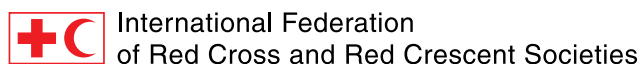


Law and Disaster Preparedness and Response

Literature Review

About the IFRC Disaster Law Programme

The International Federation of Red Cross and Red Crescent Societies (IFRC) Disaster Law Programme seeks to reduce human vulnerability by promoting effective legal frameworks for disaster risk reduction and legal preparedness for disasters. It works in three main areas: collaboration with National Red Cross and Red Crescent Societies and other partners to offer technical assistance to governments on disaster law issues; building the capacity of National Societies and other stakeholders on disaster law; and dissemination, advocacy and research. E-mail: disaster.law@ifrc.org.

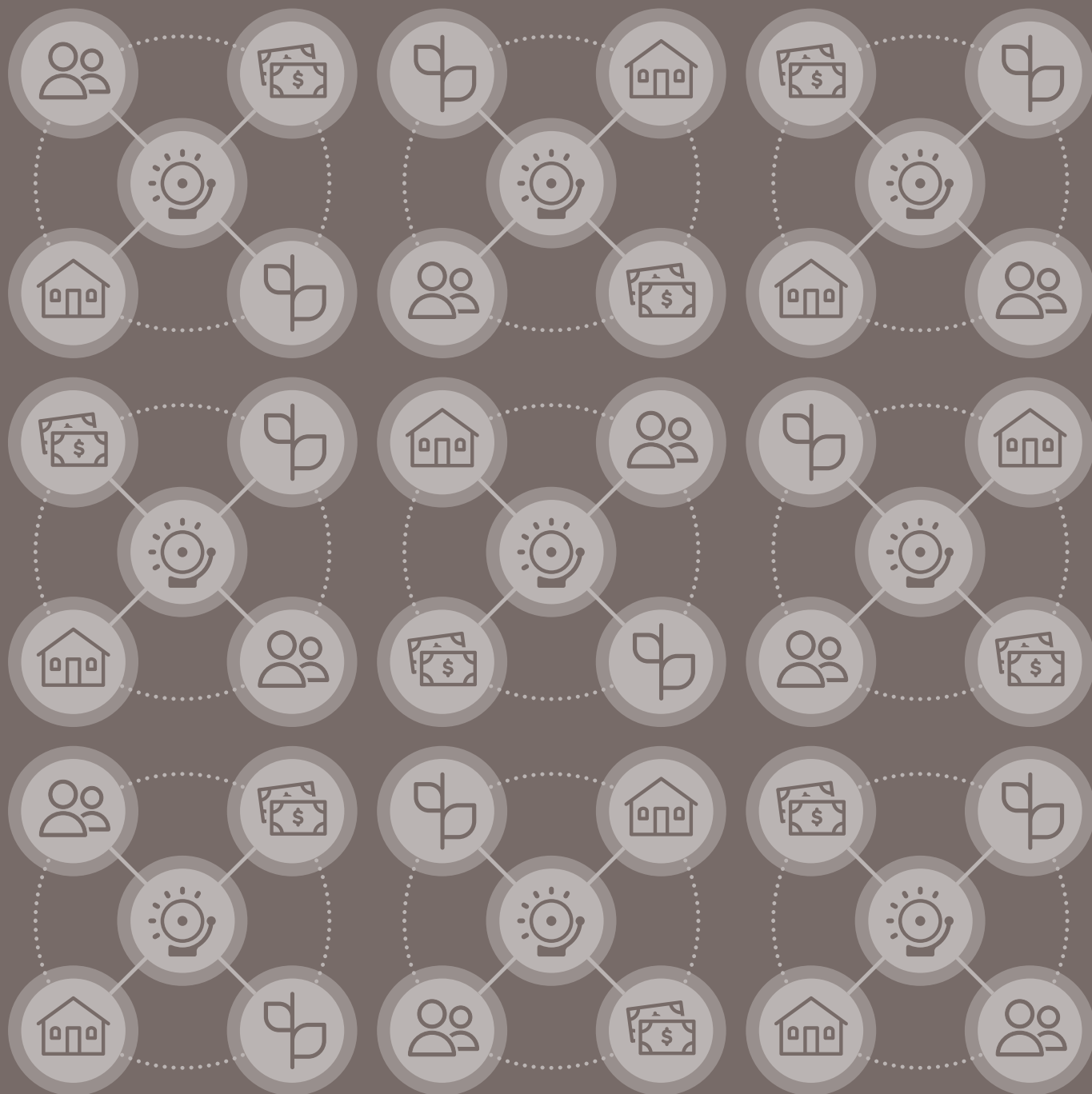


International Federation of Red Cross and Red Crescent Societies

P.O. Box 303
CH-1211 Geneva 19
Switzerland
Telephone: +41 22 730 42 22

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Cover: Countries face many challenges in managing the human, economic, environmental and material impacts of disasters. This literature review is part of a project to support governments to include effective domestic preparedness and response elements in their legal frameworks for disaster risk management.



Law and Disaster Preparedness and Response

Literature Review

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Acronyms and abbreviations

ADB	Asian Development Bank
CDEMA	Caribbean Disaster and Emergency Management Agency
CTP	Cash transfer programming
CHS	Core Humanitarian Standard on Quality and Accountability
CHS Alliance	A global alliance of national and international NGO members and NGO networks committed to the CHS
DBM	‘Dead body management’ in the context of disaster victims
DRC	Danish Refugee Council
DRM	Disaster risk management
DRR	Disaster risk reduction
EWS	Early warning systems
FbF	Forecast-based financing (for disasters)
FEMA, USA	United States Federal Emergency Management Agency
GFDRR	Global Facility for Disaster Reduction and Recovery
HLP	Housing, land and property
IASC	Inter-Agency Standing Committee, United Nations
ICRC	International Committee of the Red Cross
IDRL	International disaster response laws, rules and principles
IFRC	International Federation of Red Cross and Red Crescent Societies
IPU	Inter-Parliamentary Union
NMHS	National meteorological and hydrological services (used by WMO)
OAS	Organization of American States
PAHO	Pan-American Health Organization
SCHR	Steering Committee for Humanitarian Response (CARE Intl., Caritas Intl., ICRC, IFRC, Save the Children Alliance, Lutheran World Federation, Oxfam, ACT Alliance, World Vision Intl.)
SOPs	Standard Operating Procedures
Sphere	The Sphere Project (now Sphere Association) and/or the Sphere Handbook
Sphere Handbook	The Sphere Humanitarian Charter and Minimum Standards in Humanitarian Response
UAVs	Unmanned Aerial Vehicles (drones)
UNDP	United Nations Development Programme
UNGA	United Nations General Assembly
UNHCR	United Nations High Commissioner for Refugees
UNISDR	United Nations Office for Disaster Risk Reduction
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNV	United Nations Volunteer Programme
VCA	Vulnerability and Capacity Assessment
WHO	World Health Organization
WMO	World Meteorological Organization

Introduction

This literature review is part of a project to support governments to include effective domestic preparedness and response elements in their legal frameworks for disaster risk management. The review is part of the preparatory analysis, research and evidence base currently under development to support and inform the drafting of a 'Checklist on Law and Disaster Preparedness and Response.'

The proposed new Checklist will fill a gap in the existing set of tools on disaster law developed by the International Federation of Red Cross and Red Crescent Societies (IFRC), which currently address legislative considerations for international disaster response and domestic disaster risk reduction, but not for domestic disaster risk management more generally.

The IFRC has been providing technical support to governments on the development of law for disaster risk management for over 10 years. Its primary focus has been directed towards preparedness for international relief, and more recently, disaster risk reduction. The basis for the technical advice of the IFRC programme on disaster law to date has stemmed from three primary tools, each of which was based on country, regional and global research and consultations, together with comparative analysis. They are the:

- Guidelines for the domestic facilitation and regulation of international disaster assistance and initial recovery assistance;¹
- Checklist on the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance;² and
- Checklist on Law and Disaster Risk Reduction, and its accompanying Handbook.³

When providing technical support to National Red Cross and Red Crescent Societies and governments, the IFRC has frequently received requests for technical advice or comments on disaster risk management law and policy more generally, in particular on institutional and procedural arrangements for preparedness and response. Despite many countries undergoing legislative review processes and adopting new laws for disaster risk management (DRM) in the last decade, a preliminary literature review in 2015 found gaps in guidance on effective domestic laws and regulations for disaster preparedness and response.

'Disaster risk management' is the broad term used to describe a range of laws, policies and strategies to 'prevent new disaster risk, reduce existing disaster risk and manage residual risk' as a means to reduce losses from disaster and build resilience.⁴ Within this field, the terms 'disaster risk reduction' and 'disaster preparedness' describe aspects that need to occur before a hazard or situation impacts communities; they are closely related, and overlap, but have important differences in emphasis. 'Disaster risk reduction' (DRR) is an ongoing and long-term process that aims to strengthen resilience and achieve sustainable development by preventing the creation of new risks (e.g. through methods of building, planning, construction of infrastructure, zoning and location of industry and residences), and by reducing risks through management of the physical environment, use of new technologies,

- 1 IFRC, Introduction to the Guidelines for domestic facilitation and regulation of international disaster and initial recovery assistance, ('the IDRL Guidelines'), (Geneva: IFRC, 2007, rev. 2011).
- 2 IFRC, Checklist on the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance ('the IDRL Checklist'), (Geneva: IFRC, 2017).
- 3 IFRC, UNDP, *Checklist on Law and Disaster Risk Reduction* (Geneva, New York: IFRC, UNDP, 2014); and IFRC, UNDP, *Handbook on Law and Disaster Risk Reduction* (Geneva, New York: IFRC, UNDP, 2014).
- 4 See: UNISDR Terminology February 2017: <https://www.unisdr.org/we/inform/terminology>

improved risk mapping, risk assessments and early warning systems, reduction in poverty and other forms of social vulnerability, as well as raising community and government awareness and capacity to prepare and respond. ‘Disaster preparedness,’ on the other hand, is more specifically concerned with the human knowledge and capacity of ‘governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.’⁵ The concept of preparedness therefore has an operational emphasis; it focuses on the human systems needed to respond effectively to disaster situations, which require clear mandates and procedures backed by information systems, knowledge and capacity that have been built in advance. Disaster response measures can then be taken immediately after receiving early warning from the relevant authority, or in anticipation of an impending disaster, or immediately after an event occurs without warning. The United Nations Office for Disaster Risk Reduction (UNISDR) defines these as the ‘actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.’⁶

There are some international standards available relating to domestic preparedness and response. For example, despite being primarily focused on disaster risk reduction, the *Sendai Framework for Disaster Risk Reduction*,⁷ (like its predecessor the *Hyogo Framework for Action*),⁸ sets the key international standards on domestic preparedness and response. Sendai Priority 4 is ‘Enhancing disaster preparedness for effective response and to ‘Build Back Better’ in recovery, rehabilitation and reconstruction.’ It sets out a list of important issues and actions to strengthen preparedness and response efforts. It also calls on states to ‘prepare or review and periodically update disaster preparedness and contingency policies, plans and programmes with the involvement of the relevant institutions.’

With regard to international law, primary human rights treaties recognize the rights to life, food, housing, clothing, and health as well as the right to be free from discrimination, all of which are at the heart of humanitarian relief. Several human rights instruments pay specific attention to displaced persons, including those displaced by disasters. *The Guiding Principles on Internal Displacement* call on governments to provide humanitarian relief to internally displaced persons and to promote and facilitate relief activities by humanitarian organizations.⁹ The Inter-Agency Standing Committee’s *Operational Guidelines on the Protection of Persons in Situations of Natural Disasters* seek to provide clear operational guidance on human rights issues to consider in disaster relief contexts.¹⁰ The *Code of Conduct of the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief*,¹¹ the Sphere

5 UNISDR Terminology 2017.

6 UNISDR Terminology 2017.

7 United Nations Third World Conference on Disaster Risk Reduction, *Sendai Framework for Disaster Risk Reduction 2015–2030* (the ‘Sendai Framework’), (Geneva: UNISDR, 2015).

8 United Nations World Conference on Disaster Reduction, *The Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters* (the ‘Hyogo Framework’), (Geneva: UNISDR, 2005).

9 United Nations Special Representative of the Secretary-General on Internally Displaced Persons. *Guiding Principles on Internal Displacement* 1998. (Geneva: UN OCHA, 2001).

10 IASC and Brookings-Bern Project, *IASC Operational Guidelines on the Protection of Persons in Situations of Natural Disasters*, (Geneva: IASC, 2011).

11 Steering Committee for Humanitarian Response (SCHR), *The Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief*. (Geneva: IFRC, 1995).

Project's *Humanitarian Charter and Minimum Standards in Disaster Relief*,¹² and the *Core Humanitarian Standards*,¹³ also establish voluntary quality and accountability standards.

Prior to the project of which this current review is part, both the United Nations Development Programme (UNDP) and the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) published general guidance on issues to consider when drafting legislation for disaster risk management.¹⁴ Independent authors have also published books and articles that include preparedness and response issues to address within legislation. In addition, comparative analyses have also been published on the implementation of laws and policies within certain regions or state groupings.

For its part, the IFRC, in the publication *Legislative Issues in Disaster Management and Epidemic Response: Humanitarian Diplomacy Guidance Note*, has set out key questions to consider in the development of law for disaster preparedness and response, amongst other areas of disaster risk management and epidemic response.¹⁵ Additional research and guidance has also been prepared by the IFRC on regulatory barriers to shelter, to address the complex legal issues that arise in the aftermath of disasters with regard to security of tenure and housing, land and property rights.

This literature review documents these and the other key research and guidance developed to date, so that the Checklist project can build upon what has already been prepared and focus further research on country level experience with law and disaster preparedness and response.

The review is based on online research of secondary materials, primarily those that are publicly available. Key issues considered in the literature review are the way domestic legislation addresses, or should address: state of emergency and/or state of disaster, institutional arrangements, information systems, funding sources, contingency planning, legal facilities, rights to assistance, security and protection of vulnerable groups, shelter, liability and accountability.

- 12 The Sphere Project, *Sphere Humanitarian Charter and Minimum Standards in Humanitarian Response* ('the Sphere Handbook'), (Geneva: Practical Action Publishing, 2018)
- 13 CHS Alliance, Groupe URD and the Sphere Project, *Core Humanitarian Standard on Quality and Accountability* (Geneva: CHS Alliance, 2014).
- 14 UNISDR and UNOCHA, *Disaster Preparedness for Effective Response Guidance and Indicator Package for Implementing Priority Five of the Hyogo Framework* (Geneva: United Nations, 2008).
- 15 IFRC, *Legislative Issues in Disaster Management and Epidemic Response: Humanitarian Diplomacy Guidance Note* (Consultation Version), (Geneva: IFRC, 2012).

1. State of emergency and/or state of disaster

Introduction to theme

As stated in the IFRC guidance on *Legislative Issues in Disaster Management and Epidemic Response*:

Most states have laws (usually constitutional provisions) allowing the head of state to declare a state of emergency in crises threatening the fundamental security of the nation, including both armed conflict and disasters. The consequence of these declarations is usually an extraordinary set of powers vested in the executive branch to set aside certain laws and civil rights in order to address the emergency. For this reason, safeguards are usually included to ensure that such a declaration is not made lightly. At the same, this can lead to hesitation and confusion when rapid action is needed in response to a disaster.¹⁶

In some states, disaster management statutes also allow for a different kind of declaration, such as a declaration of a 'state of disaster', which does not trigger sweeping emergency powers for the executive, but does give certain specific authority related to disaster response as well as the activation of disaster plans, procedures and funds. This is generally a preferred approach in a natural disaster context, as it does not require the normal legal order to be imposed upon to the same extent as a wider state of emergency.¹⁷

Summary of key literature

The 2007 IFRC Desk Study that underpinned the IDRL Guidelines¹⁸ noted the complexities that can arise in initiating international assistance if a State is first required by law to declare a 'state of emergency' or 'state of disaster'.¹⁹ The Desk Study noted that Governments may be hesitant to do this for a range of reasons, including legal and political consequences unrelated to disaster response, such as the potential for the abridgement of civil rights if the only option available is a full state of emergency. The IFRC's 2012 Guidance Note gives the example of a national law that distinguishes between a 'State of Disaster' and a 'State of Emergency,' the latter providing greater powers to set aside laws, as described by its Constitution and emergency law.²⁰ The IDRL Model Act suggests it is preferable for States to allow initiation of international assistance without a declaration of either an emergency or a disaster, and this may be very effective for international assistance.²¹ However, for national response, there is often a statutory requirement for some form of declaration in order to initiate the emergency response mode for the DRM institutions.

16 IFRC, *Legislative Issues in Disaster Management and Epidemic Response: Humanitarian Diplomacy Guidance Note* (Consultation Version), (Geneva: IFRC, 2012), 35-36.

17 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 35-36.

18 IFRC, *Introduction to the Guidelines for domestic facilitation and regulation of international disaster and initial recovery assistance*, ('the IDRL Guidelines'), (Geneva: IFRC, 2007, rev. 2011).

19 D. Fisher, *Law and Legal Issues in International Disaster Response: A Desk Study*, (Geneva: IFRC, 2007), 90-91.

20 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 36.

21 IFRC, UNOCHA and the Inter-Parliamentary Union, *Model Act for the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance* (with commentary) (Geneva: IFRC, UNOCHA, IPU, 2013). Chapter II Initiation and Termination of International Disaster Assistance, 21-24, and Commentary, 65-74.

States of emergency and human rights

There is a vast body of literature on the general question of states of emergency, and why they should be used sparingly due to their impact on human rights and democratic processes. At the primary level, key human rights conventions set out principles for the use of national states of emergency that may suspend any of the rights under the conventions, and also specify that some rights can never be suspended by emergency declarations (the right to life, the prohibition against torture and slavery, freedom from post facto legislation and other judicial guarantees, recognition before the law, and freedom of thought, conscience and religion).²² The principles relate to matters such as the very exceptional nature of the situation faced, the need to publicly communicate the declaration, and the proportionality of the measures to the threat.²³

Such measures are normally both established and time-restricted according to national constitutions, but due to their abuse in some countries with the establishment of states of emergency that have lasted over many years, the Geneva Centre for the Democratic Control of Armed Forces warns that the ‘danger that a ‘constitutional dictatorship’ can arise out of a state of emergency should not be understated.’²⁴ But even without being unlawfully prolonged, states of emergency can still restrict severely the liberties of residents. Emergency powers must comply with the constitution or legislation in the country, but some examples of the types of emergency measures or powers commonly used include: restrictions on the press or public gatherings, the use of armed forces within the country, evacuation, search of private premises, arrest without warrants/charges, confiscation of private property, restrictions on business operations and banking, and special offences for breaching emergency regulations.²⁵

Some civil rights lawyers and academics have argued for fundamental reforms to protect rights in emergencies, for example Yale’s Bruce Ackerman’s argument for ‘new constitutional concepts to deal with the protection of civil liberties’ against threats such as terrorism in the United States context.²⁶ Others argue for a rationalization of emergency powers as part of the rule of law.²⁷ The International Institute for Democracy and Electoral Assistance has also recently publicized a ‘primer to clarify discussion on emergency powers in democracies’.²⁸ The European Parliament promotes parliamentary oversight of the security forces as one means to safeguard against states of emergency that merge into indefinite states of suspended democracy,²⁹ and the Venice Commission of the Council of Europe (the repository of the European Human Rights Convention) in its turn has adopted an opinion on protection of human rights during states of emergency.³⁰

22 European Convention of Human Rights and Fundamental Freedoms (ECHR); and International Covenant on Civil and Political Rights (1966).

23 Geneva Centre for the Democratic Control of Armed Forces (DCAF), *States of Emergency*, Backgrounder Security Sector Governance and Reform (Geneva: DCAF, 2005).

24 DCAF, *States of Emergency*.

25 DCAF, *States of Emergency*.

26 B. Ackerman, ‘The Emergency Constitution,’ *The Yale Law Journal*, Vol 113, 2004, 1029-1091.

27 E. J. Criddle, and E. Fox-Decent, ‘Human Rights, Emergencies, and the Rule of Law’, *Human Rights Quarterly* 34, 2012, 39–87.

28 E. Bulmer, *Emergency Powers*, International Institute for Democracy and Electoral Assistance (IDEA), Constitution-Building Primer 18 (Stockholm: IDEA, 2018).

29 H. Born, Geneva Centre for the Democratic Control of Armed Forces (DCAF), *Parliamentary oversight of the security sector* (Brussels: European Parliament – Office for Promotion of Parliamentary Democracy – OPPD, 2013).

30 European Commission for Democracy Through Law (Venice Commission), *Opinion on The Protection of Human Rights in Emergency Situations*, (Strasbourg: Council of Europe, 2006).

For these reasons, countries are moving increasingly towards more specialized and graduated forms of alert and declarations of disaster as part of the laws that establish their DRM systems. A comparative study by the Organization of American States focused on national legislation in the Caribbean, but also drew on selected legislative examples from around the world. It is the only extensive comparative study of this nature identified during the review, and its outputs in the form of a summary report and a checklist on states of emergency are a valuable resource for the region as well as having some wider application.³¹

Disaster declarations and triggers

It appears generally accepted that it is important to have a specific legal trigger to initiate emergency response in disasters. In this regard, the OAS Caribbean study and checklist began by examining the constitutional authorities for states of emergency, which generally ‘address governance matters, while a declaration in national disaster-management legislation will normally be focused on disaster-management objectives.’³² In distilling the detailed analysis by country, the OAS checklist invited legislative drafters to consider which declarations are relevant in particular situations, and by implication to avoid overly complex triggers for disaster response. The OAS study report noted that a declaration of emergency arrangement that requires the advice of various functionaries such as the Parliament, the Cabinet, or the Prime Minister, ‘does not recognize the unpredictable nature or magnitude of a disaster event’ and that, ‘consideration should be given to allowing the exercise of the power without Parliamentary or other approval. Actions in response to disaster must be swift.’³³ It suggests States consider alternative mechanisms that include the establishment of a hierarchy of individuals that may exercise those powers according to specific procedures, as is done in St Lucia.³⁴

The OAS study also looked specifically at gaps in legislative bases for budget appropriations and triggers to mobilize reserve funds for disaster response, recommending the establishment of specific disaster contingency reserve funds, regional borrowing arrangements, and mechanisms for transparency and accountability by external agencies.³⁵

A 2013 study undertaken by the Government of India when reviewing its Disaster Management Act 2005 also undertook a comparative study of legislation in nine other countries/states, including the legislative provisions for initiating emergency response.³⁶ Its conclusion from this review were that:

Almost all the Acts have a provision for the declaration of a disaster, although the power vested to declare a disaster at the national, regional or city level varies from one Act to another. However, what follows the declaration is common to all Acts in that it triggers post-disaster response, both relief and rescue, followed by reconstruction.³⁷

- 31 OAS, *Caribbean Emergency Legislation Project: Improving the Legal and Institutional Framework Related to State of Emergency (Condensed Study Report)*, (Washington DC: OAS, 2011); and OAS *Caribbean Emergency Legislation Project: Legislative Checklist* (Washington DC: OAS, 2011).
- 32 OAS, *Caribbean Emergency Legislation Project: Legislative Checklist*.
- 33 OAS, *Caribbean Emergency Legislation Project (Condensed Study Report)*, 70.
- 34 OAS, *Caribbean Emergency Legislation Project (Condensed Study Report)*, 70.
- 35 OAS, *Caribbean Emergency Legislation Project (Condensed Study Report)*, 59-64, 71 (Recommendation 4.2.3)
- 36 India, Ministry of Home Affairs, *Report of the Task Force: A Review of the Disaster Management Act, 2005* (New Delhi: Government of India, 2013), 17-32 (Detailed comparison of: Queensland Australia, South Africa, Sri Lanka, Saint Lucia, Thailand, Philippines, Japan, USA, New Zealand), and 32-35, (highlights from laws in Albania, Bolivia, Brazil, Canada, Colombia, China, Ecuador, Honduras, Jamaica, Kyrgyzstan, Siberia, Zambia, Slovenia), 36-48 (summary and conclusions).
- 37 India, Ministry of Home Affairs, *Report of the Task Force*, 36-37.

Given the limited scope of these global comparative and regional studies, some brief commentary on a selection of national examples is also useful to indicate the scope and mechanisms used for such triggers:

- In Australia each State and Territory has its own emergency management act (natural hazards, technological hazards, health and some minor security emergencies), most of which have been updated recently. The State of Victoria's Emergency Management Act 2013 provides for two classes/levels of emergency, excluding war/terrorism/riots, and these are managed by a State Emergency Management Commissioner who is empowered under the Act to coordinate other agencies as needed. This is without the need for a ministerial declaration or any change to the normal civil law regime except for safety directions in the immediate vicinity of a hazard. Major public security emergencies go to the political level for decision-making. At the national level, the Australian Attorney-General's Department, through Emergency Management Australia, is the responsible agency for coordinating assistance to states and territories on request, through the Crisis Coordination Centre (CCC).
- In Central America most of the countries have similar DRM laws due to regional co-operation through CEPREDENAC (the Central American Centre for Coordination on Natural Disasters). For example, in Guatemala, the National Coordinator, CONRED, issues a series of graded alerts (yellow, orange, red), and then the President must issue an Executive Decree to commence a state of disaster, which in turn triggers the national operations centre.³⁸
- In St Lucia, the emergency powers arrangements are quite simple (and much like those in Barbados and St. Vincent and the Grenadines). Under the Constitution, the Governor General may, by proclamation published in the Official Gazette, declare that a state of emergency exists (including a public emergency due to natural hazards). The Governor General is also empowered to make regulations under these powers. The Emergency Powers Act then sets out a hierarchy of responsibility and actions to be taken after the proclamation, including that the Minister of Finance is authorized to make orders relating to the requisitioning of transport, food, clothing and other necessities (but the Senate and House of Assembly must approve these orders by resolution).³⁹
- In India, the legislative powers on disaster management are not specified in the Constitution, and in practice are shared by the central and state governments, with legislation at both central and state level (some based on a model state law).⁴⁰ National constitutional emergency powers relate only to armed conflict and similar security risks, or financial emergencies, and are exercised by the President and implemented by the National Crisis Management Committee (NCMC).⁴¹ A National Disaster Management Authority (NDMA) is established under the Disaster Management Act 2005, which establishes similar DMA authorities at State and District levels. The national law does not provide for any national disaster declaration process, and disaster-area declarations are made under State law, by the State or district authorities. However, the national law

38 Guatemala, *Ley y Reglamento Coordinadora Nacional para la Reducción de Desastres* (Law and regulations for the national coordinator of disaster management), as amended 2012.

39 OAS, *Caribbean Emergency Legislation Project (Condensed Study Report)*, 46-47.

40 India, Ministry of Home Affairs, *Report of the Task Force* 12-13.

41 India, Constitution of India, Part 18; and Government of India, National Disaster Management Authority, *National Disaster Management Plan 2016* (New Delhi: Government of India, 2016), 11-16.

empowers the NDMA (chaired by the Prime Minister) and State and District DMAs to manage and coordinate disaster response.⁴²

- In the United States, disaster and emergency management is mainly a State and local government power, and Governors can declare a state of disaster. But under the federal Stafford Act,⁴³ State Governors or recognized Indian Tribal government can request the President to declare a major disaster, which then triggers federal response powers and resources.⁴⁴

These examples show different uses of the term 'emergency,' including it being synonymous with 'disaster' in Victoria, Australia, different ways in which federal and states powers interact, and different mechanism to trigger emergency response. While the examples given provide a flavour of the different approaches, comparative research on a wider range of countries in different regions would be required to identify models or patterns in national practice at the global level.

Health emergencies

A study of State health emergency declarations in the United States by Lainie Rutkow also notes that a declaration of a 'public health emergency' can provide a State's health sector with guidance about response, but that even though these powers have been used in events such as Hurricanes Katrina and Sandy and the H1N1 influenza outbreak, but there has been little analysis of how States have used this authority.⁴⁵ She analyses why US states have used public health emergency declarations, the legal means used, and how public health emergency declarations differ from general emergency declarations. This has some useful parallels with the idea of creating and using disaster declarations under DRM laws, as she notes that the concept of a public health emergency is relatively young (only 10 years since its introduction) during which time around half the States have legislated for it, and that States have still used it only rarely.

Conclusion

This review has indicated that there is a wealth of literature concerning human rights and democracy in relation to declarations of emergency, and that there are some comparative studies that identify different legislative approaches to the use of emergency or disaster declarations and other triggers for disaster response. This would seem to be an area ripe for comparative study based on national law and practice, in order to provide states with guidance on the most effective legal mechanisms within DRM systems, both for triggering disaster response quickly and effectively, and specifically triggering disaster funds and resources. In this regard, the methodology of the OAS study is commended.⁴⁶

42 India, *Disaster Management Act 2005*.

43 United States, Robert T. *Stafford Disaster Relief and Emergency Assistance Act*, 42 U.S.C. §§ 5121-5207 (the Stafford Act) §401.

