1. Introduction

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1. GLOBAL CONTEXT AND APPROACH

The global context for this *Research Handbook* is that the intensity and frequency of ‘natural’ and ‘man-made’ disasters is on the increase. As Margareta Wahlström, head of the UN Office for Disaster Risk Reduction (UNISDR), noted just prior to the review of the Hyogo Framework for disaster risk reduction and the subsequent adoption of the Sendai Framework on disaster risk reduction 2015–2030:

> Despite many successes and greatly improved performance in disaster management, it is sobering to note that 700,000 people have died in disaster events over the last ten years. A total of 1.7 billion people have had their lives disrupted in some way. It is of great concern that economic losses in major reported disaster events come to $1.4 trillion.¹

It was further observed that since 2008, an estimated 155 million people have experienced short- or long-term displacement attributable to climate-related disasters.² In parallel, there are many ongoing conflicts around the world of varying magnitude which are the source of much human suffering and tragedy, such as the civil war in Syria, as well as the increasingly widespread terrorist activities of Islamic State. Many countries are currently suffering from different disasters, ranging from major drought and related famine³ to catastrophic cyclones and severe flooding.⁴

In response to such significant challenges, the international community is seeking to grapple with them through a number of global initiatives, notably the Sendai Framework for Disaster Risk Reduction 2015–2030,⁵ the UN Sustainable Development Goals 2015,⁶ the UN Climate Change Conference 2015,⁷ and the World Humanitarian

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² Ibid.
³ See, e.g., Ethiopia, which is currently experiencing its worst drought in recent history with an estimated ten million people in urgent need of humanitarian assistance. See, e.g., World Food Programme, *Drought in Ethiopia: 10 Million People in Need* <http://www.wfp.org/stories/drought-ethiopia-10-million-people-need> accessed 4 February 2016.
⁴ See, e.g., the Philippines which is currently recovering from the most recent typhoon, Typhoon Melor (December 2015), in the wake of the catastrophic damage caused by Typhoon Haiyan (November 2013).
Each of these initiatives are discussed in some detail by the contributors to this Handbook, including how they are impacting or could impact upon particular legal regimes as well as responses to different forms of disasters.

In parallel, and the primary focus here, have been developments in how international law is responding to diverse disasters. Until recently, much of existing legal scholarship has tended to focus on two aspects of disasters, namely the law governing responses to disasters as they occur and during their immediate aftermath (generally referred to as international disaster response or relief law), and insurance/compensation issues. In addition, many different legal regimes – such as international human rights law, international development law, international environmental law and international humanitarian law – have developed their own norms and responses to specific types of disasters, though these have not necessarily been framed in such terms. Many examples are considered in the ensuing chapters.

In addition, and of particular relevance to this Handbook, is the question as to whether or not a new corpus of ‘international disaster law’ (IDL) is evolving or indeed has been established already. The overriding view of the editors and other contributors to the Handbook is the former, namely that such a body of law is probably currently developing, fuelled in part by the added momentum given by global and other initiatives. A corpus of international disaster law is likely to take one of two forms. It could become an overarching ‘umbrella’ body of law that seeks to interconnect, integrate and gap-fill between existing international (and indeed also national) regimes. Certainly, there is some evidence to suggest that this is already happening.

Alternatively, and less certain, is whether or not international disaster law might expand into its own self-standing legal regime, growing from a current hybrid of legal principles into a coherent corpus of law, as was the case with, for example, international criminal law. At present, this is considered to be less likely (though of course it remains possible). This is in part due to the vast number of potentially relevant legal principles that could fall within its ambit that would require Herculean effort and accompanying levels of international political will to mould them into a single coherent body of international law, which do not largely seem to be present. There is also the not insignificant issue of trying to reach increased international consensus as to how to define the concept of ‘disaster’ (see below) in order to establish clearer parameters for any coherent legal regime, including whether or not these are limited to ‘natural’ disasters or extend to various ‘man-made’ disasters incorporating armed conflict too. Such a conclusion does not, however, in any way detract from the fact that significant developments in domestic, regional and international law and policy governing disasters are in progress, which are currently being shaped by a broad spectrum of state and non-state actors.

