Ethiopia, India, Italy, Kenya, Kyrgyzstan, Mexico, Namibia, Nigeria, St Lucia, Uruguay, USA, and Viet Nam.

238 IFRC, *China Desk Survey* (2012), at 88-89; IFRC, *Hong Kong, China Desk Survey* (2012), at 83-84, 87-90.

239 IFRC, *Viet Nam Desk Survey* (2012), at 74.

**Regularization with rights:** In this approach, established urban informal settlements are recognized and regularized, and disaster risk is reduced through the establishment of resilient infrastructure and social services. Also, certain rights to housing and/or land are recognized. The country examples from Brazil, the Dominican Republic, Kenya, Kyrgyzstan, Namibia and Nicaragua demonstrate six different ways by which this is achieved. **Brazil**, for example, uses both regularization and social housing laws. It has pioneered the regularization and rights-based approach with its *Statute of the City of 2001*, which sets the general framework for urban policy in the country. It aims to address urban growth, avoid negative effects on the environment, and ensure the safety of the population. It takes the approach of gradually regularizing the extensive informal urban settlements in Brazil by improving their physical safety, providing social services, and bringing them under city administration. This law is supported by laws on social housing.<sup>240</sup> **Kenya** uses the land rights and procedural protection approach in the new *Land Act of 2012* to address issues related to informal settlements. This has not been driven by concern over disaster risk, but potentially has many positive effects in reducing risk for people living in precarious informal settlements. Part IX of the Act concerns settlement programmes and requires the National Land Commission on behalf of the national and county governments to implement them in order to provide access to land for shelter and livelihoods for the benefit of the residents, including squatters and displaced persons. There are several other legal instruments in Kenya that together form a legislative regime that envisages a coordinated and holistic approach to balancing people's rights and DRR.<sup>241</sup> These include draft legislation and policies on eviction and resettlement with procedural protection, and upgrading of slums/informal settlements through the Kenya Slum Upgrading Programme (KENSUP).

**Namibia** uses its land and housing enabling laws to manage informal settlements. Similarly to Kenya, Namibia has established laws on land tenure with the aim of addressing some of the causes for the development of such informal settlements in the country. Its 2012 law, the *Flexible Land Tenure Act*, aims to provide tenure security for people living in informal settlements or low income housing. The relevance of this for DRR is that it is assumed that people will be more willing to invest in reducing risk in their living environments if they have secure tenure. Namibia also has a national housing law with similar objectives, which do not directly address DRR in such settlements, but rather address some of the causal factors underlying their development. However, there is also a *1985 Squatters Proclamation* still in place that allows evictions.<sup>242</sup> Such conflicting regulation can cause confusion in implementation if not addressed.

**Nicaragua** takes a building and land safety approach through the *Special Law on Promotion of Housing Construction and Access to Social Housing of 2009* and its regulation, which assigns responsibility for building and construction matters to the Institute of Urban and Rural Housing.<sup>243</sup> The law states that housing projects are to be undertaken from the perspective of prevention and mitigation of disasters. It also includes provisions or mandates actions to improve housing through extension, repair, structural strengthening or renovation. The Institute is also responsible for coordinating with regional and local governments for the development and implementation of municipal plans and housing funds, together with an obligation to provide these governments with guidelines for programmes on land use for residential purposes.<sup>244</sup>

The **Dominican Republic** also takes a DRR approach. The implementing regulations of its DRM law include provisions on reducing risk in informal settlements. When assessments deem the resettlement of at risk communities the only safe option, the Institute of Housing takes on overall coordination, while participatory municipal committees formed under the DRM law are responsible for reporting the presence of high-risk communities to the district level to secure funding for mitigation or resettlement where necessary.<sup>245</sup> This provides a mechanism for identifying and managing high-risk settlements as well as the resources for resettlement, if required. In **Kyrgyzstan**, building and planning are highly regulated, and informal settlements have not been a feature of its cities. However, following the revolution in 2005, a large informal settlement grew rapidly around the capital in a politically charged environment. The Government implemented a one-time regulation recognizing these settlements in order to regularize the situation, since it was a matter of legal irregularity rather than of particular risk.<sup>246</sup>

240 IFRC, *Brazil Case Study* (2012), at 5, 28.

241 IFRC, *Kenya Desk Survey* (2012), at 105-107.

242 IFRC, *Namibia Desk Survey* (2012), at 5, 216-217, 227, 191, citing LAC, *A Study on Land Tenure Policy and Securing Housing Rights in Namibia* (2005), at 40-41.

243 *Ley Especial para el Fomento de la Construcción* (Nicaragua, 2009).

244 IFRC, *Nicaragua Case Study — Draft*, Eng. trans. (2012).

245 IFRC, *Dominican Republic Case Study* (2012), at 41.

246 UNDP, *Kyrgyzstan Case Study — Draft* (2013).



These six different examples indicate the wide range of legal regulation that can be relevant to informal settlements in risk prone areas, from fundamental reforms on land and housing, to acceptance of such settlements as part of the urban landscape, concentrating efforts on making them safer.

### 16.3 Experiences with implementing legal provisions on DRR in informal settlements

The case studies provided information on the implementation of some prevention and resettlement frameworks, but not on other types of social welfare regulation.

Often, how laws on informal settlements are implemented is just as critical as their content. For example in **Ethiopia**, the *Urban Planning Proclamation of 2008* refers directly to ‘slum areas’ and to a policy of ‘urban upgrading’, which consists of an improvement to the living and working environment of slum areas by maintaining and partially removing structures and providing infrastructure and amenities.<sup>247</sup> However, stakeholders at both the national and regional levels were unable to refer to concrete examples of either the regularization or upgrading of slum areas. It was also observed that informal settlements are frequently removed “without consultation or adequate compensation and relocation for residents” in order to make way for new development, even though the Government often has extended basic services to the settlements.<sup>248</sup> A well adapted legal framework is in place in Ethiopia, but gaps remain in its implementation as practice has not yet caught up with the legal reform.

As mentioned above, **Viet Nam**’s regulation aims to have only 5 percent non-approved housing by 2015 and none by 2020. According to progress reports on this strategy, 80 percent of provinces had prepared a master plan for relocation of at risk communities in rural and urban areas. The plans identified the need to relocate 369,000 households between 2006 and 2015. Of these, 173,000 households in high-risk areas needed to be urgently relocated. By 2010, 89,000 households had been relocated, the majority of which were in the Mekong Delta. Seven provinces had created 129 residential clusters in flood-safe areas for resettlement. These measures contributed to a significant reduction in the number of deaths from the Mekong delta floods in 2011 in comparison to the floods in 2001, which had similar flood levels.<sup>249</sup> Legislation has contributed to this result, although more fine-tuning is required such as community involvement in planning and providing for sufficient resources to motivate people to move to safe residential clusters away from high-risk areas.<sup>250</sup> The quality of the resettlement areas varies: some were planned with community involvement, resulting in safe residential clusters in line with their needs; others were designed and built with insufficient resources and without community involvement, which resulted in their relocation far from people’s livelihoods or with insufficient space between the houses.

In **India**, an interesting transition between two regulatory approaches can be observed. The old approach, reflected in federal and state laws dating from the 1960s and 1970s, refers to improvement and clearance of slum areas, and prevention of land encroachment, albeit with procedural rights.<sup>251</sup> However, currently, there is a trend towards a rights-based approach, based in part on a 1985 landmark Supreme Court case that interpreted the constitutional right to life as including a right to shelter.<sup>252</sup> This newer policy approach is reflected in a 2011 draft federal model law for states, on property rights of slum dwellers, while both Odisha and Punjab already have draft laws under consideration concerning the rights of slum dwellers.<sup>253</sup> This is an example of where practice and policy are leading the legal reform.

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247 IFRC, *Ethiopia Case Study* (2013), at 40-41.

248 Ibid.

249 IFRC, *Viet Nam Case Study — Draft* (2013).

250 Ibid.

251 IFRC, *Odisha, India, Desk Survey* (2012), at 131-133; IFRC, *India Desk Survey* (2012), at 75-76; IFRC, *Punjab, India, Desk Survey* (2012), at 82-83.

252 IFRC, *Odisha, India, Desk Survey* (2012), at 130, citing *Oleg Tellis v. Bombay Municipal Corporation* (Supr. Court of India, 1985), at [79-81].

253 IFRC, *India Desk Survey* (2012), at 76-77; IFRC, *Odisha, India, Desk Survey* (2012), at 130-134; IFRC, *Punjab, India, Desk Survey* (2012), at 84-85.

**Nepal** is an example of a country that has engaged in relocation of flood affected rural communities without a specific legislative basis. This had occurred in a large project in the Koshi River Basin in eastern Nepal following the major flood of 2008, when farmlands were completely swept of soil. An ad hoc compensation scheme was established at the time, and a resettlement programme agreed for displaced or high-risk communities. Many residents were the 'generational landless' who had farmed there for many years but had no formal tenure. Therefore, it was necessary to establish a system of verification of former residency as well as economic need for the resettlement scheme. This also oversaw the purchase of new land, the construction of new housing, and the conferral of titles for the new land and homes, with an additional non-discrimination measure whereby wives and husbands were given certificates of title in both names.<sup>254</sup> By contrast, other small communities in the Madi area of Chitwan District in south-central Nepal had also been permanently displaced by changes in the course of the river during flooding. Although they requested relocation, it could not be granted due to a lack of an appropriate legal framework.<sup>255</sup> The two examples from Nepal indicate a lack of consistency that can emerge when there is no legal framework to guide community relocations, even when the communities are willing.

## 16.4 Summary of key findings

In just under half of the sample countries, the default legal position is one of unrecognized status because they have not addressed informal or precarious settlements through law or regulation. Residents face an insecure situation in which they could be evicted and their homes demolished, which removes incentives to take any long-term DRR initiatives. The sample countries that have chosen to regulate informal or precarious settlements have generally opted for removal or regularization, but sometimes use a combined approach. The countries that choose to remove informal settlements have legislative provisions in place that aim to balance government action to reduce risk with the procedural and substantive rights of residents. However, the approaches that appear to be more sustainable in the long term are those that also address the underlying issues of land and property, as well as poverty and access to housing. In the medium term, an effective approach for large, established, informal settlements is gradual regularization. This brings informal urban settlements under local government responsibility, allowing for the provision of social services and attention to reducing risks in the physical environment.

Legal provisions on informal settlements is an area requiring further study, particularly since these findings highlight the impact that laws on tenure can have on land and housing, the importance of social policy as part of disaster risk governance in informal settlements, and the occasional gaps or differences in implementation that run counter to the legislative provisions. IFRC and partner National Societies are currently initiating pilot studies in selected cities in each region of the world, in cooperation with local governments and other local partners. Communities may wish to include in these studies additional areas of regulation that are part of the legal landscape relevant for disaster risk but that were not covered by this report, such as water and sanitation, health and social welfare.

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<sup>254</sup> IFRC, *Nepal Case Study* (2011), at 45.

<sup>255</sup> *Ibid*, at 45-46.

# Chapter 17: DRR in environmental management laws

## 17.1 Background

This section seeks to highlight the elements of environmental management laws that are relevant to reducing natural hazard and climate change risks. Laws on environmental management and legal provisions on climate change adaptation have considerable potential to support DRR. There is evidence of an emerging interest in this area, especially in the use of environmental impact assessments (EIA) for urban and industrial development. EIA can reduce risk and prevent the creation of new risks from development, by ensuring planning decisions include an awareness of relevant natural hazards. For example, the Caribbean Community promotes within the region the full incorporation of natural hazards risks into national EIAs including special consideration of the cumulative impacts of climate change.<sup>256</sup> Such considerations are also encouraged for the parties to the UN Framework Convention on Climate Change (UNFCCC).<sup>257</sup>

## 17.2 Country examples of legislative provisions on DRR in environmental management laws

Almost all of the sample countries have laws on environmental management, some of which are single overarching laws, and others a series of issue specific laws. Many of these frameworks are related to the protection of the environment and the population from hazards created by humans, or to the general conservation of the natural environment. Some are more specific with respect to the need to also manage the environment from the perspective of reducing risk to people and property. However, specific criteria related to natural hazards are not included in most of the laws analysed, except to the extent that they fall under concepts of ecological or environmental effects and sustainability. For the most part, the environmental laws reviewed could be enhanced by more specific reference to reducing risk from natural hazards, since general concerns about the environment or human safety do not necessarily take DRR into consideration.

Climate change as a specific source of risk in the environment is rarely mentioned in the laws reviewed. However, two examples of climate change awareness include **Mexico's** integrated legal framework for water, environmental and climate change management, and **New Zealand's** *Resource Management Act* that requires local government authorities to “have particular regard to the effects of climate change.”<sup>258</sup>

The vast majority of the sample countries also have laws requiring EIA prior to proceeding with major developments. EIA of planned new developments are provided for in the laws of 30 of the sample countries and in draft guidelines in Ethiopia. These EIA criteria can be categorized according to the types of risk they cover, particularly whether they refer to natural hazards and/or to their impact on human safety. **Ukraine's** law was the only example of an EIA that specifically takes into account natural hazard risks, because it includes both risks to humans and the potential impact of known natural hazards on development/investment projects. However, **Austria's** law covers all hazards, thus automatically encompassing natural hazards, while **Ethiopia's** draft guidelines require EIA for all developments proposed on disaster prone land. Most other sample countries have broad criteria related to the ecosystem and environmental balance, such as specific impacts on human health and welfare as well as on the environment, which could include natural hazard risks if implemented from that perspective, as well as human risk and social welfare criteria.