44 FEMA, USA, 'The Disaster Declaration Process' Website: <https://www.fema.gov/disaster-declaration-process>

45 L. Rutkow, An Analysis of State Public Health Emergency Declarations, *Am J Public Health*, 104:9, September 2014, 1601-1605.

46 OAS, *Caribbean Emergency Legislation Project: Improving the Legal and Institutional Framework Related to State of Emergency (Condensed Study Report)*; and OAS *Caribbean Emergency Legislation Project: Legislative Checklist*.

2. Institutional arrangements

Introduction to theme

Institutional arrangements with clear roles and defined powers for domestic disaster preparedness and response are the key to effective disaster response. Around the world, most such institutions are now established under specific laws, whether described as disaster risk management, disaster management, emergency, civil defence or civil protection laws. Indeed, establishing the institutions and their powers is one of the key functions of such laws (referred to collectively hereinafter as disaster risk management – DRM – laws). However, many domestic systems for DRM also establish the relevant institutions by administrative means, or through executive decrees.

By whatever means DRM institutions are established, in exercising both their policy functions and response coordination roles they need to interact horizontally with a range of government ministries, military and law enforcement agencies, vertically with local authorities and any specialist DRM entities established at sub-national level, and at all levels with other stakeholders such as the private sector, civil society, Red Cross or Red Crescent National Societies, all of which have an auxiliary role to support government in humanitarian matters.

Summary of key literature

Institutional roles and responsibilities under DRM laws

There is a large body of literature on the institutional arrangements for DRM in different countries across the world, many of them specific national studies, some taking a small group of countries, others taking a regional or a global perspective. Most such studies aim to draw out the elements that make the systems function well, or the gaps and barriers that make them less effective. Others propose model laws, criteria for establishing systems, or guides on how to do so. Given that the majority of DRM systems and laws have preparedness and response capacity at their core, this is a formidable resource that cannot be fully documented here, so the focus is on regional and global studies and model law projects.

In 2012 the IFRC produced general guidance on *Legislative Issues in Disaster Management and Epidemic Response*.⁴⁷ Although aimed at Red Cross and Red Crescent National Societies as a legislative advocacy tool, the report identifies key issues and provides legislative examples based on the previous country research by the IFRC IDRL/Disaster Law Programme. In particular, it highlights the relationship between legislation and national contingency planning, issues around states of emergency and states of disaster, evacuation procedures, and assistance by military actors, as well as the role of the Red Cross and Red Crescent National Societies in disaster response, and rights to assistance and vulnerable groups.⁴⁸ It is a source for identification of many of the issues addressed in this literature review, including some aspects of institutional arrangements (especially roles of National Societies, civil society and militaries). However, as an advocacy tool, it is not prescriptive and, although based in research, does not have the primary objective of documenting best practice in legislation for domestic preparedness and response institutional structures.

⁴⁷ IFRC, *Legislative Issues in Disaster Management and Epidemic Response*.

⁴⁸ IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, Chapter 2, 31-48.

Over more than a decade, the IFRC, with UNOCHA and the Inter-Parliamentary Union (IPU) have also undertaken research and developed tools on international disaster response laws, rules, and principles (IDRL). Again, although focused on the facilitation and regulation of international humanitarian assistance, these tools, and the global and national research on which they were based,⁴⁹ emphasize the key importance of clearly mandated national DRM institutions that are responsible for the domestic response and coordination, as a threshold for also managing international assistance. The tools developed, which include significant guidance on domestic institutional arrangements for preparedness and response, include the IDRL Guidelines,⁵⁰ the IDRL Model Act,⁵¹ the IDRL Checklist⁵² and a large number of regional and country studies on the laws and policies that establish DRM institutions in different countries.⁵³

In terms of international frameworks, both the *Hyogo Framework* and the *Sendai Framework* have emphasized the importance of clear institutional structures for DRM systems established by law, and which also engage civil society and other stakeholders, including the private sector.⁵⁴ This is now widely known as the whole-of-society approach to DRR, but as the essential scaffolding for DRR and preparedness and response are the same institutions, these agreements provide relevant guidance.

Drawing on these international framework documents, a multi-country comparative report by IFRC and UNDP in 2014 compared DRM laws and institutional arrangements in 31 countries, looking at the institutions from national to local level and the engagement of stakeholders.⁵⁵ The study developed a typology of DRM laws according to their scope and DRR inclusion, but a common denominator was that preparedness and response institutions were key elements in DRM system laws, from the older laws through to the most recent. The main challenges were identified as inclusion of stakeholders and local level capacity and resources.⁵⁶ The DRR Checklist tools then developed by IFRC and UNDP arising from this research also address the core institutional frameworks for preparedness and response, as the starting point for improved DRR.⁵⁷

- 49 D. Fisher, *Law and Legal Issues in International Disaster Response: A Desk Study*, (Geneva: IFRC, 2007).
- 50 IFRC, *Introduction to the Guidelines for domestic facilitation and regulation of international disaster and initial recovery assistance*, ('the IDRL Guidelines' are annexed), (Geneva: IFRC, 2007, rev. 2011).
- 51 IFRC, UNOCHA, IPU, *Model Act for the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance* (with commentary) (Geneva: IFRC, UNOCHA, IPU, 2013).
- 52 IFRC, *Checklist on the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance* ('the IDRL Checklist'), (Geneva: IFRC, 2017).
- 53 To access the numerous country and regional studies on DRM legislation see: IFRC Disaster Law Publications, <http://www.ifrc.org/what-we-do/disaster-law/research-tools-and-publications/disaster-law-publications/>
- 54 Elaborated in: UNISDR and UNOCHA, *Disaster Preparedness for Effective Response Guidance and Indicator Package for Implementing Priority Five of the Hyogo Framework* (Geneva: United Nations, 2008), 10; and UNISDR, *Global Capacity Development Strategy to Support Implementation of the Sendai Framework for Disaster Risk Reduction: An Approach for All Partners and Stakeholders* (Consultation zero draft), (Geneva: UNISDR, 2018).
- 55 IFRC, UNDP, *Effective Law and Regulation for Disaster Risk Reduction: A Multi-Country Report*, (Geneva and New York: IFRC, UNDP, 2014).
- 56 IFRC and UNDP, *Effective Law and Regulation for Disaster Risk Reduction*: 22-24 (local level structures), 25-28 (financing), 29-31 (participation), 41-44 (typology of DRM laws).
- 57 IFRC, UNDP, *Checklist on Law and Disaster Risk Reduction* (Geneva, New York: IFRC, UNDP, 2014); and IFRC, UNDP, *Handbook on Law and Disaster Risk Reduction* (Geneva, New York: IFRC, UNDP, 2014).

The typology of DRM laws from the IFRC and UNDP work on DRR has also been used in a global study by the Commonwealth Secretariat of its member countries' DRM laws and institutional frameworks,⁵⁸ and an IFRC and ASEAN regional analysis of the ten ASEAN countries' DRM laws and the institutional systems they establish, which focused on preparedness and response.⁵⁹ This has been used as a general system for categorization of DRM laws as a starting point for national legislation reviews, but does not focus on preparedness and response mechanisms in institutional mandates and structures.

Comparative studies focused on preparedness and response laws and institutions have also been undertaken by a range of academics and practitioners in different regions, for example, McEntire's global comparative study,⁶⁰ and selective comparative studies from the Middle East Technical University,⁶¹ Harkey,⁶² and Schoff.⁶³ A 2013 review undertaken by the Government of India also provides comparative analysis of DRM laws and institutional systems in some detail in nine countries around the world, with highlights from another dozen countries.⁶⁴ The 2017 IFRC study noted above undertook a mapping of disaster laws in the ten ASEAN countries, in light of the national and regional preparedness and response provisions of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER), and summarized the institutional arrangements in each ASEAN country.⁶⁵

A number of model law projects or drafts have been developed over the years, addressing either all or some aspect of DRM institutional structures. One of current relevance is the 2013 *Model Comprehensive Disaster Management Legislation and Regulations* developed by the Caribbean Disaster and Emergency Management Agency for signatory member states of the Caribbean Community.⁶⁶ The latest iteration of an evolving model law for the small island states of this region that began in the 1990s, this full draft model law outlines detailed provisions for the establishment of all aspects of the DRM institutional arrangements, membership, structures and mandates on preparedness and response. Other model law projects with aspects related to institutional arrangements include the IDRL Model Law noted above, a global health sector model law on managing dead bodies after

58 M. Picard, 'Disaster management, risk reduction and international disaster response laws in the Commonwealth', *Commonwealth Law Bulletin*, March 2018.

59 IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: A Regional Stocktake* (Kuala Lumpur: IFRC, 2017); and IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: ASEAN Country Profiles*, (Kuala Lumpur: IFRC, 2017).

60 D. A. McEntire, (Ed), 'Comparative Emergency Management: Understanding Disaster Policies, Organizations, and Initiatives from Around the World,' (Manuscript, FEMA Training, 2007). (Looks at United States, the US Virgin Islands, the United Kingdom, Ireland, France, the Netherlands, Denmark, Scandinavia, Germany, Canada, New Zealand, Australia, Israel, Syria, Oman, Malawi, Nigeria, Zimbabwe, Turkey, India, Thailand, Korea, China, Taiwan, Mexico, Cuba, Haiti, Costa Rica, Paraguay, Peru, and Chile).

61 Middle East Technical University – Disaster management Implementation and Research Center, *Perspectives in Disaster Management* (Ankara: UNISDR and World Bank Institute, 2009). (Looks at United States, Japan, Italy, New Zealand, and Turkey.)

62 J. Harkey, *Experiences of National Governments in Expanding Their Role in Humanitarian Preparedness and Response* (Somerville: Feinstein International Center, 2014). (Looks at El Salvador, Mozambique, the Philippines and Indonesia).

63 J. L. Schoff, (ed), *Crisis Management in Japan & the United States* (Dulles: Brassey's, 2004).

64 India, Ministry of Home Affairs, *Report of the Task Force* pp.17-38 (detailed comparison of: Queensland Australia, South Africa, Sri Lanka, Saint Lucia, Thailand, Philippines, Japan, USA, New Zealand).

65 IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: A Regional Stocktake* (Kuala Lumpur: IFRC, 2017); and IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: ASEAN Country Profiles*, (Kuala Lumpur: IFRC, 2017).

66 CDEMA, *Model Comprehensive Disaster Management Legislation and Regulations*, (Trinidad: CDEMA, 2013).

disasters,⁶⁷ a US model state emergency health law,⁶⁸ and DRM model laws developed by Carter⁶⁹ and Interworks⁷⁰ in the 1990s, which still have relevance for preparedness and response institutional arrangements today, even though aspects such as DRR and IDRL have evolved a great deal since then.

Many DRM laws have evolved from civil protection systems that were essentially military operations, and national defence forces still play a key role in most DRM system institutions and response operations, at least as a backup force in the most major disasters. International guidance on civil-military cooperation is provided by the Inter-Agency Standing Committee,⁷¹ and the Oslo Guidelines,⁷² and for Red Cross/Red Crescent a guidance document adopted in 2005.⁷³ Despite concerns about the perception of national militaries in disaster response, especially in complex emergencies,⁷⁴ Ferris notes that few countries have other resources available to tackle major crises. Her research indicates that although the international guidance suggests military forces are used only as a last resort, practice has overtaken this to large extent, and she therefore maps out the potential future directions in the way civilian and military institutions can cooperate in disaster response.⁷⁵

Role of National Societies and other non-governmental stakeholders

In many countries, the National Red Cross or Red Crescent Society (National Society) is amongst the primary responders to disasters, large and small, in line with the principles of the movement.⁷⁶ National Societies have a recognized special status as civil/private societies that have some governmental roles during disasters, usually described as the 'auxiliary role' to support governments in humanitarian matters.⁷⁷ However, this role is not always reflected in disaster management legislation or policy documents of the government, or in the relevant national law establishing the National Society under the Geneva Conventions.⁷⁸

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- 67 A model law was included in PAHO, WHO, *Management of Dead Bodies in Disaster Situations Disaster Manuals and Guidelines Series*, N° 5 (Washington, D.C.: PAHO, WHO, 2004), 148-150. The latest manual does not propose legal provisions, see: IFRC, ICRC, World Health Organization, and Pan-American Health Organization, *Management of Dead Bodies after Disasters: A Field Manual for First Responders* (Second Edition) (Washington D.C.: PAHO, 2016).
 - 68 Johns Hopkins University, *The Model State Emergency Health Powers Act 2001*, <https://www.aapsonline.org/legis/msehp2.pdf>
 - 69 W. N. Carter, *Disaster Management. A Disaster Manager's Handbook* (Manila: Asian Development Bank, 1991). (Drawing on the Cook Islands, Papua New Guinea, and the State of Queensland in Australia, it provides a sample draft of a national disaster act, including institutional structures).
 - 70 Interworks, *Model for a National Disaster Management Structure, Preparedness Plan, and Supporting Legislation* (Stillwater, OK: Interworks, 1998). (Draws on a range of national legislation and focuses on effective structures and mandates.)
 - 71 IASC, *Civil-Military Guidelines and Reference for Complex Emergencies*, (Geneva: UNOCHA, 2008)
 - 72 UNOCHA, *Guidelines on the Use of Military and Civil Defence Assets to Support United Nations Humanitarian Activities in Complex Emergencies* (the Oslo Guidelines, 2007 rev.) (Geneva: UNOCHA: 2009).
 - 73 Red Cross/Red Crescent Council of Delegates adopted a 'Guidance Document on Relations between the Components of the Movement and Military Bodies' (Geneva: IFRC, ICRC, 2005).
 - 74 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 38-39.
 - 75 E. Ferris, *Future Directions in Civil-Military Responses to Natural Disasters*, (Washington DC: Brookings, 2012).
 - 76 IFRC, *Principles and Rules for Red Cross Red Crescent in Disaster Relief* (Geneva: IFRC, 1995, rev. 2013).
 - 77 As described in: IFRC, *Guide to the Auxiliary Role of Red Cross and Red Crescent National Societies – Asia Pacific*, (Geneva: IFRC, 2015), 6-7.
 - 78 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 33-34.

National Societies are also primarily volunteer-based organizations. The legal issues around volunteers in disaster preparedness and response are addressed in Chapter 6 of this review concerning Legal Facilities.

Concerning the broader question of stakeholder participation in DRM institutions, the 2014 IFRC and UNDP Multi-Country Report on law and DRR analysed the DRM laws of the 31 countries included in the study to assess the extent to which they provided for the inclusion of National Societies, civil society/NGOs and communities in DRM institutions.⁷⁹ The global categories used for the data summary did not distinguish between non-governmental stakeholders in DRM institutions, but overall the study showed little specific inclusion of any non-governmental entities based on the DRM laws.

With regard to the private sector, UNISDR facilitates a global Private Sector Alliance for Disaster Resilient Societies, ARISE.⁸⁰ It has engendered projects at national level, including a private sector partnership initiative in Turkey,⁸¹ although it is more focused on general engagement with risk reduction than on participation in DRM institutions. More closely connected to preparedness and response, the Connecting Business Initiative (CBI) was launched at the World Humanitarian Summit in 2016 with support from UNOCHA and UNDP. It aims to increase sector engagement before, during and after disasters, and its first progress report was in 2017.⁸²

A recent Asian Disaster Preparedness Center and Asian Development Bank regional project in Southeast Asia (Indonesia, Philippines, Thailand, Viet Nam), looked at the policy framework for integration of the private sector into DRM institutions, and found little such inclusion, although an initiative in the Philippines grew from engagement with the project.⁸³ UNDP has undertaken a similar study with an element relating to institutional participation by the private sector in Japan, Mexico and India.⁸⁴ Both of these indicated that small and medium enterprises were the least likely to be included, although some DRM laws included national chambers of commerce in their national and sub-national councils.

Conclusion

There is extensive literature that relates to institutional arrangements for domestic disaster preparedness and response. There also appears to be a high level of consensus in the international guidance and comparative studies about what is required for effective institutional structures, while also recognizing that there is no single model that can be used in all or most countries. While the literature provides a wealth of country information, much of it has been developed and analysed for other purposes such as elaborating either DRR or IDRL, or broader legislative advocacy on DRM. The IFRC global work on legislative advo-

79 IFRC, UNDP, *Effective Law and Regulation for Disaster Risk Reduction*, 29-31.

80 ARISE-Private Sector Alliance for Disaster Resilient Societies (an initiative supported by UNISDR since 2009), <https://www3.unog.ch/arise/>

81 UNISDR, UPS, World Economic Forum (WEF), the U.S. Chamber of Commerce, and the Corporate Social Responsibility Association of Turkey (CSR-Turkey), *Instilling resilience for strong small and medium businesses in Turkey*: <https://www.unisdr.org/we/inform/publications/53139>

82 UNOCHA, UNDP, *Connecting Business Initiative progress report 2017*, (New York: UNOCHA, UNDP, 2018).

83 Asian Disaster Preparedness Center (ADPC) and Asian Development Bank (ADB), *Strengthening Disaster and Climate Resilience of Small and Medium Enterprises in Asia. Regional Synthesis Report: Indonesia, Philippines, Thailand, Viet Nam*, (Bangkok: ADPC, 2017).

84 UNDP, *Small businesses: impact of disasters and building resilience - Case studies from Japan, Mexico and India*, (New York: UNDP, 2016).

cacy in disaster preparedness and response, and its recent regional work on ASEAN frameworks, are contributing to a global picture on effective institutional frameworks. The now-tested Caribbean model law approach also highlights how specific models are useful in a region with both shared models of government and similar risks. While much good practice is documented and analysed, this literature review did not identify global publications that distil the key indicators for institutional arrangements that are most likely to ensure effective domestic preparedness and response.

3. Information systems and assessments

Introduction to the themes

For disaster response information to be accurate and timely it is essential for a country to prepare for disasters by establishing the necessary mandates and mechanisms in advance. The key types of information needed to support DRM are: hazard/risk maps; scientific risk monitoring data; risk assessments, including initial rapid assessments; early warning information; ongoing live updates during an emergency; and evaluation and analysis of damage, loss and response effectiveness to inform future preparedness and response.

Such disaster information tends to be drawn from a combination of: (1) generalist DRM system agencies (national risk mapping and assessments, consolidated databases, evaluations); (2) community sources (community-based risk mapping, local monitoring of weather, river levels, traditional knowledge of seasonal/annual patterns); and (3) specialist monitoring organizations such as national meteorological services, and national seismological organizations (monitoring earthquakes, tsunamis, volcanoes). To ensure that such information is used effectively in response, it is important to have both institutional mandates and the human and technological capacity to issue trusted forecasts as the basis for early action, and timely early warnings. This means authoritative forecasts and rapid transmission of early warning information in a form that is accessible to the intended audiences (government, communities, civil society, private sector).

Forecast-based early action is closely linked with early warning systems, especially impact-based early warning such as forecast-based financing and other disaster risk financing, also included in this literature review. Forecast-based early action means humanitarian preventive and preparedness actions based on forecasts or predictions, and these can vary in timescale depending on the nature of the predicted hazard, for example, 'observations, storm warnings, six-day rainfall forecasts, one-to-two-week hazard forecasts, seasonal forecasts, climate scenarios.'⁸⁵

The effective provision and use of disaster information therefore requires a high degree of cooperation and integration between government and technical bodies, the means to then convey clear information to enough members of affected or at-risk communities to allow timely response or evacuation, and, ideally, a means to integrate both risk information and early warnings from communities up to national level.

Damage and needs assessments are another form of real-time disaster information, a first step in any emergency response being to 'assess the extent and impact of the damage caused by the disaster (the needs) and the capacity of the affected population to meet its immediate survival needs (degree of vulnerability)'.⁸⁶ Rapid assessments are undertaken immediately after a hazard impact, to provide the information for key decisions concerning the lives of the disaster-affected communities. A rapid assessment is generally undertaken during the first week of a response, followed by a detailed assessment if the situation is changing and more information is needed, and this can take around one month. In many situations there is also a need for continual assessment, as disaster situations can evolve rapidly and include unexpected consequences such as population movements. The main impact of law and regulation on this issue is the mandates and resources given to government institutions, including the extent to which it both allows the conduct of such assessments by non-governmental and international actors and is able to use such assessments in a cooperative response.

⁸⁵ IFRC, Emergency damage and needs assessment. Website: <https://www.ifrc.org/en/what-we-do/disaster-management/responding/disaster-response-system/emergency-needs-assessment/>

⁸⁶ IFRC, Emergency damage and needs assessment website.

Summary of key literature

The first priority of the Sendai Framework states that laws, policies and practices ‘should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.’⁸⁷

The IFRC and UNDP *Checklist on Law and Disaster Risk Reduction* highlights risk information as a key element for inclusion in national DRM laws, with checklist Item 5 on whether DRM laws have clear procedures and allocate responsibility for conducting risk assessments.⁸⁸ In line with the *Sendai Framework*, it notes the importance of ensuring accurate baseline data on risk by locality, and of then using this data to guide decision-making about planning and new development, as a form of risk reduction and preparedness.⁸⁹ It also highlights, in checklist item 6, the importance of clear procedures and responsibilities for issuing early warnings, again drawing on the *Sendai Framework*’s aim to increase the development of multi-hazard early warning systems and disaster risk information and assessments, as a crucial component of any DRM system, given its life-saving function.⁹⁰ The *Checklist on Law and DRR* also proposes that part of establishing clear roles and responsibilities for DRM institutions is to promote information exchange between relevant ministries and levels of government with the national DRM agency.⁹¹ All of these themes are developed more fully, with country examples, in the *Handbook on Law and DRR*.⁹²

The above DRR checklist tools draw on the *Multi-Country Report* that synthesised studies from 31 countries’ DRM laws, and which includes a section on early warning and risk mapping in DRM frameworks, with a series of country examples.⁹³ It also cites UNDP research that transparency in making risk information publicly available has been identified as important for individuals’ and communities’ self-help capacity.⁹⁴ The human right to information in disasters is also highlighted in a key Harvard Humanitarian Initiative publication as one of the five key rights, drawn from multiple sources of international human rights and humanitarian law and standards that already exist, and which apply to humanitarian information activities.⁹⁵

Two aspects of disaster risk information systems that have received attention in both the *Hyogo Framework* and the *Sendai Framework* are hazard or risk mapping and early warning systems (EWS), hence these areas were reviewed more specifically.

Hazard or risk mapping

Hazard maps are geographical maps that highlight areas that have been, are likely to be affected by, or are vulnerable to, a particular hazard (e.g. earthquakes, volcanoes, landslides,

87 *Sendai Framework*, para 23.

88 IFRC, UNDP, *Checklist on Law and DRR*, 3, 14.

89 IFRC, UNDP, *Checklist on Law and DRR*, 14.

90 IFRC, UNDP, *Checklist on Law and DRR*, 3, 14-15.

91 IFRC, UNDP, *Checklist on Law and DRR*, 11.

92 IFRC, UNDP, *Handbook on Law and Disaster Risk Reduction*.

93 IFRC, UNDP, *Effective Law and Regulation for Disaster Risk Reduction*, 33-37.

94 IFRC and UNDP, *Effective Law and Regulation for Disaster Risk Reduction*, 33, citing: UNDP, *Institutional and Legislative Systems for EW and DRR: Thailand* (Bangkok: UNDP, 2009); UNDP, *Institutional and Legislative Systems for EW and DRR: Sri Lanka* (Bangkok: UNDP, 2009); and UNDP, *Institutional and Legislative Systems for EW and DRR: Indonesia* (Bangkok: UNDP, 2009).

95 F. Greenwood et. al., *The Signal Code: A Human Rights Approach to Information During Crisis* (Cambridge, MA, Harvard Humanitarian Initiative (HHI), 2017).

flooding and tsunamis).⁹⁶ They form an important basis for both EWS and contingency planning, to understand the geographical and population areas likely to be affected, especially for hazards such as flooding, landslides, storm surges, tsunamis and major storms. (Contingency planning is addressed in Chapter 5 of this review as a separate issue).

The key use for national and local governments of hazard or risk maps is to inform policy and planning for disaster risk reduction and contingency planning for disaster response. For communities, they are important tools for risk awareness and can be the direct basis for drills and contingency planning on evacuation means and routes, as well as risk reduction measures. For this reason, the IFRC guidance is orientated towards 'vulnerability and capacity assessments' – VCA – that take account of social and economic factors as well as physical risks.⁹⁷

Hazard and risk maps are not always produced for general community use and may be done primarily for government planning or insurance purposes. Techniques for hazard and risk mapping have been well documented since the early 1990s, including the extensive OAS *Primer on Natural Hazard Management*,⁹⁸ and many specific technical guides on how to map different types of hazard in what has become a specialist field in DRM. They can be purely technical documents based on historical measurements, but they can also be more dynamic 'risk maps' in various forms that take into account the social and cultural uses of land, population etc., created by means of a consultative process (known as 'community-based risk mapping'). Risk maps can also be better tailored for all users through community consultations by technical drafters, as described in a United States flood mapping project.⁹⁹ The Great East Japan Earthquake prompted a re-examination of the use of risk maps, which perhaps gave a false sense of security to residents about evacuation routes in a major earthquake, and the lessons learned from this are provided in a World Bank publication that gives recommendations for developing countries based on Japan's experience.¹⁰⁰

Given the increasing rate of urbanization globally, there is also an increasing focus on urban hazard or risk mapping as a starting point for broader urban risk assessments, which also take account of climate risk.¹⁰¹ IFRC and Iranian Red Crescent have recently collaborated on a guide for Red Cross and Red Crescent engagement in urban resilience.¹⁰² Substantial resources on urban legislation related to disaster resilience are also available through UN-Habitat.¹⁰³

96 For a formal definition, see: Relief Web, Glossary of Humanitarian Terms (Draft version), (Geneva: ReliefWeb, 2008), 48 (which uses a UN-Habitat definition), <https://definedterm.com/a/document/10752>

97 IFRC offers extensive tools on this methodology, accessible at: IFRC, 'Vulnerability and Capacity Assessment (VCA),' <http://www.ifrc.org/vca>

98 OAS, *Primer on Natural Hazard Management in Integrated Regional Development Planning*, (Washington, D.C.: OAS, USAID, 1991), Chapters 5-7 and Part III.

99 A. Luke et. al., 'Going beyond the flood insurance rate map: insights from flood hazard map co-production,' *Nat. Hazards Earth Syst. Sci.*, April 2018.

100 J. Sagara and S. Keiko, *Risk Assessment and Hazard Mapping*, (Washington, DC: World Bank, 2013).

101 IFRC, *Integrating climate change and urban risks into the VCA: Ensure effective participatory analysis and enhanced community action* (Geneva: IFRC, 2014); S. Rijal et al, 'Flood Hazard Mapping of a Rapidly Urbanizing City in the Foothills (Birendranagar, Surkhet) of Nepal,' *Land* 2018, 7, 60; and World Bank, *Urban Risk assessments: An approach for understanding disaster & climate risk in cities* (Washington DC: WB, 2011).

102 IFRC, Iranian Red Crescent, *Building urban resilience: A guide for Red Cross and Red Crescent engagement and contribution*, (Geneva: IFRC, 2017).

103 See: UN-Habitat, Urban Legislation, <https://unhabitat.org/urban-themes/urban-legislation/>; and the Urban Legal Network (ULN) (an initiative of UN-Habitat) <http://www.uln.gltn.net/>

Risk assessments

Disaster risk assessments are undertaken for the purpose of identifying the risk of disaster in a population in a defined geographical area, either in a general sense, or at a specific time, such as prior to a monsoon season, or when drought is predicted. Their scale can be short term or long term, national or local, but in their more precise forms they are processes that provide sufficient information to enable a community, city or country to plan and take appropriate action to reduce their disaster risk.

Disaster risk has both a physical and a social component, as recognized in the UNISDR definition of risk assessment.¹⁰⁴ At a physical level this requires risk mapping of hazards and their characteristics, but also an assessment of the probability of exposure to certain scales and types of hazards in a given location. But the analysis at the social level is just as important, to assess vulnerability, capacity and coping strategies, in order to understand the risk of people's exposure to physical injury, death, or other health impacts, as well as wider social and economic impacts in the affected community.