8 The World Humanitarian Summit is an initiative by the United Nations (UN) Secretary-General, managed by the UN Office for the Coordination of Humanitarian Affairs. For more information, see World Humanitarian Summit <https://www.worldhumanitariansummit.org/> accessed 7 February 2016.
In terms of other key questions and issues examined in the *Handbook*, another overarching focus has been consideration of the applicability and effectiveness of international law – both more generally and from the perspective of specific legal regimes – in governing and responding to disasters. Other key themes and questions have comprised how different legal regimes conceptualise the term ‘disaster’; whether and how discrete legal regimes are increasingly interconnected when responding to disasters; and positive and negative obligations of key actors, particularly states including the parameters of state responsibility in this context.

2. DEFINING ‘DISASTER’

In any academic field, especially an emerging one, definitional issues can be vexing and problematic. That is certainly the case with respect to a definition of disasters within international law. The editors of this book have not limited any of the contributors to a specific definition of disaster but have intentionally employed a very broad approach to soliciting contributions from a wide variety of specialised fields – from trade to development, from human rights to humanitarian law, and from prevention to reaction, to recovery. Indeed, they are of the view that a broader, more multidimensional rather than restrictive compartmentalised definitional approach should be adopted. This is not limited to ‘natural’ disasters, rather it extends to financial, ‘natural’ and ‘man-made’ events (including armed conflict), due to the synergies and often interconnected relationships existing between different forms of ‘disasters’ and their accompanying legal regimes. This is reflective of more recent general trends towards no longer compartmentalising legal regimes and treating them in isolation, rather recognising that less established interconnections with other legal regimes may exist too, as has been the case between international human rights law and international trade law. That said, it is fully recognised from the outset that it can be difficult in law, policy and practice to distinguish between the effects of ‘man-made’ and ‘natural’ disasters, not least in the context of ongoing discussions about the effects of climate change and other human impacts which may trigger ‘natural’ disasters.

It is useful in these circumstances to view the forensic work on this issue carried out by the author of our foreword who is the Special Rapporteur to the International Law Commission (ILC) on the Protection of Persons in the event of Disasters, Eduardo Valencia-Ospina. In 2008 he presented his preliminary report to the 60th session of the ILC. His discussion confirmed the findings of the editors and authors of this Handbook, namely that ‘there is no generally accepted legal definition of the term [disaster] in international law’. However a definition, according to Special Rapporteur Valencia-Ospina, is important since it identifies the situations ‘in which protection may

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11 Ibid 152.
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or shall be invoked, as well as the circumstances under which protection will no longer be necessary; furthermore, it will help ‘to identify those persons in need of protection’.12

Special Rapporteur Valencia-Ospina helpfully discussed three different aspects of disaster events that could inform a definition of the topic. Firstly, types of disasters could be divided into two categories according to cause: ‘natural disasters (e.g., earthquakes, tsunamis and volcanic eruptions) and “man-made” disasters (e.g., oil spills, nuclear accidents and armed conflict)’.13 Secondly, disasters could also be classified in terms of their duration as either ‘sudden-onset disasters (e.g., hurricanes)’ or ‘slow-onset, or creeping, disasters (e.g., droughts, food shortages and crop failures)’.14 Thirdly, a classification could be made according to context, whether it is a single or complex emergency. He defined a complex emergency as a ‘total or considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the mandate or capacity of any single agency’.15 The authors of this Handbook in their various contributions canvass all these facets of disasters.

Nevertheless, in spite of this last category of complex emergency, Special Rapporteur Valencia-Ospina argued in his first report that armed conflict per se would be excluded because there was ‘an applicable, highly developed particular field of law dealing in great detail with such situations of social reality: namely, international humanitarian law’.16 He relied upon the Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons in which the International Court of Justice viewed the law applicable in armed conflict as the applicable lex specialis.17 In his second report, Valencia-Ospina proposed a definition of disaster with a specific exclusion: “Disaster” means a serious disruption of the functioning of society, excluding armed conflict, causing significant, widespread human, material or environmental loss.’18

In viewing his second report though, it is possible to argue that the definitions he relied upon to propose his definition (later amended) could extend to the results of an armed conflict. Firstly, Special Rapporteur Valencia-Ospina argued that a very compelling definition was to be found in one of the few treaties which deals directly with disasters, the Tampere Convention of 1998, which defines a disaster as: ‘a serious disruption of the functioning of society that poses a significant, widespread threat to human life, health, property or the environment, whether caused by accident, nature or human activity, and whether developing suddenly or as a result of complex, long-term

13 Special Rapporteur’s Preliminary Report (n 10) 152.
14 Ibid.
15 Ibid.
16 Ibid 153.
18 Special Rapporteur’s Second Report (n 12) 195.
processes’. This same definition is employed by the International Federation of the Red Cross/Red Crescent (IFRC) in its Guidelines, though excluding armed conflicts.