<sup>256</sup> See Caribbean Development Bank and CARICOM, *Sourcebook on the Integration of Natural Hazards into the EIA* (2004), at 3, 23; and Caribbean Group for Cooperation in Economic Development, *Natural Hazard Risk Management in the Caribbean* (2002), at 7.

<sup>257</sup> Art. 4(1)(f).

<sup>258</sup> UNDP, *Mexico Case Study — Draft* (2013); IFRC, *New Zealand Case Study — Draft* (2013).

It is clear from the analysis of the country studies that both human welfare and environmental protection feature highly as criteria for the assessment of development projects. For example, **Nicaragua's** law has regulations that list the categories of works or projects that must obtain prior permission, including all urban or tourism developments in coastal zones, which are vulnerable to hurricanes and tropical storms and related flooding. It requires the preparation of an environmental impact study, which must then be subject to consultation with the environment ministry, autonomous regional councils, sectoral regulators and municipal governments.<sup>259</sup> When these laws also provide for community participation, such as in Ecuador, Ethiopia (draft), Namibia, New Zealand, and South Africa, at risk communities also have the opportunity to raise their concerns. Therefore, from the perspective of effective DRR at the community level, EIA that include community participation are considered better practice than those that do not. This provides a clearer foundation both for effective practice, and for public education and awareness on the need for DRR as an integral part of environmental management.

### 17.3 Experiences with implementing legislative provisions on environmental management

Due to insufficient data from the case studies, it was not possible to extract any substantive findings on implementation of environmental laws in support of DRR. In all of the case study countries, this area of regulation was administered separately from DRM. In addition, few of the stakeholders interviewed for their roles in DRM were able to comment on the implementation of environmental laws, which indicates the degree of separation between these two spheres of regulation.

### 17.4 Summary of key findings

In most cases, the implementation of environmental laws is the responsibility of environment ministries, hence, they are administered separately from much of the building and spatial planning regulation, and also from DRM laws. Indeed, few links are made between these sectors, even though each has a role in DRR. Environmental management is potentially a key element of DRR, especially regarding emerging risks related to climate change. Mechanisms for cross-sectoral coordination with DRM systems and mainstreaming of DRR principles into environmental laws and institutions could greatly enhance the DRR potential of such laws.

A particular aspect of environmental regulation deserving of more study is the potential use of EIA as a DRR tool in the approval process for new developments. EIA of planned developments are provided for in the laws of the vast majority of the sample countries, though only Ukraine featured criteria specific to natural hazards. EIA may provide a vehicle for communities to influence planned developments and thus prevent or reduce the creation of risks, especially when these laws provide for community objections, consultation or participation in EIA. However, since such broad requirements do not provide specific mandates on DRR, the inclusion of DRR criteria in EIA is left to the discretion of those implementing the laws. It would therefore be preferable if DRR criteria were explicitly incorporated into principles for environmental management and EIA.

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<sup>259</sup> IFRC, *Nicaragua Desk Survey* — Spanish (2012), at 56.

# Chapter 18: DRR in climate change laws

## 18.1 Background

Climate change is recognized as a factor that contributes to growing disaster risk levels by increasing the frequency and magnitude of a range of climate related hazards. Therefore, in countries that experience the impacts of climate change, CCA should be a key element of national strategies on DRR, and vice versa.

Many countries are working towards implementing their obligations under the UNFCCC and are addressing their domestic needs in this area by passing laws on climate change. These, however, still predominantly focus on climate change mitigation rather than adaptation.<sup>260</sup> In the countries and regions most likely to be affected by extreme weather or rises in sea levels, CCA is increasingly seen as part of current risk reduction measures, as well as planning for future scenarios. For example, Pacific island states and their development partners have been focusing on climate related risks over the last decade.<sup>261</sup> More recently, they have made considerable progress towards devising integrated policy and institutional frameworks that manage both sudden onset natural hazards and climate related risks.<sup>262</sup>

Globally, there are increasing numbers of laws with CCA as the main focus, especially in developing countries that are highly vulnerable to climate risks.<sup>263</sup> CCA is also recognized as requiring extensive cross-sectoral coordination, particularly between the legislation that establishes institutional mandates for different ministries, including planning and environmental ministries.<sup>264</sup> However, one still fairly recent area requiring coordination is that between CCA and DRM laws and systems. Given the continuum between natural hazards arising from climatic events and extreme events due to climate change, it seems logical that the integration of CCA and DRR legal frameworks for these types of risks is likely to be more effective than establishing separate systems.<sup>265</sup>

## 18.2 Country examples of legal provisions for DRR in climate change laws

Most of the sample countries do not have a law or specific legal framework for managing CCA, although the majority have CCA national policies. The nine sample countries that do have such a law or legal provisions in another law, as opposed to a law on climate change mitigation only are: **Algeria, Brazil, Dominican Republic, Japan, Kyrgyzstan, Mexico, New Zealand, the Philippines and Uruguay**, all of which also have a national CCA policy.<sup>266</sup> Fifteen other sample countries have institutional mechanisms on CCA, established administratively by the executive and at times mandated by a specific policy. The most recent of these mechanisms at the time of writing was a federal task force to address the risks of climate change, created by executive order in the **United States**, in November 2013.<sup>267</sup> In sum, more than two thirds of the sample group (25) are addressing CCA in some formal way, as summarized in Table 6. In addition, **Kenya** and **Vanuatu** both have drafts laws on CCA under consideration.<sup>268</sup>

<sup>260</sup> See, for example, IDLO, *IDLO-CISDL Compendium of Legal Best Practices on Climate Change Policy* (2011).

<sup>261</sup> SPREP, *Pacific Islands Framework for Action on Climate Change* (2011); and Secretariat of the Pacific Community – Global Climate Change Alliance: Pacific Small Island States' website: [www.gcca.eu/regional-programmes/gcca-pacific-small-island-states](http://www.gcca.eu/regional-programmes/gcca-pacific-small-island-states).

<sup>262</sup> UNISDR, UNDP and GFDRR, *Disaster Risk Reduction & Climate Change Adaptation in the Pacific* (2010).

<sup>263</sup> Globe International, *Climate Legislation Study* (2013), at 21.

<sup>264</sup> UNEP, *Guidebook on National Legislation for Adaptation to Climate Change* (2011). This includes draft legislation and regulations for inclusion of CCA provisions in 16 other types of sectoral laws related to development and resource management, although not DRM laws.

<sup>265</sup> See, for example, IFRC, *A guide to mainstreaming DRR and climate change adaptation* (2013), at 62.

<sup>266</sup> Brazil has a federal law that creates a national policy, the *Law Creating the National Policy on Climate Change* (Brazil, 2009); Dominican Republic has a new law that includes CCA, the *National Development Strategy Law* (Dominican Republic, 2012); Kyrgyzstan, Mexico, Philippines and Uruguay have both laws and policies specifically for CCA, while Algeria and New Zealand include CCA in existing laws.

<sup>267</sup> 'Obama creates climate change task force,' *USA Today*, 1 November 2013.

<sup>268</sup> *Climate Change Authority Bill* (Kenya, 2012); *Meteorological, Geological Hazards and Climate Change Bill* (Vanuatu, 2012).



**Table 6: Climate change adaptation law and policy**



The country studies indicate that it remains the exception rather than the rule to integrate DRR and CCA approaches in the respective legal frameworks, where both areas are legislatively mandated. The trend in the sample countries, to date, has been to allocate responsibility for the administration of CCA laws to ministries of the environment, without requiring them to coordinate with DRM institutions, while the DRM institutions are also not required to coordinate with ministries of the environment. However, a model is emerging where both CCA and DRR are integrated with development planning and resource management legislation.

Three examples of integrated legal frameworks are found in Algeria, Mexico and Uruguay. In **Algeria**, the National Agency on Climate Change, based in the Ministry for the Environment, is responsible for mainstreaming CCA into development planning.<sup>269</sup> However, since the National Committee on Major Risks, established by the DRM law, is mandated to coordinate all activities on major risks, including implementation mechanisms for the HFA, CCA and DRM institutions, it provides an overarching coordination mechanism.<sup>270</sup> This legal and institutional framework has the potential to achieve a high level of CCA and DRR integration if implemented as planned. In **Mexico**, the new *General Climate Change Law of 2012* is supported by a special national climate change programme and an Inter-Ministerial Commission on Climate Change, a cross-sectoral coordination body formed by the heads of 13 federal ministries.<sup>271</sup> In **Uruguay**, a special decree, the *National Response to Climate Change and Variability*, was passed in 2009.<sup>272</sup> Implemented by the Ministry of Housing, Spatial Planning and the Environment, its purpose is to coordinate actions between all institutions relevant to achieving risk prevention in the whole territory.<sup>273</sup>

### 18.3 Experiences with implementing legal provisions on DRR in climate change laws

A further potentially effective legislative approach, which has not yet been enacted, is found in **Vanuatu**. Currently, there is a bill pending to enact a *Meteorological, Geological Hazards and Climate Change Act*.<sup>274</sup> Some institutional changes have already been made in anticipation, establishing in 2012 a National Advisory Board for Climate Change and Disaster Risk Reduction by merging two formerly separate bodies. This new advisory body is designed to ensure that DRR and climate change priorities are treated as a single issue, and the proposed law will give a firm legal basis to this combined strategy.

Formal policy approaches, such as that in the **Dominican Republic**, can also contribute significantly to the integration of DRR and CCA. Although the Dominican Republic does not have a specific law on CCA, its National Development Strategy is a formal policy established by law in 2012, which includes CCA. But it had already established in 2008 a National Climate Change and Clean Development Mechanism to support the formulation of national policies and plans, reporting directly to the President. DRM, CCA and environmental management are now all core components of the National Development Strategy, which is a vehicle for an integrated approach to these issues under the development planning law administered by the Ministry of Economy, Planning and Development.<sup>275</sup>

The extent of integration of DRR and CCA is not always easy to gauge from the legal provisions alone. For example, in **Iraq**, the Council for Environmental Protection is established under the *Environment Protection Act of 2009* and has an important role in the formulation of the National Plan for Disaster Risk Reduction. Although not specified in the Act, there is potential for strong links with DRR if CCA is considered part of the environmental mandate.<sup>276</sup>

**New Zealand** is another example where it is difficult to determine the levels of DRR/CCA integration in practice.<sup>277</sup> CCA is addressed in the *Resource Management Act of 1991* (as amended in 2004), which also deals with the impacts of climate change.<sup>278</sup> This law also requires local governments to “have particular regard to the effects of climate change.”<sup>279</sup> However, although the *Resource Management Act* is described by stakeholders as being part of the DRM system, it is not clear how the legislative regimes of this law

269 Established by *Décret exécutif n° 05-375* (Algeria, 2005).

270 *Loi n° 04-20 du 25 décembre 2004 relative à la prévention et à la gestion des catastrophes dans le cadre du développement durable* (Algeria, 2004); IFRC, *Algeria Desk Survey* (2012), at 31-32, 44-45.

271 UNDP, *Mexico Case Study — Draft*. (2013). The climate change law and policy also include key priorities on DRR in water resource management and link with the *National Water Law* (Mexico, 1992), also amended in 2012, and the DRM law (on flood risk mapping and regional centres to support state and local governments in climate change DRR).

272 *Decree No 238/009* (Uruguay, 2009).

273 IFRC, *Uruguay Desk Survey* (2012). The National Climate Change Response (SNRCC) diagnosis has been made under this guidance, and strategic guidelines ‘National Climate Change Response’ were completed in 2010. Thus, implementation of the decree on climate change has proceeded, at least on a policy and strategy level, indicating that the new coordination mechanism on climate risk is active.

274 IFRC, *Vanuatu Desk Survey* (2012), at 3. Advice from the Vanuatu Meteorology and Geo-hazards Department in October 2013 indicated that the Government will first complete the *National Climate Change and Disaster Risk Reduction Policy*, and then move to the legislative review stage in 2014.

275 IFRC, *Dominican Republic Case Study* (2012), at 5, 28-31.

276 UNDP, *Iraq Case Study — Draft* (2013).

277 The *Climate Change Response Act* (New Zealand, 2002) is concerned with international mitigation obligations, not with CCA: IFRC, *New Zealand Desk Survey* (2012), at 24-25.

278 *Resource Management Act* (New Zealand, 1991), s. 7(i).