There are distinctions in the literature between guidance on risk assessments undertaken at community or local level, and those undertaken at national level. Local level methodologies tend to be described as something outside legislative frameworks. National risk assessments, on the other hand, are more likely to come about as a result of national law or policy on DRM, and to be governed by these instruments, which can provide for political checks and balances, such as stakeholder participation, information sharing and parliamentary oversight.

a. Local and community risk assessments

Community risk assessment guidance is produced by many agencies, and only some examples are highlighted.¹⁰⁵ The IFRC's Vulnerability and Capacity Assessment (VCA) method is a well-established tool for participatory risk assessment at the community level by National Societies,¹⁰⁶ and IFRC's work in this area focuses on participatory assessments that address both the physical risk in the environment and the social risks, addressing both vulnerability and capacity.¹⁰⁷ The Tearfund assessments also take into account governmental power as a source of both capacity and vulnerability for communities, impacted by safety regulation of the built environment and the availability of government grants or loans.¹⁰⁸ McEntire and Myers focus on assessing both physical risks (threat assessments) and human behaviour in response to both risk and hazard events, as well as emphasizing the importance of a community level disaster preparedness programmes having authority conferred by a law or ordinance.¹⁰⁹

104 UNISDR Terminology 2017.

105 E.g.: J. Sagara and S. Keiko, *Risk Assessment and Hazard Mapping*. (Washington, DC: World Bank, 2013); and UNDP, 'Disaster Risk Assessment,' (Pamphlet) (New York: UNDP BCPR, 2010).

106 See: 'Vulnerability and Capacity Assessment (VCA)', IFRC website: <http://www.ifrc.org/vca>; IFRC, *How to do a VCA: A practical step-by-step guide for Red Cross Red Crescent staff and volunteers*, (Geneva: IFRC, 2007); and IFRC, *Integrating climate change and urban risks into the VCA: Ensure effective participatory analysis and enhanced community action* (Geneva: IFRC, 2014).

107 Arup International Development, 2012, *Characteristics of a Safe and Resilient Community* (Geneva: IFRC, 2012), Figure 8 p.18, and pp. 26-30.

108 E.g.: Tearfund, 2011, 'Participatory Assessment of Disaster Risk,' in *Roots 9: Reducing risk of disaster in our communities*, (Teddington, UK: Tearfund, 2011), pp 23, 52-55, 59-61.

109 D.A. McEntire and A. Myers, 'Preparing communities for disasters: issues and processes for government readiness,' *Disaster Prevention and Management*, 13:2, 2004, 140, p.142.

b. National risk assessments

In terms of overall priorities for risk reduction, global comparative risk assessments such as the World Risk Index can be helpful for countries to identify their relative risk levels and the aspects of risk on which they may wish to focus in their law and policy.¹¹⁰ These high-level assessments are limited by access to quantifiable data and are less able to take account of social factors such as self-help capacities, but they can identify some priorities from a regulatory perspective. UNISDR has produced detailed guidance for governance systems, methodologies and use of national disaster risk assessments, albeit emphasizing policy and institutions over law.¹¹¹ Others provide strong technical guidance on risk assessments that have implications for government decision-making processes, without addressing law and policy specifically.¹¹²

Question five of the IFRC and UNDP Checklist on Law and DRR focuses on the need for a disaster risk assessment mandate with legal authority.¹¹³ Its accompanying Handbook then provides more detail and examples of the inclusion of risk assessments in national laws, as do other multi-country surveys of DRM law and policy.¹¹⁴

The *Sendai Framework* and the UNISDR definition both mention assessing risk to the environment. Although environmental damage may not always have an immediate impact on people, its inclusion in risk assessments potentially integrates sustainable development and climate change adaptation, in line with the Sustainable Development Goals (SDGs), the Paris Agreement and related commitments. Such integration of risk assessment and management is a challenge facing governments, as historically most countries have developed distinct laws, policies and institutions on development planning, environmental management and DRM. Concerning environmental risks, the Caribbean Disaster and Emergency Management Agency (CDEMA), *Model Law* includes provisions to define in advance especially vulnerable areas and to develop precautionary plans.¹¹⁵

In terms of the social aspects of disaster risk, vulnerability and capacity, it is also important that the needs of marginalised and especially vulnerable groups are taken into account in risk assessments, which should be participatory, gender sensitive, incorporate the impacts of poverty, and recognize the increased risk for children, older persons, people with disabilities,¹¹⁶ and in some situations, women.¹¹⁷ The increased risk of gender-based violence and sexual assault in disasters is one parameter that has rarely been incorporated into legislative or other guidance on disaster risk assessments.¹¹⁸

110 World Risk Index website: <https://weltrisikobericht.de/english-2/>; and World Risk Report, *Analysis and Prospects 2017* (Berlin: Bündnis Entwicklung Hilft, 2017), p.8.

111 UNISDR, *National Disaster Risk Assessment. Words into Action Guidelines*. (Geneva: UNISDR, 2017), pp.35 and 39.

112 E.g. J. Sagara, and S. Keiko, *Risk Assessment and Hazard Mapping*.

113 See: IFRC, UNDP, *Checklist on Law and Disaster Risk Reduction* (Geneva, New York: IFRC, UNDP, 2014), p.14.

114 IFRC, UNDP, *Effective Law and Regulation for Disaster Risk Reduction*.

115 CDEMA, *Model Comprehensive Disaster Management Legislation and Regulations*, (Trinidad: CDEMA, 2013), Part VI, Specially Vulnerable Areas, pp 37-38.

116 FEMA and American Red Cross, *Preparing for Disaster for People with Disabilities and Other Special Needs*, (Washington DC: FEMA, 2004).

117 E.g. World Bank, *Making Women's Voices Count: Integrating Gender Issues in Disaster Risk Management in East Asia and Pacific*, (Washington DC: World Bank, 2011).

118 IFRC, *Effective Law and Policy on Gender Equality and Protection from Sexual and Gender-Based Violence in Disasters: Global Report* (Geneva: IFRC, 2017).

The importance of focusing on urban disaster risk assessments has been highlighted increasingly in recent years, given the global trend towards urbanization and the complexity of such assessments.¹¹⁹ This same approach to risk assessments urges the inclusion of climate risks.¹²⁰

Integrating assessment of disaster and climate risk

Assessing both disaster and climate risk in the same process at a governmental level remains a challenge, due to the different histories and approaches of these two fields. Birkmann and Teichmann categorized these as differences in terms of (1) scale, (2) knowledge, and (3) norms, particularly given the separate institutional structures and legislative mandates created by governments to manage the policy issues of DRM and climate change.¹²¹ The challenge of integration remains the subject of discussion in the literature,¹²² including findings in industrialized countries such as the UK relating to institutional barriers, funding issues and other governance issues, gaps and strengths in law and policy,¹²³ and discussion of the Philippines' capacity of local governments to meet these challenges.¹²⁴

Risk assessments that take into account both disaster risk and climate change risk are increasingly required, especially due to the need to take account of climate variability and climate extremes, as well as sea-level rise. Notably, the World Risk Index, which has reported annually since 2011, began from 2015 to include sea-level rise in the range of natural hazard risks assessed for each of the 171 countries included.¹²⁵

At a regional level, the Pacific region is leading the way in such integration, as part of a broader resilience-building agenda, with the 2016 *Framework for Resilient Development in the Pacific*, which is voluntary guidance developed by the Pacific Community to integrate these issues with sustainable development.¹²⁶ It is supported by issue-based case studies, with a strong emphasis on assessment of risk for the purpose of disaster and climate risk insurance and financing¹²⁷ and a 2017 regional synthesis report on implementation of the previous decade's climate and disaster frameworks in the Pacific.¹²⁸

119 IFRC, Iranian Red Crescent, Building urban resilience: A guide for Red Cross and Red Crescent engagement and contribution, (Geneva: IFRC, 2017).

120 E.g. World Bank Urban Development & Local Government Unit, Urban Risk assessments: An approach for understanding disaster & climate risk in cities (Washington DC: World Bank, 2011); and IFRC, Integrating climate change and urban risks into the VCA: Ensure effective participatory analysis and enhanced community action (Geneva: IFRC, 2014).

121 J. Birkmann, and K. von Teichman, 'Integrating disaster risk reduction and climate change adaptation: Key challenges-scales, knowledge, and norms.' *Sustainability Science*, July 2010, 5(2):171-184.

122 F. Thomalla, et al., 'Reducing hazard vulnerability: towards a common approach between disaster risk reduction and climate adaptation,' *Disasters*, 2006, 30(1): 39-48.

123 D. Nuwan et al., 'Challenges associated with integrating CCA and DRR in the UK – A review on the existing legal and policy background.' *Procedia Engineering*, Volume 212, 2018, Pages 978-985.

124 J. Jansweijer, 'Integrating Disaster Risk Reduction and Climate Change Adaptation: The Influence of the Adaptive Capacity of Local Government Units in the Philippines on the Potential for Incorporating CCA Policies in Their Local DRR Management Plans.' (Master's Thesis, King's College London, 2014).

125 World Risk Index website: <https://weltrisikobericht.de/english-2/>

126 Pacific Community, Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management (FRDP) 2017-2030 (Suva, Fiji: SPC, 2016).

127 Pacific Community, Compendium of Case Studies on Climate and Disaster Resilient Development in the Pacific 2015, (Suva, Fiji: SPC, 2015).

128 Pacific Community, Regional Synthesis Report of the Implementation of the Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2005-2016 (RFA) & Pacific Islands Framework for Action on Climate Change 2006-2016 (PIFACC) 2017, (Suva, Fiji: SPC, 2017).

Forecast-based early action

Forecast-based early action is an aspect of humanitarian action that has developed particularly for slow-onset hazards such as drought, and it is based on the premise that such developments require urgent action before they become disasters.¹²⁹ A key element of this is access to forecast information and early warning systems, for which the World Meteorological Organization has developed country guidelines.¹³⁰

In a national or regional institutional system, early action may be triggered by certain predetermined thresholds or triggers for action, such as satellite surveillance data, or in the case of drought-related famine, a certain percentage increase in clinical presentations of acute malnutrition.¹³¹ The concept has been applied mainly in the African context, and with regard to drought and food security.

Sometimes early action begins with the release of government or international assistance grants, or insurance funds based on certain parameters (forms of ‘parametric insurance’ or ‘forecast-based financing’).¹³² This allows pre-emptive action by affected people, such as destocking and substitute livelihood activities in the face of drought, or it can simply allow them to survive a drought season without suffering dire poverty and malnourishment.¹³³ Other examples of early action include: evacuation (which is treated as a separate topic in this review); flood or hurricane season preparedness based on seasonal forecasts, allowing community and local government education and awareness training; pre-positioning of relief items; public education and information campaigns prior to heatwaves; and increasing rainwater harvesting capacity in preparation for longer dry seasons or increasingly extreme weather due to climate change.¹³⁴

With regard to agriculture and food security hazards, the UN Food and Agricultural Organisation (FAO) maintains an Early Warning – Early Action System to translate warnings into anticipatory actions to reduce disaster impacts.¹³⁵ The relevant risk events for this FAO system include natural hazards, food chain emergencies such as those caused by plant pest or animal disease; socio-economic crises like high food prices; and conflicts. Another approach discussed in the literature is to build anticipatory capacity into mainstream social protection systems.¹³⁶

129 IFRC, Save the Children, Oxfam, FAO, WFP, *Early warning early action, mechanisms for rapid decision making* (Nairobi, Kenya: IFRC, 2015), pp 3-4.

130 World Meteorological Organization, *WMO guidelines on multi-hazard impact-based forecast and warning services*. (Geneva: WMO, 2015); and Sai et al., *Towards impact-based flood forecasting and warning in Bangladesh: a case study at the local level in Sirajganj district*. (<https://doi.org/10.5194/nhess-2018-26>).

131 IFRC, *Early Warning Early Action* (Geneva: IFRC, 2008), p.10. <https://media.ifrc.org/ifrc/wp-content/uploads/sites/5/2017/11/Early-warning-early-action.pdf>

132 IFRC, Save the Children, Oxfam, FAO, WFP, *Early warning early action - Integrated Drought Management Programme* (Nairobi, Kenya: IFRC, 2014), p.16

133 E. Wilkinson et al., *Forecasting hazards, averting disasters: Implementing forecast-based early action at scale*, (London: Overseas Development Institute, 2018)

134 IFRC, *Early Warning Early Action* (Geneva: IFRC, 2008), p.7-12

135 ‘FAO’s Early Warning – Early Action System’ (summary pamphlet) (Rome: FAO 2016); and FAO website: www.fao.org/emergencies/fao-in-action/ewea/en/

136 See: Costella et al., ‘Scalable and sustainable: how to build anticipatory capacity into social protection systems’, IDS Bulletin 2017, 48(4); Kuriakose, et al, *Climate-responsive social protection, Discussion Paper 1210*. (Washington DC: World Bank, 2012); O’Brien et al. *Shock responsive social protection systems research, Synthesis report*, (Oxford: Oxford Policy Management, 2018); and World Bank, *Building resilience to disaster and climate change through social protection*, (Washington DC: World Bank, 2013).

The IFRC's approach to early warning - early action, describes it as a form of humanitarian action taken routinely "before a disaster or health emergency, or in anticipation of a future disaster risk, making full use of different forms of information on all timescales." It also includes a range of potential actions, such as evacuation, volunteer mobilization, moving supplies, people and money, contingency planning, risk mapping, sensitization, risk reduction.¹³⁷ The 2009 World Disasters Report focused on this issue in depth, although not on the legislative aspects.¹³⁸

The literature indicates that the step between forecasts and early action remains a challenge,¹³⁹ and this may be the main element that requires legal regulation relating to government institutional mandates where it does not already exist. A recent report by the Overseas Development Institute looking at 25 countries finds that although forecasting and communication of early warnings have improved significantly in recent years, 'action based on those warnings has not kept pace due to a lack of readily available resources and internal inefficiencies in NGOs and UN and government agencies.'¹⁴⁰

Many of the actions that can be described as forecast-based early action come under the general purview of the responsibilities of agencies under DRM laws, and no sources were found in the present review on legal regulation on early action. Indeed, it is arguable that the nature of early action activities is such that it may not need specific legal prescription, provided there are clear mandates for early warning, information-gathering and sharing, and discretionary response by the relevant agencies. Budgetary issues are more likely to be a limiting factor, if funds cannot be released for early action based on forecasts, so that this aspect may require further legal regulation. Such forecast-based financing is considered separately in this review.

Early warning systems (EWS)

It is not uncommon to read news reports of institutional conflict or community complaints over disaster risk information, in particular on the nature and timing of warnings after lives have been lost in a disaster.¹⁴¹ Although many factors come into play in such situations, tensions and hesitation can also arise from unclear or overlapping institutional mandates, as well as individuals' fear of the legal consequences of acting, and simple communication errors about the extent and immediacy of a risk. An example of such complexity was reported regarding the Guatemala volcanic eruptions in June 2018.¹⁴² This is a key issue raised in the IFRC and UNDP research on risk mapping and EWS, especially whether the relevant technical and scientific bodies – such as the NHMS and seismic monitoring centres – have legislative mandates to support EWS, and whether they are coordinated with other institutional mandates under DRM laws to ensure formal channels for rapid transmission of risk information.¹⁴³ This has also been identified as a central issue in

137 IFRC, *Early Warning Early Action* (Geneva: IFRC, 2008).

138 IFRC, *World Disasters Report 2009 - Focus on early warning, early action*. (Geneva: IFRC, 2009).

139 E.g.: Stephens et al., *Forecast-based action*. (University of Reading, Red Cross Red Crescent Climate Centre, 2015); and Oxfam, *From early warning to early action in Somalia. What can we learn to support early action to mitigate humanitarian crisis?* Oxfam Discussion Papers (Oxford, Oxfam, 2017).

140 E. Wilkinson et. al., 2018, p.7.

141 E.g.: A. Perera, 'Sri Lanka disaster authorities failed to issue early warnings for storm that killed 202 people,' *IRIN*, Udugama, Sri Lanka, 31 May 2017; and E. Cartlidge, 'Italy's supreme court clears L'Aquila earthquake scientists for good', *Science*, Nov. 20, 2015.

142 'Guatemala volcano: Emergency agency 'failed to heed warnings', *BBC News*, 7 June 2018; and Sofia Menchu, 'Guatemala volcano alert too late to save lives, officials admit,' *Reuters - Environment* June 8, 2018)

143 IFRC, UNDP, *Effective Law and Regulation for Disaster Risk Reduction*, 34.

World Meteorological Organization (WMO) publications, including good practices and related guidance principles.¹⁴⁴ WMO also undertook a global synthesis study on trends in the development of EWS in 2015, including findings on the importance of a legislative basis for EWS, and the engagement of all stakeholders in the institutional arrangements.¹⁴⁵

Some of the key literature on risk knowledge cited in the WMO synthesis study¹⁴⁶ includes:

- recent trends in developed countries have seen significant progress in expansion into multi-sectoral aspects of risk knowledge,¹⁴⁷ as well expanded documentation for both natural and human-made hazards, such as in Belgium,¹⁴⁸ Italy,¹⁴⁹ and in the European Commission guidelines on flood management;¹⁵⁰
- progress has been reported in community level risk assessment, including an example from Egypt;¹⁵¹ and
- advances in GIS information is an important aspect of increasing risk mapping capacity, which also lends itself to crowd-sourcing and other participatory techniques.¹⁵²

Community-driven early warning systems can be enabled by legislation and policy frameworks and are likely to work most effectively when this is the case, and especially when they can also provide information from community to national level.¹⁵³ A recent local level study in Bangladesh highlighted the importance of effectively translating flood warnings in to impact-based warnings understandable and actionable at community level.¹⁵⁴

There is an added complexity when disaster risk management and emergency response is a shared responsibility between national and sub-national levels of government, so that a clear and well-prepared warning system becomes even more essential. For example, the Australian early warning system (EWS) was developed in the context where the States and Territories have the primary responsibility for emergency response, while the best practice

144 WMO, *Analysis of the 2006 WMO DRR Country-level Survey* (Geneva: WMO, 2008), at 4-5; and website tools at WMO, Multi-Hazard Early Warning Systems (MHEWS), http://www.wmo.int/pages/prog/drr/projects/Thematic/MHEWS/MHEWS_en.html

145 WMO, *Synthesis of the Status and Trends with the Development of Early Warning Systems*, Background Paper Prepared for the 2015 Global Assessment Report on Disaster Risk Reduction (Geneva: UNISDR, 2015), 20-22.

146 WMO, *Synthesis of the Status and Trends with the Development of Early Warning Systems*, 22-23.

147 UNISDR, *Terminology*, 2009; M. Golnaraghi, et al. 'Good Practices in Multi-Hazard Early Warning Systems,' in UNISDR, *Risk Returns*, (Geneva, Tudor Rose, 2011), 95-97; and M. Golnaraghi (Ed), *Institutional Partnerships in Multi-Hazard Early Warning Systems*, (Springer worldwide, 2012).

148 J. Cools and D. Innocenti, *Flood Early Warning in Practice, Lessons Learned from a Comparative Analysis*, (Geneva: UNISDR, 2014) (Flood risk management is integrated into river basin management).

149 D. Molinari, et al., *Towards More Effective Flood Early Warning Systems: The Italian Experience*, (Geneva: UNISDR, 2014).

150 European Commission, *2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks*, (Brussels: EC, 2007), (Guidelines for mapping and assessing risk based on a multi-hazard and therefore multi-risk approach).

151 J. Cools and D. Innocenti, *Flood Early Warning in Practice*.

152 B. Guru and S. Santha, *People-centred Early Warning Systems and Disaster Risk Reduction, A Scoping Study of Public Participatory Geographical Information Systems (PPGIS) in India. Input Paper Prepared for the 2015 Global Assessment Report on Disaster Risk Reduction*, (Geneva: UNISDR, 2014) (New technologies and crowd-sourcing in GIS mapping).

153 IFRC, *Community early warning systems: guiding principles*, (Geneva: IFRC, 2012).

154 F. Sai et al, Towards impact-based flood forecasting and warning in Bangladesh: a case study at the local level in Sirajganj district., <https://doi.org/10.5194/nhess-2018-26>, 2018.

guides for warning originators and republishers were developed as a national initiative.¹⁵⁵ The Australian EWS has also been analysed in the context of global disaster risk reduction frameworks.¹⁵⁶

The technological and scientific monitoring and long-range seasonal forecasting that can trigger mitigation and preparedness measures is also often part of global and regional networks or projects that share information for use as open source data or for use by member governments or scientific agencies. Examples include the global systems for seismic monitoring,¹⁵⁷ the International Tsunami Information Center,¹⁵⁸ the US Climate Prediction Center's open reports on different regions,¹⁵⁹ the International Atomic Energy Agency (IAEA) (now integrated into some earthquake monitoring systems)¹⁶⁰ and regional systems of similar scope such as the South African Weather Service.¹⁶¹ These provide valuable sources of data and can be integrated into national EWS provided that the roles of the national institutions and their mandates are sufficiently clear to ensure the data can be used in a timely manner.

Needs and damages assessments (rapid and ongoing)

There is no consistent distinction made in the literature between needs assessments and damage assessments, or of their timing in terms of the stages of disaster response. This literature review also found very few resources that related to the legal basis for needs or damage assessments, except that the domestic legal basis for such assessments tends to be found in general provisions of DRM laws, while the detail is more likely to be found in implementation manuals and standard operating procedures (SOPs). There is substantial international guidance on the techniques and principles for assessments which can also be used in developing such national procedures.

Concerning international guidance, in 2015 the IASC revised its *Multi-Cluster/Sector Initial Rapid Assessment Guidance* (MIRA);¹⁶² the ICRC and IFRC, *Guidelines for assessment in emergencies* is a long-standing tool that is also supplemented with online materials;¹⁶³ and the *Sphere Handbook* also represents a widely agreed set of standards for response, including needs assessments.¹⁶⁴ Rapid assessments also need to be made from particular sectoral perspectives, especially the health sector, for which PAHO has provided international guidance

155 Australia, Attorney-General's Department, *Best Practice Guide for Warning Originators; Australia's Emergency Warning Arrangements; and Code of Practice for Warning Republishers*, (Canberra: Commonwealth of Australia, 2013).

156 N. Dufty, 'Progress made with early warning systems in Australia since 2005,' *Australian Journal of Emergency Management*, Volume 29 Issue 4, 2014.

157 E.g.: the GSN - Global Seismographic Network, <https://earthquake.usgs.gov/monitoring/gsn/>

158 International Tsunami Warning Center
http://itic.ioc-unesco.org/index.php?option=com_content&view=article&id=1171&Itemid=2307

159 NOAA, US Department of Commerce, Climate Prediction Center's Africa Hazards Outlook June 21–27, 2018.

160 International Atomic Energy Agency (IAEA), *Accident Monitoring Systems for Nuclear Power Plants*, <https://www-pub.iaea.org/books/iaeaabooks/10754/Accident-Monitoring-Systems-for-Nuclear-Power-Plants>

161 South African Weather Service - Seasonal - Weather SA. www.weathersa.co.za/home/seasonal

162 IASC, *The Multi-Cluster/Sector Initial Rapid Assessment Guidance* (MIRA) (Rev. July 2015), (Geneva; IASC, 2015).

163 ICRC and IFRC, *Guidelines for assessment in emergencies*. (Geneva; IFRC, 2008).

164 Sphere Project, the *Sphere Humanitarian Charter and Minimum Standards in Humanitarian Response* ('the Sphere Handbook'), (Geneva: Practical Action Publishing, rev 2018).

on rapid needs assessments,¹⁶⁵ along with other medical expert contributions.¹⁶⁶ FAO conducts rapid needs assessment of the agricultural sector following or during relevant hazard events,¹⁶⁷ UN-Habitat has focused on shelter and community participation is assessments,¹⁶⁸ while public safety of damaged buildings and later on reconstruction needs is also a specific technical area that relates to building regulations.¹⁶⁹

Of particular note in supporting disaster-affected countries, United Nations Disaster Assessment and Coordination (UNDAC) is part of the international emergency response system for sudden-onset emergencies.¹⁷⁰ The basis for using this mechanism is legal recognition of the UN system and the status of the UN Resident or Humanitarian Coordinator, based on UN member treaties and national status agreements, rather than the DRM law.

At the domestic level, the CDEMA Model Law includes a model example of a national DRM law general mandate for reporting on damage and using “rapid damage assessment and needs analysis”.¹⁷¹ The Philippine Government Office of Civil Defense, Operation Manual for Response is also an example of how a general requirement in the principal DRM law is translated into standard operating procedures for rapid assessments., using Rapid Deployment Teams to conduct “Rapid Damage Assessment and Needs Analysis.”¹⁷² The United States’ FEMA *Damage Assessment Operations Manual*, is another example of the way damage assessments can have a legislative base; it is part of the FEMA SOPs, which are in turn based on the Robert T. Stafford Disaster Relief and Emergency Assistance Act.¹⁷³

Rapid assessment is an area of innovation,¹⁷⁴ and has been conducted in novel ways, using newer technologies such as social media tracking,¹⁷⁵ satellites,¹⁷⁶ and remote sensing imagery.¹⁷⁷ These may be impacted by national telecommunications and privacy policy, much

165 PAHO, Rapid Needs Assessment, Pan American Health Organization (PAHO) <https://www.paho.org>

166 For example: M. Ariei, ‘Rapid Assessment in Disasters,’ *JMAJ* 56(1) 2013, pp 19–24 (Special Feature: Comprehensive CME Program on Disaster Medicine Part 1 Conferences and Lectures); H.A. Korteweg et al, ‘Rapid Health and Needs assessments after disasters: a systematic review.’ *BMC Public Health*. 2010; 10: 295.

167 E.g. FAO, *Rapid needs assessment of the agricultural sector*. Floods 2016 – Serbia (Rome; FAO, 2016).

168 UN-HABITAT, *People’s Process in Post-disaster and Post-conflict Recovery and Reconstruction* (Nairobi, Kenya; UN-Habitat, 2008), Chapter 3, pp 9-12.

169 F. Peña-Mora et al, ‘Building assessment during disaster response and recovery.’ *Proceedings of the Institution of Civil Engineers Urban Design and Planning* 161 December 2008 Issue DP4 Pages 183–195).

170 UNOCHA, ‘UN Disaster Assessment and Coordination (UNDAC) website: <https://www.unocha.org/our-work/coordination/un-disaster-assessment-and-coordination-undac>; and UNOCHA, *UNDAC Field Handbook* (7th edition 2018), (Geneva: UNOCHA, 2018).

171 CDEMA, *Model Comprehensive Disaster Management Legislation and Regulations*, (Trinidad: CDEMA, 2013), pp. 41, 113.

172 Philippines, Office of Civil Defense, Department of National Defense, *OCD Operation Manual for Response* (Manila; OCD, 2015) , pp 2-10 of section 1.3,

173 FEMA, USA, *Damage Assessment Operations Manual, A Guide to Assessing Damage and Impact* (Washington DC; FEMA, 2016).

174 UN-ESCAP, *Innovations in Disaster Rapid Assessment: a Framework for Early Recovery in ASEAN Countries* (Bangkok; United Nations-Economic and Social Commission for Asia and the Pacific - ESCAP, 2017).

175 Y. Kryvasheyev et al, ‘Rapid assessment of disaster damage using social media activity,’ *Sci. Adv.* 2016; 2: e1500779.

176 M. Pesaresi et al, ‘Rapid damage assessment of built-up structures using VHR satellite data in tsunami-affected areas,’ *International Journal of Remote Sensing*, 28 (13-14), 2007, pp 3013-3036.

177 R.R. Vatsavai et al., *Rapid damage assessment using high-resolution remote sensing imagery: Tools and techniques*. (Conference paper, 2011 IEEE International Geoscience and Remote Sensing Symposium, IGARSS Vancouver; 2011); and S. Voigt et al, ‘Rapid Damage Assessment and Situation Mapping: Learning from the 2010 Haiti Earthquake’, *Photogrammetric Engineering & Remote Sensing*, 77(9) 2011, pp 923-931.

as discussed in this review relating to the use of drones in disaster response. The other literature identified is more concerned with methodologies¹⁷⁸ than regulatory frameworks.

Again, the general techniques and principles for participation and inclusion discussed in the relevant section of this review are equally applicable to damage and needs assessments.

Conclusions

This review of the guidance and commentary on disaster information systems and assessments indicates that disaster information has been identified as crucial to underpin effective domestic preparedness and response, and that there is extensive international guidance on risk mapping, risk assessments, forecast-based early action, and EWS, and many initiatives based around technical cooperation. However, country comparative literature is still very limited, especially as it relates to the legislative bases for these activities. The literature also provides little information on the national legislative bases or methods for dissemination of information during an emergency, or methods used for assessment of needs, damage and loss, or evaluation of response effectiveness.

The existing literature and guidance indicates that with increasing access to technical data through global and regional information sharing, the main challenges for domestic DRM systems are establishing clear institutional mandates and coordination to ensure: (1) that risk or hazard mapping and risk assessments are done and used as the basis for contingency planning; (2) that accurate warning information is delivered to at-risk communities in a timely manner, both prior to and during a disaster situation; (3) that forecast information is used effectively to take action before hazards lead to disasters, and (4) that both rapid and ongoing assessments of needs and damage are undertaken and shared in a timely manner throughout a disaster response.