The Special Rapporteur went on to highlight several aspects of this definition that had relevance to his final definition and to the authors of this Handbook. One is the requirement of actual harm. The ‘[i]nternationally agreed glossary of basic terms related to disaster management’ developed by the Department of Humanitarian Affairs of the United Nations in 1992 defined disaster as: ‘a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of [the] affected society to cope using only its resources’. However, it could be contended that this should include the prevention of such serious disruption as in the field of disaster preparedness or disaster resilience. Another essential part of the definition is that the event overwhelms the capacity of the effected region to respond. A third element is a reference to what Special Rapporteur Valencia-Ospina referred to as a ‘causal element’, which in this case is a serious disruption that could include both ‘man-made’ and ‘natural’ events. He argued that it is of limited use to insist on a strict separation between these different forms of disasters since ‘natural phenomena merge with human agency’. Once again this offers an explanation as to why the editors of this Handbook assert that armed conflict can threaten or cause a serious disruption to the functioning of society. In reviewing the fourth element of the definition of threat to human life, health, property or environment, the Special Rapporteur correctly (in the opinion of the editors) proposed that the definition should not be restricted to human harm. He relied on the definition of the UNISDR, which defines disaster as:

A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.

His final conclusion on disasters is relevant to our discussion. He suggested that disasters arise from a complex set of factors, which makes ‘virtually impossible any


\[20\] Special Rapporteur’s Second Report (n 12) 194; and International Federation of the Red Cross and Red Crescent Societies (IFRC), Introduction to the Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance (IFRC, 2008).

\[21\] Special Rapporteur’s Second Report (n 12) 194; and UN Department of Humanitarian Affairs, Internationally agreed glossary of basic terms related to Disaster Management, UN Doc. DHA/93/36 (1992).

\[22\] Ibid.

\[23\] Ibid.

\[24\] Ibid.

effort to identify a single sufficient cause’. Therefore, he concluded in support of the Tampere definition since ‘the inquiry into a calamity’s root cause is immaterial’.

The drafting committee of the ILC substituted a different article 2 on the purpose of the articles and in article 3 of the draft articles adopted a slightly different text than the above-mentioned definition. Final article 3 defines disaster as ‘a calamitous event or series of events resulting in widespread loss of life, great human suffering and distress, or large-scale material or environmental damage, thereby seriously disrupting the functioning of society’. This is the definition used by many of the authors in this Handbook. Regrettably, in the view of the current editors, the drafting committee adopted article 4, which states:

Relationship with International Humanitarian Law

The present draft articles do not apply to situations to which the rules of international humanitarian law are applicable.

It has to be noted that the actual definition of disaster in article 3 does not specifically exclude armed conflict. As a result, it is the editors’ contention that the catastrophic damage to the ‘natural’ and ‘man-made’ environment that results from conflict can trigger a disaster event. Indeed, they would go so far as to suggest that consideration of the law of disasters has to include elements of the law of armed conflict, particularly international humanitarian law, which includes specific relevant provisions such as on environmental and health matters. When one considers the inherently interconnected context of a complex emergency – when a ‘natural’ or potentially also ‘man-made’ disaster (such as industrial contamination, an oil spillage or the release of toxic gases) occurs in the context of an armed conflict – it can be difficult, arguably inappropriate, to try to separate out and categorize the applicable legal regimes in terms of non-armed conflict and armed conflict regimes.

In support of such a position, other definitions of disaster can be referred to. The IFRC and the Johns Hopkins Society released a study of the definition of disaster in 2007. Within their discussion they referred to armed conflict specifically, stating:

Armed conflicts, often called Complex Humanitarian Emergencies (CHEs) are the worst disaster that can befall populations. … The effects of conflict continue for decades, not only through the remaining landmines and displaced populations, but also through the economic consequence to the countries affected as well as their region. This is an area where perhaps

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26 Special Rapporteur’s Second Report (n 12) 196.
27 Ibid.
29 Ibid art 4.
disaster mitigation has been the least effective. Those states with the power to reduce these risks may have their own strategic interests in not doing so.31

Notably, the World Health Organization’s definition of disaster is also all inclusive, stating that ‘a disaster is an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community’.32