279 IFRC, *New Zealand Desk Survey* (2012), at 24-25.

and the DRM law interact other than that their implementation is largely devolved to local authorities.<sup>280</sup> There is a policy mechanism for integration at the regional and local levels in the policy and planning processes, but little guidance from the legal framework.<sup>281</sup> The interaction between these laws reported by stakeholders comes primarily from policy and practice. In New Zealand, the effectiveness of integration of resource management, CCA and DRR largely depends on the strengths and priorities of local government. However, even in a high-income country such as New Zealand, local governments do not always have the DRR resources to match their risk profiles, and some do not adequately address DRR in their planning and policy documents.<sup>282</sup>

## 18.4 Summary of key findings

To date, around a third of the sample countries have taken the legislative route to address the issue of CCA, as summarized in Table 6. Some have also developed laws that integrate DRR, CCA and development planning in one coherent approach as in Algeria, Dominican Republic, Mexico and Uruguay, and in a draft law in Vanuatu. Moreover, other examples of laws have the potential to establish such linkages are found in Iraq and New Zealand.

# Chapter 19: DRR in natural resource management laws

## 19.1 Background

Most DRM laws take a multi-hazard approach, but two natural hazards, forest fires and floods, are most commonly subject to additional legislation in countries with high exposure to them. In addition, drought risk is a newly emerging area of regulation in affected countries. The interesting characteristic of all three areas is that, unlike hurricanes and earthquakes, management of risk from forest fires, floods and droughts is inherently linked with the management of natural resources (e.g. forests and water) and land management, to prevent degradation that exacerbates the risk from these hazards. The country studies thus sought information on laws relating to the management of risk from specific hazards. This issue was addressed in greater detail in the desk surveys. However as the findings on the implementation of these legal provisions was insufficiently detailed, further research is required.

## 19.2 Country examples of legal provisions on natural resource management

The main observation concerning the risk of forest fires is that relevant laws are usually separate from DRM laws and environmental laws. This is partly due to historical reasons, since countries that have long had high exposure to wildfires (e.g. Australia, Madagascar, United States and Viet Nam) enacted laws on fire prevention many decades prior to DRM laws. They often include severe sanctions in the form of fines and criminal penalties, which tend, however, not to be well enforced in lower- and middle-income countries, such as **Madagascar** and **Viet Nam**. In some countries, it may be highly effective to manage forest fire risk outside the DRM law, such as in **Australia** (State of Victoria), but this is not necessarily the case in all fire prone countries. Further study may indicate why forest fire risk is generally not integrated into DRM laws and whether some countries should consider higher integration for more effective risk reduction.

<sup>280</sup> IFRC, *New Zealand Case Study — Draft* (2013).

<sup>281</sup> *Ibid*, citing Saunders et al. (2007).

<sup>282</sup> *Ibid*.

For most of the sample countries where floods are a regularly occurring natural hazard, they are included as one of the risks to be managed under the national DRM law and system. Yet these laws are mainly focused on short-term mitigation measures and flood warnings. Many land use planning laws and building codes also take flood risk into account, in particular requiring flood mapping and prohibition of settlements on flood plains. They have great potential to reduce flood risk by reducing exposure. Addressing the underlying risk drivers related to both floods and droughts is also regulated through sectoral laws concerning water management. Most of these sectoral laws focus on ensuring safe and sufficient water supply on a sustainable basis, but some also address flood risk and mitigation. Water resource management laws are found in all the sample countries.

The most interesting finding that emerged from the country research on water and drought is the importance of water resources and flood legislation as part of an integrated system of resource management that makes DRR one of its explicit objectives. Mainstreaming of flood management often involves a number of laws and stakeholders such as: government bodies responsible for building regulation, spatial planning, land use, drainage, environmental management and EIA; technical bodies responsible for meteorological and hydrological forecasting and early warning; communities and civil society; and DRM institutions.<sup>283</sup> The main reason for taking such an integrated approach is that the way in which water resources are managed can either increase the risk of floods and droughts, or decrease them, depending on the management criteria and priorities. For example, a water authority's decisions could increase the risk of flood or drought in one region, while reducing flood risk or improving water supply in another. An integrated approach to water management recognizes the catchment area or river basin as the logical unit for water resource management. This often requires special legal mandates to manage water across district or state boundaries, and for cross-sectoral coordination and planning, including with the DRM system.<sup>284</sup> Almost half of the sample countries have laws supporting such an approach, but further study is required to understand the details of such regulation and its effectiveness in practice.

Despite considerable attention to drought as a disaster risk, especially in Africa, very few laws were identified in the sample countries that include specific provisions on drought, other than the extent to which drought falls within broad definitions of multi-hazard approaches.<sup>285</sup> There is justifiable doubt whether the multi-hazard approach is well suited to respond to slow-onset disasters, supported by the lack of early intervention during the 2010/11 drought and famine in the Horn of Africa, which has given rise to drought specific legal and institutional frameworks in **Kenya**.<sup>286</sup> However, there is debate on whether drought should be separately regulated or managed in a more integrated way. There is a range of approaches in the sample countries, including water storage or rationing measures and integration of water resource management with drought risk management. Further study is required to analyse developments in this newly emerging area of legal regulation and to identify approaches that are effective in different country contexts.

## 19.3 Summary of key findings

The management of risks from forest fires, floods and droughts is inherently linked with that of natural resources, especially forests and water, and land management, in which the aim is to prevent degradation that exacerbates the risk of floods and droughts. Laws related to forest management were most often found to be separate from DRM laws. They often include severe sanctions for causing fires, but these tend not to be well enforced in lower- and middle-income countries. For most of the sample countries where flooding is a regularly occurring hazard, floods are included as one of the risks to be managed under the national DRM law and system, although in these laws the main concern tends to be more short term mitigation measures and flood warnings. Despite considerable attention to droughts, especially in Africa, very few DRM laws were found in the sample countries that include specific provisions on droughts. Although usually encompassed within multi-hazard definitions in many DRM laws, they are unlikely to provide the needed guidance for such slow-onset disasters that, despite elaborate drought monitoring systems, often remain undetected.

283 WMO/GWP APFM, IWLRI, Allan and Rieu-Clarke, *Legal and Institutional Aspects of Integrated Flood Management* (2006), at vii.

284 Ibid.

285 UNISDR, *Africa Informs: Special Issue on Drought 2012* (2012). However, country study authors were not specifically directed to agricultural sector legal frameworks, and some drought-related provisions may be found within legislative provisions specific to the sector.

286 Ibid, at 13-14.

## Chapter 20: Role of sectoral laws in disaster risk governance

This report has found that there is a large body of sectoral regulation relevant to DRR in the sample countries, albeit with gaps in some countries. There are major implementation challenges in many lower- and middle-income countries, particularly at the local level. At present, sectoral laws on development planning cannot fulfil their role in disaster risk governance in all but high-income countries due to insufficient resources, capacity, and in some cases, lack of acceptance of the need for their implementation. Yet, the vast majority of sample countries continue to make a priority of building codes, land use planning and environmental management laws by keeping them up to date and relevant, even where local capacity for implementation is stretched. However, while regulatory coverage is, for the most part, comprehensive, few of these laws make specific provision for the reduction of risk from natural hazards, including risks related to climate change. Only a minority include specific legislative cross-references and institutional links within these sectors, and still fewer make any such links with the DRM system.

The countries that face the challenge of large urban informal settlements employ a range of regulatory strategies to govern these settlements and to reduce the risk levels of residents. Regularization of these settlements is identified as one of the more effective approaches, balancing public safety concerns with the rights of residents in order to provide a sustainable resolution. Yet, implementation of these laws and policies in the lower- and middle-income countries is intermittent and at times contradicts the legal safeguards provided. Given that almost all the population growth in the coming decades is predicted to occur in urban areas, this is clearly one of the most pressing challenges for DRR facing many less developed countries.

Many of the sectoral laws provide for community consultation and/or civil society participation in planning processes related to development, but the potential of these provisions is rarely realized in the lower- and middle-income countries. Since these countries also face challenges in implementation of the laws, it seems likely that greater inclusion of communities and civil society could result in significant improvements in disaster risk governance at the local level.

When considering the role of such sectoral laws compared with that of DRM laws, it is evident that countries with significant disaster risk need to support both forms of regulation. While most DRM laws focus on managing and reducing risk from the direct effects of natural hazards, disaster risk governance through development planning laws is essential to reduce the exposure and vulnerability of the population to hazards, and indeed to prevent the constant creation of new disaster risk through urban development. In moving towards more comprehensive risk management, some countries that currently have reduced capacity in sectoral regulation have taken the approach of establishing wide-ranging DRM laws that not only give a high priority to DRR, but also support public education and provide leadership on DRR that extends into these other sectors. This is one approach that makes it possible to close the gap between the DRM system and DRR within development sectors, even if the ultimate goal is to ensure that the DRR approach is mainstreamed into development.








# Part IV: Cross-cutting areas of law in support of DRR



Kori woreda (district) is now home to  
Asa and Saso micro dams. ©UNDP  
Ethiopia



This part analyses several cross-cutting themes in DRM law that can provide significant support for DRR. These include: (i) the rights that are enumerated in national constitutions and human rights laws; (ii) legal accountability, responsibility and liability of government authorities and individuals; (iii) laws on insurance and other risk-sharing mechanisms; and (iv) customary law. The findings from the country studies on these issues, although preliminary, are presented in the following sections.

## Chapter 21: Constitutional and human rights in support of disaster risk reduction

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### 21.1 Background

Human rights as framed in national constitutions or human rights laws are overarching or ‘meta’ laws that operate in conjunction with other legislation, including DRM laws. National constitutions often mirror countries’ international human rights obligations. Some also provide specific mechanisms for residents to assert their rights with respect to government activity or lack thereof, such as government agencies’ failure to prevent known hazards or to reduce vulnerability when they had the knowledge and means to do so. Although few national constitutions are explicitly linked to DRR issues, they provide basic entitlements that are part of government protection responsibilities by setting out the scope of government duties and responsibilities, usually including specific mention of women and vulnerable groups.

The desk studies varied in the degree of detail provided on constitutional and other rights and remedies relevant to DRR. Since the implementation of human rights related to DRR was beyond the scope of the case studies, they did not add substantive information on implementation. Therefore, this is an area requiring further study.<sup>287</sup> Nevertheless, it was deemed useful to consider some examples of relevant rights from the sample countries as identified in the desk studies.

### 21.2 Country examples of constitutional and human rights in support of DRR

While DRM laws tend not to enumerate individual rights, those which are relevant to DRR may be found in constitutions and other legislation such as human rights laws.<sup>288</sup> Some of the key rights and remedies identified in the sample countries were: protection of life or security of the person, including the right to a safe environment; equality before the law and non-discrimination, including some special positive measures required to ensure equality; protection and/or peaceful enjoyment of property; rights to food, shelter, health and work; access to information relevant to disaster risk; and remedies for breach of constitutional rights.

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<sup>287</sup> Recent work has been carried out in international human rights and disasters, which will be part of a forthcoming companion report. In particular, see Harper, *International Law and Standards Applicable in Natural Disaster Situations* (2009); Valencia-Ospina, *Sixth report on the protection of persons in the event of disasters* (2013); and more generally, ILC, ‘Protection of persons in the event of disasters’ at [legal.un.org/ilc/guide/6\\_3.htm](http://legal.un.org/ilc/guide/6_3.htm).

<sup>288</sup> For example, in Australia relevant national legislation includes laws prohibiting discrimination on the grounds of age, sex, race and disability, and establishing the Australian Human Rights Commission, in addition to state laws such as Victoria’s *Charter of Human Rights and Responsibilities Act* (Victoria, Australia, 2006). And in Hong Kong relevant human rights are found in the *Basic Law*: IFRC, *Hong Kong, China Desk Survey* (2012), at 25–26, citing *Basic Law* (Hong Kong, 2011), Art. 39.

**Protection of life or security of the person:** As one of the most basic human rights, the right to life is included in some form in all the sample country constitutions or laws that contain a bill of rights. This right is clearly of great relevance to DRR because of the duty it imposes on the state to protect its residents, including from the preventable effects of natural hazards. Two examples that refer specifically to disaster risk are found in Ecuador and Ethiopia. **Ecuador's** constitution provides a general right of protection to persons and communities against “the adverse impacts of natural or manmade disasters.”<sup>289</sup> **Ethiopia's** constitution requires the Government to “take measures to avert any natural and man-made disasters.”<sup>290</sup>

The right to a safe environment, which is closely related to the right to life, applies to physical risk from natural hazards, as well as other types of environmental risk. Again, **Ecuador's** constitution provides an example with its specific “right of the population to live in a healthy and ecologically balanced environment that guarantees sustainability” and also recognizes the rights of Mother Nature (Pacha-Mama) to protection and restoration, which can be exercised by any individual, community or people.<sup>291</sup> In other national constitutions, there is a similar right to a safe environment, such as in **Ethiopia, India** (through judicial interpretation of the right to life) and **Namibia**. **Namibia's** constitution requires the State to “actively promote and maintain the welfare of the people,” maintain the “ecosystem, essential ecological processes and biological diversity of Namibia,” and to utilise “living natural resources on a sustainable basis for the benefit of all Namibians, both present and future.”<sup>292</sup> Such rights to a safe environment are broad enough to cover DRR, CCA and sustainable development within the general frameworks of environmental management for the benefit and safety of the population. However, these constitutional provisions do not allocate specific responsibility to the state for DRR.