As yet, the literature does not provide substantial comparative information on the existence and/or effectiveness of such mandates in domestic law. There is also a gap in the global literature on how legislation can support integration of disaster and climate risks in disaster risk mapping and risk assessments, through legislative and institutional integration, and in this regard the Pacific Community initiatives and experience may be of interest beyond the region. The challenge of achieving forecast early action is also catalogued in other international and national reports, and this may be an element that requires legal regulation relating to government institutional mandates where it does not already exist. This review identified very little literature on the legal aspects of the issues of rapid and ongoing needs and damage assessments. Practically speaking, it is arguable that DRM laws need only general mandates on these issues, and that the detail is best placed in Standard Operating Procedures (SOPs) made under these legislative mandates. However, there is a general lack of literature about the importance of, and techniques for, assessing social and economic needs and damage/loss, including gender analysis and the needs of minorities or marginalised groups in needs assessments. This is an area that further work could usefully highlight, advocating for the need to include specific socio-economic, gender and diversity criteria in legislative mandates for both early action and needs and damage assessments.

178 C. Bollin and S. Khanna, *Review of Post Disaster Recovery Needs Assessment and Methodologies: Experiences from Asia and Latin America*. (New York; UNDP, 2007).

4. Funding sources and risk financing

Introduction to theme

Ensuring that adequate funding is available in the event of a disaster is essential for an effective response. In recent years there has been a shift in focus towards ensuring that adequate funds are allocated not only for disaster response, but also for disaster risk reduction and other preparedness measures. It is crucial to ensure that funding is available for both preparedness and response activities, and that this is clearly identified and allocated as part of preparedness planning. This can be done through the establishment of dedicated funding mechanisms, and the allocation of funding for preparedness and response, all of which can be mandated by law. The legal capacity to accept external funds both before and during disaster response operations is also an important aspect of the framework for many developing countries that experience major hazards. This section explores the key literature and guidance related to funding for disasters, paying particular attention to new and innovative approaches such as forecast-based financing (or 'FbF' as it is commonly known).

It is increasingly common for international projects and funding mechanisms to focus on the wider question of "disaster risk financing". Disaster risk financing looks at a range of options to insure against the sudden economic shocks to countries and communities that are caused by major disasters, and also against the longer term regular drain on national resources caused by disasters. The focus is changing because the scale of disaster losses is increasing, in part due to more extreme weather and climate events, and in part due to increased population numbers and concentrations of people in high risk areas such as flood plains. For example, Viet Nam is estimated to have lost at least 1% of GDP per annum due to natural hazards between 1989 to 2008, and this is likely to be an underestimate.¹⁷⁹

The idea that governments can expect to manage all scales of disaster and reconstruction through reserve funds is becoming less realistic, and the amounts available for international humanitarian assistance from developed economies are also increasingly stretched. Therefore, the conversation has shifted to the general concept of disaster risk financing, which includes a number of innovations in insurance and financial products in what is now a rapidly-changing landscape.

Summary of key literature

Funding for domestic preparedness and response

Many documents recommend the establishment of dedicated funding mechanisms, financial reserves, and insurance coverage for disasters.¹⁸⁰ A 2011 OAS report carried out as part of a Caribbean Emergency Legislation Project is one of the most comprehensive resources to address this issue, and explores different funding mechanisms through legislative examples.¹⁸¹ Its analysis is based on financial provisions 'included or directly referenced in national disaster/emergency legislation, and supplemented by in-depth research and exam-

179 World Bank, GFDRR, 'Fiscal Impact of Natural Disasters in Viet Nam', 2012 (2 page pamphlet based on in-depth study), at <https://www.adb.org/publications/assessing-disaster-risk-finance-diagnostic>

180 See, among others: OAS, *Caribbean Emergency Legislation Project (Condensed Study Report)*; Daniel A. Farber and Michael G. Faure (eds.), *Disaster Law* (Cheltenham: Edward Elgar, 2010), part III on insurance; Daniel A. Farber et al, *Disaster Law and Policy* (New York: Aspen Publishers, 2010); IFRC, *Contingency Planning Guide* (Geneva, IFRC, 2012).

181 OAS, *Caribbean Emergency Legislation Project (Condensed Study Report)*, 120-154 and 223-293.

ination of this issue as addressed in disaster/emergency related literature.¹⁸² The report also examines different types of public funding (e.g. normal administrative appropriation, extra-budgetary allocation, finance provisions in emergency legislation, disaster/emergency funds, governmental borrowing and other public funds, external aid etc.) and private funding (insurance, microfinance mechanisms, disaster risk reduction incentive mechanisms etc.). It also provides a critical analysis of several national disaster funding frameworks, not only in the Caribbean, but also in countries outside the region including Australia, the Philippines, Colombia and South Africa, among others.

The OAS report concludes that disaster funding mechanisms should encompass a variety of key elements, including risk analysis, efficiency, risk pooling, and elimination/reduction of 'moral hazard' (failure of insured to protect assets and/or false reporting of losses). It outlines different elements of best practices of disaster funding, including dedicated funds, supplementary or contingency sources of funding, allocation based on risk assessment, guidelines ensuring impartiality, accountability and efficiency for disaster funding, pooling of risk between public and private sectors, and legislative enactment of disaster funding mechanisms. Through its analysis of various funding mechanisms, this report highlights the importance of ensuring funding distribution between risk reduction, preparedness and response.

A piece published by Harvard Business School highlights that disaster response efforts remain mostly reactive, especially when it comes to funding, and that innovative approaches such as FbF make significant promises to save time, money and lives.¹⁸³ Senior United Nations officials, such as the Emergency Relief Coordinator, Mark Lowcock, have called for the testing of innovative approaches such as the CERF early action window, in order to release disaster funding in accordance with early warning information.¹⁸⁴ This is similar to the FbF approach explored further below.

Key international frameworks, such as the *Sendai Framework*, highlight the importance of ensuring funding across the whole disaster risk management spectrum, with a particular focus on funding at the community level. Priority four of the *Sendai Framework* focuses on 'enhancing disaster preparedness for effective response and to 'Build Back Better' in recovery, rehabilitation and reconstruction'. This priority explicitly states the importance of strengthening disaster preparedness for response, including the strengthening of funding mechanisms at the national and local levels. It states that:

The steady growth of disaster risk, including the increase of people and assets exposure, combined with the lessons learned from past disasters, indicates the need to further strengthen disaster preparedness for response, take action in anticipation of events, integrate disaster risk reduction in response preparedness and ensure that capacities are in place for effective response and recovery at all levels.¹⁸⁵

182 OAS, *Caribbean Emergency Legislation Project (Condensed Study Report)*, 120-121.

183 Harvard Business School, 'The Cash Before the Storm: Forecast-based Financing at Red Cross,' *Technology and Operations Management*, accessed at 18 May, 2018, <https://rctom.hbs.org/submission/the-cash-before-the-storm-forecast-based-financing-at-red-cross/>

184 M. Lowcock, *A Casement Lecture: Towards a better humanitarian system for financing* (New York: United Nations Office for the Coordination of Humanitarian Affairs, 2018).

185 United Nations Third World Conference on Disaster Risk Reduction, *Sendai Framework for Disaster Risk Reduction 2015-2030* (the 'Sendai Framework'), (Geneva: UNISDR, 2015), 21 (paragraph 32).

Alongside this more general emphasis on preparedness and response, the *Sendai Framework* calls for action at the national and the local levels to adopt public policies that will establish or strengthen coordination, funding mechanisms and procedures for relief assistance, and to plan and prepare for post-disaster recovery and reconstruction.¹⁸⁶ Furthermore, the *Sendai Framework* calls for the empowerment of local authorities to coordinate with civil society and communities (including indigenous persons and migrants) in disaster risk management activities at the local level – including through both financial and regulatory means.¹⁸⁷ It also encourages parliamentarians to support the implementation of disaster risk reduction (and disaster risk management more broadly) by developing new, or amending, relevant legislation and setting budget allocations.¹⁸⁸ These fall under Priority 2 on ‘strengthening disaster risk governance to manage disaster risks’.

The IFRC and UNDP 2015 multi-country report on law and disaster risk reduction outlines the importance of ensuring financing provisions within disaster risk management laws, highlighting good practice examples from different countries. Although the focus of this publication is on DRR, it highlights considerations that are also relevant for preparedness and response. For example, it notes a diversity of approaches amongst states on financing for DRR, but suggests this warrants further investigation before substantive conclusions can be made about the role of legislation.¹⁸⁹ This same diversity of approaches is likely to apply to preparedness and response, although the report suggests it may often be easier to establish dedicated funding lines for these areas in DRM legislation, given that preparedness and response activities tend to be those which individuals and agencies know best from past experience.¹⁹⁰ The 2017 IFRC regional mapping of ASEAN country disaster laws also summarized the funding mechanisms within the DRM laws and related legislation, noting a wide range of approaches even within the group of ten ASEAN countries, with most DRM laws providing little detail on budgets, and some systems having budget allocation done within other national budget mechanisms.¹⁹¹

Regarding new and innovative funding measures, Forecast-based financing (FbF) and ‘early warning early action’ initiatives have received increasing attention in recent years. The momentum around this approach towards funding sources for disasters makes it an important consideration for this review, and for the development of new recommendations for laws on disaster preparedness and response. As outlined in a publication by the German Red Cross on ‘Forecast-based Financing: An Innovative Approach’,¹⁹² part of the challenge in humanitarian financing is that it is predominantly available only when a disaster strikes. The FbF approach emphasizes that many humanitarian actions could be implemented in the window between a forecast and a disaster. The idea is to establish mechanisms or systems which trigger and fund preparedness actions before a disaster strikes. The innovation, as explained in the German Red Cross publication, is that humanitarian funding would be released based on forecast information, for pre-agreed activities which reduce risks and enhance preparedness and response for climate and weather-related events.¹⁹³

186 *Sendai Framework*, 21 (paragraph 33(e)).

187 *Sendai Framework*, 18 (paragraph 27(h)).

188 *Sendai Framework*, 18 (paragraph 27(i)).

189 IFRC and United Nations Development programme (UNDP), *Effective Law and Regulation for Disaster Risk Reduction*, 25.

190 IFRC and UNDP, *Effective Law and Regulation for Disaster Risk Reduction*, 28.

191 IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: A Regional Stocktake*; and IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: ASEAN Country Profiles*.

192 German Red Cross, *Forecast-based Financing: An Innovative Approach* (Berlin: German Red Cross, 2017), 1.

193 German Red Cross, *Forecast-based Financing*, 1.

The overall objective explored in the German Red Cross report is to anticipate, prevent and reduce ‘potential humanitarian needs as a result of extreme weather disasters and to strengthen the preparedness capacities of humanitarian actors.’¹⁹⁴ The report states that, ‘the full potential of early action for humanitarian assistance has not yet been realized,’ despite commitments to this approach being made through the *Sendai Framework*, through which United Nations member states committed to strengthen their early warning systems and preparedness for response.¹⁹⁵

A policy overview prepared by IFRC, the German Red Cross, and the Red Cross Red Crescent Climate Centre, notes that the Red Cross and Red Crescent Movement has been developing the FbF concept since 2007, including several pilot programmes across the world. The policy overview describes FbF as ‘a mechanism that enables access to funding for early action and preparedness for response based on in-depth forecast and risk analysis’.¹⁹⁶ The policy overview states that this fosters a collaborative approach to humanitarian financing, with responsibilities shared amongst humanitarian stakeholders and national government entities for disaster risk reduction, climate risk management and financing.

Regional, national and local stakeholders can also commit to specific actions, and the actors involved include national and local government entities, National Red Cross and Red Crescent Societies, United Nations Agencies, NGOs, communities and the business sector.¹⁹⁷ Proponents of the FbF approach argue that it contributes to meeting global commitments made under the *Sendai Framework*, (for example, by requiring the active contribution and coordination of different actors, such as hydro-meteorological services working with National Red Cross and Red Crescent Societies), and under the Sustainable Development Goals (for example, by protecting development gains in the window of opportunity between a forecast and a potential disaster), and the Paris Agreement on Climate Change (by incorporating FbF as part of national adaptation planning).¹⁹⁸ The IFRC is one organization that has acted on this approach, launching its own forecast-based financing fund in 2018.¹⁹⁹

Commitments to innovative funding approaches like FbF also stemmed from the World Humanitarian Summit in 2016, as outlined in reports such as *Istanbul and beyond: perspectives and pledges of the International Red Cross and Red Crescent Movement on the occasion of the World Humanitarian Summit*. This document highlights that there has never been a wider gap between the level of humanitarian needs across the world and the resources available to meet them.²⁰⁰ In this document, organizations such as the IFRC have outlined their intention to scale up their use of FbF, with similar commitments being echoed by states. A recent United Nations General Assembly resolution highlights member states’ commitment to improve their national responses to early warning information to ensure that early warning leads to early action, including through FbF, and to develop or enhance

194 German Red Cross, *Forecast-based Financing*, 1.

195 German Red Cross, *Forecast-based Financing*, 2.

196 IFRC, German Red Cross, Red Cross Red Crescent Climate Centre, *Forecast-based Financing: A Policy Overview*, (Berlin: German Red Cross, 2017), 2.

197 IFRC, German Red Cross, Red Cross Red Crescent Climate Centre, *Forecast-based Financing: A Policy Overview*, 3.

198 IFRC, German Red Cross, Red Cross Red Crescent Climate Centre, *Forecast-based Financing: A Policy Overview*, 4.

199 Grist, ‘How to stop a humanitarian disaster before it happens,’ May 20, 2018, <https://grist.org/article/how-to-stop-a-humanitarian-disaster-before-it-happens/>

200 IFRC, *Istanbul and Beyond: Perspectives and Pledges of the International Red Cross and Red Crescent Movement on the Occasion of the World Humanitarian Summit*, (Geneva: IFRC, 2016), 33.

forecast-based preparedness and response systems, including making resources available to support actions in anticipation of natural disasters.²⁰¹

The field of FbF is expanding and there is now some academic literature about the issue, including a notable piece by a group of authors from different research institutes on 'Forecast-based Financing: An Approach for Catalysing Humanitarian Action based on Extreme Weather and Climate Forecasts'.²⁰² In the article, the authors propose a novel forecast-based financing system to automatically trigger action and financial disbursements when threshold forecasts are issued.²⁰³ The authors acknowledge that the current lack of funding based on early warnings or forecasts can be attributed to debate over the best strategy for intervention, or an 'inherent uncomfortableness' from donors to invest in a situation that will only 'likely arise' – rather than a situation which is certain.²⁰⁴ They explain that the mandate to take action based on early warning systems is not always well-defined at the national level, and it is often unclear as to who would be responsible for making this type of decision and what decision is appropriate based on the early warning.²⁰⁵

Though not suggested in the particular article cited above, it could be argued that the mandate or responsibility for taking FbF decisions could be outlined in the national disaster risk management or other related law, or by an accompanying regulation. And, as also noted by the authors of the foregoing article, a preparedness fund could be the standard funding mechanism for forecast-based financing, one that is designated for use before potential disasters. 'Funding from this mechanism will be disbursed when a forecast is issued,' they explain, 'to supply enough money to carry out the selected actions, with the understanding that occasionally funding will be spent to "act in vain"'.²⁰⁶

Capacity to receive external funds

Countries that receive international humanitarian assistance for major disaster response operations need to have in procedures for acceptance of funds, monitoring, evaluation and reporting on expenditure, and other forms of transparency and accountability, in line with their national requirements as well as those of humanitarian donors and development partners.

To a large extent this issue has now been subsumed in the literature under the general topic of 'disaster risk financing', and accordingly the wider literature is discussed in that section below. However, for DRM laws specifically, key legislative provisions concerning the capacity to receive external funds may include legal mandates for NDMA, or the establishment of special DRM funds by law, or specific mechanisms in line with national budget and financial regulations through Ministries of Finance. Some examples are:

201 United Nations General Assembly (UNGA), 'Resolution A/RES/72/132 on International Cooperation on Humanitarian Assistance in the Field of Natural Disasters, from Relief to Development,' (New York: United Nations, 2017), paragraphs 19-21.

202 E. Coughlan de Perez et. al., 'Forecast-based Financing: An Approach for Catalysing Humanitarian Action Based on Extreme Weather and Climate Forecasts,' *Natural Hazards and Earth System Sciences* 15/4 (April 2015).

203 E. Coughlan de Perez et. al., 895.

204 E. Coughlan de Perez et. al., 897.

205 E. Coughlan de Perez et. al., 897.

206 E. Coughlan de Perez et. al., 899.

- The 2013 CDEMA Model Comprehensive Disaster Management Legislation and Regulations, includes model legal provisions on national contingency funds capable of receiving international donations, grants, loans, and the CDEMA emergency assistance fund.²⁰⁷
- A 2017 IFRC regional mapping of the 10 ASEAN countries summarized the funding mechanisms within the DRM laws and related legislation, showing that most of these laws provide little detail on funding and budgets, while some have DRM budget allocation within other national budget mechanisms. Of the six ASEAN countries that have budget and finance provisions in their DRM laws, five provide for state-budget-funded DRM funds but then also allow for the national DRM agency to receive international funds – Cambodia, Indonesia, Philippines, Thailand, and Viet Nam.²⁰⁸ The Myanmar law establishes a specific DRM fund that can also receive international funds.
- Nepal's new Disaster Risk Reduction and Management Act 2017 establishes a separate Disaster Management Fund (Chapter 9, ss. 22-23), as well as providing for such Funds at province and local level.²⁰⁹ The Fund can receive funds from multiple sources, including the national government, donations and international grants or loans with the approval of the Ministry of Finance. It is to be audited each year by the Auditor General. The separate and transparent nature of Nepal's Fund signals that it is to be entirely separate from government recurrent spending. This is a first step for receiving external donations, grants and loans, as spending can be more effectively tracked and accounted for. This is significant, given that the Act was passed after Nepal's experience in handling international funds following the 2015 earthquake recovery. Nepal also took the step of passing a separate law to establish the National Reconstruction Authority (NRA), with its own annual budget of approximately \$1.25m USD in 2017/18 drawing on external funds. The NRA continued in 2018 as reconstruction has been slow, and it was also mandated to manage reconstruction following the 2017 floods.²¹⁰

The emergence of special funding mechanisms for climate change adaptation finance (which is also potentially available for disaster risk reduction in the areas of overlap) has highlighted the need in many developing countries to increase legal and functional capacity to receive such funds, now termed 'climate finance readiness'.²¹¹ This seems likely to be the arena where legal best practice emerges, as the same broad requirements can apply to external DRM financing, including disaster risk financing discussed below.

207 CDEMA, *Model Comprehensive Disaster Management Legislation and Regulations*.

208 IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: A Regional Stocktake*; and IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: ASEAN Country Profiles*.

209 Development Initiatives, *Emergency Preparedness Financing in Nepal: Desk Review*, p.9.

210 Nepal, National Reconstruction Authority, website: <http://nra.gov.np/en/pages/view/m8JkifXINKAVUMrhHMimrL17KxCr-g7d3mFJbnSEYQ>; and 'NRA gets Rs 145.93b for '17-18', *Kathmandu Post*, 13 July 2017.

211 E.g.: Giz/BMZ, Lao PDR MONRE, *First Steps for Making Climate Finance Work in Lao PDR, ASEAN-German Programme on Response to Climate Change (GAP-CC)*, BMZ/Giz, Jakarta, 2014); Giz, *Understanding Climate Finance Readiness Needs in Zambia* (GIZ, 2013); J. Samuwai, *Assessing Climate Finance Readiness in the Asia-Pacific Region* (MDPI, 2018); ODI, *Climate Finance: Readiness and Strengthening Institutions*, at <https://www.odi.org/sites/odi.org.uk/files/odi-assets/events-documents/4947.pdf>; The Commonwealth, *Climate Finance Access Hub*, at <http://thecommonwealth.org/climate-finance-access-hub>; and UN Environment/UNDP/WRI *Engaging the Green Climate Fund - GCF Readiness Programme*, at <http://www.gcfreadinessprogramme.org/>

Disaster risk financing

Disaster risk financing has become a high priority in the approach of development banks and some development partners and humanitarian donors, as a way to make the cost of disaster risk more predictable and affordable for affected developing countries and development partners alike, and to bring the global private finance and insurance industries into the risk-sharing equation. Examples of this shift include the Mark Lowcock 2018 Casement Lecture on a better system for humanitarian financing;²¹² World Bank and Asian Development Bank capacity building for countries to assess the need and invest in financial protection against disasters;²¹³ and the World Bank's Disaster Risk Financing and Insurance (DRFI) Program,²¹⁴ along with the prior research on which it was built.²¹⁵ These in turn build on global research and analysis over the previous decade, as well as research within countries and regional organizations, some of which is described below.

One way of talking about managing disaster risk is in terms of a national disaster risk financing strategy intended to “layer risks.” Major disaster losses can be financed using a combination of financial instruments, including:

- For the low risk layer, contingency budgets and national disaster reserves;
- For the medium risk layer, contingent credit from external sources; and
- For the high risk layer, risk transfer instruments (including insurance).²¹⁶

To apply this to a real world example, the Philippines uses all three levels of risk financing:

- As previously described, the Philippine DRRM Act makes provision for national and local government funds to be accrued from general revenue for the purposes of both quick response and DRR. This addresses the low risk layer, in the form of contingency budgets and national disaster reserves.
- The Philippines has also been participating since 2010 as the first Asian country in the Disaster Risk Financing and Insurance Program (DRFIP) of the Global Fund for Disaster Risk Reduction (GFDRR). In 2010 it secured a \$500 million line of credit, known as a Catastrophe Deferred Drawdown Option. This is contingent credit addressing the medium risk layer.²¹⁷
- In 2017 a second loan of \$500 million was provided and the Philippines launched a new catastrophe risk insurance program which provides US \$206 million in coverage to protect national and local government agencies against financial losses from certain severe natural disasters. This is a risk transfer system to address the high risk layer.²¹⁸

212 M. Lowcock, *A Casement Lecture: Towards a better humanitarian system for financing* (New York: UNISDR, 2018).

213 World Bank, Asian Development Bank, *Assessing Financial Protection against Disasters: A Guidance Note on Conducting a Disaster Risk Finance Diagnostic*, (WB, ADB, 2017)

214 World Bank, Disaster Risk Financing and Insurance (DRFI) Program, Website: <http://www.worldbank.org/>

215 E.g.: GFDRR, World Bank, Swiss Cooperation, *Financial Protection Against Natural Disasters*, (Washington, DC: WB, 2014); F. Ghesquiere and O. Mahul, *Financial Protection of the State against Natural Disasters: A Primer*, (Washington, D.C.: World Bank, 2010); and J. D. Cummins and O. Mahul, *Catastrophe Risk Financing in Developing Countries: Principles for Public Intervention* (Washington, D.C., World Bank, 2009).

216 World Bank, GFDRR, *Fiscal Impact of Natural Disasters in Viet Nam*, 2012; and World Bank, GFDRR, *Weathering the Storm: Options for Disaster Risk Financing in Viet Nam*, 2010 (the in-depth study).

217 GFDRR, 'Financial Protection: Strengthening Financial Resilience to Disasters' (brochure), 2017, p. 7. <https://www.gfdr.org/en/drifp>

218 See: GFDRR, 'Financial Protection: Strengthening Financial Resilience to Disasters' (brochure), 2017, p.7. ►

There are a number of regional intergovernmental risk financing mechanisms in place or under development. For example, an established regional approach is the Caribbean Catastrophe Risk Insurance Facility (CCRIF), established in 2007 as a parametric insurance facility. It is owned, operated and registered in the Caribbean for Caribbean governments, and insures government risk to limit the financial impact of catastrophic hurricanes and earthquakes by quickly providing short term funds. The CCRIF represents a major shift in the way governments treat disaster risk, leading the way in pre-disaster planning and proactive DRM. It is the world's first regional insurance fund, giving Caribbean governments the unique opportunity to purchase earthquake and hurricane catastrophe coverage, which is not available elsewhere.²¹⁹

The Pacific Catastrophe Risk Assessment and Financing Initiative is a broad initiative that facilitated the creation of the Pacific Catastrophe Risk Insurance Company (PCRIC), which was set up as a multi-national sovereign risk pool in 2012.²²⁰ It was instrumental in the recovery process following Tropical Cyclone Pam, as 'the risk pool provided immediate relief to Vanuatu with a payout of US\$1.9 million, and helped the country with a rapid liquidity injection in the immediate aftermath of the disaster, demonstrating the importance of disaster risk financing as an integral part of sustainable and inclusive development.'²²¹ In ASEAN, Lao PDR and Myanmar will participate in a new disaster risk financing mechanism in the ASEAN context, as one of the two initial pilot countries for the Southeast Asia Disaster Risk Insurance Facility (SEADRIF) announced by the ASEAN Finance Ministers at their May 2018 meeting.²²² UN-ESCAP is facilitating disaster risk financing in the Asia and Pacific Regions through regional cooperation.²²³

In other current examples of innovative approaches to risk financing, both Pakistan²²⁴ and Mexico²²⁵ are cited by ADB and GFDRR as being of particular interest in both the development and utilization of new disaster risk financing mechanisms for all levels of risk.

Such disaster (and also climate) risk financing systems and projects are normally developed with the relevant country's Ministry of Finance, with sector and line agencies such as the NDMA and Environment Ministry having a key role in implementation.

<https://www.gfdr.org/en/drifp>; World Bank, GFDRR, SIDA, Secretariat of Government and Ministry of Housing (Mexico), *FONDEN Mexico's Natural Disaster Fund – A Review*, World Bank, Washington D.C., 2012. Available at <https://openknowledge.worldbank.org/handle/10986/26881>; and World Bank, GFDRR, *Fiscal Disaster Risk Assessment Options for Consideration*, PAKISTAN, 2015, Annex 3, pp 57-60.

219 OAS, *Caribbean Emergency Legislation Project: Improving the Legal and Institutional Framework Related to State of Emergency* (Condensed Study Report), (Washington DC: OAS, 2011).

220 Pacific Catastrophe Risk Assessment and Financing Initiative - PCRAFI, Website: pcrafi.spc.int/; and *Reinsurance News*, 'Pacific Catastrophe Risk Insurance Company increases reinsurance by 19%', <https://www.reinsurancene.ws/pacific-catastrophe-risk-insurance-company-increases-reinsurance-19/>

221 UN-ESCAP, *Opportunities for Regional Cooperation in Disaster Risk Financing* (Bangkok: UN-ESCAP, 2018).

222 ASEAN, 'The Joint Statement of the Finance Ministers' Meeting on the Establishment of the Southeast Asia Disaster Risk Insurance Facility (SEADRIF)' (4 May 2018, Manila, the Philippines).

223 UN-ESCAP, *Opportunities for Regional Cooperation in Disaster Risk Financing* (Bangkok: UN-ESCAP, 2018).

224 See: ADB Project, Pakistan: National Disaster Risk Management Fund, 2016 (Accessed September 2018, <https://www.adb.org/projects/50316-001/main#project-pds>); *Dawn*, 'National Disaster Risk Management Fund launched', Islamabad, 17 July 2018. (Accessed September 2018 at <https://www.dawn.com/news/print/1420605>); and Pakistan, National Disaster Risk Management Fund website: <http://www.ndrmf.pk/>

225 World Bank, GFDRR, 2015, *PAKISTAN*, Annex 3, p. 61.

Conclusions

Funding is a critical requirement to support disaster preparedness and response activities, as well as those which fall within the whole disaster risk management spectrum. With global commitments such as the *Sendai Framework* on DRR highlighting the importance of having adequate funding mechanisms in place, and in light of the findings outlined above, it is clear that this topic cannot be overlooked when developing preparedness and response procedures, including the related legislation. Innovations such as forecast-based financing are not only an approach for humanitarian actors, but something which can be integrated into national plans and mechanisms. In order to move forward, these funding approaches for preparedness and response could be clearly institutionalized in national frameworks through disaster-related legislation, policies and procedures. The above review indicates that disaster risk funds and financing is an area that is developing rapidly, with a number of innovations emerging that potentially impact domestic DRM legislation. While the IFRC and OAS work cited above provides a starting point for wider comparison of national budgets and disaster funds, it would appear worthwhile to undertake comparative research on emerging DRM funding mechanisms, and their legislative bases. Such research may need to consider national budget laws and Ministry of Finance mechanisms to provide the full picture of DRM financing.

As well as changing rapidly, disaster risk financing encompasses a wide range of risk financing and risk sharing methods. For these reasons, the main conclusions that can be drawn from the literature are that governments would do well to aim for relatively open mandates for their institutions under national DRM laws, to avoid constant amendment with each new risk management product, but at the same time maximize their capacity to receive funds for risk management financing through strong accountability mechanisms and provision for a clear separation between management of government budget for the DRM system and external funds. National laws also need to support emerging regional risk financing products and mechanisms. Given the current global focus on climate finance readiness in developing countries, the tools and capacity-building being undertaken for those purposes would also be a useful reference for the legal frameworks for DRM finance readiness.