Some of the contributing authors to the Handbook have also engaged in this debate. For example, Lauta (Chapter 5) argues that it is tempting to understand disasters as exterior phenomena caused by God or nature. He argues that there has been a change in the last fifty years and that the modern disaster is ‘analyzed through the lens of the system unable to manage or withstand the disturbance caused by the hazard’. Today, the main concepts of disaster research are firmly based in a social perspective on disasters focusing on resilience, vulnerability or risk. Modern disasters are therefore not (only) caused by hurricanes, but also through such factors as lack of resilience, unaddressed social and structural vulnerability, and/or mismanaged or misunderstood risks. Although Lauta does not specifically argue the point, this view of the social perspective on disasters certainly possesses a potentially very wide remit.

Schmid (Chapter 6) engages in extensive definitional analysis. Though she accepts the ILC’s definition as a starting point, she further argues that armed conflict should be covered within this definition. She asserts that the use of the term ‘disaster’ in everyday language would seem to support, or at least not exclude, the inclusion of armed conflicts within the definition of a disaster. Such an approach makes sense if one assumes that it is the impacts on human life, health and the environment that provide the key parameters in defining what constitutes a disaster and not the type of causes. That said, she acknowledges that the incorporation of armed conflicts comes at a disadvantage in terms of bringing increased complexity, particularly since armed conflict is governed by a highly specialised body of law – international humanitarian law. On balance though, Schmid decides to include armed conflicts within the definition of disasters for the purpose of outlining the relevance of international criminal law in relation to disasters as comprehensively as possible.

Rodenhäuser and Giacca (Chapter 7) argue too that, at least colloquially speaking, armed conflicts may be termed disasters. This is on the basis that armed conflicts lead in most cases to widespread loss of life, great human suffering and significant material damage, as well as disrupting the functioning of society, all of which are relevant categories within the ILC’s definition.33 They do acknowledge though that within international law, armed conflicts are distinct from other ‘man-made’ or ‘natural’ disasters; furthermore, that the exact nature of the relationship between international humanitarian law and disaster law in terms of parameters and areas of overlap remains largely underexplored. In advancing such a position, their chapter substantially contributes to the expansion of the definition of disasters by arguing that international law is an integral part of the broader concept of disasters.

31 Ibid 27.
33 This indicative definition is drawn from the ILC Draft Articles (n 28) art 3.
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humanitarian law provides a ‘comprehensive and concise’ framework for humanitarian assistance during armed conflicts including the right to offer humanitarian services and humanitarian access as well as the protection and facilitation of humanitarian assistance in a legally binding fashion. Although explicit legal obligation is lacking in international disaster law, the authors argue that the ‘emerging body of [international disasters law] could complement the provision of international humanitarian law or influence the interpretation of existing norms’. Equally important for the contributors to this developing area of disaster law, existing international humanitarian law rules may ‘serve as an important source for the development and interpretation of new regulations’. They support this view by reference to the Commentary on the ILC’s Draft Articles on the Protection of Persons in the event of disaster, which contains multiple references to rules and principles of international humanitarian law.34

Oyewunmi (Chapter 13) in his discussion of energy security engages in a discussion of the distinction between a crisis and a disaster, thereby adding another dimension to this definitional debate. He defines a ‘crisis’ as a destabilising situation within a community or between communities (on the one hand), or within a country or between countries (on the other hand) that is characterised by a perceived or de facto threat to the peaceful cohesion, core values or systems of the community or country, which requires an urgent and coordinated response, usually under conditions of uncertainty. He states that a ‘disaster’ refers to instances in which a ‘crisis’ directly or indirectly leads to significantly destructive and catastrophic implications for the community or country and its relevant socio-economic system(s). Thus, disasters are directly or indirectly a result of an unmitigated crisis event, while a crisis may or may not arise from an unresolved conflict. It is therefore evident in this argument that a crisis can be an armed conflict which in turn can lead to a disaster event. Armed conflict would be another ‘man-made’ event included in the serious disruption referred to in the ILC definition of disaster. Oyewunmi asserts that an energy related conflict or a crisis resulting from extremely violent incidents such as terrorist attacks and insurgencies may also lead to economically and socially disastrous consequences if uncontrolled or not managed in an effective and timely manner by the relevant institutions and stakeholders.