**Equality before the law and priority for vulnerable groups:** In addition to the non-discrimination and equality provisions found in most of the national or federal constitutions that include a bill of rights, some have specific measures for certain vulnerable groups. For example, the **Philippines' constitution** has provisions on the protection of children, and **Ecuador's** constitution requires the State to protect “persons in situations of risk” including from “natural or manmade disasters,” with specific attention to assistance for the elderly, children and adolescents in all kinds of emergencies.<sup>293</sup> Under **Nicaragua's** constitution the State has the obligation to uphold a comprehensive set of rights for the protection of its citizens in times of disasters, and to recognize the rights of indigenous peoples to have their own forms of social organization and administration for local affairs, which should affect the way community level DRR is undertaken.<sup>294</sup>

**Protection and/or peaceful enjoyment of property:** The right to property is also conferred in many constitutions. Since the idea of peaceful enjoyment of property is generally associated with the right to property, both aspects are relevant to disaster risk since property such as land, homes, vehicles, animals and other assets may be damaged or destroyed. Hence, when the constitution confers the right to property, it is the government's duty to protect this right by reducing the risk to property from foreseeable natural hazards.

**Rights to food, shelter and health:** Closely related to the commonly recognized general rights to life and property are rights related to food, shelter and health, all of which can be severely impacted by disasters. Some of these rights are covered by national constitutions, including: the rights to housing and food in **Nicaragua**, the rights to shelter and food in **Nigeria**, and the rights to food, health, and housing in **Kyrgyzstan**.<sup>295</sup> Also, **India's** constitutional right to protection of life and liberty has been interpreted by some government directives and judicial decisions as encompassing the right to food/adequate nutrition, adequate shelter and housing, and the right to rescue, relief and rehabilitation.<sup>296</sup>

289 IFRC, *Ecuador Desk Survey — Draft* (2014). *Constitution of Ecuador* (Ecuador, 2008), Art. 389.

290 IFRC, *Ethiopia Desk Survey* (2012), at 16, 35. IFRC, *Ethiopia Case Study* (2013), at 19, 26. *Constitution of Ethiopia* (Ethiopia, 1994), Art. 89(3).

291 IFRC, *Ecuador Desk Survey — Draft* (2014), citing *Constitution of Ecuador* (Ecuador, 2008), Arts. 10, 14, 71-72.

292 *Constitution of Ethiopia* (Ethiopia, 1994), Art. 44(1); *Maneka Gandhi v. Union of India* (Supr. Court of India, 1978), cited in IFRC, *India Desk Survey* (2012), at 25; IFRC, *Namibia Desk Survey* (2012), at 25, citing *Constitution of Namibia* (Namibia, 1990), Art. 95(l).

293 *Constitution of Ecuador* (Ecuador, 2008), Arts. 35, 38, 46, 66.

294 *Ibid.*, Arts. 27, 48, 50.

295 *Constitution of Nicaragua* (Nicaragua, 1987), Arts. 62-84; *Constitution of Nigeria* (Nigeria, 1999), s. 42; *Constitution of the Kyrgyz Republic* (Kyrgyzstan, 2010), Arts. 39-40, cited in UNDP, *Kyrgyzstan Desk Survey — Draft* (2013).

296 IFRC, *India Desk Survey* (2012), at 25.



**Right of access to information on disaster risk:** The HFA, in particular, Priority for Action 2, highlights the importance of access to risk information.<sup>297</sup> Some national constitutions confer general rights to information, such as in **Kyrgyzstan** and **Angola**.<sup>298</sup> However, more specific rights to information on known disaster risks that may affect populations or communities can empower them to reduce their own risk or advocate for improved environmental standards and implementation. **Algeria's** DRM law contains the right to access risk information that emphasizes the principle of participation and the right of citizens to access information on their vulnerability to hazards and the measures they need to take to reduce their risk.<sup>299</sup> This also includes access to information on major risks relevant to the citizen's place of residence or work.<sup>300</sup> Algeria's DRM law does not create an individual right of action to enforce these rights, but it demonstrates how DRR can be reflected in legislative frameworks for DRM in a way that gives residents clear entitlements to risk information and to active participation in DRR, allowing them to contribute to reducing their own risk.

**Remedies for breach of constitutional or legislative rights:** Many sample countries do not make provisions for any direct means of enforcement of constitutional rights against government decisions or actions, but some of the sample countries include mechanisms for enforcement or remedies for breach of constitutional rights. In **India**, citizens can appeal to the Supreme Court or another court with delegated power to ensure the enforcement of their constitutional rights.<sup>301</sup> In **Guatemala**, constitutional rights are enforced under the Spanish tradition law of 'amparo', which is a form of court action available to individuals to enforce their constitutional rights.<sup>302</sup>

## 21.3 Summary of key findings

In addition to the most basic and well understood rights to life and security of the person, and to equality before the law (non-discrimination), some key rights found in sample country constitutions, human rights laws and DRM laws have special relevance to DRR. These include the right to a safe and healthy environment, and rights to property, food, shelter and livelihoods, and access to risk information. An understanding of these rights and their relationship to DRR can be an important avenue for advocacy, especially on behalf of the poorest and most vulnerable groups. In some countries, legal claims relating to failures in DRR can even be made directly by individuals or groups under such constitutional provisions, representing an important channel for both public interest litigation and individual compensation following damage caused by a government's failure to reduce known risks. In addition, the duties imposed by such rights may also be relevant to legal responsibility and liability under DRM or general laws. Clearer links between these rights and DRR could also be established if more DRM laws referred directly to their constitutional underpinnings and mandated support of these rights as part of institutional responsibilities under DRM laws. These questions are also closely related to general questions of government (and also non-government) accountability, responsibility and liability for contributing to or reducing disaster risks.

Based on these findings, it is recommended that further study be undertaken on how human rights relevant to DRR are implemented or claimed in practice, in particular, whether they are used as a basis for DRR advocacy, or to claim compensation for preventable disaster losses. The views of both national legal experts and DRM stakeholders should be considered on the potential of such a rights-based approach to underpin practice by reinforcing government duties to protect relevant rights through DRR.

297 HFA Priority for Action 2, to 'Identify, assess and monitor disaster risks and enhance early warning,' and the key activities identified for its implementation.

298 *Constitution of the Kyrgyz Republic* (Kyrgyzstan, 2010), Arts. 39-40; cited in UNDP, *Kyrgyzstan Desk Survey — Draft* (2013); *Constitution of Angola* (Angola, 2010), Art. 40.

299 *Loi n° 04-20 du 25 décembre 2004 relative à la prévention et à la gestion des catastrophes dans le cadre du développement durable* (Algeria, 2004), Art. 8.

300 *Ibid*, Art. 11.

301 IFRC, *India Desk Survey* (2012), at 25.

302 IFRC, *Guatemala Desk Survey* (2012), at 25, citing *Ley de Amparo, Exhibición Personal y de Constitucionalidad* (Guatemala, 1986). Note that the concept of amparo does not have an equivalent in the English language or in common law jurisdictions.



# Chapter 22: Legal accountability, responsibility and liability for disaster risk reduction

## 22.1 Background

The issue of accountability for DRR has received increasing attention in recent years, especially for government authorities that have clearly mandated responsibilities in this regard. Some forms of accountability are more suitable than others to be systematized within the legal framework for DRM or within the broader frameworks of public safety and legal liability. Hence, the legal frameworks of sample countries were analysed against the following issues of responsibility and liability for DRR:

- whether legislation details any specific forms of reporting, oversight or other accountability mechanisms, or legal responsibility or liability for reducing disaster risk;
- whether legal consequences apply to government agencies/officials for failure to fulfil these responsibilities or duties. The main types of sanctions that are relevant here are administrative sanctions (administrative tribunals and internal government sanctions), civil liability for breach of statutory duty and/or negligence, and criminal liability for negligence;
- whether legal consequences apply to private individuals and businesses for failure to comply with any such responsibilities or duties that apply to them.

## 22.2 Country examples of legal provisions on accountability, responsibility and liability in DRR

**Reporting, oversight or other accountability mechanisms:** Most sample countries do not have specific public reporting or parliamentary oversight mechanisms in their DRM laws, although there are other forms of general public accountability for government agencies. No examples were found where the DRM law required separate public reporting on DRR. However, two examples of statutory reporting and oversight of the DRM law were found: in **Namibia's** DRM law, which provides for strong reporting accountability to the executive government or cabinet; and the **Philippine's** DRM law, which requires parliamentary oversight by a high-level Congressional Oversight Committee to monitor and oversee the implementation of the provisions of the law.<sup>303</sup>

**Administrative sanctions against government officials:** No examples were identified of procedures related to DRR that could be initiated by aggrieved persons in administrative tribunals; and only two examples were found, in China and Kyrgyzstan, of internal administrative sanctions against government officials or agencies concerning DRM laws. For example, in accordance with **China's** emergency response law, a government agency that has failed to fulfil its statutory obligations may be asked to rectify its action, be given an administrative sanction, or be required to compensate people who have suffered loss and damage.<sup>304</sup> Under **Kyrgyzstan's** Law on Civil Defence, officials may be subject to individual fines and penalties using administrative procedures, but cannot be sued under civil law.<sup>305</sup> In both cases, these are potentially significant sanctions, although they are dependent on the government itself to impose the penalties.

303 IFRC, *Namibia Desk Survey* (2012), at 57-58; IFRC, *Philippines Desk Survey* (2012), at 38, citing *DRRM Act* (Philippines, 2010), s. 26.

304 IFRC, *China Desk Survey* (2012), at 32.

305 *Law on Civil Defence No. 239* (Kyrgyzstan, 2009), Art. 23 and *Code of Administrative Responsibility (Law No. 114)* (Kyrgyzstan, 1998), Art. 460, cited in UNDP, *Kyrgyzstan Desk Survey — Draft* (2013).

**Civil liability of government officials for breach of statutory duty or negligence:** Three main approaches to civil liability for DRR were found in the sample countries: breach of statutory duty, negligence and unlawful acts. A statutory duty refers to a specific responsibility allocated to an official or agency under legislation that is breached if they either fail to perform it or do it negligently. An example is found in **Kenya's** *General Law on Government Civil Liability*.<sup>306</sup> For instance, to be liable for failure to warn of an impending hazard, a government authority would need to have a legislative mandate to issue warnings. Since this type of liability is limited to duties set out in legislation, it may be easier for all parties to know their respective responsibilities.<sup>307</sup> The duty holder has clear responsibilities and the members of the public affected by their conduct have some basis to make a judgement on what to expect and when a duty has been breached.

In the case of negligence, the second type of civil liability noted, a government official or agency has a general duty of care towards the population because of the nature of their role, and if they act negligently and cause damage, they can be legally liable. In **Algeria**, for example, under the decentralization law on the wilayas (regions), the wilaya is responsible under civil law for errors or negligence in implementing DRR measures by any of its members.<sup>308</sup> In **Austria**, the *Länder* (states) and each municipality are responsible under civil law for any damage caused by their officials to any individual, although compensation must be paid from disaster funds (Katastrophenfonds) rather than by the individual officials.<sup>309</sup> An unlawful act, the third category of civil liability, only arises when government officials or agencies' conduct is unlawful, whether through negligence or intentionally, as in **Japan**, under the *General Law on State Redress*.<sup>310</sup> These three approaches allow both government agencies and officials to be sued for non-performance or negligent performance of their duties, which can result in a significant sanction. However, many other countries provide whole or partial immunity from civil claims for government officials when acting in their official capacity.

**Criminal penalties for government officials:** A few DRM laws in the sample countries include criminal sanctions relevant to DRR or have specific disaster related crimes in their penal codes. Four main approaches were identified in the country studies:

- the inclusion of criminal sanctions and penalties in the DRM law itself, which can also apply to government officials, such as in the **Philippines** and **India**. The DRM law of the Philippines also covers liability for corporations, while India's DRM law includes some offences specific to government agencies or officials in the sanctions, but grants immunity to government for most offences;<sup>311</sup>
- the inclusion of provisions in general penal or criminal codes that relate specifically to disaster risk, such as in **Kyrgyzstan's** criminal code, which includes violation of fire and health safety standards, concealment or distortion of actual events that threaten people's life or health, as well as criminal negligence;<sup>312</sup>
- the inclusion of criminal behaviour related to DRR as part of the general law, so that, for example, criminal negligence or manslaughter charges could be laid against DRM officials whose conduct fell within these generic crimes. For example, **Kenya's** penal code enables criminal prosecution of government employees if they wilfully neglect their duties (statutory or in common law) or abuse their authority;<sup>313</sup>
- the provision of complete immunity for government officials or those acting in an official capacity from criminal prosecution, as in **Algeria's** DRM law, or the provision of partial immunity for government officials, such as in **India's** DRM law, which protects government officials from some criminal processes when acting in their official capacity in good faith.<sup>314</sup>

306 IFRC, *Kenya Desk Survey* (2012), at Q. 29.

307 The Kenya provision is similar to the concept of 'breach of statutory duty' as grounds for civil liability that is, in principle, also available in Australian law. See Eburn, *The emerging legal issue of failure to warn* (2012), at 54-55.