5. Contingency planning

Introduction to theme

Contingency planning relates to the concrete actions that are necessary to take when a major risk is predicted or an emergency begins to unfold, despite best efforts to reduce risk and mitigate the effects of hazards before they occur. It is ‘a management process that analyses disaster risks and establishes arrangements in advance to enable timely, effective and appropriate responses.’²²⁶

Contingency plans recognize that, especially for natural hazards, there is always a degree of residual risk that either cannot be eliminated at all, or cannot be removed in a reasonable and affordable way. Good contingency planning is nevertheless based on risk mapping and risk assessments that recognize the known residual risk (national, local, enterprise level) and are also sufficiently adaptable to deal with unexpected events or events of a greater magnitude than has been experienced previously.

The main purpose of contingency plans in high-intensity sudden-onset disasters is to remove people, livestock and, where reasonable in the time, personal property from the path of a hazard as quickly as possible after the danger becomes known, so as to reduce loss of life and human suffering, and the economic and livelihood impacts of a hazard. This type of approach is relevant for hazards such as floods, major wild fires, major storms such as cyclones/hurricanes, volcanic eruptions and tsunamis. For lower-intensity risks, contingency planning may need to allow communities to stay and look after their homes, such as sandbagging against floods, keeping wild fires at bay, or simply staying off the roads and literally weathering a storm in their homes.

For such government contingency plans to work effectively, communities and local levels of government need to have a high level of awareness of the types of risks they are likely to face, and the procedures for acting on warnings, including what to do first, how to administer first aid, where to go for information, who will make key decisions, and where they can access support. For this reason, public and school-based drills, training of civil servants and community leaders, and multi-agency simulation exercises are all important elements of effective contingency planning.

For slow-onset hazards such as drought, contingency plans may include pre-emptive actions such as destocking, conserving water, or changing crops based on long-term forecasts. These actions may also need to be triggered by an official government declaration of drought, for example, to release compensation or support in affected communities.

Early warning systems and contingency planning overlap in some respects, as often the first step to begin contingency actions is the issuing of a warning. The literature review relating to early warning systems is included in Chapter 3 of this review, relating to Information Systems.

Summary of key literature

There is a great deal of literature on contingency planning. This review highlights key elements that are relevant for national response operations and the roles and responsibilities of government DRM institutions under legislative mandates.

226 UNISDR Terminology, 2017

The IFRC *Contingency Planning Guide* is directed towards the IFRC and National Societies, but it highlights the key elements also relevant for government preparedness, including: developing standard operating procedures (SOPs); ensuring there are early warning or alert systems to provide the triggers; and having operational preparedness in terms of logistics, programme planning, human resources, and the capacity for rapid resource mobilization. It also emphasizes that, for all these elements to work, there needs to be preparedness in terms of training, drills, and simulation exercises, as well as effective coordination and communications between the different actors.²²⁷ The IFRC guidance on legislative issues in disaster response also highlights contingency planning as an issue that is not always well-specified in DRM laws.²²⁸

Testing the plans through drills and simulation exercises plays an essential part of contingency planning, as results from these rehearsals can help improve and update emergency plans. In fact, most of the literature that discusses disaster preparedness planning includes drills and simulation exercises as an important component of a comprehensive framework.²²⁹ First aid training is also part of such preparedness. The IFRC and the European Reference Centre for First Aid Education advocate for general public first aid training.²³⁰ The IFRC published first aid guidelines to harmonize quality first aid practice amongst the National Societies.²³¹ White and McNulty's report also assesses the relationship between first aid training and community resilience.²³²

The Federal Office of Civil Protection and Disaster Assistance in Germany, as well as the Government of the United Kingdom, have developed guidance documents for conducting crisis management exercises.²³³ Socher also discusses training and exercises for

227 IFRC, *Contingency planning guide* (Geneva: IFRC, 2012).

228 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 34-35.

229 See among others: UNISDR, UNOCHA, *Disaster Preparedness for Effective Response Guidance and Indicator Package for Implementing Priority Five of the Hyogo Framework* (Geneva: United Nations, 2008); J. Twigg, *The Right to Safety: Some Conceptual and Practical Issues*. Disaster Studies Working Paper 9. (London: Benfield Hazard Research Centre, 2003); N. W. Carter, *Disaster Management. A Disaster Manager's Handbook* (Manila: Asian Development Bank, 1991). OAS, *Caribbean Emergency Legislation Project: Improving the Legal and Institutional Framework Related to State of Emergency* (Washington DC: Organization of American States, 2009), 73; J. Harkey, *Experiences of National Governments in Expanding Their Role in Humanitarian Preparedness and Response* (Somerville: Feinstein International Center, 2014), 37; D. Alexander, 'Towards the development of a standard in emergency planning' *Disaster Prevention and Management*, 14:2, 2005, 158; E. Pajot Badiaga, *Contingency Plan: Facilitator's guideline* (Handicap International: Manila, 2011); J.M. Westergaard, 'Contingency Planning: Preparation of Contingency Plans' (2008) 55:1 *Zoonoses Public Health* 42; IFRC, *Make that change: better be ready* (Port of Spain: IFRC, undated); I. P. Robbins, 'Lessons from Hurricane Katrina: Prison Emergency Preparedness as a Constitutional Imperative' (2008) 42 *University of Michigan Journal of Law Reform*, 1; R. Bissell (ed.), *Preparedness and Response for Catastrophic Disasters* (Boca Raton: CRC Press, 2013); R. W. Perry and M. K. Lindell, 'Preparedness for Emergency Response: Guidelines for the Emergency Planning Process,' *Disasters* 27/4, 2003, 336; and National Fire Protection Association, *NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs* (Quincy: NFPA, 2013).

230 IFRC, European Reference Centre for First Aid Education, *First aid for a safer future. Updated global edition* (Geneva: IFRC, 2010).

231 IFRC, *International first aid and resuscitation guidelines 2011* (Geneva: IFRC, 2011).

232 J. White and A. McNulty, 'Assessing the Links Between First Aid Training and Community Resilience' (British Red Cross, 2011).

233 Federal Office of Civil Protection and Disaster Assistance (Germany), *Guideline for Strategic Crisis Management Exercises* (Bonn: Federal Office of Civil Protection and Disaster Assistance, 2011); and Cabinet Office and National Security and Intelligence (UK), *Guidance: Emergency planning and preparedness: exercises and training* (2013); and United Kingdom, *Civil Contingencies Act of 2004* (Contingency Planning) Regulations 2005, Statutory Instruments 2005 no. 2042.

catastrophes, and enumerates various examples of training and testing.²³⁴ Hardy discusses evacuation procedures in the US (statistics and the type of drills conducted).²³⁵ Prizzia and Helfand describe emergency exercises in Hawaii (including a large-scale state-wide exercise and monthly hospital-wide drills).²³⁶ Tina Hunter provides examples of training exercises specific to oil spills in Australia.²³⁷ Some articles also report the common practice of drills for the general public, in particular schools.²³⁸

Much of the literature provides guidance on how to prepare a contingency plan, and McConnell and Drennan's article addresses difficulties in planning and preparing for crisis.²³⁹ There is less information on legislated obligations to conduct drills or public awareness. In this regard, the IFRC and UNDP report on law and DRR highlighted a significant number of country laws that included general requirements for public awareness, but few that required specific training or other measures.²⁴⁰ Drawing on that research, the Law and DRR Checklist and the Handbook developed by IFRC and UNDP include the question of whether or not the laws and policies require education, training and awareness-raising to promote a whole of society approach to DRR.²⁴¹ These tools and the background research focus on DRR, and the analysis does not include contingency planning in relation to the emergency response. The 2017 IFRC mapping on preparedness and response aspects of DRM laws in the ten ASEAN countries found a similar trend towards very general provisions on contingency planning in the actual laws, with the laws more likely to specify the need to develop a disaster management plan.²⁴²

There are documented instances of legislated obligations to conduct contingency planning, for example Belgium requires all public administrators, municipalities, provinces, hospitals and enterprises to develop individual emergency plans.²⁴³ Weeks discusses a planning requirement for authorities under the US Emergency Planning and Community Right-to-

234 Myra M. Socher, 'Training and Exercises for Catastrophes,' in Rick Bissell (ed.), *Preparedness and Response for Catastrophic Disasters* (Boca Raton: CRC Press, 2013).

235 Victoria Hardy, Kathy O. Roper and Suzanne Kennedy, 'Emergency preparedness and disaster recovery in the US post 9/11,' *Journal of Facilities Management*, 3:7, 2009, 212.

236 Ross Prizzia and Gary Helfand, 'Emergency preparedness and disaster management in Hawaii,' *Disaster Prevention and Management* 17:3, *Disaster Prevention and Management* 10:3, 2001, 176 and 179.

237 Tina Hunter, 'The Montara Oil Spill and the National Marine Oil Spill Contingency Plan: Disaster Response or Just a Disaster?' *Australian & New Zealand Maritime Law Journal*, 24, 2010, 52.

238 For example: Rajib Shaw, Yuriko Takeuchi and Koichi Shiawaku, 'Disaster education in schools' in Alejandro López-Carresi et al. (eds.), *Disaster Management: International Lessons in Risk Reduction, Response and Recovery* (New York: Routledge, 2014); Emily Rauhala, 'How Japan Became a Leader in Disaster Preparation,' *Time*, 11 March 2011, <http://content.time.com/time/world/article/0,8599,2058390,00.html#ixzz2QjNNnmy1>; Anastasia Moloney, 'Chile learns bitter lessons from February earthquake,' *Thomson Reuters Foundation*, 11 March 2010, <http://www.trust.org/item/20100311174300-agi90/?source=search>; Ray Sanchez, 'Experts: Strict building codes saved lives in powerful Chile earthquake,' *CNN*, 3 April 2014, <http://edition.cnn.com/2014/04/02/world/americas/chile-earthquake/>; and Marla Petal, *Disaster Prevention for Schools: Guidance for Education Sector Decision-Makers*, (Consultation version) (Geneva: UNISDR, 2008), 19.

239 Allan McConnell and Lynn Drennan, 'Mission Impossible? Planning and Preparing for Crisis,' *Journal of Contingencies and Crisis Management*, 154:2, 2006, 59.

240 IFRC, UNDP, *Effective Law and Regulation for Disaster Risk Reduction*, 37-39.

241 IFRC, UNDP, *Checklist on Law and Disaster Risk Reduction*, Checklist question 7, 15-16; and IFRC, UNDP, *Handbook on Law and Disaster Risk Reduction*, 56-57.

242 IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: A Regional Stocktake*; and IFRC, *ASEAN Disaster Law Mapping - Implementing AADMER: ASEAN Country Profiles*.

243 Red Cross EU Office, *Disaster Management. National profiles*, http://www.redcross.eu/en/upload/documents/pdf/437_country_sheets.pdf.

Know Act which focuses on state and local preparedness planning for chemical hazards.²⁴⁴ From another angle, Gavouneli explores mechanisms of responsibility for catastrophes, focusing on the obligations imposed on states (its role, its duty to foresee and prevent, and its obligation to plan in mitigation of an unforeseeable event),²⁴⁵ while Binder explores liability issues that could arise from the absence of a contingency plan, its inadequacy or the failure to follow it.²⁴⁶ These positive obligations were also highlighted from the human rights perspective by the International Law Commission,²⁴⁷ although its approach is at a high level rather than providing specific guidance on implementation in domestic law.²⁴⁸

At the local level, Rabinowitz highlights that smaller jurisdictions are less likely to have a disaster preparedness plan than larger cities and counties.²⁴⁹ McEntire and Myers also examine disaster preparedness planning at the local level and recommend methods and process to implement preparedness measures.²⁵⁰

The private sector may also be required by law to develop contingency plans if they are offering essential services or have responsibility for groups of people, (including schools,²⁵¹ healthcare facilities,²⁵² prisons,²⁵³ hotels,²⁵⁴ storage of dangerous goods such as oil²⁵⁵), and to safeguard the welfare of their employees.²⁵⁶ DRM and business development legislation frameworks can also together provide an essential policy framework for private sector contingency planning, including incentives to maintain business continuity in the face of disasters.²⁵⁷

244 R. S. Weeks, 'The Bumpy Road to Community Preparedness: The Emergency Planning and Community Right-to-Know Act,' *The Environmental Lawyer* 4, 1998, 827.

245 M. Gavouneli, 'Responsibility for Catastrophes: New Concepts in Their Conventional Application' in David D. Caron and Charles Leben (eds), *Les aspects internationaux des catastrophes naturelles et industrielles* (The Hague: Nijhoff, 2001).

246 D. Binder, 'Emergency Action Plans: A Legal and Practical Blueprint 'Failing to Plan Is Planning to Fail' (2002) 63 *University of Pittsburgh Law Review* 791.

247 International Law Commission, *Draft Articles on the Protection of Persons in the Event of Disasters* (New York: United Nations, 2016).

248 F. Zorzi Giustiniani, 'The Works of the International Law Commission on Protection of Persons in the Event of Disasters. A Critical Appraisal,' in Andrea De Guttry, Marco Gestri and Gabriella Venturini (eds), *International Disaster Response Law* (The Hague: TMC Asser Press, 2012).

249 J. Rabinowitz, 'Local Governments: Are You Ready? Who Will Pay?' *Access Control & Security Systems Integration*, 1 July 2002, 8.

250 D. A. McEntire and A. Myers, 'Preparing communities for disasters: issues and processes for government readiness,' *Disaster Prevention and Management*, 13:2, 2004, 140.

251 A. W. C. Oreta, *Guidance Notes: School Emergency and Disaster Preparedness* (UNISDR Asia and the Pacific, 2010).

252 James G. Hodge and Veda Collmer, 'A Legal Duty to Evacuate Patients from Healthcare Facilities in Emergencies,' *University of Michigan Journal of Law Reform*, 25, 2013.

253 Ira P. Robbins, 'Lessons from Hurricane Katrina: Prison Emergency Preparedness as a Constitutional Imperative,' *University of Michigan Journal of Law Reform*, 42, 2008, 1.

254 Catherine Cheung and Rob Law, 'How Can Hotel Guests Be Protected During the Occurrence of a Tsunami?' *Asia Pacific Journal of Tourism Research*, 11:3, 2006, 289.

255 Buncefield Major Incident Investigation Board (UK), *Recommendations on the emergency preparedness for, response to and recovery from incidents* (London: Government of the UK, 2007).

256 For example: Von S. Heinz, 'When disaster strikes, being prepared is paramount,' *Nevada Employment Law Letter* 12:8, 2007; Lehr Middlebrooks & Vreeland, 'Disaster planning: learning from experience,' *Alabama Employment Law Letter*, 17:2, 2006; Felhaber, Larson, Fenlon and Vogt, 'EEOC issues guidance for employers developing emergency evacuation plan,' *Minnesota Employment Law Letter*, 12:1, 2002; and David B. Graham and Thomas D. Johns, 'The Corporate Emergency Response Plan: A Smart Strategy,' *Natural Resources & Environment*, 27, 2012, 3.

257 Asian Disaster Preparedness Center (ADPC) and Asian Development Bank (ADB), *Strengthening Disaster and Climate Resilience of Small and Medium Enterprises in Asia. Regional Synthesis Report: Indonesia, Philippines, Thailand, Viet Nam*, (Bangkok: ADPC, 2017).

Conclusions

This review highlights that there is a wealth of literature on the rationale for, and practical development of, contingency plans, including many examples of legal obligations for public and private entities to develop and implement such plans. There is also some comparative research on public awareness-raising as a legislative obligation, and on requirements to engage community and private sector stakeholders. However, there is little comparative literature on institutional mandates or legal regulations that require governments or others to develop and rehearse contingency plans, especially concerning developing countries.

6. Legal facilities

Introduction to theme

Ensuring that humanitarian actors, both foreign and domestic, have the necessary legal facilities to undertake preparedness and response activities is crucial for effective disaster risk management. Organizations like the IFRC, together with partners such as UNOCHA, have provided research, advocacy and technical advice to states to ensure that certain legal facilities are in place to facilitate humanitarian activities in large-scale disaster response operations. This approach has largely focused on managing incoming international disaster assistance, including the exemption of taxes and duties on relief goods, waiving of immigration or entry requirements for approved international actors, and allowing expedited customs procedures for the entry and clearance of relief items. With this has come the development of international guidance such as the *Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance* (also known as the 'IDRL Guidelines'), the *Model Act for International Disaster Assistance* and the *IDRL Checklist*.²⁵⁸

The legal facilities outlined in these tools are typically associated with large-scale disaster response operations requiring international assistance – however, there are certain facilities and considerations that are relevant for domestic actors as well, and which are crucial to overcoming legal issues in domestic preparedness and response. It is these legal facilities for domestic response that are the focus of this chapter, which include areas such as management of human remains, the use of volunteers, cash transfer programming, the use of Unmanned Aerial Vehicles (UAVs), professional licensing, tax exemptions, and data protection.²⁵⁹

Summary of key literature

The summary of key literature for this section has been broken down according to seven key areas, as listed in the introduction above. Many of these issues could easily warrant a standalone literature review dedicated solely to that topic. In the interests of space for this review, however, the most relevant documents and publications have been prioritized. The IFRC publication, *'Legislative Issues in Disaster Management and Epidemic Response,'* provides an overview of the key legal issues relating to domestic response and is referenced in the relevant sections below.

Management of human remains

As outlined in the IFRC publication *Legislative Issues in Disaster Management and Epidemic Response*, the mass casualties caused by major disasters can be overwhelming to manage, particularly for the legal and institutional systems that deal with the registration, identification and burial or disposal of the dead.²⁶⁰ This was a significant problem during the response to the Ebola outbreak in West Africa in 2014 and 2015, and poses a challenge for new outbreaks such as the 2018 Ebola epidemic in the Democratic Republic of Congo (DRC).

258 IFRC, UNOCHA and the Inter-Parliamentary Union, *Model Act for the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance* ('the IDRL Model Act'); and IFRC, *Checklist on the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance* ('the IDRL Checklist'). These documents, together with the IDRL Guidelines, can be found on the IFRC Disaster Law Programme's website at <http://media.ifrc.org/ifrc/what-we-do/disaster-law/>

259 While the focus of this literature review is on disaster preparedness and response at the domestic level, numerous resources relating to IDRL and legal facilities for international responders are available on the IFRC's Disaster Law website, including country reviews, research reports, web stories, and an interactive global map of IDRL and other disaster law developments. See <http://media.ifrc.org/ifrc/what-we-do/disaster-law/>

260 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 44.

In such situations, there is often a concern about the health hazards posed by human remains, which can result in authorities resorting to speedy mass burials. As a result, the dead might remain listed as ‘missing,’ which can cause significant distress for families and deny them critical information about the family members they have lost, and the ability to bury them in accordance with cultural practices.²⁶¹ Issues can also arise regarding the lack of death registration, which can lead to complications about guardianship over children, and inheritance of property.²⁶²

Guidance has been developed at the global level to help national authorities and humanitarian responders address the problems of managing human remains, particularly in light of the challenges and lessons learned from the West Africa Ebola outbreak, where a critical issue was the treatment and care of victims of a fatal disease, or ‘dead body management’ as it was also referred to. The World Health Organization, together with the IFRC, ICRC, and Pan-American Health Organization (PAHO) have published a manual entitled *Management of Dead Bodies After Disasters: A Field Manual for First Responders*. This provides practical guidelines on the recovery, documentation and storage of the remains of individuals who have died in disasters, thereby helping first responders ensure that the dead are treated with respect and that information crucial for their subsequent identification is recorded.

The above Field Manual was first published in 2006, and later revised in 2016. The revised edition incorporates experience from Typhoon Haiyan in the Philippines in 2013, the Ebola epidemic in West Africa in 2014 and 2015, and the 2015 earthquake in Nepal. It also contains several annexes, which cover such topics such as handling the bodies of people who have died from an infectious disease, burial planning (including a mass fatality plan checklist) and using DNA analysis in mass fatality events.²⁶³

PAHO also developed an earlier publication to provide analysis and guidance on this issue, entitled *Management of Dead Bodies in Disaster Situations*, published in 2004. This document included a model law on the management of dead bodies in disaster situations. It is designed to provide legislative language that national authorities can use either to draft a stand-alone law or to incorporate into the relevant national law. The model law contains 12 articles which include: provisions outlining the authorities that should be responsible for coordinating the management of the dead; the process of body removal including disposal, burial and body identification; and cooperation with other states in the event that national capacity is exceeded and domestic resources are insufficient to manage the situation.²⁶⁴ The PAHO publication also includes an entire chapter dedicated to the legal aspects of managing dead bodies in disaster situations (chapter 6), and as such is among the most comprehensive sets of guidance and analysis on this issue.

Scholarly articles have been published which reflect on the legal issues arising from DBM in contexts like the post-tsunami period in 2004/2005, such as that by Sumathipala, Siribaddana, and Perera.²⁶⁵ Their paper highlights several legal issues in relation to the management of human remains, including the ramifications of speedy burial of the dead

261 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 44

262 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 44.

263 IFRC, ICRC, WHO, Pan-American Health Organization (PAHO), *Management of Dead Bodies after Disasters: A Field Manual for First Responders* (Second Edition) (Washington D.C.: PAHO, 2016). See Annexes 1-7, page 40-59.

264 IFRC et. al., *Management of Dead Bodies in Disaster Situations*, 148-150.

265 A. Sumathipala, S. Siribaddana, and C. Perera, ‘Management of Dead Bodies as a Component of Psychosocial Interventions after the Tsunami: A View from Sri Lanka,’ *International Review of Psychiatry*, 18, no.3 (June 2006): 249-257.

without formal documentation, lack of death certificates, and the importance of mapping and documentation of mass graves by legal authorities. Furthermore, the authors highlight that among their advocacy efforts, they seek to persuade national authorities about the need to develop a national legal framework leading to effective disaster management and disaster victim identification in natural and manmade disasters.²⁶⁶ Other articles, such as one by Sarah Tomkins, examine the right to burial, using Hurricane Katrina as a case study.²⁶⁷ The literature thus shows that there is extensive guidance on management of dead bodies during disasters, based on lessons learned over many years, including recently epidemic disasters. However, it does not document or show evidence of the domestic legal frameworks in place to address this issue, which remains an area requiring further study.

Volunteering

Volunteers face many uncertainties when providing services in disaster situations. As part of preparedness and response, it is critical to consider legal issues which may affect volunteers, such as heightened health and safety concerns, and questions related to insurance, liability, and employment.²⁶⁸ These key issues have been identified and outlined in the IFRC's publication *Legislative Issues in Disaster Management and Epidemic Response*. The report highlights that in some contexts there may be a lack of clarity in regard to the definition and scope of volunteering, the legal barriers that may prohibit or restrict volunteering activities, or the proper training and management of volunteers.²⁶⁹ If health and safety obligations of organizations using volunteers is unclear, that can also result in inadequate precautions taken for volunteers with regard to insurance coverage for accidents – or even death in the course of volunteering – and the payment of compensation.²⁷⁰

Other examples of legal issues regarding volunteering in emergencies relate to employment at the time of volunteering in an emergency or disaster context. Many volunteers who are deployed in emergencies have regular employment and may, for example, benefit from additional protection against dismissal.²⁷¹ Liability is also among the key issues related to volunteering, given that the liability of organizations as well as volunteers in the course of their activities may come into question, with possible immunity from liability provided in some jurisdictions for acts done in good faith.²⁷²

A 2004 guidance note on *Volunteerism and Legislation*, prepared by the Inter-Parliamentary Union, the United Nations Volunteers programme and the IFRC,²⁷³ outlines different areas of law that can have an impact on volunteers, including labour law, tax law, social welfare laws, immigration law, and the regulatory framework for non-profit or charitable organizations. It also provides suggestions on how to promote a favourable legal framework for volunteers at the national level and discusses the need to have laws which apply

266 Sumathipala et. al., 255.

267 Sarah Tomkins, 'Priam's Lament: The Intersection of Law and Morality in the Right to Burial and its Need for Recognition in Post-Katrina New Orleans,' *University of the District of Columbia David A. Clarke School of Law Review* 12, no.1 (2009): 93.

268 These are key issues as identified in IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 45.

269 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 46.

270 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 46.

271 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 46.

272 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 46.

273 Inter-Parliamentary Union (IPU), IFRC, and United Nations Volunteer Programme (UNV), *Volunteerism and Legislation: A Guidance Note* (Geneva: IPU, IFRC and UNV, 2004).

specifically to volunteer work. As such, it provides a useful outline for key issues to consider with regard to the use of volunteers in the context of disaster preparedness and response.

IFRC has since produced a more updated analysis on legal frameworks for volunteering in emergencies, which outlines gaps in legal research, and provides a comprehensive overview of key issues and examples of legislation from different countries pertaining to the following topics (among others): declaration of an emergency/disaster and its impact on volunteers; recognition of volunteers in the emergency context; liability and immunity; insurance; and issues associated with employment law.²⁷⁴ This analysis highlights that the most appropriate way to create an enabling environment would depend on the particular context of each country and that a 'one size fits all' approach will not work.²⁷⁵ The analysis explains that while many countries have adopted laws on volunteering, the issue of volunteering in emergencies or disasters has so far been addressed in only a limited number of laws and academic writing.²⁷⁶

Within the academic writing available on this topic, some authors have looked specifically at the role of volunteers in disasters, such as Whittaker, McLennan and Handmer, whose review of 'informal volunteers' in emergencies and disasters²⁷⁷ considers the increasing role of informal volunteers in disaster management and response (i.e. those volunteers not affiliated with humanitarian or other organizations). The authors argue that the role of these types of volunteers is likely to increase given the scale of disaster risks due to population growth, urban development and climate change, and they identify legal liability as a key barrier to the greater participation of volunteers.²⁷⁸

The 2015 *State of the World's Volunteerism* report discusses volunteering in the context of 'transforming governance,' yet there are some findings worth considering in the context of law and disaster preparedness and response. For example, the report highlights the need to have an enabling legal and regulatory environment for volunteerism, in order to fully maximize the contribution of volunteers to the 'common good'.²⁷⁹ The authors emphasize that the legal context matters greatly (together with the overall social and political context) in terms of what volunteers can and cannot contribute.²⁸⁰

Cash transfer programming

The use of cash or 'cash transfer programming' (CTP) in disasters is increasing, due largely to the fact that cash is less costly to deliver than in-kind assistance, it provides a greater choice and dignity to affected communities, and creates more opportunity for transparency.²⁸¹ Yet this is not without some important legal considerations, such as how to facilitate cash transfer programming including the opening of bank accounts, facilitating monetary transfers, identity verification ('know your customer' or 'KYC'), legally defined

274 IFRC, *The Legal Framework for Volunteering in Emergencies*, (Geneva: IFRC, 2011).

275 IFRC, *The Legal Framework for Volunteering in Emergencies*, 77.

276 IFRC, *The Legal Framework for Volunteering in Emergencies*, 77.

277 J. Whittaker, B. McLennan and J. Handmer, A Review of Informal Volunteerism in Emergencies and Disasters: Definition, Opportunities and Challenges,' *International Journal of Disaster Risk Reduction* 13 (2015), 358–368.

278 J. Whittaker et. al., 'A Review of Informal Volunteerism in Emergencies,' 358–368.

279 The report also highlights the need to have an enabling environment for volunteers to 'fully realize any future sustainable development agenda,' 15.

280 United Nations Volunteer Programme, *State of the World's Volunteerism Report: Transforming Governance* (Washington D.C.: UNV, 2015), 15.

281 IFRC, *Istanbul and Beyond: Perspectives and Pledges of the International Red Cross and Red Crescent Movement on the Occasion of the World Humanitarian Summit* (Geneva: IFRC, 2016), 33.

procedures for loss of records or documentation, and data privacy (e.g. the gathering, storing and sharing of information for CTP purposes).

Although CTP is not a new phenomenon, it has not previously been undertaken on the same scale as today, such as the large-scale cash transfer programmes being delivered to refugees in Turkey, or to the displaced population in Cox's Bazar, Bangladesh.²⁸² While there is little literature available that specifically addresses legal issues relating to the use of cash in emergencies, lessons learned and evaluation reports do cite legal barriers such as lack of documentation and lack of information about individuals' legal status.²⁸³ The 2018 *State of the World's Cash Report* also cites legal and regulatory barriers to the use of cash, particularly for refugees, with regards to recognition of refugee status, lack of information and documentation.²⁸⁴

In searching for literature on this issue, some country-specific reports were found which cite regulatory challenges, such as that prepared by the Cox's Bazar Cash Working Group.²⁸⁵ The report contains a chapter on challenges associated with the regulatory environment in Bangladesh and the 'know your customer' requirements from the Central Bank of Bangladesh, which is the main regulator in-country for all financial services and transactions. According to this report, these requirements pose the biggest challenge to allowing any access to financial services among the displaced population, given that they cannot produce the required identification documents.²⁸⁶

On issues such as data protection, some reports have been produced which look at risk mitigation strategies and defining requirements for privacy,²⁸⁷ while more general guidance on CTP has been produced by agencies such as IFRC, including Standard Operating Procedures for CTP which are currently being revised.²⁸⁸

The large number of IFRC IDRL country case studies on banking and cash transfer issues in international response are also a source of country-based information on the relevant legal frameworks but would need to be analysed comparatively and updated. It appears there is a general need for collation and analysis of the data on cash-based transfers that is now available through country case studies and programme evaluation reports, to identify the most common legal issues, legislative barriers and good practices.