308 IFRC, *Algeria Desk Survey* (2012), at 54.

309 *Law on Official Responsibility* (Austria, 1984), cited in IFRC, *Austria Desk Survey* (2012), at 18.

310 *State Redress Act, No. 125* (Japan, 1947), Art. 1.1, cited in IFRC, *Japan Desk Survey* (2012), at 39-41.

311 *DRRM Act* (Philippines, 2010), Arts. 19, 20, cited in IFRC, *Philippines Desk Survey* (2012), at 51; *DMA (India, 2005)*, Ch. X, cited in IFRC, *India Desk Survey* (2012), at 26-27.

312 *Criminal Code* (Kyrgyzstan, 1997), Arts. 138, 238, 134, 257, 274, 305, 316, cited in UNDP, *Kyrgyzstan Desk Survey — Draft* (2013).

313 *Penal Code* (Kenya, 2009), Ch. 63, cited in IFRC, *Kenya Desk Survey* (2012), at Q. 29.

314 *Loi n° 04-20 du 25 décembre 2004 relative à la prévention et à la gestion des catastrophes dans le cadre du développement durable* (Algeria, 2004), Arts. 19, 23, 62, 70, 72 and 79, cited in IFRC, *Algeria Desk Survey* (2012), at 54; *DMA (India, 2005)*, Arts. 54, 73, 74, cited in IFRC, *India Desk Survey* (2012), at 26-27; IFRC, *Odisha, India, Desk Survey* (2012), at 46-47; IFRC, *Punjab, India, Desk Survey* (2012), at 33-34.

**Civil liability for private individuals and corporations:** Some DRM laws in the sample countries include administrative or civil law sanctions for non-compliance by individuals and corporate entities. For example, **Mexico's** DRM law requires private sector individuals dealing with hazardous materials, hydrocarbons and explosives to develop and file civil protection plans (in nature DRM plans), with corresponding sanctions if they fail to do so.<sup>315</sup> With the exception of specific offences such as causing public alarm due to false hazard warnings, the idea of private individuals being liable for damage caused by a natural hazard emanating from their property is not found in many jurisdictions. In **Italy**, for example, natural hazard occurrences are legally defined as 'acts of God' and are therefore not actionable.<sup>316</sup> However, in **Kenya**, they may fall within the common law on negligence although this is not regulated by statute, while in **Japan**, private individuals are liable for damage from a natural hazard emanating from their property, and this liability may be either civil or criminal (if it meets the criminal threshold).<sup>317</sup>

**Criminal sanctions against private individuals and corporations:** Some countries also have the option to impose criminal sanctions on private individuals for breaches of DRM laws, or more commonly for breach of other sectoral laws such as fire prevention laws. They may even use serious criminal offences such as charges of manslaughter for breaches of duty leading to loss of life. Examples of DRM laws that establish offences applying to private individuals and have sanctions for negligently or illegally constructing high-risk developments are found in **Algeria** and, from outside the sample group, in **Indonesia**.<sup>318</sup> The latter also provides for criminal liability of corporations.<sup>319</sup> These provisions show the potential relevance to DRR implementation of criminal sanctions designed to prevent the creation of new public threats by building or constructing in a manner that increases vulnerability to natural hazards. Three other sample countries establish offences related to disaster warning. The DRM laws in the **Philippines** and **India** include offences concerning disaster warning equipment or processes.<sup>320</sup> In India, this makes it possible to prosecute corporations for offences.<sup>321</sup> One of the offences most relevant to DRR is that of circulating a false warning that leads to panic (punishable with a fine or up to one year's imprisonment).<sup>322</sup> In **Italy**, the criminal code establishes a similar offence of raising alarm by giving a false warning.<sup>323</sup>

## 22.3 Experiences with implementing legal provisions on accountability, responsibility and liability in DRR

The case studies did not provide data on the implementation of legal liability and accountability, because stakeholder consultations did not extend to legal experts in these areas. Hence, this is proposed as an area for further study. Nevertheless, other sources indicate how such mechanisms are used and will be presented in this section.

An example of implementing legal obligations for public accountability in DRR was found in **India**, where a public interest lawsuit was filed in 2013 in the Supreme Court, based on a claim that six disaster prone states failed to properly implement India's federal *Disaster Management Act of 2005* (DRM law).<sup>324</sup> At the time of writing, the Court had requested replies from the relevant states.<sup>325</sup>

The extent to which criminal penalties in DRM laws are applied in practice and whether this has had any impact on DRR outcomes is not well documented. However, two recent examples of such prosecutions that have received worldwide media attention were identified. In **Italy**, a criminal prosecution highlighted

315 UNDP, *Mexico Case Study — Draft* (2013), citing *Ley General de Protección Civil* (Mexico, 2012), Art. 79.

316 Ibid.

317 IFRC, *Japan Desk Survey* (2012), at 42.

318 *Loi n° 04-20 du 25 décembre 2004 relative à la prévention et à la gestion des catastrophes dans le cadre du développement durable* (Algeria, 2004), Arts. 19 & 70, 23 & 79, 62 & 72, cited in IFRC, *Algeria Desk Survey* (2012), at 55; *Law concerning Disaster Management No. 24* (Indonesia, 2007), Arts. 75-79. Penalties range from fines to ten years' imprisonment if the conduct of the accused inadvertently causes death, and up to 12 years if there was intent.

319 *Law concerning Disaster Management No. 24* (Indonesia, 2007), Art. 79.

320 *DRRM Act* (Philippines, 2010), Arts. 19, 20, cited in IFRC, *Philippines Desk Survey* (2012), at 51-52; and *DMA* (India, 2005), at Ch. X, cited in IFRC, *India Desk Survey* (2012), at 26-27.

321 *DMA* (India, 2005), Arts. 55, 56, 58.

322 IFRC, *India Desk Survey* (2012), at 26-27, citing *DMA* (India, 2005), Arts. 54, 73, 74; IFRC, *Odisha, India, Desk Survey* (2012), at 46-48; IFRC, *Punjab, India, Desk Survey* (2012), at 32-34.

323 IFRC, *Italy Desk Survey* (2012), at 27.

324 'Natural calamity prone states have no disaster management mechanism: PIL,' *The Times of India*, 20 July 2013.

325 *DMA* (India, 2005), ss. 14(2), 20(1), 22, 25, cited in IFRC, *Punjab, India, Desk Survey* (2012), at 18-20.

differing views on what can be considered criminally negligent behaviour in relation to DRR, and whether hazard warning responsibilities should be subject to criminal liability. The case concerned the warning obligations of government advisers prior to the earthquake in L'Aquila, Italy in April 2009, in which 309 people died. In 2012, a regional court in Italy convicted six earthquake scientists and an ex-government official of multiple manslaughter.<sup>326</sup> The seven defendants, who were members of the National Commission for the Forecast and Prevention of Major Risks, were convicted because they provided "inaccurate, incomplete and contradictory" information about the danger in the wake of tremors felt prior to the L'Aquila earthquake.<sup>327</sup> Another example of the use of criminal sanctions was reported in **France**, where a mayor, other involved officials and two construction companies, were indicted on criminal charges of involuntary homicide/manslaughter due to town planning decisions and the issuance of building permits that led to flood related deaths during a storm.<sup>328</sup>

## 22.4 Summary of key findings

Few legislative provisions were identified within DRM laws that require DRR or DRM reporting to the executive government, the parliament and/or the public. Therefore, there is considerable scope for development in this area, for example through specific provisions requiring publicly available (especially online) reporting, as well as government and parliamentary oversight mechanisms. The effectiveness of implementation of such provisions where they exist, and the extent to which they contribute to transparent monitoring and evaluation of the DRM law's implementation should also be investigated.

There were no examples identified of the availability of administrative tribunals for individual complaints against government agencies within DRM laws. Hence, further study on the potential scope of generalist administrative tribunals for this purpose would be worthwhile. Additional study is also proposed on the existence and use of internal government administrative sanctions and their potential for giving compensation to members of the public that came to harm.

The country studies identified varied approaches, in DRM and general laws, to the availability of civil or criminal liability for government officials or agencies concerning DRR responsibilities. Further study should present a more comprehensive overview of current legislative provisions and practice in their implementation. This is needed in order to identify how such provisions are used and in particular what stakeholders regard as an incentive to drive effective DRR implementation by national and local government agencies.

The availability of civil or criminal liability against private individuals and corporations for failing to fulfil DRR obligations also varied considerably across the sample countries. Again, further study is recommended, including on the rationale as to why some countries put such mechanisms in place and others do not. A focus on corporate or business liability for DRR failures in development planning could highlight the role of the private sector in reducing underlying risks in new developments and the potential of such sanctions to achieve greater compliance with building and planning safety regulations.

Civil liability, in particular, may be useful to address the misconception that natural hazards unavoidably cause disasters, and could help to increase government accountability for the risks that authorities either create or allow to accumulate. For example, as already mentioned in the section on decentralization, local officials may not share the vulnerability of the poorest members of their communities, and thus cannot necessarily be relied on to give their concerns a high priority.<sup>329</sup> Therefore, in some cases, even if there is a legal mandate to undertake DRR at local government level, it may not be given political priority or resources. Hence, it has been suggested that local officials may need other incentives – including sanctions – to ensure DRR. The same issue may also apply at higher levels of government.

326 There is no government immunity for such cases in Italy: see IFRC, *Italy Desk Survey (2012)*, at 27-28. Since the authors do not have access to a translation or expert commentary on the Italian judgment in this case, which was issued in 2013, this analysis is based on the following press reports: 'L'Aquila quake: Italy scientists guilty of manslaughter', *BBC News Europe*, 22 October 2012.; 'Italy Orders Jail Terms for 7 Who Didn't Warn of Deadly Earthquake', *New York Times*, 23 October 2012; 'Is Failure to Predict a Crime?' (*Opinion*), *New York Times*, 29 October 2012.

327 IFRC, ITALY: Earthquake, Information bulletin n°1 (2009); 'L'Aquila quake: Italy scientists guilty of manslaughter', *BBC News Europe*, 22 October 2012.

328 'Tempête Xynthia: le maire de La Faute-sur-Mer inculpé pour « homicides involontaires »', *Le Monde.fr*, 27 August 2013.

329 UNDP, *Study on Disaster Risk Reduction (2011)*, at v-vi.

Issuing hazard warnings is one aspect of DRR responsibility that a number of countries have made subject to civil or criminal liability. Civil suits (tort action) have also been advocated by some authors as a way of making authorities accountable for hazard warnings. Indeed, these approaches have been used successfully for many years in relation to industrial accidents. However, other authors have asserted that legal sanctions for failures to take DRR measures are not appropriate, because they discourage a communal approach to DRR and may lead to unfair recriminations against individuals following a disaster.<sup>330</sup> In accordance with HFA Priority for Action 4, it is just as important to emphasize responsibility for reducing underlying risks. Hence, in the L'Aquila earthquake disaster, one could also ask if the buildings were earthquake resistant, if there was any public space for evacuation, if there was an earthquake contingency plan, if the affected community had ever undergone emergency drills or had any past practice of evacuation, and who was responsible for any or all of these elements of DRR.<sup>331</sup> While legal liability overall has potential application as a tool to support DRR, there are still considerable gaps in understanding whether and how it is used in practice, and whether it leads to improved DRR accountability and responsibility.

## Chapter 23: Legal frameworks for disaster insurance and other risk-sharing mechanisms

### 23.1 Background

Insurance and other risk-sharing mechanisms as a way to increase economic resilience in the face of disasters have been the focus of attention in recent years. However, since there may be limited scope for a private insurance market in many less developed countries and industry concerns over disaster insurance in higher-income countries, much emphasis has been placed on supporting the financing of disaster insurance. For example, the World Bank's Disaster Risk Financing and Insurance Programme assists developing countries to increase their financial resilience to disasters in a number of ways, including through micro-insurance and schemes that focus on the agricultural sector.<sup>332</sup> This builds on prior work undertaken in recent years.<sup>333</sup>

A number of governments have recently announced their intention to establish national disaster insurance schemes, especially in the agricultural sector, but to date, few have become operational. These announcements have included a pilot scheme by a group of Pacific island countries, and policy initiatives from the Governments of Bangladesh, Pakistan, and Sri Lanka, as well as the more developed pilot scheme for agricultural insurance in Viet Nam.<sup>334</sup>

330 For a view against the use of tort litigation for these reasons, see Eburn, 'Litigation for failure to warn of natural hazards and community resilience' (2008), at 10; Eburn, 'The emerging legal issue of failure to warn' (2012), at 13. For a view in favour of the use of tort litigation, see Kumar and Srivastava, 'Tort Law Perspectives on Disaster Management' (2006).

331 In some common law jurisdictions, plaintiffs suing for failure to warn would need to bring evidence that they would have acted differently if they had received the warning. Eburn, 'The emerging legal issue of failure to warn' (2012), at 54-55; IFRC, *Victoria, Australia, Desk Survey* (2013), at 52.

332 'Heavy disaster losses for insurance companies in 2011,' *UNISDR*, 11 January 2012; GFDRR Disaster Risk Financing and Insurance Program, *Disaster Risk Financing and Insurance*, available at [web.worldbank.org](http://web.worldbank.org).

333 ProVention, *Experiences in Micro-Insurance* (2004).

334 World Bank, '5 Pacific Island Nations to Be Insured Against Natural Disasters' (2013); 'Bangladesh to trial weather index based crop insurance,' *Alertnet*, 21 August 2012; 'Pakistan working to provide disaster risk insurance for its 180 million population,' *PreventionWeb*, 25 July 2012; 'Weather extremes push Sri Lanka to adopt crop insurance,' *Alertnet*, 13 December 2012; IFRC, *Viet Nam Desk Survey* (2012), at 26; IFRC, *Viet Nam Case Study — Draft* (2013).



## 23.2 Country examples of legal provisions on disaster insurance and other risk-sharing mechanisms

**Insurance and risk transfer mechanisms:** In the case studies, legislation establishing compulsory disaster risk insurance was found only in **Mexico**, where the federal DRM law requires states to contract disaster insurance and other risk management and transfer instruments.<sup>335</sup> However, the secondary sources consulted, indicated that a number of higher-income countries have either compulsory general insurance or strong incentives for property owners to insure against risks, for example through penalties in mortgage costs in **Japan**, or subsidized home insurance in the **United States**.<sup>336</sup> In the absence of a viable commercial insurance market, even publicly subsidized or funded insurance has proved too costly for many countries. For example, the Finance Commission of **India** recently examined the feasibility of a national insurance fund based on state governments contributing a percentage of revenues, but concluded that the operational costs of administering such a fund for so many vulnerable people with little to insure, was prohibitive.<sup>337</sup> By contrast, both **Viet Nam** and **China** have publicly subsidized agricultural insurance schemes established by regulation.<sup>338</sup>

**Public compensation schemes:** Many countries also provide compensation for damage caused by natural hazard induced disasters from special funds, or from general government revenues. For example, both the laws in **China** and **Viet Nam** currently provide compensation for disaster damage and food distribution, as needed, from public funds. **Italy**, on the other hand, does not have any ongoing legal regulation governing compensation for damage from disasters, but adopts a legislative decree each time a disaster occurs, resulting in some variation in types, levels and comprehensiveness of compensation.<sup>339</sup>

## 23.3 Experiences with implementing legal provisions on disaster insurance and risk-sharing mechanisms

**Viet Nam** has been piloting a legislatively established scheme on agricultural insurance since 2011. Among other things, this programme aims to support farmers to actively recover and compensate for financial losses caused by disasters and agricultural pests and diseases. To date, uptake has reportedly not been high, possibly because public safety nets provide sufficient cover for smallholder farmers.<sup>340</sup> Occasionally, government insurance subsidies can also work against risk reduction. This was recently recognized in the **United States**, where FEMA had previously subsidized insurance for homes in hurricane prone coastal areas because private insurance costs were considered too high, even though they were based on actuarial risk assessments.<sup>341</sup> Following Superstorm Sandy in 2012, FEMA implemented a system where it no longer subsidizes insurance for these high risk properties, but rather provides subsidies for home owners to reduce their risk, for example by elevating their homes above predicted flood levels.<sup>342</sup>

## 23.4 Summary of key findings

Public compensation schemes are certainly a necessary part of disaster recovery in most countries, and will continue to be important in assisting those in need following a disaster, but insurance and other risk-sharing schemes can serve an additional purpose. If designed to both smooth costs and engender a culture of prevention, they can contribute to community resilience against disasters by both reducing economic shocks and improving DRR. However, given the very limited findings on legal frameworks to encourage insurance and other risk-sharing mechanisms, this is identified as an area requiring further study from a legislative perspective in concert with experts on policy and financial aspects. A multi-disciplinary approach

335 UNDP, *Mexico Case Study — Draft*, Eng. trans. (2013), citing *Ley General de Protección Civil* (Mexico, 2012), Art. 18.

336 McCarthy and Keegan, *FEMA's Pre-Disaster Mitigation Program: Overview and Issues* (2009).

337 Government of India, *Report of the Thirteenth Finance Commission 2010-2015* (2010).

338 IFRC, *China Desk Survey* (2012), at 33-34; and IFRC, *Viet Nam Case Study — Draft* (2013).

339 IFRC, *China Desk Survey* (2012), at 30, 33-34; IFRC, *Viet Nam Case Study — Draft* (2013); IFRC, *Italy Desk Survey* (2012), at 25.

340 Government of Viet Nam, *Decision No. 315/2011/QĐ-TTg on piloting agricultural insurance in 2011–2013* (Viet Nam, 2011); *MARD Circular No 47/2011/TT-BNNPTNT on guiding the implementation of Decision No 315/2011/QĐ-TTg* (Viet Nam, 2011), cited in IFRC, *Viet Nam Desk Survey* (2012), at 26, discussed in IFRC, *Viet Nam Case Study — Draft* (2013).

341 McCarthy and Keegan, *FEMA's Pre-Disaster Mitigation Program: Overview and Issues* (2009).

342 'The Hard Math of Flood Insurance in a Warming World,' *Time*, 1 October 2013.

is recommended, given that most initiatives in this field have, to date, come from outside legislative frameworks, driven by both national and international actors. Risk-sharing and insurance initiatives involve government and private actors, and, therefore, warrant interaction between law and policy, financial and social welfare initiatives.

## Chapter 24: Customary law and DRR

### 24.1 Background

Forms of customary, traditional, tribal and indigenous law are recognized to varying degrees in different countries, most often in postcolonial countries where dual or pluralist systems of law operate (i.e. based on the colonial legal system, combined with one or more indigenous law systems).<sup>343</sup> For the purposes of this study, these indigenous law systems are described by the general term ‘customary law’, which is often unwritten, but may still be recognized as legally valid and binding.

In relation to DRR, customary law is most frequently applied in rural areas concerning matters such as land ownership and use, water resources, and local governance in rural communities.<sup>344</sup> For example, in some African countries, over 90 percent of land transactions are governed by customary law.<sup>345</sup> In Southeast Asia, the situation varies from no recognition of customary law in Thailand, to legislated recognition in Cambodia and the Philippines, and to common law recognition through case law in Malaysia.<sup>346</sup> Some other common law countries such as Australia, Canada, New Zealand and the United States also recognize certain customary laws and land rights.<sup>347</sup> This may be achieved through a combination of constitutional, treaty based, legislative and case law mechanisms.<sup>348</sup> In Latin America, especially where there is a Spanish civil law legacy, there may be no recognition of customary law, except in the case of agreed international commitments (such as *International Labour Organisation Convention No. 169*) and constitutional or legislative provisions to recognize indigenous customary laws, especially regarding land rights.<sup>349</sup>

While the importance of indigenous knowledge in DRR is being increasingly recognized and studied, the more formal aspects of this knowledge in the form of accepted customary laws or rules have not yet been subject to the same scrutiny.<sup>350</sup> However, a strong connection between customary law and DRR was internationally recognized in 2011 when the town of San Francisco on Camotes Island in Philippine’s Cebu Province won the UN Sasakawa Award for Disaster Risk Reduction. This town was using the Purok system, a traditional method of self-organization within villages, as a way to build the capacity of people to reduce disaster risk.<sup>351</sup>

343 FAO, *Statutory recognition of customary land rights in Africa* (2010), at 3, 23.

344 FAO, *Law and sustainable development since Rio* (2002), at 221.

345 FAO, *Statutory recognition of customary land rights in Africa* (2010), at 3; Cotula et al., *Policies and Practices for Securing and Improving Access to Land* (2006), at 21.

346 Malaysia case law - *Superintendent of Lands & Surveys, Miri Division & Anor v Madeli bin Salleh* [2007] 6 CLJ 509; [2008] 2 MLJ 677; [2007] 6 CLJ 509; [2008] 2 MLJ 677.

347 Common law refers to those that have evolved from the British legal system, where the decisions of superior courts make binding law that must be followed in later decisions unless it is overturned by legislation. By contrast, the colonial civil law systems derived from continental Europe, establish laws only through constitutional provisions and legislative codes. Nevertheless, some countries from both of these traditions have since decolonization recognized prior customs, resulting in dual or plural legal systems.

348 *Native Title Guide – Federal Court of Australia* at [www.fedcourt.gov.au/law-and-practice/areas-of-law/native-title](http://www.fedcourt.gov.au/law-and-practice/areas-of-law/native-title); *Treaty of Waitangi*, New Zealand; and Davis, ‘By Purchase or Conquest,’ *Law’ Dartmouth Law Journal*, August 2011..

349 *ILO Convention 169, the Convention concerning Indigenous and Tribal Peoples in Independent Countries*; Ortiga, *Models for Recognizing Indigenous Land Rights in Latin America* (2004), at 2-3.

350 For example, UNISDR, *Indigenous Knowledge Good Practices and Lessons Learned from Experiences in the Asia-Pacific Region* (2008).

351 ‘Call for better planning in wake of Manila floods,’ *UNISDR*, 27 August 2012.

## 24.2 Country examples of DRR in customary law

The influence of customary law and traditional authorities in DRR was found in **Ethiopia, Madagascar, Namibia, New Zealand, Nicaragua** and **South Africa**. In **New Zealand**, the Māori (the indigenous people of New Zealand) have legislated authority as guardians of the land and natural resources under the principles of their original treaty with the British, the *Treaty of Waitangi*.<sup>352</sup> The *Resource Management Act*, in particular, recognizes the role of the Māori in natural resource management and of their Kaitiaki (guardian) groups in monitoring their local environments. In **South Africa**, there is also a formal recognition of the traditional authorities, including customary courts.<sup>353</sup> These authorities participate in the national, provincial and municipal disaster management advisory forums under the DRM law.<sup>354</sup> The DRM law also requires that indigenous knowledge be taken into account in compiling national and provincial disaster management frameworks and plans.

## 24.3 Experiences with implementing DRR in customary law

In **Namibia**, the constitution and the *Traditional Authorities Act of 2000* recognize Namibian customary law. The Act empowers the traditional authorities to administer and execute the customary law in their communities. In practice, this was found to extend to allocating land use rights, resolving disputes and acting as the de facto gateway for interactions between external stakeholders and the traditional community, as well as environmental conservation, forestry management and communal water use.<sup>355</sup> The case study found that the traditional authorities were recognized as the main authority in the rural communities visited, even while technically having no specific role in formal local governance. However, formal recognition of customary law and rights can be challenging to implement. For example, in **New Zealand**, a current reform process aims to clarify the role of the Māori and potentially strengthen their role in DRR decision-making.<sup>356</sup> However, it emerged from the case study and other sources that, to date, Māori resources and cultural strengths have not been integrated into pre-disaster planning and emergency response strategies at the national level in any meaningful way.<sup>357</sup>

Other forms of customary or indigenous law have mixed levels of formal legal recognition. For example, in **Ethiopia**, most pastoral and agro-pastoral land tenure is based on customary law, but there are also customary rules on water resource management that are not recognized outside the relevant communities. At a more formal level, the kebele (communal authority) in the Tigray communities have by-laws on water, pastures and grazing. Also, informal traditional approval processes for new buildings are implemented in Ethiopia at the community level.<sup>358</sup> In **Madagascar**, no formal recognition of customary laws was found in legislation, but community focus groups in the eastern coastal areas indicated a strong and revived use of traditional rules known as *dina*. Communities reported using these rules for DRR in water and sanitation by prohibiting soiling of local waterways and imposing penalties (fines or in-kind) for those who breached the *dina*.<sup>359</sup>

## 24.4 Summary of key findings

The above examples give an indication of how traditional authorities and customary law can be part of effective DRR at the community level. However, given the limited nature of these findings, this was identified as an area worthy of further study using an interdisciplinary methodology adapted to understanding the operation of customary and traditional laws in selected communities. This approach recognizes that customary law as the basis for community organization and natural resource management is very localized, acknowledged to differing degrees in countries' formal legal systems, and not necessarily integrated within DRM and sectoral laws to manage disaster risks. In addition, based on observations from the country case studies and secondary materials, particular attention needs to be paid to the needs of women and socially excluded and vulnerable people when using customary law to support DRR.