282 For information, documentation and updates on the CTP in Bangladesh see <http://www.cashlearning.org/bangladesh-cwg/bangladesh-cash-working-group>; and regarding the CTP in Turkey, which has reached over 1 million refugees, see <https://reliefweb.int/report/turkey/eu-funded-cash-assistance-programme-reaches-1-million-refugees-turkey>

283 For example, see Danish Refugee Council and United Nations High Commissioner for Refugees, *Cash Transfer Programming for Syrian Refugees: Lessons Learned on Vulnerability, Targeting, and Protection from the Danish Refugee Council's E-Voucher Intervention in Southern Turkey* (DRC, UNHCR, 2016), 14 and 27.

284 The Cash Learning Partnership (CaLP), *The State of the World's Cash Report: Cash Programming in Humanitarian Aid* (London: CaLP, 2018), 76.

285 Cox's Bazar Cash Working Group, *Delivery Mechanism Mapping for Cash-Based Interventions (CBI) in Cox's Bazar, Bangladesh* (Cox's Bazar, Bangladesh: European Community, Catholic Relief Services, Inter-Sector Coordination Group, Shelter NFI Sector, Shelter Cluster, 2017).

286 Cox's Bazar Cash Working Group, *Delivery Mechanism Mapping*, 35–36.

287 World Vision and UNHCR, *Challenges and the State of Play of Interoperability in Cash Transfer Programming*, (2015).

288 The current SOPs, as well as country case studies and other research and products produced by the IFRC in relation to CTP are available at <http://rcmcash.org/resources/>. Additional information, case studies and publications on CTP that go beyond the scope of this study are also available on the CaLP website at <http://rcmcash.org/resources/>.

Use of UAVs (Drones)

The use of new and emerging technologies, such as Unmanned Aerial Vehicles (or ‘UAVs’), poses new regulatory issues in the disaster preparedness and response arena. Questions regarding the operation of UAVs, including their registration, flight operation certificates, use of airspace etc., are important considerations which are receiving increasing attention from practitioners in this sector. In 2014 the first version of a *Humanitarian UAV Code of Conduct* was drafted to provide for the safe, coordinated and effective use of UAVs in humanitarian and development settings. This has subsequently been revised. It calls on UAV operators to make sure they comply with relevant international and domestic laws and applicable regulatory frameworks, including in relation to customs, aviation, liability, insurance, telecommunications and data protection.²⁸⁹

The network of practitioners who developed the UAV Code of Conduct, known as the ‘UAViators,’ have also produced relevant reports such as *Humanitarian UAV/Drone Missions: Towards Best Practices* which includes a section on ‘Staying Legal’. This section calls on practitioners to ensure they review the UAV regulations for the country in which they will be operating.²⁹⁰ Though targeted primarily at international actors, this guidance is also relevant for domestic actors operating UAVs, given that they are subject to the relevant national laws and regulations that apply in their country context.

A publication on *Drones in Humanitarian Action: A Guide to the Use of Airborne Systems in Humanitarian Crises*,²⁹¹ highlights legal issues related to cargo delivery from drones, and explains that most drone regulations do not yet include provisions on cargo delivery and ‘dropping’ items, something which is not allowed in many countries (let alone considered in the context of disaster preparedness and response).²⁹² They also highlight concerns that these issues may not be considered in the revision of relevant regulations, unless the humanitarian relevance is clearly articulated.²⁹³ Another regulatory challenge highlighted in this report is about maintaining a ‘Visual Line of Sight’ (VLOS), that is, keeping the drone in a visual line of sight for the duration of its operation. The report explains that, while some national regulations allow the VLOS operation of small drones, gaining permission for Beyond Visual Line of Sight (BVLOS) is a more challenging and complicated process, and can limit the scope for UAV use.²⁹⁴

The ‘Signals Code’ developed by the Harvard Humanitarian Initiative (which is also mentioned in the section on data protection below) attempts to answer some of the ethical and legal implications of the use of UAVs.²⁹⁵ A report on *Drones and Aerial Observation: New*

289 UAViators, *Humanitarian UAV Code of Conduct and Guidelines* (2016), point 5. Published online at <https://uavcode.org/>

290 UAViators, *Humanitarian UAV/Drone Missions: Towards Best Practices* (2018), 2-4. This is a live document that is subject to updates. It has been published online with the last update as of May 28, 2018, available at <https://docs.google.com/document/d/1xyjOBVe4cz7F-Ed1IGzeT4ZPmC2tJ0JiDUyzWo1Ci9U/edit#> (The UAViators website also contains a database of national regulations relevant to the use of UAVs, the purpose of which is to ‘crowdsource the documentation of national UAV laws, relevant government contact information and also experiences in traveling across borders with UAVs’. It can be accessed at <http://uaviators.org/laws>.)

291 The Swiss Foundation for Mine Action (FSD), *Drones in Humanitarian Action: A Guide to the Use of Airborne Systems in Humanitarian Crises*, (Geneva: FSD, 2016).

292 FSD, *Drones in Humanitarian Action*, 44.

293 FSD, *Drones in Humanitarian Action*, 44.

294 FSD, *Drones in Humanitarian Action*, 44.

295 F. Greenwood, et. al., *The Signal Code: A Human Rights Approach to Information During Crisis* (Cambridge, MA: Harvard Humanitarian Initiative (HHI), 2017).

Technologies for Property Rights, Human Rights, and Global Development contains a few chapters that deal with legal concerns,²⁹⁶ while authors Soesilo and Sandvik provide a good overview of the current state of play regarding the use of UAVs in the humanitarian world.²⁹⁷

Based on the literature reviewed, it appears that the rapid increase in the use of drones in humanitarian settings has outflanked most domestic legal frameworks, and is largely governed by voluntary codes at present. This suggests a need to develop guidance for domestic laws on humanitarian use of drones, which could be based on countries that do have a clear framework for UAV use and inputs from the humanitarian community about likely uses and any legal facilities or exceptions required.

Professional licensing

Professional licensing requirements can pose a significant barrier to professionals' ability to provide assistance in an emergency, particularly for medical professionals. This is not just the case for international actors required to provide a medical service in a disaster-affected state – it is equally important for domestic actors who might be crossing provincial or district lines to assist in an emergency. In the context of federal systems, for example, laws and other regulatory requirements may differ between States, and there may not be a system in place to verify or recognize the credentials of medical professionals.

Some country specific studies provide relevant insights on this issue, such as a study by Chris M. Buck on the legal issues that arose after Hurricanes Katrina and Rita in the United States. Several legal issues emerged around legal liability and medical licensing once medical volunteers crossed State lines. Medical personnel were stopped by Mississippi government officials due to licensing concerns, and authorities had to deal with issues of prescription-writing by out-of-state physicians, as well as trying to manage medical volunteers who were not formally dispatched by their home states and therefore not covered against liability.²⁹⁸

Similar issues have been identified by independent researchers, such as Darby C. Allen and Susan Feigin Harris. In their paper entitled 'Licensure Issues in the Event of a Disaster or Emergency,' they also look at the context of the United States, and explain that many state licensure rules require the President of the United States or the State governor to declare a public emergency before visiting healthcare professionals may avail themselves of special provisions normally required for operating in a different state.²⁹⁹ Therefore, an entity that requires assistance from professionals licensed in other States would have to wait for this official declaration before the professionals would legally be allowed to operate in the affected area.

Indeed, declarations of emergency can trigger a variety of exemptions, as outlined in a publication by the United States Institute of Medicine of the National Academies on *Crisis Standards of Care*. Chapter three of this publication provides a detailed overview of legal issues in emergencies, with a particular focus on healthcare. In its consideration of the

296 *New America, Drones and Aerial Observation: New Technologies for Property Rights, Human Rights, and Global Development*, (Washington D.C.: New America, 2015).

297 Denise Soesilo and Kristin Bergtora Sandvik, *Drones in Humanitarian Action: A Survey on Perceptions and Applications* (FSD: Geneva, 2016).

298 C.M. Buck, *Policy Analysis of Health Professional Licensing During Disaster Response in the United States* (Ohio: Wright State University, 2013), 15.

299 D.C. Allen and S. Feigin Harris, *Licensure Issues in the Event of a Disaster or Emergency*, (Ohio: Baker Hostetler, year unknown), 1.

legal environment in emergencies, the authors highlight that a declaration of emergency can include triggers which allow for the waiving of specific regulatory requirements and the authorization of interstate recognition of health care licenses.³⁰⁰

In the absence of global or regional studies, the resources identified in this review focus largely on the interstate issues of professional licensing in the United States during disasters, as an indication of the issues that can arise. This issue would be illuminated by additional comparative research in other countries that experience disasters, especially federations where different state or provincial laws govern medical licensing and professional liability.

Tax exemptions

When considering legal issues in domestic preparedness and response, it is important to consider the role of law in providing specific exemptions from income tax, VAT, customs duties and taxation on donations with respect to disaster relief activities, particularly for local, non-for-profit and civil society responders. While there does not appear to be a wide range of literature addressing this issue in the context of facilitating domestic preparedness and response, one can look to the IFRC's publication *Legislative Issues in Disaster Management and Epidemic Response* for some insights. The large number of IFRC IDRL country case study reports could also provide valuable background on the relevant legal frameworks for importation of humanitarian assistance by national as well as international actors, but they would need to be analysed for this purpose.

Taxation can be a significant drain on the capacities of national actors to provide much-needed disaster relief, particularly when taxes such as Value Added Tax (VAT) and customs duties are directly imposed on relief purchases and imports of goods and equipment to support relief efforts.³⁰¹ In some countries, first responders such as National Red Cross and Red Crescent Societies and Non-Government Organizations can enjoy certain exemptions from taxation by virtue of being a not-for-profit organization, as explained in the IFRC's publication.³⁰² However, the exemptions granted to NGOs are sometimes incomplete or not clearly outlined in national laws or regulations.³⁰³ This area warrants further analysis and investigation, especially with regard to issues facing domestic actors, and the role that law can play.

Data privacy and data protection

The issue of data privacy and data protection, broadly speaking, is gaining increasing attention, particularly in light of powerful new General Data Protection Regulations³⁰⁴ issued by the European Union. Within the disaster risk management sector, considerations about how data is gathered, shared and protected during preparedness and response activities, by both domestic and international actors, is an increasingly important issue for consideration. While media reports have brought to light the issue of poor data handling

300 Institute of Medicine of the National Academies, *Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response*, (Washington D.C.: The National Academies Press, 2012), 57.

301 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 40.

302 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 40.

303 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 40.

304 The European Union's *Global Data Protection Regulation* (GDPR) is available online in all EU languages at <http://eur-lex.europa.eu/eli/reg/2016/679/oj>; Further information and resources on the GDPR are available at <https://responsibledata.io/2017/11/28/gdpr-community-call-sharing-resources/>

and a lack of data protection safeguards within the humanitarian sector,³⁰⁵ there does not appear to be a wide range of literature on the role of law in addressing data protection in domestic preparedness and response. However, there is a wider commentary and guidance on data protection and responsible use of data more broadly, and elements of this are likely to be relevant for domestic preparedness and response.

There are a number policies, standards and frameworks that relate to data protection that have been developed by humanitarian organizations such as Oxfam and the ICRC, which focus on the organizations' commitment to treat personal data with respect and provide guidance on the use of data in humanitarian situations.³⁰⁶ Several organizations have also developed toolkits and manuals, such as the Electronic Cash Transfer Network's *Data Starter Kit* for humanitarian staff.³⁰⁷ An interesting approach is outlined in the 'Signal Code' developed by the Harvard Humanitarian Initiative, which aims to advance current and future efforts to create shared ethical obligations for practitioners, and to help reduce and prevent the threat of harm to vulnerable populations negatively affected by humanitarian information activities that may violate their rights.³⁰⁸

In addition, some of the publications outlined in previous chapters (e.g. on cash transfer programming and the use of UAVs) highlight data protection issues specific to these sectors.³⁰⁹ There is also some literature which highlights legal issues and risks posed by the collection, use, and international transfer of personally identifiable data and humanitarian information, and the grey areas around assumptions of public good, such as the publication by Sean Martin McDonald entitled *Ebola: A Big Data Disaster. Privacy, Property and the Law of Disaster Experimentation*.³¹⁰ McDonald calls for a critical discussion around the experimental nature of data modelling in emergency response due to mismanagement of information, which he emphasizes in the context of protecting human rights. Though perhaps not directly relevant to domestic preparedness and response, but worth highlighting, are efforts that have been made to review details of domestic data protection laws, such as that undertaken by the University of New South Wales in 2017, which also outlines the relevant international and regional agreements and gaps in ratification and implementation.³¹¹

This review indicates that the specific issue of personal data protection in humanitarian settings has been considered within the sector, and guidance has been developed by and for humanitarian actors. However, beyond these initiatives, the research has not identified specific information on legal frameworks relevant to data protection in domestic disaster response. The review suggests that domestic legal frameworks on broader data protection are likely to apply, but this would likely require specific research and analysis in a number of countries to assess the extent of applicable data laws, if any, to humanitarian situations.

305 See <http://www.irinnews.org/news/2018/01/18/exclusive-audit-exposes-un-food-agency-s-poor-data-handling> and <http://www.irinnews.org/analysis/2018/01/18/aid-agencies-rethink-personal-data-new-eu-rules-loom>

306 See: Oxfam, *Responsible Program Data Policy* (Oxford: Oxfam, 2015); and ICRC, *Handbook on Data Protection in Humanitarian Action* (Geneva: ICRC, 2017).

307 The *Data Starter Kit* is available online at <http://elan.cashlearning.org/>

308 F. Greenwood, et. al., *The Signal Code: A Human Rights Approach to Information During Crisis*.

309 This is highlighted, for example, in the Cox's Bazar Cash Working Group report, *Delivery Mechanism Mapping for Cash-Based Interventions* (CBI) in Cox's Bazar, Bangladesh, 37–38; furthermore, the UAViators *Humanitarian Code of Conduct* calls on actors to 'collect, manage and store data responsibly' in point 11 of the Code.

310 S.M. McDonald, *Ebola: A Big Data Disaster. Privacy, Property and the Law of Disaster Experimentation* (Delhi: Centre for Internet and Society, 2016).

311 G. Greenleaf, *Global Data Privacy Laws 2017: 120 National Data Privacy Laws, including Indonesia and Turkey*, (Sydney: University of New South Wales Faculty of Law, 2017).

Conclusion

The breadth of topics examined in this chapter demonstrates that there are numerous considerations when it comes to addressing legal facilities for domestic actors in preparedness and response. The topics addressed here highlight a selection of core areas to address when developing or updating relevant laws and procedures (such as for DBM, volunteers and licencing), as well as new and emerging issues (such as CTP, use of UAVs and data protection). The literature available demonstrates that while some of these issues have been more explored than others, the literature in relation to all of the seven sub-topics is either sparse or does not relate specifically to domestic preparedness and response to disasters.

7. Rights to assistance, security, protection of vulnerable groups

Introduction to theme

In many countries, the legal frameworks for disaster preparedness and response tend to focus on establishing institutional systems, roles and responsibilities, without focusing on the affected populations themselves.³¹² Yet ensuring the protection and security of the most vulnerable, at-risk, or disaster-affected populations is crucial to effective disaster risk management. Key human rights instruments guarantee the basic rights that underpin humanitarian assistance,³¹³ which should be reflected in the relevant national laws and regulations pertaining to disaster preparedness and response.³¹⁴ Specific attention should be paid to the needs of the most vulnerable, such as female-headed households, children, the elderly, the disabled. Other groups, such as indigenous communities and migrants, may also be especially vulnerable due to social marginalization, leaving them less resilient to disasters and less able to access assistance.³¹⁵ Addressing gender inequality, protection from sexual and gender-based violence (SGBV), and the protection of children (such as unaccompanied minors) are also important considerations. This approach regards humanitarian aid as a right.³¹⁶

An important aspect of preparedness and response in domestic settings is also the provision of psychosocial support to people affected by disasters. This is particularly important for people who were already vulnerable prior to a disaster, or who have suffered particular trauma during the disaster, including loss of family and community, and physical and psychological injury, including abuse such as sexual and gender-based violence.

Summary of key literature

Documents such as the International Law Commission's *Draft Articles on the Protection of Persons in the Event of Disasters* outline that persons affected by disasters are entitled to respect for and protection of their human rights in accordance with international law, and that affected states have a duty to cooperate, to seek external assistance if their national capacity is exceeded, and not to arbitrarily withhold consent to external humanitarian assistance.³¹⁷

Some authors have critiqued the draft articles (e.g. Flavia Giustiniani in 'The Work of the International Law Commission on the Protection of Persons in the Event of Disasters: A Critical Appraisal')³¹⁸ while others have sought to explore them as a process of norm creation around the right to humanitarian assistance, or the humanitarian imperative. For example, Dug Cubie suggests that while international obligations for disaster response are not yet fully settled, the diverse source and nature of the ILC drafting initiative suggests that the international community is engaged in a process of norm creation in relation to

312 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 36.

313 Such as: The Universal Declaration of Human Rights (1948); the International Covenant on Civil and Political Rights (1966); and the International Covenant on Economic, Social and Cultural Rights (1966), which recognize the rights to life, food, housing, clothing, health, adequate shelter, as well as the right to be free from discrimination.

314 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 36.

315 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 36.

316 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 36.

317 International Law Commission, *Draft Articles on the Protection of Persons in the Event of Disasters* (New York: United Nations, 2016), articles 5, 7, 11 and 13.

318 Flavia Zorzi Giustiniani, 'The Works of the International Law Commission on Protection of Persons in the Event of Disasters. A Critical Appraisal' in eds. Andrea De Guttry, Marco Gestri and Gabriella Venturini, *International Disaster Response Law* (The Hague: TMC Asser Press, 2012).

the humanitarian imperative and expanding the principle of humanity to include the right to humanitarian assistance.³¹⁹ An article by John Twigg explores the notion of the right to safety in disaster management,³²⁰ while David Alexander identifies the first objective of emergency planning as avoiding the unnecessary loss of lives, and the second procurement for urgent needs in an efficient and timely manner.³²¹

It is worth noting that the notion of a right to humanitarian assistance is not new. In fact, global guidance, such as previous iterations of the *Principles and Rules for Red Cross and Red Crescent Disaster Relief*, adopted by the International Conference of the Red Cross in 1969 (previously amended in 1995 and again in 2013), refer to the right to humanitarian assistance. The 1995 version of the principles state that the 'Red Cross and Red Crescent in its endeavour to prevent and alleviate human suffering, considers it a fundamental right of all people to both offer and receive humanitarian assistance.'³²²

Vulnerable groups

To protect and meet the needs of vulnerable groups, national legislative frameworks should promote inclusion and a respect for the principle of non-discrimination. Global guidance can again be found in the International Law Commission's draft articles, which call upon states to provide response to disasters on the basis of non-discrimination, while taking into account the needs of the particularly vulnerable.³²³ In addition, the IFRC *Guidance Note on Legislative Issues in Disaster Management and Epidemic Response* addresses the general question of vulnerable groups and promotes an inclusive approach.³²⁴ The *Guidance Note* also discusses the particular issue of unaccompanied children and argues for legal protections specific to the emergency context.³²⁵ It also highlights the issue of sexual assault of women and children in the section on 'ensuring security of persons and property'.³²⁶

While not necessarily focused on preparedness and response to disasters, several documents address issues regarding the needs and protections of vulnerable groups in disaster risk management more broadly.³²⁷ Others address more specific issues for vulnerable

319 See: Dug Cubie, 'Clarifying the Aquis Humanitaire: A Transnational Legal Perspective on the Internationalization of Humanitarian Norms' in *The International Law of Disaster Relief*, David Caron, Michael Kelly and Anastasia Telesetsky (eds.) (Cambridge: Cambridge University Press, 2014); and Dug Cubie, *The International Legal Protection of Persons in Humanitarian Crises: Exploring the Aquis Humanitaire* (UK: Hart Publishing, 2017).

320 J. Twigg, *The Right to Safety: Some Conceptual and Practical Issues*. Disaster Studies Working Paper 9. (London: Benfield Hazard Research Centre, 2003).

321 David Alexander, 'Towards the Development of a Standard in Emergency Planning,' *Disaster Prevention and Management* 14, no. 2, (2015): 158.

322 IFRC, *Principles and Rules for Red Cross Red Crescent in Disaster Relief* (Geneva: IFRC, 1995, rev. 2013).

323 International Law Commission, *Draft Articles on the Protection of Persons in the Event of Disasters*, Art. 6.

324 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 36-37, 75-76.

325 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 43-44.

326 IFRC, *Legislative Issues in Disaster Management and Epidemic Response*, 45.

327 Adenrele Awotona, *Rebuilding Sustainable Communities with Vulnerable Populations after the Cameras Have Gone: A Worldwide Study* (Newcastle: Cambridge Scholars Publishing, 2012); Mariangela Bizzarri, 'Protection of Vulnerable Groups in Natural and Man-Made Disasters' in Andrea De Guttry, Marco Gestri and Gabriella Venturini (eds.), *International Disaster Response Law* (The Hague: TMC Asser Press, 2012); Deborah S.K. Thomas et al. (eds), *Social Vulnerability to Disasters* (Boca Raton: Taylor & Francis Group, 2013); *The Sphere Project, Humanitarian Charter and Minimum Standards in Humanitarian Response* (Geneva: The Sphere Project, 2018).

groups, such as evacuation procedures³²⁸ and preparedness for people with disabilities.³²⁹ For example, Laurie Morin criticized the New Orleans (USA) evacuation plan because it failed to include the poorest groups of society and did not provide for large-scale transportation for people dependant on public transportation services.³³⁰ Morin also noted the failure of the emergency plan to address the needs of other vulnerable populations, including the sick, the elderly and people with disabilities. The author also analyses the shortcomings in planning for hospitals, nursing homes and prisons.³³¹

However, there is recent global guidance on these areas which is available to national policy-makers. The Age and Disability Capacity (ADCAP) consortium has developed minimum standards for age and disability inclusion in humanitarian action,³³² and the Inter-Agency Standing Committee (IASC) is currently undertaking regional consultations on proposed guidelines for inclusion of persons with disabilities in humanitarian action.³³³ The Global Protection Cluster has developed minimum standards for child protection in emergencies.³³⁴

In addition to addressing more practical or operational issues, it is worth noting the relevant flagship conventions that relate to protection of vulnerable groups, such as the Convention on the Rights of the Child,³³⁵ the Convention on the Rights of Persons with Disabilities,³³⁶ and the Convention on the Elimination of All Forms of Discrimination against Women.³³⁷ These outline fundamental rights and provide the foundation and standards which should be considered and incorporated into disaster preparedness and response planning.

There are many publications which discuss and provide guidance on the vulnerability of specific groups, including unaccompanied children (and needs for child protection),³³⁸

328 William C. Hollis, 'Right of People with Disabilities to Emergency Evacuation under the Americans with Disabilities Act of 1990' *Journal of Health Care Law & Policy* 5, 2002, 524.; Jessica L. Roberts, 'An Area or Refuge: Due Process Analysis and Emergency Evacuation for People with Disabilities' *Virginia Journal of Social Policy and the Law* 13, 2005, 127.

329 FEMA, USA and American Red Cross (AmCross) *Preparing for Disaster for People with Disabilities and Other Special Needs* (Washington D.C.: FEMA, 2004).

330 Laurie A. Morin, 'A Tale of Two Cities: Lessons Learned from New Orleans to the District of Columbia for the Protection of Vulnerable Populations from the Consequences of Disaster,' *University of the District of Columbia David A. Clarke School of Law, Law Review* 12:1., 2009, 45.

331 Morin, 'A Tale of Two Cities,' 54, 66-67, 70-71 (on people with chronic and acute medical needs), 75 (on schools and health care facilities), and 85-87 (on criminal justice).

332 Age and Disability Capacity (ADCAP), *Minimum Standards for Age and Disability Inclusion in Humanitarian Action* (2015).

333 IASC Task Team on Inclusion of Persons with Disabilities in Humanitarian Action, has since 2016 been developing and conducting consultations on a set of IASC Guidelines for Inclusion of Persons with Disabilities in Humanitarian Action. <https://interagencystandingcommittee.org/iasc-task-team-inclusion-persons-disabilities-humanitarian-action>

334 Global Protection Cluster, *Minimum Standards for Child Protection in Humanitarian Action*, (2012).

335 *United Nations Convention on the Rights of the Child*, UNGA RES 44/25 (1989).

336 *United Nations Convention on the Rights of Persons with Disabilities*, UNGA RES 61/106 (2006). (In particular, see article 13 which refers to the protection and safety of persons with disabilities in natural disasters).

337 *United Nations Convention on the Elimination of All Forms of Discrimination Against Women*, UNGA Res 34/180 (1979).

338 E.g.: WHO, *Toolkit on mapping legal, health and social services responses to child maltreatment*, (Geneva: World Health Organization, 2015); Xiaoyuan Shang, 'Disaster Relief and Child Protection' in C. Raj Kumar and D.K. Srivastava (eds), *Tsunami and Disaster Management: Law and Governance* (Hong Kong: Sweet & Maxwell Asia, 2006); W. Warren H. Binford, 'Saving Haiti's Children from Hell,' *Intercultural Human Rights Law Review* 6 2011, 11; Zahid Javaid, Muhammad Arshad and Aaliya Khalid, 'Child Protection in Disaster Management in South Asia: A Case Study of Pakistan,' *South Asian Studies* 26:1, 2011, 191; Francis Julian, 'Legal Aspects of Disaster Management and Rehabilitation: The Recent Indian Experience of the Tsunami Disaster' in C. Raj Kumar and D.K. Srivastava (eds), *Tsunami and Disaster Management: Law and Governance* (Hong Kong: Sweet & Maxwell Asia, 2006), 56.

people with disabilities,³³⁹ undocumented populations,³⁴⁰ and displaced persons.³⁴¹ Some of these that relate especially to post-disaster shelter are discussed in the following chapter of this review.