352 IFRC, *New Zealand Case Study — Draft* (2013).

353 Weeks, *Beyond the Traditional Courts Bill* (2011).

354 IFRC, *South Africa Case Study* (2012), at 8, 29.

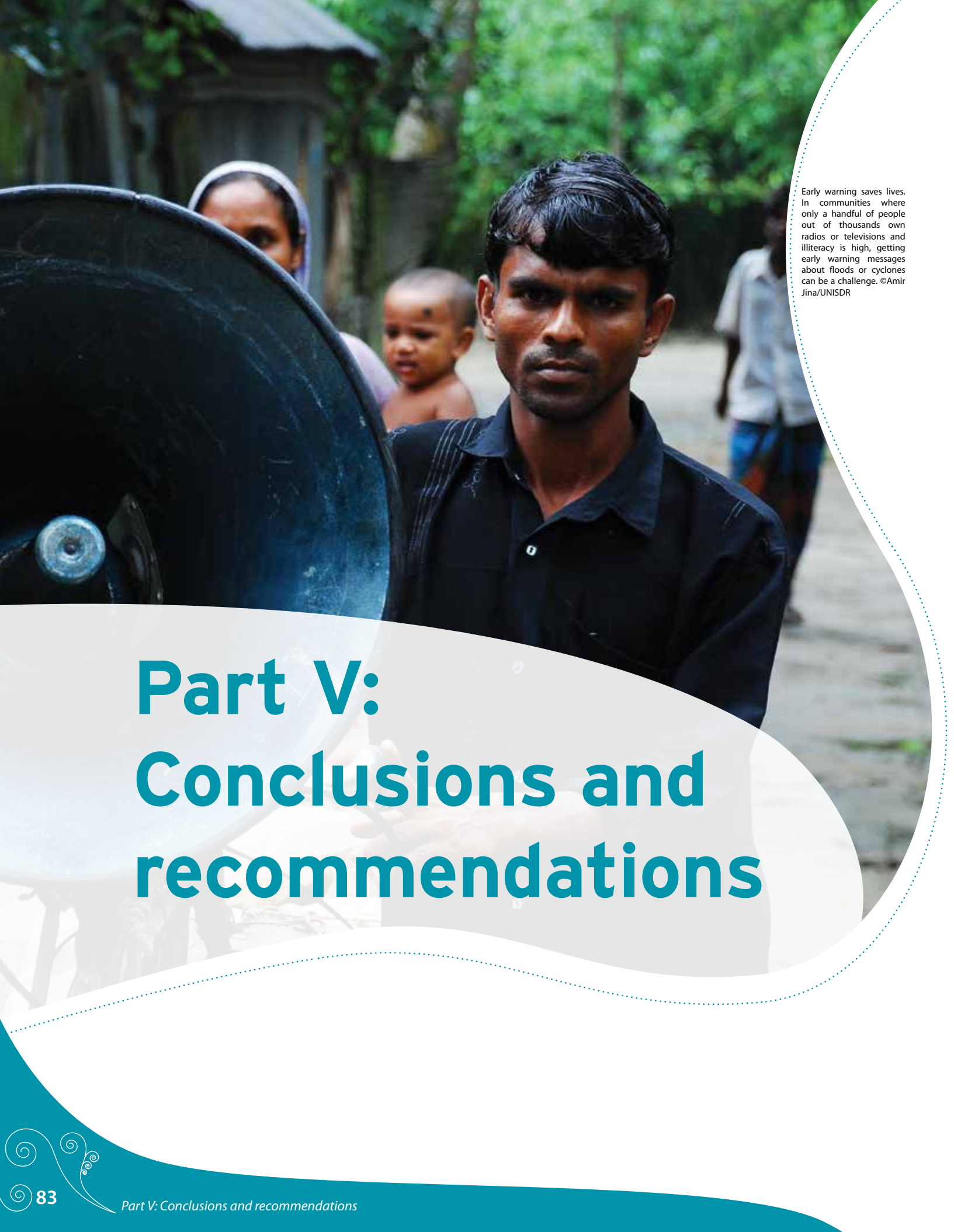
355 UNDP, *Namibia Case Study* (2014), at 13, 43.

356 IFRC, *New Zealand Desk Survey* (2012), at 23.

357 Kenney et al., *Addressing Risk and Resilience — An Analysis of Maori Communities and Cultural Technologies in Response to the Christchurch Earthquakes* (2012), at 373-376.

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Early warning saves lives. In communities where only a handful of people out of thousands own radios or televisions and illiteracy is high, getting early warning messages about floods or cyclones can be a challenge. ©Amir Jina/UNISDR

# Part V: Conclusions and recommendations



# Conclusions

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Based on a systematic analysis of examples from 31 countries with a variety of risk profiles and human development levels, this report provides background information and recommendations for those involved in preparing, reviewing and implementing effective DRM legal frameworks. The country examples have demonstrated that effective legal frameworks for DRR are not restricted to stand-alone DRM laws, but form part of a highly integrated system of laws that include both sectoral laws and local government mandates. Recognizing that development can be a key contributor to disaster risk, a multi-sectoral and localized approach allows risk to be regulated where it is most often generated.

The report has identified substantial challenges in implementation, which raise important questions about how legal frameworks for DRM can help to establish an approach that is sustainable within the resources and capacity of each country. Since some countries clearly face overall resource shortfalls for their DRM needs, particularly at the level of local government, it is important that legislation supports greater civil society and community participation to engender a whole-of-society approach to DRR. The question of the relative priority of disaster risk governance and DRR over other governance concerns is likely to remain in the years to come, but may be partly alleviated by providing access to dedicated national funds for DRR as already seen in some countries.

Whilst the main purpose of the report was to assist lawmakers, public administrators, and DRR and development practitioners in preparing and reviewing legal frameworks for DRM, the report's findings and recommendations also provide guidance to IFRC and UNDP in helping them fine-tune their policies, programmes and tools to better address countries' DRR law needs.

Since 2005, UNDP has been an important global partner in the implementation of the HFA, working with governments, communities and partners in building capacity to effectively prevent, prepare for, and respond to disasters. In that time, 58 countries have strengthened their DRR institutional and legal frameworks with UNDP support. This was achieved through a holistic, governance oriented approach that focused on integrating DRR at policy, law, and institutional level. UNDP's Strategic Plan 2014 – 2017 has given renewed impetus for forging ahead with this approach, and the findings of this report, informed by real country examples and experiences, will provide the necessary direction.

The IFRC and its members began their turn toward prioritizing disaster risk reduction in the 1980s, and took an historic commitment to this effect at the 28<sup>th</sup> International Conference of the Red Cross and Red Crescent in 2003. The IFRC has also served as a major promoter of the goals of the HFA, including through the development of community based programming to identify vulnerabilities and capacities, build resilience and maintain 'last-mile' early warning systems. Since 2001, the IFRC and its members have additionally been active in supporting states to develop their legal preparedness for disasters. In that time, projects have been undertaken in 61 countries. In 2011, the state parties to the Geneva Conventions and the Red Cross and Red Crescent Movement adopted Resolution 7 at the 31<sup>st</sup> International Conference, calling on the IFRC and National Societies to cooperate with UNDP and other key partners to support states to review their laws for disaster risk reduction. This study is an important step in implementation of that commitment.

Inspired by the complementarity of their efforts in preparing this report, IFRC and UNDP have committed to continue their partnership in the area of DRR Law beyond the preparation of this multi-country report. Immediate priorities for future collaboration include:

- advocating for the recognition of DRR law in the consultations on the successor agreement to the HFA, as well as the consultations on the sustainable development goals and the universal climate agreement, all of which will culminate in 2015;
- developing a 'DRR law checklist' to assist lawmakers, as well as DRR and development practitioners with reviewing legal frameworks for DRM;
- developing other programmatic and analytical tools based on the DRM law typology to be used by IFRC and UNDP staff and National Societies in supporting lawmakers;
- facilitating the exchange of best practices and lessons learned among countries.



In total, 17 recommendations are drawn from the report's findings. As the first large-scale comparative study on laws for DRR, the report also defines the need for more research in a number of thematic areas which could not be adequately covered in this report.

## Recommendations on DRM laws

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### No. 1 - Prioritization of disaster risk reduction in DRM laws

The country examples have shown that the level of priority given to disaster risk reduction in DRM laws depends on a range of issues, including the prevailing risk and governance context, the level of understanding of DRR, and the DRM needs and gaps in the country. It is recommended, therefore, that lawmakers and administrators base their decisions on which type of DRM law they wish to pursue on a thorough analysis of their country's context and DRM needs, as well as the capacities and resources available to implement the legal provisions. Such an analysis should guide the decision on whether there is a need for a law that focuses on preparedness and response (type 1 DRM law), a broad DRM law (type 2 DRM law), or a DRR priority law (types 3 and 4 DRM laws). If there is consensus that DRR should be the main focus of the DRM law, the following suggestions are offered:

- Give DRR a sufficiently high priority in the objectives of the law and in the institutional mandates that it establishes;
- Emphasize a whole-of-society approach that helps to increase understanding of DRR among administrators, practitioners and the public;
- Mandate a central institution that has the capacity to provide national leadership on DRR;
- Ensure the DRM law provides an umbrella for other laws that regulate disaster risks by establishing mechanisms for cross-sectoral coordination, especially with laws and institutions that govern development planning at both the national and local levels, in order to support DRR mainstreaming into development;
- Build in mechanisms to review implementation of the DRM law, taking a 'continuous improvement' approach to legislative frameworks to ensure that it is adapted to emerging DRR needs.

### No. 2 – Relationship between disaster risk reduction policy and DRM legal frameworks

The country examples indicate that DRR is currently a more distinct priority in policies, plans and strategies than in most legal frameworks. Moreover, they also indicate that DRM policy and law can positively influence each other in order to progress the DRR agenda. It is recommended, therefore, that lawmakers and administrators use legislative and policy instruments strategically, as key pillars to foster more effective implementation of DRR, in particular by using policy to set the political agenda for planned law reforms, and to put in place specific mechanisms for the implementation of new or revised DRM laws.

### No. 3 – Institutional frameworks for decentralized implementation in DRM laws

There is a marked trend in the country examples towards placing more DRR responsibilities at the sub-national level, including through legislative mandates. Irrespective of whether these responsibilities are integrated into existing local government functions or assigned to dedicated sub-national DRM structures

operating under the national focal agency for DRM, they are often reported to be under-resourced and/or lacking skills and capacity for the tasks assigned to them. It is recommended that, when establishing or reviewing institutional structures for DRM, lawmakers and administrators ensure that these are sustainable in the long term within the available governmental resources. Resources should be allocated, and capacity strengthened as necessary including through training, to accompany new legislative responsibilities for DRR at the local level. It may also be useful to examine how local institutions could carry out their DRR responsibilities more effectively with increased community and civil society participation.

#### **No. 4 – Financing of disaster risk reduction in DRM laws**

In view of competing priorities for resources, the country examples have shown that it is often difficult to ensure dedicated financing for DRR in the face of pressing response and recovery needs. Especially in poor countries where overall resourcing for DRM is an issue, it is recommended to introduce specific DRR resource streams under law as an 'affirmative action' measure within DRM budgets. This could be achieved by establishing special national and/or local statutory funds dedicated to DRR gathered from a variety of funding sources, including from the private sector and external donors. It could also be achieved by mandating specific resource allocations at the national and local levels for DRR from DRM budgets, or by making federal DRR funds available for which local government and communities can apply directly. In view of the still limited information available on national level funding of DRR, the issue of effective national mechanisms for resource allocation for DRR in both legal and policy frameworks needs to be pursued further and would benefit from the involvement of country level partners that are expert in the design and implementation of DRM financing.

#### **No. 5 – Participation of civil society and communities under DRM laws**

Evidence from the country examples indicates that even when legal provisions mandate participation in DRR, they are not always easily implemented. In order to strengthen community based implementation of DRR, it is recommended that lawmakers consider including more comprehensive and detailed provisions in DRM laws that mandate the specific representation of civil society organizations and communities in DRM institutions and processes at the national and local levels. This is an important element in achieving a DRM system that is better adapted to the needs of those at risk from natural hazards, that takes account of local knowledge, and that supports communities in making informed choices about the risks they face and the related decisions that affect their lives.

#### **No. 6 – Inclusion of women and vulnerable groups in DRM laws**

Greater inclusion of women and the most vulnerable in DRR planning and implementation is an important measure to prevent them from being disproportionately affected by disasters. While several country examples mandate the formal participation of women and vulnerable groups by law, in most cases, these legal provisions are merely aspirational statements. It is recommended, therefore, to mandate by law specific mechanisms that facilitate the representation of women and vulnerable groups in both national and local DRM institutions and processes. Since the study was not able to gather sufficient data on the implementation of legal provisions for the inclusion of women and vulnerable groups, this is an area that would lend itself to further in-depth research on legal provisions and practice concerning their involvement in DRR needs assessments, planning, implementation and institutions.

#### **No. 7 – Early warning and risk mapping in DRM legal frameworks**

The potential of legal frameworks to underpin the development of multi-hazard EWS has not yet been sufficiently exploited in most of the sample countries. It is recommended that lawmakers consider establishing clear roles and responsibilities for systematic national risk mapping and responsive multi-hazard EWS for different levels of government and technical institutions, and that they mandate the inclusion of communities in order to enhance opportunities to provide 'bottom-up' information.