Women, gender equality and gender violence

The needs of women and girls³⁴² and people with diverse gender identities³⁴³ are the subjects of significant research and guidance. For example Oxfam promotes minimum standards for gender in emergencies,³⁴⁴ the World Bank has guidance on integrating gender concerns for emergencies into community development programming,³⁴⁵ and the Norwegian Refugee Council has conducted research on women's rights in the particular context of housing, land and property.³⁴⁶

Gender-based violence, which affects women and girls, but also boys and men,³⁴⁷ has been identified as a significant issue in disasters, just as it is in most societies prior to disaster, requiring a preventive approach as well as emergency response.³⁴⁸ A 2015 IFRC research study entitled, *Unseen, Unheard: Gender-Based Violence in Disasters*³⁴⁹ found that few countries refer to gender in their national disaster laws and policies, and that responders to disasters are not aware of the possible occurrence of sexual and gender-based violence (SGBV) in

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- 339 Hollis, 'Right of People with Disabilities to Emergency Evacuation under the Americans with Disabilities Act of 1990,' *Journal of Health Care Law and Policy*, 5:2, 2002, 524; J.L. Roberts, 'An Area or Refuge: Due Process Analysis and Emergency Evacuation for People with Disabilities,' 13 *Va. J. Soc. Pol'y & L.* 127, 2005-2006, 128, 127; FEMA and AmCross, *Preparing for Disaster for People with Disabilities and Other Special Needs*, (Washington DC: FEMA, 2004).
 - 340 A. Morey, 'No Shelter from the Storm: Undocumented Populations and Federal Disaster Aid,' *Seattle Journal for Social Justice* 11, No. 1 (2012): 257.
 - 341 N.A. Cudiamat, 'Displacement Disparity: Filling the Gap of Protection for the Environmentally Displaced Person,' *Valparaíso University Law Review* 46, 2012, 891; S. E. Jordan, 'The Aftershock of Haiti's Earthquake: Response Efforts in the Wake of Natural Disasters Perpetuate the Violation of Internally Displaced Persons' Human Rights,' *California Western International Law Journal* 42, 2011, 221.
 - 342 E.g.: IASC Task Force on Gender and Humanitarian Assistance, *Guidelines for Gender-Based Violence Interventions in Humanitarian Settings Focusing on Prevention of and Response to Sexual Violence in Emergencies* (Geneva: IASC, 2005); The World Bank, *Making Women's Voices Count: Integrating Gender Issues in Disaster Risk Management in East Asia and Pacific*, (Washington DC: World Bank, 2011); L. Juran, 'The Gendered Nature of Disasters: Women Survivors in Post-Tsunami Tamil Nadu' *Indian Journal of Gender Studies* 19:1, 2012, 1; A. Naimark, 'International Legal Updates: North America and the Caribbean. The Situation of Women and Girls in Haiti Exemplifies the Difficulties of Post-Natural Disaster Protection of Human Rights,' *Human Rights Brief* 38, 2012, 19; L. David, 'Still Trembling: State Obligation Under International Law to End Post-Earthquake Rape in Haiti,' *University of Miami Law Review* 65, 2011, 867; A. Jones-DeWeever, 'Gender, Race, and Class Disadvantage Pre- and Post-Katrina,' *Women's Rights Law Reporter* 28, 2007, 21; C. Pincha, *Gender Sensitive Disaster Management. A Toolkit for Practitioners* (Mumbai: Oxfam America & NANBAN Trust, 2008); M. Fordham and L. Meyreles, 'Gender Aspects of Disaster Management' in Alejandro López-Carresi et al. (eds.), *Disaster Management: International Lessons in Risk Reduction, Response and Recovery* (New York: Routledge, 2014).
 - 343 UNHCR, *Need to Know Guidance: Working with Lesbian, Gay, Bisexual, Transgender and Intersex Persons in Forced Displacement*, (Geneva: UNHCR, 2011).
 - 344 Oxfam, *Oxfam Minimum Standards for Gender in Emergencies* (Oxford: Oxfam, 2013).
 - 345 World Bank, *Integrating Gender-Sensitive Disaster Risk Management into Community-Driven Development Programs. Guidance Notes on Gender and Disaster Risk Management No.6*, (Washington, D.C.: World Bank, 2012).
 - 346 As detailed in the chapter on Shelter for this review.
 - 347 UNHCR, *Need to Know Guidance: Working with Men and Boy Survivors of Sexual and Gender-Based Violence in Forced Displacement* (Geneva: UNHCR, 2011).
 - 348 UN Women, *Model Framework for National Action Plans on Violence Against Women*, (New York: UN Women, 2012).
 - 349 IFRC, *Unseen, Unheard: Gender-Based Violence in Disasters: Global Report* (Geneva: IFRC, 2015).

disasters and, perhaps more significantly, are neither looking for it nor preparing for it.³⁵⁰ The report recommended that further research should be gathered on SGBV in disasters in order to inform national policy developments, and for additional attention to be paid to SGBV in disaster management laws, policies and plans as appropriate.³⁵¹

Following this, the IFRC conducted a study on *Effective Law and Policy on Gender Equality and Protection from Sexual and Gender-Based Violence in Disasters*, which takes up the recommendations from the *Unseen, Unheard*, report. This 2017 report also sought to fill a knowledge gap on the effectiveness of national laws, policies and institutional frameworks in supporting gender equality in disaster risk management and in preventing and responding to SGBV in disasters.³⁵² The report consolidates the findings of three country case studies³⁵³ and analyses the relevant international norms, mechanisms and tools, to provide insights on how this area is being addressed. The findings of the report show that regulation on SGBV and regulation on disaster risk management tend to be completely separate, that there is little connection in law or practice between the two in disaster settings, and that existing frameworks are often under-resourced even in non-disaster times.³⁵⁴ The report also illustrates the need to increase the participation of women in disaster risk management systems, particularly in leadership or decision-making roles.³⁵⁵ This report is given specific attention in this literature review is because it is one of few publications which provides key recommendations to consider in the context of gender equality and SGBV protection in law and disasters.

Psychosocial support

An important aspect of preparedness and response in domestic settings is the provision of psychosocial support to people affected by disasters. In addition to an extensive academic and professional literature on the medical and psychological practice of delivering psychosocial support, there is also significant specific guidance developed for those working in disaster preparedness and response.

The Red Cross and Red Crescent Movement has made a high priority of psychosocial support.³⁵⁶ The IFRC Psychosocial Support Centre, hosted by Danish Red Cross in Denmark, provides both general training and resources³⁵⁷ and specific guidance such as the 2018 updated guide on psychosocial support during an Ebola disease outbreak.³⁵⁸ Many National Societies include psychosocial support in staff and volunteer training, and some

350 IFRC, *Unseen, Unheard*, 27-28.

351 IFRC, *Unseen, Unheard*, 41-42.

352 IFRC, *Effective Law and Policy on Gender Equality and Protection from Sexual and Gender-Based Violence in Disasters: Global Report* (Geneva: IFRC, 2017), 9.

353 Case studies were undertaken in Nepal, Ecuador and Zimbabwe, the findings of which are available at <http://media.ifrc.org/ifrc/what-we-do/disaster-law/>

354 IFRC, *Effective Law and Policy on Gender Equality and Protection from SGBV*, 9-10.

355 IFRC, *Effective Law and Policy on Gender Equality and Protection from SGBV*, 61.

356 E.g.: IFRC, 'Inner Resilience: Mental Health and Psychosocial Support', Chapter 5, in *World Disaster Report: Resilience: saving lives today, investing for tomorrow* (Geneva: IFRC, 2016), 132-139; Council of Delegates of the Red Cross and Red Crescent Movement, 2017, Resolution, 'Addressing Mental Health and Psychosocial Needs.' Antalya, Turkey 10-11 November 2017; and Council of Delegates of the Red Cross and Red Crescent Movement, 2017, Background Report, 'Addressing Mental Health and Psychosocial Needs.' Antalya, Turkey 10-11 November 2017.

357 IFRC Psychosocial Support Centre, Denmark. Website: www.pscentre.org

358 IFRC Psychosocial Support Centre, *Psychosocial support during an outbreak of Ebola virus disease* (2018 update) (Copenhagen: IFRC PSC, 2018).

have specific guidance on the issue, such as the Australian Red Cross³⁵⁹ and American Red Cross.³⁶⁰

The 2007 IASC *Guidelines for mental health and psychosocial support in emergency settings* were developed to provide a multi-sectoral, interagency framework for coordination, as well as to identify useful practices and flag potentially harmful practices, and clarify how different approaches to mental health and psychosocial support complement one another.³⁶¹ Initiated by WHO, these IASC Guidelines reflect the insights of numerous agencies and practitioners worldwide and provide valuable information to organizations and individuals on how to respond appropriately during humanitarian emergencies. Their core idea is that in the early phase of an emergency, social supports are essential to protect and support mental health and psychosocial well-being. In addition, the guidelines recommend selected psychological and psychiatric interventions for specific problems. The Guidelines include a matrix, with guidance for emergency planning, actions to be taken in the early stages of an emergency and comprehensive responses needed in the recovery and rehabilitation phases. The matrix is a valuable tool for use in coordination, collaboration and advocacy efforts. It provides a framework for mapping the extent to which essential first responses are being implemented during an emergency. Although aimed at international agencies, the matrix and the guidelines are applicable and useful for governments in domestic preparedness and response.

The Pan American Health Organization has drawn on the by IASC and other subsequent work to develop guidance on the specific reality of the Caribbean, as its 'limited number of mental health professionals and its high vulnerability to natural hazards, requires material that specifically addresses these characteristics and reflects the latest developments and approaches.'³⁶² This 2012 core knowledge guidance is directed to Caribbean health sector managers, community workers and other disaster and health professionals on improving mental health and psychosocial support specifically in preparedness and response.

Other regional initiative includes a 2008 European multidisciplinary guideline on early psychosocial interventions after disasters, terrorism etc.,³⁶³ and a NATO Joint Medical Committee guidance on *Psychosocial Care for People Affected by Disaster and Major Incidents*.³⁶⁴

Current understandings of psychosocial support needs can be integrated into domestic approaches, including by formal means under law. For example, in New Zealand, the 2016 *Framework for Psychosocial Support in Emergencies* was developed by the Ministry of Health under the *Civil Defence and Emergency Management Order 2015*, as the agency responsible

359 Australian Red Cross and the Australian Psychological Society, *Psychological First Aid: An Australian guide to supporting people affected by disaster*, (2nd ed.), (Melbourne: ARC, 2013).

360 The American Red Cross, *International Psychosocial Support Programs, Information Paper*, (Washington, D.C.: American Red Cross, undated).

361 IASC, *IASC Guidelines for mental health and psychosocial support in emergency settings* (Geneva: IASC, 2007). www.who.int/mental_health/emergencies/9781424334445/en/

362 Pan American Health Organization (PAHO), *Mental Health and Psychosocial Support in Disaster Situations in the Caribbean: Core Knowledge for Emergency Preparedness and Response*, (Washington D.C: PAHO, 2012).

363 EUTOPA, European Commission and Impact, *European Multidisciplinary Guideline: Early psychosocial interventions after disasters, terrorism and other shocking events 2008*, (Amsterdam: Impact, the Dutch knowledge & advice centre for post-disaster psychosocial Care, 2008).

364 NATO Joint Medical Committee (JMC), *Psychosocial Care For People Affected By Disaster And Major Incidents (Draft Non-binding Guidance April 2008)*.

for coordinating the provision of psychosocial support nationally.³⁶⁵ It is one of the key planning documents relating to psychosocial support in emergencies, and is part of a collection of guidance documents and action plans covering specific aspects of emergency management that add to the *National Health Emergency Plan 2015*. Other national initiatives provide resources arising from lessons learned in disaster situations, without a direct link to the legal frameworks, such as the Australian inter-disciplinary initiative that emerged from the 2009 'Black Saturday' bushfires in Victoria.³⁶⁶

Conclusion

The summary of key literature above highlights that the topic of the right to assistance, security and protection of vulnerable groups, including access to psychosocial support, is a vast area with a variety of publications, guidance and standards produced by different actors. Within each of these substantive areas lie complex issues, each of which could easily deserve further exploration and analysis. What can be summarized from this review is that these are significant issues of concern in the humanitarian and disaster risk management sectors, and there is a need to ensure that these areas are adequately addressed and prioritized when considering the development of domestic legal frameworks for disaster preparedness and response.

In relation to law on disaster preparedness and response, there is very limited literature that directly analyses or addresses the themes of this chapter. In this regard, the New Zealand approach to integration of psychosocial support into the preparedness and response aspects of the regulatory framework stands out as a good model of cross-sectoral cooperation, and the IFRC's work on law, gender equality and SGBV identifies the types of challenges often met in providing support and protection for at-risk groups during disasters and makes recommendations on legal frameworks. These examples suggest a fruitful line of inquiry for further comparative research on the legislative bases for protection, health services and psychosocial support in disaster-affected communities. This would be to focus on identifying good models of legal mandates, mechanisms and resource allocation that facilitate cross-sectoral cooperation between disaster risk management institutions and the relevant expert policy agencies and social service providers.

365 New Zealand Government, Ministry of Health, *Framework for Psychosocial Support in Emergencies* (Wellington: NZ Govt., 2016).

366 Psychosocial Support in Disasters - A Resource for Health Professionals (Australia). Website: <http://www.psid.org.au/>

8. Shelter

Introduction to theme

Disasters can create or exacerbate issues related to housing, land and property ownership, as well as access to shelter assistance. In recent years there has been an increasing focus on ensuring equitable shelter assistance in emergencies, as well as protection of the associated housing, land and property (HLP) rights, particularly for vulnerable individuals and communities. The basis on which people occupy their homes, also known as their ‘tenure,’ can impact their access to shelter assistance, reconstruction assistance, and their ability to return to their homes if they have been displaced.

Ensuring security of tenure has received increasing attention as a key issue of humanitarian concern, not least because the former Special Rapporteur on the Right to Adequate Housing, Raquel Rolnick, paid significant attention to this issue during her time in the role.³⁶⁷ Issues related to emergency shelter and housing, land and property rights – and the associated legal and protection concerns – have emerged time and time again, including after the 2004 Indian Ocean Tsunami, the 2010 Haiti earthquake, the 2013 Typhoon Haiyan in the Philippines, the 2016 earthquake in Ecuador, and the current ongoing displacement crisis in Bangladesh. It has become a priority issue for both national and international actors to address, and a significant issue for domestic disaster preparedness and response.

Summary of key literature

The Norwegian Refugee Council (NRC) and the IFRC have been leading work in this area in recent years, together with the Global Protection Cluster and the HLP Area of Responsibility (AoR). They have published a number of reports dedicated to this issue, including a specific report on *Security of Tenure in Humanitarian Shelter Operations*.³⁶⁸ This report analyses challenges related to security of tenure and access to humanitarian shelter assistance, such as legal pluralism and overlapping land tenure systems, challenges in urban contexts, and the effects on vulnerable groups, such as women.³⁶⁹

In addition, IFRC and NRC have also published a report on *The Importance of Addressing Housing, Land and Property (HLP) Challenges in Humanitarian Response*. This report highlights the following eight reasons why addressing HLP issues is important in humanitarian response: 1) saving lives, preventing further displacement and human rights violations; 2) adapting humanitarian response to complex urban environments; 3) ensuring equal access to humanitarian assistance; 4) promoting access to justice in crisis contexts and contributing towards durable solutions; 5) addressing loss of land or inability to return to land and homes after disasters; 6) protecting women and supporting their recovery; 7) HLP for conflict prevention and peace building; and 8) supporting local systems and bridging the transition/development gap.³⁷⁰

367 See: IFRC, Norwegian Refugee Council (NRC), *Security of Tenure in Humanitarian Shelter Operations* (Geneva: IFRC and NRC, 2013), which highlights this fact together with reports by the Special Rapporteur on the right to adequate housing.

368 IFRC, NRC, *Security of Tenure in Humanitarian Shelter Operations*.

369 IFRC, NRC, *Security of Tenure in Humanitarian Shelter Operations*.

370 IFRC, NRC, *The Importance of Addressing Housing, Land and Property (HLP) Challenges in Humanitarian Response*, (Geneva: IFRC and NRC, 2016).

The IFRC has published reports focusing on legal preparedness for disasters at the regional level, including in Africa,³⁷¹ America³⁷² and Asia.³⁷³ All three reports highlight what the IFRC terms 'legal and regulatory barriers to shelter' and provide national examples of issues encountered and best practices developed to address those issues. Country specific reports and analysis have also been developed, such as a piece by Rebecca Iwerks which discusses the issue of security of tenure in the context of the Haiti earthquake,³⁷⁴ extensive IFRC research on legal and regulatory barriers to emergency shelter in Nepal and Haiti,³⁷⁵ and a Shelter Cluster report on legal and regulatory issues in the Philippines after Typhoon Bopha.³⁷⁶ This Shelter Cluster report explores the provision of shelter in the response phase, selection of beneficiaries, identification of no-build zones, relocation issues, tenure status and its effect on provision of shelter, and considerations for indigenous people and communities.

A mapping project on HLP issues has recently been carried out by the Australian Red Cross and Allens Law Firm in Australia. It seeks to map HLP laws (both statutory and customary) in 14 priority countries across the Asia Pacific region. This has been identified as essential to informing preparedness programming and emergency response, especially those involving shelter interventions. An understanding of the land property and tenure landscape in these countries is expected to permit stronger and more equitable responses.³⁷⁷

Much of the literature focuses on shelter issues in the context of emergency response. However, some also highlight possible solutions for HLP and shelter issues in the preparedness phase, such as a Kousky, Walsh and Zeckhauser article which suggests putting in place 'options contracts for contingent takings' as a disaster preparedness strategy. These contracts, designed to be put in place between public authorities and private entities/individuals, would allow the government to use properties during emergencies in exchange for compensation.³⁷⁸

There are also some scholarly articles which examine the right to housing restitution after natural disasters.³⁷⁹ These articles also address regulatory barriers to shelter for marginalised populations such as squatters and women, and land grabbing. Several other documents have briefly discussed aspects of legal and regulatory barriers to shelter in disaster preparedness and response, and proposed recommendations. For example, a report by the Organization of American States recommends developing regulations on building design for shelters in order to ensure the safety of public facilities, such as hospitals and schools, which are used as shelters in emergencies.³⁸⁰

371 IFRC, *Disasters in Africa: The Case for Legal Preparedness* (Geneva: IFRC, 2011), 15-18.

372 IFRC, *Disasters in America: The Case for Legal Preparedness*, 10-15.

373 IFRC, *Disasters in Asia: The Case for Legal Preparedness*, 6-9 and 12.

374 R. Iwerks, 'This Land is My Land: Protecting the Security of Tenure in Post-Earthquake Haiti,' *Fordham International Law Journal* 35, no. 6 (2012).

375 IFRC, *Regulatory Barriers to Providing Emergency and Transitional Shelter after Disasters. Country Case Study: Nepal* (Geneva: IFRC, 2014); and IFRC, *Impact of Regulatory Barriers to Providing Emergency and Transitional Shelter after Disasters. Country Case Study: Haiti* (Geneva: IFRC, 2015).

376 Shelter Cluster, *Legal and Regulatory Issues: Typhoon Bopha*, (Kuala Lumpur: Shelter Cluster, 2013).

377 Some of the HLP mapping reports are available on the Shelter Cluster website, including the Philippines, Indonesia, Papua New Guinea and Bangladesh. See <https://www.sheltercluster.org/hlp>.

378 C. Kousky et al., 'Options Contracts for Contingent Takings' (2007) in *Disaster Law*, Daniel A. Farber and Michael G. Faure (eds), (Cheltenham: Elgar Research Collections, 2010).

379 C. W. Gould, 'The Right to Housing Recovery After Natural Disasters,' *Harvard Human Rights Journal* 22:169, 2009; S. Akbar, 'A Rights-Based Approach to Housing Restitution in Post-Flood Pakistan's Khyber Pakhtunkhwa Province' *Transnational Law and Contemporary Problems*, 21:853, 2013.

380 OAS, *Caribbean Emergency Legislation Project: Improving the Legal and Institutional Framework Related to State of Emergency*, 71.

Much attention has been given to the specific issues affecting women when it comes to shelter and HLP. The Norwegian Refugee Council has published several studies on this, such as *Life Can Change: Securing Housing, Land and Property Rights for Displaced Women*,³⁸¹ and country specific reports such as *Nowhere To Go: Displaced and Returnee Women Seeking Housing, Land and Property Rights in South Sudan*,³⁸² *No Place Like Home: An Assessment of the Housing, Land and Property Rights of Palestinian Refugee Women in Camps and Gatherings in Lebanon*,³⁸³ and *Violence Against Women and Housing, Land and Property in Monrovia*.³⁸⁴ While some of the reports are placed in the context of armed conflict rather than disasters, they address housing, land and property issues similar to those which arise in disaster settings.

The IFRC's country case study on work on law and policy relating to gender equality and protection from sexual and gender-based violence in disasters included the Ecuador 2016 earthquake response. Significant shelter and protection concerns stemmed from the emergency shelters that were established (both official and informal shelters). The report explains that the way physical space was distributed in the shelters, and the shelter rules, did not take into account women's needs, nor the gendered power relations that determined women's access to resources for survival in these spaces.³⁸⁵

In terms of global guidance and standards, the *Sphere Handbook* sets out minimum standards for shelter and settlements. It is designed primarily for use by practitioners involved in planning, managing or implementing a humanitarian response. Its use, however, is also encouraged for other actors including governments and local authorities. The chapter on 'Shelter, Settlements and Non-food items' includes general standards for use in different response scenarios for both displaced and non-displaced populations, including temporary or transitional household shelter, planned or self-settled camps, and collective centres, among others.³⁸⁶ It is stated that, although primarily intended to inform a response to a disaster, these minimum standards should be considered in disaster preparedness as well as the transition to recovery and reconstruction.³⁸⁷ The *Sphere Handbook* has been undergoing a revision and it is expected that an updated version will be released later in 2018. This updated version will include a dedicated section on HLP.

The United Nations *Principles on Housing and Property Restitution for Refugees and Displaced Persons* (the 'Pinheiro Principles') provide an example of applying a human rights framework to a humanitarian context, with regard to housing and property restitution.³⁸⁸ This document outlines the rights of refugees and displaced persons to return to their original homes and lands, and is the culmination of more than a decade of international and local activism in support of the emerging right to housing and property restitution. Another example is found in the *IASC Operational Guidelines on the Protection of Persons in Situations of*

381 Norwegian Refugee Council, *Life Can Change: Securing Housing, Land and Property Rights for Displaced Women* (Geneva: Norwegian Refugee Council, 2014).

382 Norwegian Refugee Council, *Nowhere to Go: Displaced and Returnee Women Seeking Housing, Land and Property Rights in South Sudan* (Geneva: Norwegian Refugee Council, 2014).

383 Norwegian Refugee Council, *No Place Like Home: An Assessment of the Housing, Land and Property Rights of Palestinian Refugee Women in Camps and Gatherings in Lebanon* (Geneva: Norwegian Refugee Council, 2013).

384 Norwegian Refugee Council, *Violence Against Women and Housing, Land and Property in Monrovia* (Geneva: Norwegian Refugee Council, 2014).

385 IFRC, *Effective Law and Policy on Gender Equality and Protection from Sexual and Gender-Based Violence in Disasters. Ecuador Country Case Study*, (Geneva: IFRC, 2017), 6.

386 The Sphere Project, *Humanitarian Charter and Minimum Standards in Humanitarian Response*, 249-268.

387 The Sphere Project, *Humanitarian Charter and Minimum Standards in Humanitarian Response*, 240.

388 United Nations, *Principles on Housing and Property Restitution for Refugees and Displaced Persons (the 'Pinheiro Principles')*, E/CN.4/Sub.2/2005/17, (2005).

Natural Disasters, produced in 2011, which is a leading set of standards and guidance in the humanitarian sphere. These guidelines provide a human rights-based approach to protecting people in natural disasters. The guidelines contain detailed sections on the protection of rights related to shelter³⁸⁹ and HLP.³⁹⁰ They also include provisions relating to the protection of rights related to personal documentation, which is important to consider in the context of shelter and HLP given that loss of documentation, and the consequent inability to prove one's identity and/or land title or ownership, is high on the list of HLP-related issues that emerge after disasters.³⁹¹

The IFRC has also produced a set of *Rapid Tenure Assessment Guidelines* which are designed to assist an assessment of a country's housing, land and property sector, in order to ensure a more equitable, informed and sustainable shelter response. The information obtained through the proposed assessment seeks to better inform post disaster assessments, beneficiary selection criteria, community mapping, and improving security of tenure and considerations around resettlement. The guidelines propose a series of questions, grouped under six key headings, which should ideally be answered by responders (both national and international) as part of preparing for disasters. The headings are as follows:

- General overview of land and property
- How are land and property administered and managed?
- Access to land. How are land and property occupied?
- Evidence of security of tenure: how do people prove they live somewhere?
- Compulsory purchase and relocation
- How are land and property disputes resolved?³⁹²

Conclusion

The literature and guidance outlined in this chapter demonstrates the steps that have been taken to analyse and address the legal and regulatory issues regarding HLP and shelter in emergencies by different actors. The nature and occurrence of HLP and shelter concerns are not limited to response situations, and consideration should be given to these matters as part of both response and preparedness planning. The key publications highlighted here demonstrate how a rights-based approach can be required in order to address issues of humanitarian concern and to be able take concrete steps towards protecting the shelter-related rights of the most vulnerable and providing durable housing solutions. The review has highlighted a significant body of research on legal barriers and issues in shelter, housing land and property rights following disasters, as well as guidance and standards for those providing emergency shelter. It appears there is sufficient data and analysis on this issue to support a synthesis that could guide the development of domestic legislation.

389 IASC and Brookings-Bern Project, *IASC Operational Guidelines on the Protection of Persons in Situations of Natural Disasters*, (Washington D.C.: Brookings-Bern Project on Internal Displacement, 2011), 29-32.

390 *IASC Operational Guidelines on the Protection of Persons in Situations of Natural Disasters*, 30-41.

391 *IASC Operational Guidelines on the Protection of Persons in Situations of Natural Disasters*, 45.

392 See IFRC, *Rapid Tenure Assessment Guidelines for Post-Disaster Response Planning* (Geneva: IFRC, 2015), 11-12.

9. Liability

Introduction to theme

Government agencies, private sector and civil society organizations, and their employees and volunteers, are potentially legally liable for loss or damage resulting from their actions when undertaking emergency operations. The type and extent of such liability varies between jurisdictions, and in many cases can be mitigated by insurance products that share the risk, but the fear of such liability can impact the willingness of organizations and individuals to engage in essential life-saving, humanitarian rescue and relief work. This is particularly so if competent individuals carrying out their duties in a bona fide manner may find themselves exposed to criminal liability, as well as civil liability.³⁹³ In order to ensure continued engagement in effective disaster relief operations, it is therefore important to consider the issue of reasonable protection for government and other actors and their personnel (including volunteers) from institutional or personal liability for bona fide rescue and relief work. However, this also requires a balanced approach, so as not to protect negligent or wilfully criminal behaviour when it does occur, and to ensure as far as possible that people who suffer loss and damage as a result of errors made during disaster response, are not left without recourse.

Summary of key literature

While the present review focuses on domestic response, some of the potential liability areas identified in the 2014 NATO model agreement concerning liability of state relief personnel are equally relevant for domestic responders, as well as for disaster-affected states hosting foreign responders.³⁹⁴ It highlights potential liabilities for response personnel as: civil or criminal liability for medical negligence or malpractice (or for foreign staff, treating people without holding a recognized medical qualification); involvement in traffic or machinery-related accidents causing loss of life, personal injuries, or damage to property; and liability to compensate private persons or government agencies for the use of their land, vehicles, premises, and any damage thereto, if these are used in the emergency response operation.

Extrapolating from these areas of potential personal liability, some related aspects of government liability might include: potential liability for injury, loss of life or damage to the personal property of relief personnel working under their direction (staff and volunteers); vicarious liability for damage or injury caused by such relief personnel (whether deliberate, negligent, or accidental); and direct liability for deaths, injuries or property losses caused by a hazard if the government failed in a duty of care such as taking preventive measures for a reasonably foreseeable hazard, issuing timely and effective warnings, responding in a timely and appropriate manner, and avoiding unnecessary further damage by the means of response.

393 E.g. Edwin Cartledge, 'Italy's supreme court clears L'Aquila earthquake scientists for good', *Science*, Nov. 20, 2015, accessed 18 June 2018 at <http://www.sciencemag.org/news/2015/11/italy-s-supreme-court-clears-l-aquila-earthquake-scientists-good> (6 scientific advisors were cleared of manslaughter charges on final appeal, but the conviction of a government official stood, relating to the issue of earthquake warnings); and Sofia Menchu, 'Guatemala volcano alert too late to save lives, officials admit,' *Reuters – Environment*, June 8, 2018, <https://www.reuters.com/article/us-guatemala-volcano-response/guatemala-volcano-alert-too-late-to-save-lives-officials-admit-idUSKCN1J32K5> ("Guatemala's public prosecutor said on Thursday that it would open an investigation into whether protocols were followed to inform proper decision-making in the handling of the disaster.")

394 NATO Civil Emergency Planning, Civil Protection Group, *Model Technical Arrangement on the Liability of Relief Personnel* (Athens: NATO, 2014), https://www.nato.int/eadrcc/docs/Tech_Arr_Liability-Relief_Personnel_2014.pdf

Some broader legal texts on disaster management address liability to an extent, including two that focus on the United States: the Rick Bissell edited collection on, *Preparedness and Response for Catastrophic Disasters*,³⁹⁵ and the Nan Hunter volume on *The Law of Emergencies*,³⁹⁶ both of which address the issue of liability of officials and volunteers in the United States, among other things.

Binder considers the legal consequences of organizations failing to have adequate contingency plans, proposing in general terms that planning reduces liability, but without specifying legal protections for personnel or government agencies in disaster response.³⁹⁷

The issue of liability is mentioned in general works on volunteering, such as the IFRC *Legal framework for volunteering in emergencies*³⁹⁸ and the United Nations *Volunteers State of the World's Volunteerism Report*,³⁹⁹ which are described earlier in this review (Chapter 6, Legal Facilities). It is also a key element of the United States' Federal Emergency Management Agency' (FEMA) *Citizen Corps Volunteer Liability Guide: An Overview of Issues and Approaches to Address Liability for Emergency Volunteers*.⁴⁰⁰

Liability for medical treatment in emergencies is a particularly complex issue. The so-called 'Good Samaritan' laws and volunteer protection laws in many countries, including in the United States federal and some state jurisdictions, provide a degree of protection for medical first responders, and are discussed in a 2015 article by Gerson and Duffy, 'Good Samaritan Laws During Disasters: Balancing Altruism and Accountability'.⁴⁰¹ Such laws are also in place in other common law jurisdictions and have been analysed separately by national legal experts.⁴⁰²

Following high-profile (although unsuccessful) civil suits against emergency medical personnel after the 2005 Hurricane Katrina response, the Committee on Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations, of the United States Institute of Medicine, produced in 2012 specific guidance on standards of care and legal liability.⁴⁰³ For medical volunteering in disasters, Elgafi points to evidence that 'the incidence of a practitioner being held liable for medical malpractice is increasing,' with limited availability of malpractice insurance, so that 'both practitioners and management involved in medical volunteering in developing countries need to consider the legal ramifications of their work in order to be well prepared in the field.'⁴⁰⁴ Although couched as an issue for foreign medical volunteers themselves, this is also a concern for the host country and any government or civil societies that engage such medical volunteers.