## **No. 8 – DRR education and public awareness in DRM legal frameworks**

Insufficient resources and capacity are identified as issues in the implementation of legal provisions on public education and awareness for DRR in a number of countries. This needs to be addressed in order to support a whole-of-society approach to DRR. It is recommended that DRM laws specifically assign legal mandates on community awareness, together with implementation mechanisms, and that consideration be given to the inclusion of corresponding provisions in both DRM and education laws concerning child and adult education.

# **Recommendations on building, planning and environmental laws**

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## **No. 9 – DRR in building codes and land use regulations**

Although many of the sample countries have legally enforceable building codes and land use planning laws, few of them specifically consider DRR within their provisions and they are rarely linked to existing DRM laws or institutions. In general, local government is responsible for their implementation, and a lack of capacity and resources at this level is identified as a major challenge for implementation in many lower- and middle-income countries, together with issues of compliance. It is recommended, therefore, that lawmakers and administrators:

- review laws on building, construction and spatial planning to ensure that they cover the whole territory, are regularly updated to the latest natural hazard standards, and give appropriate priority to schools, hospitals and other public buildings as well as large commercial developments where significant numbers of people gather;
- increase cross-sectoral coordination between building regulations, construction and spatial planning on the one hand, and DRR initiatives under DRM laws on the other hand;
- promote safety regulations in the built environment as a key pillar of a whole-of-society approach to DRR in order to reduce underlying risks and prevent the creation of new risks from natural hazards due to the nature of construction and urban development;
- increase local technical capacity and resources to enforce building and spatial planning regulations;
- use legal sanctions, where available, in cases of non-compliance leading to unsafe buildings or other developments that may increase risk levels, and introduce such sanctions where they are currently absent.

## **No. 10 – DRR in legal provisions for informal settlements**

Only a few of the sample countries have legal provisions that comprehensively address public safety concerns in informal settlements. When residents face the insecurity of being evicted and their homes demolished, there is little incentive for them to take long-term DRR measures. It is recommended, therefore, that countries facing the issue of informal settlements in high-risk areas review their legal and policy frameworks in order to determine how they can be implemented more effectively to reduce disaster risk in informal urban settlements. This should include analysing issues related to residents' rights, as well as governmental duties to protect the public, options for gradual regularization under local governance, community and civil society participation and predicted population movement and growth. It is also recommended that further inter-disciplinary study be undertaken on DRR in informal urban settlements.

## No. 11 – DRR in legal provisions on environmental management and impact assessments

The potential use of environmental impact assessments (EIA) as a DRR tool needs to be explored further. However, it is recommended that lawmakers and administrators review legislative and policy mechanisms for environmental management through a 'DRR lens'. This will ensure that these laws provide a national (or state) umbrella for environmental management, which includes objectives concerning the safety of people, their property and livelihoods that relate to management of natural hazard risks. Ideally, these objectives should also apply to new risks from the effects of climate change. Legal provisions on environmental management should also feature some form of EIA for new major constructions or other large developments that include specific criteria on natural hazard risks and provide a strong voice for communities and civil society organizations in the assessment process.

## No. 12 – DRR and climate change adaptation laws

Laws that integrate DRR, CCA and development planning into one coherent approach are likely to result in better risk governance. However, in most sample countries, CCA is administered in the environmental sector quite separately from the DRM system, and also from local land use planning regimes. It is recommended that both environmental and DRM laws include provisions for cross-sectoral coordination that establish more systematic integration of policies, plans and programmes across the adaptation, DRR and development continuum.

## No. 13 – DRR in natural resource management laws

There is significant potential to better integrate natural resource management laws to support DRR with regard to water management and the risk of floods and droughts, as well as the related areas of forest and land management. Each of these areas constitutes a substantial field in its own right and could not be adequately covered by the report. Hence, further investigating the potential of legal frameworks for natural resource management to promote the reduction of risks from floods, droughts and wild fires would be particularly useful. In addition, it is recommended to establish cross-sectoral links and include community and stakeholder participation in a more integrated approach.

A group of women villagers raise their hoes with song as they prepare for terracing a hilly ground for conservation and irrigation, in preparation of planting crops. ©UN Photo/Penangnini Toure





# Recommendations on cross-cutting areas of law in support of DRR

## No. 14 – Constitutional and human rights in support of disaster risk reduction

An understanding of how human rights relate to DRR can be an important avenue for advocacy, especially on behalf of the poorest and most vulnerable groups. This report was able to provide only partial coverage of this topic. Analysing whether and how human rights are claimed to promote and advocate for DRR, or to compensate for disaster losses would be an important area of focus for future research. This should also include a closer look at the potential of such an approach to reinforce governmental duties for DRR.

## No. 15 – Legal accountability, responsibility and liability for DRR

Based on the report's preliminary findings on reporting, accountability, responsibility and liability for DRR, it has become evident that further study is needed on the range of such mechanisms in use for both DRM laws and sectoral laws. This should include a more detailed investigation of a wider range of practice, including stakeholders' views on the policy arguments for or against such mechanisms in supporting effective DRR, based on the four identified issues of:

- legal mandates for transparent reporting and parliamentary oversight;
- the use of administrative sanctions, including both internal government procedures and access to administrative tribunals;
- legal liability of government officials and agencies, especially regarding development planning and the reduction of underlying risk;
- legal liability of private individuals and corporations, particularly regarding compliance with safety regulations in building and construction.

## No. 16 – Legal frameworks for disaster insurance and other risk-sharing mechanisms

Also, the findings on legal frameworks to encourage disaster insurance and other risk-sharing financial mechanisms have highlighted a need for further analysis, ideally in partnership with key stakeholders on insurance and cost-sharing for disaster losses, with a focus on how these legislative schemes can best support a DRR approach.

## No. 17 – Customary law and DRR

It is recommended that further studies be undertaken on the impact of customary law on DRR. Based on the experience in preparing this report, it would appear that an inter-disciplinary approach with local and community partners is likely to be the most effective, examining in greater detail the impact of customary rules on DRR in specific communities, and in a range of countries where customary law is recognized. These studies should aim to address how customary laws can support local DRR, including the needs of women, socially excluded and vulnerable people, and how traditionally organized communities can be better connected with national and regional DRR systems.

This game, known as « Tè Malè » in creole (Riskland), allows children to learn about the risks of disaster while assimilating preparedness and protection measures. © IFRC



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## Annex: Income, development and risk indicators of sample countries

Sample Countries	Case Studies	Desk Surveys	Income Level World Bank 2012 <sup>1</sup>	Human Development UNDP 2012	World Risk Index UNU-EHS 2012	Disaster Risk Level UNU-EHS 2012
<b>SUB-SAHARAN AFRICA</b>						
Angola	-	2012	UMI	Low	88	Medium
Kenya	-	2012	LI	Low	80	Medium
Ethiopia	2013	2012	LI	Low	62	High
Madagascar	2013	2012	LI	Low	31	Very High
Namibia	2013/14	2012	UMI	Medium	104	Low
Nigeria	-	2012	LMI	Low	53	High
South Africa	2011/12	-	UMI	Medium	100	Medium
<b>ASIA-PACIFIC</b>						
Australia	-	2012	HI	Very High	117	Low
China	-	2012	UMI	Medium	78	Medium
India	-	2012	LMI	Medium	73	Medium
Japan	-	2012	HI	Very High	16	Very High
Nepal	2010/11	-	LI	Low	105	Low
New Zealand	2013/14	2013	HI	Very High	122	Low
Philippines	-	2012	LMI	Medium	3	Very High
Vanuatu	-	2012	LMI	Medium	1	Very High
Viet Nam	2013	2013	LMI	Medium	18	Very High
<b>EUROPE AND CENTRAL ASIA</b>						
Austria	-	2012	HI	Very High	135	Low
Italy	-	2012	HI	Very High	116	Low
Kyrgyzstan	2013/14	2013	LI	Medium	50	High
Ukraine		2012	LMI	High	149	Very Low

Sample Countries	Case Studies	Desk Surveys	Income Level World Bank 2012 <sup>i</sup>	Human Development UNDP 2012	World Risk Index UNU-EHS 2012	Risk Level UNU-EHS 2012
<b>LATIN AMERICA AND THE CARIBBEAN</b>						
Brazil	2011/12	-	UMI	High	124	Low
Dominican Republic	2011/12	-	UMI	Medium	25	Very High
Ecuador	-	2012/14	UMI	High	58	High
Guatemala	2013	2012	LMI	Medium	4	Very High
Mexico	2013/14	2013	UMI	High	94	Medium
Nicaragua	2013	2012	LMI	Medium	14	Very High
St. Lucia	-	2012	UMI	High	---	---
Uruguay	-	2012	HI	High	126	Low
<b>MIDDLE EAST AND NORTH AFRICA</b>						
Algeria	-	2012	UMI	High	56	High
Iraq	2013/14	2013	LMI	Medium	113	Low
<b>NORTH AMERICA</b>						
USA	-	2012	HI	Very High	127	Low

<sup>i</sup> HI = Higher Income, UMI = Upper Middle Income, LMI = Lower Middle Income, LI = Lower Income



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# National legislation, regulations and policies

This section lists only the national laws that were directly cited in this report. For the full list of laws considered as part of the report data, it is necessary to consult the desk survey and/or case study for the relevant country.

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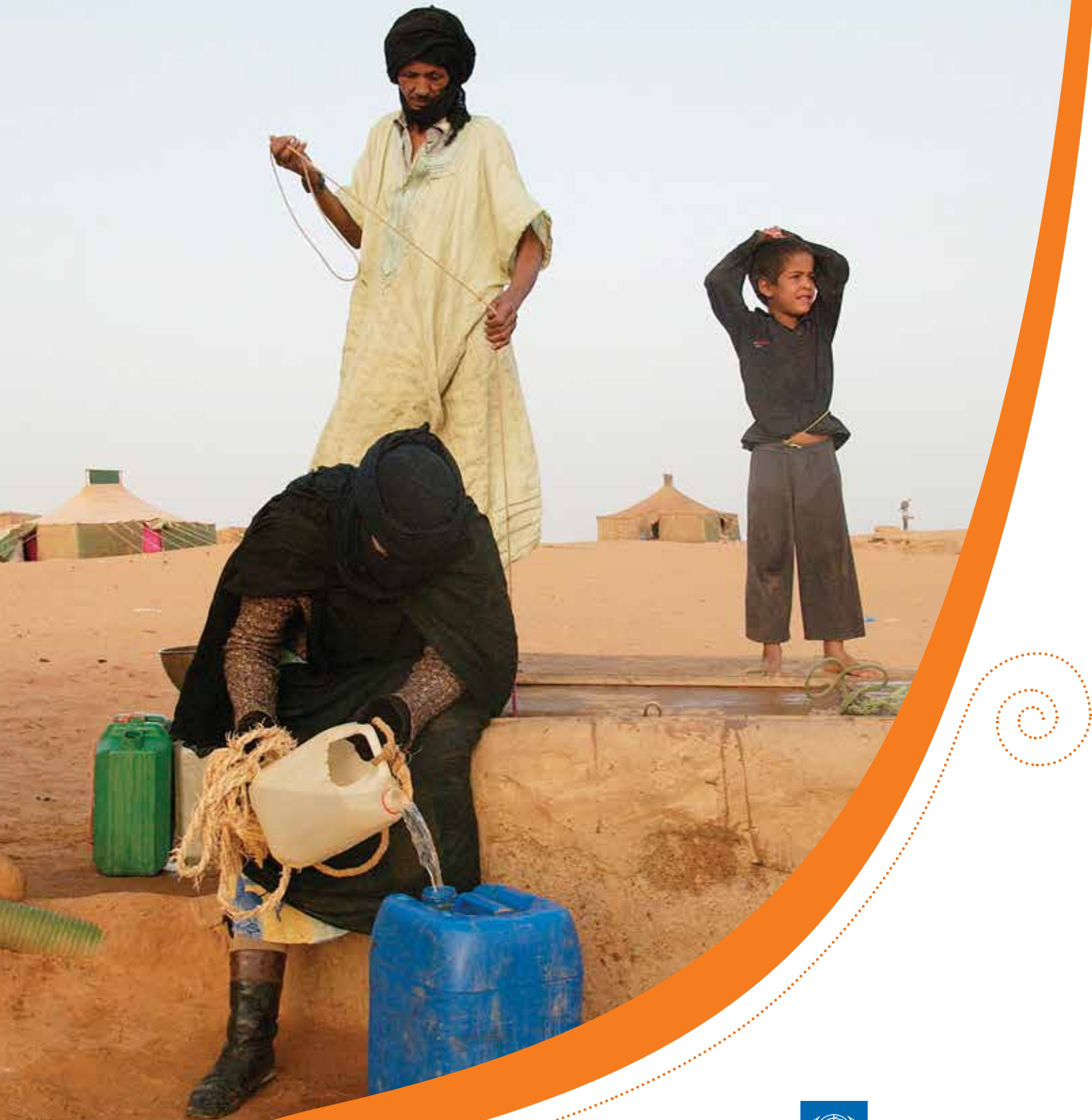
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