395 Rick Bissell (ed.), *Preparedness and Response for Catastrophic Disasters* (Boca Raton: CRC Press, 2013).

396 Nan D. Hunter, *The Law of Emergencies* (Burlington: Elsevier, 2009).

397 Denis Binder, 'Emergency Action Plans: A Legal and Practical Blueprint 'Failing to Plan Is Planning to Fail' (2002) 63 *University of Pittsburgh Law Review* 791; and Hodge, James G. and Veda Collmer, 'A Legal Duty to Evacuate Patients from Healthcare Facilities in Emergencies' (2013) 25 *Health Lawyer* 20.

398 IFRC, *The legal framework for volunteering in emergencies* (Geneva: IFRC, 2011).

399 United Nations Volunteers (UNV), *State of the World's Volunteerism Report. Universal Values for Global Wellbeing* (UNV, 2011).

400 FEMA, USA. *Citizen Corps Volunteer Liability Guide: An Overview of Issues and Approaches to Address Liability for Emergency Volunteers*, (Washington DC: FEMA, 2006).

401 Geoffrey C. Gerson and Kristina I. Duffy, 'Good Samaritan Laws During Disasters: Balancing Altruism and Accountability,' *Journal of the Nassau County Bar Association* Vol 64/10 June 2015.

402 Michael Eburn, 'Good Samaritan legislation and scope of practice' (in Australia), *Australian Emergency Law*, March 27, 2015.

403 Committee on Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations; Institute of Medicine, *Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response*, (Washington DC: National Academies Press, US, 2012).

404 Harif Elgafi, Medical Liability in Humanitarian Missions, *The Journal of Humanitarian Assistance*, Nov 11 2014.

The issue of liability for environmental damage that arises as a secondary effect from a natural hazards has also become more widely discussed following the radioactive contamination from the Fukushima power plant after the major Japan earthquake of 2011, for which both the private company and the government were ultimately held liable.⁴⁰⁵ However, in these cases, while protection for the private companies is envisaged in terms of insurance,⁴⁰⁶ the question of liability of the governments and government officials is not specifically addressed in the literature identified.

From another perspective, Raikes and McBean in 'Responsibility and liability in emergency management to natural disasters: A Canadian example,' suggest that too much protection from liability for government agencies can result in unfairness towards private land-owners.⁴⁰⁷ They propose the use of much clearer standards in emergency management legislation, against which government action (or inaction) may be measured, and which they argue should not be exempt from liability.

By contrast, Kanarev sets out some of the judicial tests and qualifiers already placed on statutory immunities for government emergency services personnel in the common law jurisdiction of Australia, including the concept of acting 'in good faith.'⁴⁰⁸ Kanarev also discusses the recognized legal differences between crisis decision-making and normal decision-making, as well as the two models in Australian state legislation (at that time) relating to fulfilling the duty of care concerning evacuation, largely influenced by concerns about liability, being use of coercive powers versus advisory evacuation.

Eburn encapsulates a common judicial approach to civil liability of government emergency personnel and agencies in a case study on fire response in Australia, where the Court in a tort lawsuit cautioned against holding people to an unreasonable standard when making emergency response decisions.⁴⁰⁹ These indicate forms of legal protection from liability based on common law principles. However, both common law principles and legislation can also evolve towards higher tests of liability, including liability in negligence, as Dunlop has elucidated with regard to emergency management organizations' responsibility for their own staff and volunteers in firefighting operations.⁴¹⁰

Conclusion

Given the national-level focus of the literature on liability protections, this review has been somewhat limited by accessing English language resources only. However, the literature outlined in this chapter indicates that the issue of liability and protection of government agencies and other disaster relief personnel in domestic disaster response has not been adequately addressed in a comparative sense, or with regard to developing countries.

405 *Reuters*, 'Fukushima court rules Tepco, government liable over 2011 disaster,' 10 Oct 2017, at <https://www.reuters.com/article/us-tepco-fukushima-liability/fukushima-court-rules-tepco-government-liable-over-2011-disaster-media-idUSKBN1CF0E4>

406 Alan Thom, Natural disasters and environmental liability. *Governance Directions*, Vol. 66, No. 5, Jun 2014: 291-292.

407 Jonathan Raikes and Gordon McBean, 'Responsibility and liability in emergency management to natural disasters: A Canadian example,' *Int. J. Disaster Risk Reduction*, Vol 16, June 2016, Pages 12-18.

408 Nicholas Kanarev, 'Assessing the legal liabilities of emergencies,' *Australian Journal of Emergency Management*, Volume 16 Issue 1, 2001.

409 Michael Eburn, 'A case study of tort liability for fire damage,' *Australian Journal of Emergency Management*, Volume 22 Issue 1, 2007.

410 Catherine Dunlop, 'Legal issues in Emergency Management: Lessons from the last decade,' *Australian Journal of Emergency Management*, Vol. 19 No. 1, March 2004.

In general, the literature is also limited in scope and focused on identifying liability rather than how, why and to what extent disaster responders and governments should be protected from liability. It also tends to focus on medical treatment and volunteers, rather than the broader field of emergency response.

It is noted that legal liability protections in the form of immunities from prosecution or civil suits are sometimes included in domestic DRM laws for disaster rescue and relief personnel, and for government agencies. Government agencies may also have other forms of immunity under domestic law. However, such provisions are localized and would require analysis of the primary domestic legislation and case law, which is beyond the scope of this literature review.

10. Accountability

Introduction to theme

Accountability for funds expended, and for undertaking effective and principled humanitarian response, is a subject of constant discussion and adjustment amongst humanitarian actors, both internationally and at national level. Donors need to know how and where funds have been spent, and how effective programming has been. Also, risks of corruption are not purely financial, with some of the high-profile examples of corruption involving reports of sexual exploitation relating to the provision of aid.⁴¹¹ At the same time, the nature of humanitarian emergencies means that both time and information are limited, requiring rapid assessments and deployment and urgent provision of relief items or cash.

In these circumstances, the normal degree of policing and maintenance of public order is also rarely possible, so that the state law enforcement agencies may be less effective than normal in policing and prosecuting fraud, corruption, unlawful diversion of relief items, and related human rights abuses such as sexual coercion of beneficiaries. National laws may therefore need to include specific provisions relating to transparency for international humanitarian donations and grants, and DRM institutions may require mandates to manage and account for both international and national funding for disaster response. DRM laws and institutions can also potentially require minimum standards of quality and accountability for humanitarian relief that apply to both national and international actors, including beneficiary feedback and complaints mechanisms.

Monitoring and evaluation of projects and programmes against indicators and quality standards is now central to both donor funding mechanisms and the non-governmental international humanitarian agencies' own voluntary standards of quality and accountability to affected communities. These mechanisms provide standards and guidance that can also be used at national level, and, as an important element of accountability for international grants, donations and project funds, these can also trigger requirements for legal preparedness within recipient countries.

Summary of key literature

The *IDRL Guidelines* set out 'Responsibilities Concerning Diversion and the Intended Use of Resources',⁴¹² and the *IDRL Checklist* specifies that:

When reviewing or strengthening domestic laws for international disaster response, consideration should be given as to whether specific procedures or institutions are in place to prevent diversion, misappropriation or fraud concerning disaster relief and initial recovery goods (including funds), and whether or not clear legal authority is mandated to a particular ministry or department to receive and disburse international funding and donations made to the government as part of a response, as well as to carry out monitoring and oversight activities.⁴¹³

411 Barnaby Willitts-King and Paul Harvey, *Managing the risks of corruption in humanitarian relief operations: A study for the UK Department for International Development* (London: Humanitarian Policy Group, Overseas Development Institute, 2005), 23.

412 IFRC, Introduction to the Guidelines for domestic facilitation and regulation of international disaster and initial recovery assistance, ('the IDRL Guidelines'), Articles 6, 15.

413 IFRC, Checklist on the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance ('the IDRL Checklist'), Checklist Item 9, 18.

While these relate to international funding, this is often a key role for national DRM institutions or government financial auditing mechanisms, so it is an important element to include in legal frameworks for national preparedness and response. Moreover, the same types of mechanisms can be used for accountability of national donations and government funds in disaster response.

The main types of risks of corruption, diversion, misappropriation and fraud that have been identified in humanitarian assistance are for: (1) donors (e.g. embezzlement/“double funding” by intermediate agencies); (2) recipient national governments (e.g. non-transparent processes while insisting international aid is delivered through government channels); (3) relief providers, both international and national (e.g. collusion between agency staff internally, or between staff and outside suppliers or authorities, for diversion or fraud); (4) public officials and authorities (e.g. nepotism, diversion, informal taxation and incentive payments); and (5) affected people (e.g. registering twice for distribution, or claiming membership of a vulnerable group).

Specific risks of diversion include: food distribution (due to its consumability and trade potential); medical supplies (as they are often relatively small and high value, more easily stolen and resold); and cash distribution (although cash can sometimes be less risky as it can be less visible to onlookers than high-profile commodity distributions, helping to minimize security-related risks).⁴¹⁴ (See also: Chapter 6 of this review – Legal Facilities, Cash-based Transfers). In national response operations there have also been reported cases of fraudulent individuals masquerading as government relief officials to obtain money from affected people.⁴¹⁵

Corruption and fraud, and misconduct towards beneficiaries, remain issues in humanitarian response regularly reported in the global media, and which reduce donor confidence in accountability for humanitarian assistance in terms of both use of funds and human rights abuses.⁴¹⁶ These issues have arguably been a somewhat taboo subject in the sector, although Kreidler outlines how aid agencies ‘are very creative in developing mechanisms to fight corruption in their projects. Depending on the different manifestations of corruption, they use a variety of means, but a number of principles are fundamental to all ways of addressing corruption: transparency in decision making; publicity and openness in handling information; a four-eye principle throughout all procedures and enforcement mechanisms for rules and regulations.’⁴¹⁷

A number of specific tools have been developed to increase transparency and reduce corruption, including the Transparency International *Preventing Corruption in Humanitarian*

414 Willitts-King and Harvey, *Managing the risks of corruption in humanitarian relief operations*, 21-26; and see also a similar description in Corinna Kreidler, ‘Corruption as an internal problem for emergency operations,’ *The Journal of Humanitarian Assistance*, July 15, 2006.

415 *TCPalm - USA Today*, ‘Federal agency, area U.S. Attorney offices warn of hurricane-related fraud,’ Staff report, Sep. 14, 2017. <https://www.tcpalm.com/story/weather/hurricanes/2017/09/14/federal-agency-area-u-s-attorney-offices-warn-hurricane-related-fraud/667959001/>

416 For example: ‘Natural catastrophe and disaster fraud’, *Fraud Magazine*, United States, November/December 2006, <http://www.fraud-magazine.com/article.aspx?id=4294967697>; Tom Esslemont, ‘Aid charities reluctant to reveal full scale of fraud,’ Reuters, World News, July 15, 2015; ‘IFRC statement on fraud in Ebola operations,’ 20 October 2017, <https://reliefweb.int/report/sierra-leone/ifrc-statement-fraud-ebola-operations>; and Jessica Elgot and Karen McVeigh, ‘Oxfam loses 7,000 donors since sexual exploitation scandal,’ Wed 21 Feb 2018 AEDT, <https://www.theguardian.com/world/2018/feb/20/oxfam-boss-mark-goldring-apologises-over-abuse-of-haiti-quake-victims>

417 Corinna Kreidler, ‘Corruption as an internal problem for emergency operations,’ *The Journal of Humanitarian Assistance*, July 15, 2006, 2.

Assistance: Handbook of Good Practices.⁴¹⁸ There are also national assessments of international cooperation, such as the UK assessment of its safeguards against the misappropriation and diversion of aid provided by DFID,⁴¹⁹ as well as monitoring processes against fraud in national response, such as that established by the United States regarding the Hurricane Katrina response after 2005,⁴²⁰ and the Hurricane Irma response from 2017.⁴²¹ The United States in fact passed specific legislation on the issue in 2007.⁴²²

There are also donor and organizational manuals such as the World Food Programme's *Emergency Field Operations Pocketbook* on food aid,⁴²³ and the United Nations Office for the Coordination of Humanitarian Affairs, *United Nations Disaster Assessment and Coordination (UNDAC) Field Handbook*,⁴²⁴ which include important transparency and prevention strategies that these agencies can use in the field with national actors.

Another important set of tools for monitoring and evaluation, which are applicable to national and international disaster response operations as well as development assistance, are the OECD Development Assistance Committee peer reviews of member states, the set of principles for evaluation of development assistance,⁴²⁵ and ongoing resources on evaluation of development programmes⁴²⁶ in a changing landscape of programme evaluation.⁴²⁷ These have also been used for evaluation of multi-faceted disaster response operations, such as that following the 2010 Haiti Earthquake.⁴²⁸

With regard to accountability for the quality of relief provided, there are critiques of aid effectiveness based on the compliance demands by donors, which some argue can outweigh the needs and accountability to the beneficiaries.⁴²⁹ In efforts to be more effective and accountable to people affected by disasters, the humanitarian principles that founded the International Red Cross and Red Crescent Movement are now widely adopted, including by the United Nations, and the concepts of humanity and impartiality especially are equally relevant for national government responders.⁴³⁰ Over forty international donor

418 Transparency International, *Preventing Corruption in Humanitarian Assistance: Handbook of Good Practices*, (Berlin: TI, undated, circa 2010).

419 National Audit Office (UK), Department for International Development, *A Review of Safeguards Against the Misappropriation and Diversion of Aid* (London: National Audit Office, undated, circa 2002).

420 Department of Justice, U.S.A., *Hurricane Katrina Fraud Task Force: Second Year Report to the Attorney General* (Washington DC: DoJ, 2007).

421 *TCPalm - USA Today*, 'Federal agency, area U.S. Attorney offices warn of hurricane-related fraud,' Staff report, Sep. 14, 2017. <https://www.tcpalm.com/story/weather/hurricanes/2017/09/14/federal-agency-area-u-s-attorney-offices-warn-hurricane-related-fraud/667959001/>

422 United States, *Emergency and Disaster Assistance Fraud Penalty Enhancement Act of 2007* (the "Disaster Fraud Act"), Pub. L. No. 110–179, 121 Stat. 2556, signed by the President on January 7, 2008.

423 World Food Programme, *Emergency Field Operations Pocketbook*, (Rome: WFP, 2002).

424 UNOCHA, *UNDAC Field Handbook* (7th edition 2018), (Geneva: UNOCHA, 2018).

425 OECD Development Assistance Committee (DAC), *Principles for Evaluation of Development Assistance* (Paris: OECD 1991, 2008 reprint).

426 OECD, Evaluation of development programmes, <http://www.oecd.org/development/evaluation/>

427 Conlin, Sean and Roderick L. Stirrat, 'Current Challenges in Development Evaluation,' *Evaluation*, Vol 14(2): 193–208.

428 Jonathan Patrick, 'Evaluation Insights Haiti Earthquake Response Emerging Evaluation Lessons (2011),' At CiteSeer, <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.258.5936>

429 Till Bruckner, *Accountability in International Aid: The Case of Georgia*, PhD thesis, University of Bristol, 2011.

430 These principles, set out in the 19th century by Henri Dunant, formed the basis of the International Red Cross and Red Crescent Movement and are now universally adopted and endorsed by United Nations General Assembly resolutions 46/182 (1991) and 58/114 (2004). They are: humanity (humanitarian action is to protect life and health and ensure respect); neutrality (not taking sides in conflicts or controversies of a religious, ideological or racial nature); impartiality (assistance based on need alone); and independence (from political or military objectives of other parties).

states and the European Commission have also signed on to the 23 principles of Good Humanitarian Donorship, originally developed in 2003, in part to achieve a balance between accountability for the funds and accountability for the outcomes.⁴³¹

Accountability to affected communities has also been central to the efforts of the Red Cross and Red Crescent and international NGOs (INGOs) for more than two decades, with the adoption of both the non-governmental humanitarian actors' *Code of Conduct*⁴³² and the first *Sphere Humanitarian Charter and Minimum Standards in Humanitarian Response*.⁴³³ Other accountability projects and quality standards in humanitarian response also emerged from the non-governmental sector, including the most recent milestone of the Core Humanitarian Standards agreed by Sphere and an alliance of INGOs, which will be included in the new Sphere Handbook.⁴³⁴ The Sphere Standards are also suitable for use by governments and national civil society organizations.⁴³⁵

The concept of humanitarian accountability to affected communities, and the tools and guidelines developed to support this effort, overlaps with the issues around protection and human rights. See also Chapter 7 of this review, on Rights to Assistance, Security, Protection of Vulnerable Groups.

Conclusion

The review has shown that there is a significant body of international tools, guidance and analysis relating to both corruption (diversion, fraud, misappropriation of funds, abuse of disaster-affected people) and monitoring and evaluation of humanitarian assistance and response operations. Although much of this is highly applicable to domestic preparedness and response, it is primarily developed by and for the international community of donors and humanitarian actors, both governmental and non-governmental.

The literature review has not revealed comparative studies that would throw light on law and practice at country level regarding implementation of anti-corruption measures or the use of quality and accountability standards as part of national preparedness and response.

431 Good Humanitarian Donorship (GHD), *10 Years on How Are Donors Implementing the Good Humanitarian Donorship Principles?* (GHD, 2013) <https://reliefweb.int/report/world/10-years-how-are-donors-implementing-good-humanitarian-donorship-principles>

432 Steering Committee for Humanitarian Response (SCHR), *The Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief*, (Geneva: IFRC, 1995).

433 The Sphere Project, *Sphere Humanitarian Charter and Minimum Standards in Humanitarian Response* ('the Sphere Handbook'), (Geneva: Practical Action Publishing, 2018).

434 CHS Alliance, Groupe URD and the Sphere Project, *Core Humanitarian Standard on Quality and Accountability* (Geneva: CHS Alliance, 2014).

435 The Sphere Project, *Sphere Standards in National Humanitarian Response* (Discussion Paper), (Geneva; Sphere Project, 2016).

Overall conclusions on the review

This review has provided a global survey of the key literature and guidance on legal frameworks for domestic disaster preparedness and response, based around ten themes: use of state of emergency and state of disaster declarations; institutional structures, mandates and powers; disaster information systems; funding for DRM systems; contingency planning; legal facilities and issues relevant to those engaged in disaster preparedness and response; rights to assistance, security, protection of vulnerable groups; shelter during and after disaster events; legal liability for actions in relation to disaster preparedness and response; and accountability to donors, government and affected communities. Some of these areas have been much discussed in the literature, others have been considered principally by the IFRC and United Nations agencies involved in these areas.

On **State of Emergency and/or State of Disaster**, this review has indicated that there is a wealth of literature concerning human rights and democracy in relation to declarations of emergency, and that there are some comparative studies that identify different legislative approaches to the use of emergency or disaster declarations and other triggers for disaster response. This would seem to be an area ripe for further comparative study based on national law and practice, in order to provide states with guidance on the most effective legal mechanisms within DRM systems, both for triggering disaster response quickly and effectively, and specifically triggering disaster funds and resources

Regarding **institutional arrangements**, the review found that there is extensive literature that relates to institutional arrangements for domestic disaster preparedness and response. While the literature provides considerable country information, much of it has been developed and analysed for other purposes. The IFRC global work on legislative advocacy in disaster preparedness and response, and its recent regional work on ASEAN frameworks, are contributing to a global picture on effective institutional frameworks. However, the review did not identify global publications that provide clear indicators on the most effective institutional arrangements, or how to assess effectiveness.

The review of **information systems** looked at the issue in general and then highlighted the areas of **hazard or risk mapping, risk assessments, forecast-based early action, early warning systems, and needs and damage assessments (rapid and ongoing)**. All of these rely on clear and credible information and institutional cooperation to underpin effective domestic preparedness and response. While the review found there is extensive international guidance, and many initiatives based around technical cooperation, it noted that cross-national comparative literature is still very limited, especially as it relates to the legislative bases for these activities. The literature also provides little information on the national legislative bases or methods for dissemination of information during an emergency, or methods used for ongoing needs and damage assessments, or evaluation of response effectiveness. The main challenges identified for domestic DRM systems are establishing clear institutional mandates and coordination to ensure that risk or hazard mapping and risk assessments are undertaken and used as the basis for contingency planning, that the forecast-base for early action, EWS and risk information during disaster is delivered to communities in a clear and timely manner, and that assessments of damage and evaluations of response effectiveness are undertaken and shared. As yet, the literature does not provide substantial comparative information on the existence and/or effectiveness of such mandates in domestic law.

Funding sources for disaster preparedness and response activities is emphasized in global commitments such as the *Sendai Framework*. The review highlighted that this a central topic when developing preparedness and response procedures, including the related legislation.

Innovations such as forecast-based financing are not only an approach for humanitarian actors, but something which can be integrated into national plans and mechanisms. The review indicates that **disaster risk financing** is an area that is developing rapidly, with a number of innovations emerging that potentially impact domestic DRM legislation. In order to move forward, these funding approaches for preparedness and response could be clearly institutionalized into national frameworks through disaster-related legislation, policies and procedures, while maintaining sufficient flexibility to adopt new mechanisms. While existing IFRC and OAS work provides a starting point for wider comparison of national budgets and disaster funds, especially regarding **capacity to receive external funds**, it would appear worthwhile to undertake comparative research on emerging funding mechanisms, and their actual or potential legislative bases. Such research may need to consider national budget laws and Ministry of Finance mechanisms to provide the full picture of DRM financing. Given the current global focus on climate finance readiness in developing countries, the tools and capacity-building being undertaken for those purposes would also be a useful reference for the legal frameworks for DRM finance readiness, as this is an area that seems likely to generate model legal practices.

This review highlights that there is a wealth of literature on the rationale for and practical development of **contingency planning**, including many examples of legal obligations for public and private entities to develop and implement such plans. There is also some comparative research on public awareness-raising as a legislative obligation, and on requirements to engage community and private sector stakeholders. However, there is little comparative literature on institutional mandates or legal regulations that require governments or others to develop and rehearse contingency plans, especially concerning developing countries.

The literature review of **legal facilities** covered seven sub-topics: **management of human remains; volunteering; cash transfer programming; use of UAVs (drones); professional licensing; tax exemptions; and data privacy and data protection**. The breadth of topics examined demonstrate that there are numerous considerations when it comes to addressing legal facilities for domestic actors in preparedness and response. These topics provide a selection of core areas to address when developing or updating relevant laws and procedures (such as for dead body management, volunteers and licensing), as well as new and emerging issues (such as cash transfers, use of UAVs and data protection). The literature available demonstrates that, while some of these issues have been more explored than others, the literature in relation to all seven sub-topics is either sparse or does not relate specifically to domestic preparedness and response to disasters. The conclusions on each sub-topic are:

- **Management of human remains:** The literature shows that there is extensive guidance on management of dead bodies during disasters, based on lessons learned over many years, including recent epidemic disasters. However, it does not document or show evidence of the domestic legal frameworks in place to address this issue, which remains an area requiring further study.
- **Volunteering:** the IFRC's 2011 report on legal frameworks for volunteering in emergencies explains that while many countries have adopted laws on volunteering, the issue of volunteering in emergencies or disasters had to date been addressed in only a limited number of laws and academic writing. Based on this literature review, that remains the case in 2018, with no significant comparative analysis of laws on volunteering in disasters identified.

- **Cash transfer programming:** There is little comparative literature available that specifically addresses legal issues relating to the use of cash in emergencies. Various lessons learned and evaluation reports cite legal barriers such as lack of documentation and lack of information about individuals' legal status, particularly for refugees, due to lack of recognition of refugee status, lack of information and identification documents. It appears there is a general need for collation and analysis of the data on cash-based transfers that is now available through country case studies and programme evaluation reports, to identify the most common legal issues, legislative barriers and good practices.
- **UAVs/Drones:** Based on the literature reviewed, it appears that the rapid increase in the use of drones in humanitarian settings has outflanked most domestic legal frameworks, and is largely governed by voluntary codes at present. This suggests a need to develop guidance for domestic laws on humanitarian use of drones, which could be based on countries that do have a clear framework for UAV use and inputs from the humanitarian community about likely uses and any legal facilities or exceptions required.
- **Professional Licensing:** In the absence of global or regional studies, the resources identified in this review focus largely on the interstate issues of professional licensing in the United States during disasters, as an indication of the issues that can arise. This issue would be illuminated by additional comparative research in other countries that experience disasters, especially federations where different state or provincial laws govern medical licensing and professional liability.
- **Tax exemptions:** In some countries, national first responders such as National Societies and NGOs have certain exemptions from taxation by virtue of being a not-for-profit organization. However, the exemptions granted to NGOs are sometimes incomplete or not clearly outlined in national laws or regulations. This area warrants further analysis and investigation, especially with regard issues facing domestic actors, and the role that law can play.
- **Data privacy and protection:** The specific issue of personal data protection in humanitarian settings has been considered within the sector, and guidance has been developed by and for humanitarian actors. However, beyond these initiatives, the research has not identified specific information on legal frameworks relevant to data protection in domestic disaster preparedness and response. The review suggests that domestic legal frameworks on broader data protection are likely to apply, but this would require specific research and analysis in a number of countries to assess the extent of applicable data laws, if any, to humanitarian situations.

The summary of the key literature on the topic of the **right to assistance, security and protection of vulnerable groups**, shows that it is a vast area with a variety of publications, guidance and standards. However, in relation to law on disaster preparedness and response, there is very limited literature that directly analyses or addresses the themes of this chapter. In this regard, the New Zealand approach to integration of psychosocial support into the preparedness and response aspects of the regulatory framework stands out as a good model of cross-sectoral cooperation, and the IFRC's work on law, gender equality and SGBV identifies the types of challenges often met in providing support and protection for at-risk groups during disasters and makes recommendations on legal frameworks. These examples suggest a fruitful line of inquiry for further comparative research on the legislative bases for protection, health services and psychosocial support

in disaster-affected communities. This could focus on identifying good models of legal mandates, mechanisms and resource allocation that facilitate cross-sectoral cooperation between disaster risk management institutions and the relevant expert policy agencies and social service providers.

The literature and guidance outlined on **housing land and property (HLP) and shelter in emergencies** demonstrates the steps that have been taken to analyse and address legal and regulatory issues. Shelter concerns are not limited to response situations, and consideration should be given to these matters as part of both response and preparedness planning. The key publications demonstrate how a rights-based approach can be required in order to address issues of humanitarian concern – and to be able take concrete steps towards protecting the shelter-related rights of the most vulnerable and providing durable housing solutions. The review has highlighted a significant body of research on legal barriers and issues in shelter, housing land and property rights following disasters, as well as guidance and standards for those providing emergency shelter. It appears there is sufficient data and analysis on this issue to support a synthesis that could guide the development of domestic legislation.

There is a national-level focus in the literature on **liability protections**, as legal liability questions are very adapted to each national legal system. As such, it is an area where it has been difficult for writers to generalize. The literature outlined indicates that the issue of liability and protection of government agencies and other disaster relief personnel in domestic disaster response has not been adequately addressed in a comparative sense, or with regard to developing countries. It also tends to focus on medical treatment and volunteers, rather than the broader field of emergency response.

Regarding **accountability**, the review has shown a significant body of international tools, guidance and analysis relating to both corruption (diversion, fraud, misappropriation of funds, abuse of disaster-affected people) and monitoring and evaluation of humanitarian assistance and response operations. Although much of this is highly applicable to domestic preparedness and response, it is primarily developed by and for the international community of donors and humanitarian actors.

The review did not reveal comparative studies that would throw light on law and practice at country level regarding implementation of anti-corruption measures or the use of quality and accountability standards as part of national preparedness and response.

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The Fundamental Principles of the International Red Cross and Red Crescent Movement

Humanity / The International Red Cross and Red Crescent Movement, born of a desire to bring assistance without discrimination to the wounded on the battlefield, endeavours, in its international and national capacity, to prevent and alleviate human suffering wherever it may be found. Its purpose is to protect life and health and to ensure respect for the human being. It promotes mutual understanding, friendship, cooperation and lasting peace amongst all peoples.

Impartiality / It makes no discrimination as to nationality, race, religious beliefs, class or political opinions. It endeavours to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.

Neutrality / In order to enjoy the confidence of all, the Movement may not take sides in hostilities or engage at any time in controversies of a political, racial, religious or ideological nature.

Independence / The Movement is independent. The National Societies, while auxiliaries in the humanitarian services of their governments and subject to the laws of their respective countries, must always maintain their autonomy so that they may be able at all times to act in accordance with the principles of the Movement.

Voluntary service / It is a voluntary relief movement not prompted in any manner by desire for gain.

Unity / There can be only one Red Cross or Red Crescent Society in any one country. It must be open to all. It must carry on its humanitarian work throughout its territory.

Universality / The International Red Cross and Red Crescent Movement, in which all societies have equal status and share equal responsibilities and duties in helping each other, is worldwide.