Finally, looking at the topic of whether or not armed conflict should be included within a definition of disaster, is the approach adopted by Bisset in her chapter on responding to conflict-related violation of children’s rights (Chapter 22). Its discussion of post-conflict transitional justice refers to the general approach and reasoning of the ILC and the Draft Articles. She rationalises that to exclude the applicability of the Draft Articles to complex emergencies because of the coexistence of an armed conflict is to undermine the principle of protection of persons in the event of a disaster. By implication, she considers that conflict situations and their consequences therefore must fall within the ambit of international disaster response law. She relies on the IFRC desk study, which identified international human rights law, international humanitarian law and international criminal law frameworks as being relevant to international disaster law. Although few of their respective provisions make specific mention of disaster

settings, she asserts that they contain a wealth of rights, obligations and standards of protection for children affected by conflict.

In her particular discussion of post-conflict zones Bisset further argues that there is no clear distinction between armed conflict and peace, indeed that there are frequent relapses into conflict. To return to Oyewunmi’s view, that means that in this context, crisis resulting in disaster events can occur. Once again the provisions Bisset refers to in international humanitarian law, including the provisions related to the treatment of children during armed conflict,\(^{35}\) could apply equally to the disaster space. These include the provision of education,\(^ {36}\) evacuation,\(^ {37}\) family reunification and care of unaccompanied children,\(^ {38}\) safety zones, and the free passage of consignments intended for children.\(^ {39}\) Importantly too for both disaster events and conflict are provisions that girls are to be protected from crimes of sexual violence\(^ {40}\) and all parties to conflict are required to provide children with the care and aid they may need because of their age.\(^ {41}\)

Although the chapters just referred to specifically engage in the definitional debate as to whether or not armed conflicts should be included within an international definition of disasters, other chapters raise this issue by implication. For example, in his chapter (Chapter 19) dealing with issues of cyber-attacks and security, Green illustrates most clearly an event occurring within an armed conflict context, namely a cyber-attack that can directly cause a society to cease functioning and trigger a disaster event in the process. In her discussion on the responses by states to disasters, Breau illustrates how a doctrine developed in the context of conflict, the responsibility to protect, can have direct relevance to disaster prevention, reaction and reconstruction. It is this inter-relationship that cannot be ignored and thus the extension of the causes of disasters to crises arising from armed conflict brings us into the various legal regimes associated with armed conflict.

It is highly unlikely that the ILC’s members would agree with the propositions and contentions made here, and article 4 excluding conflict will probably remain. Nevertheless, it is argued that such a broader, more comprehensive and all-inclusive approach to international law and disasters would better support the overall thesis of the interconnected nature of applicable legal principles drawn from a number of different legal regimes, which is necessary to discuss the complete story pertaining to disasters:


\(^{36}\) APII art 4(3).


\(^{38}\) Fourth Geneva Convention arts 24–6, 50 and 82; API arts 74–6; APII arts 4 and 6.

\(^{39}\) Ibid art 27.

\(^{40}\) Ibid art 77.
preventing and/or mitigating the likelihood or effects of disasters; responding effectively to them during their immediate aftermath; and effectively engaging in the longer-term process of post-disaster reconstruction.

3. CONCEPTUAL AND LEGAL FRAMEWORK

Turning now to the specific chapter contributions, the *Handbook* is structured into effectively two parts: the first part (Chapters 2 to 11) considers the more general conceptual and legal framework of disasters, whilst the second part (Chapters 12 to 23) considers the legal regimes for preventing, preparing for, responding to and recovering from specific types or causes of disasters.

Newdick (Chapter 2) adopts a broader, more philosophical approach to the topic, reflecting on how one of law’s central concerns is equality of rights, yet law is conspicuous by its absence from the debate about global inequality. He observes how inadequate access to the basic necessities of life – food, water, education, health and a decent environment – already routinely constitutes a disaster for billions of people. Yet, at a time of unparalleled global affluence, when the need for sharing global wealth and opportunity is more important than ever, the gap between rich and poor is expanding.

In seeking to better comprehend the underlying causes of such inequality, Newdick reflects on the contributory factors of global capitalism. He illustrates how the global financial crisis in 2007 was unprecedented in the resulting human misery caused by the national austerity measures. Newdick then notes how the crisis in global inequality, which lacks an international law framework, has two interconnected results, the rise in armed conflict and vulnerability to disasters. This contribution illustrates the broad scope of prevention activities that are necessary including rebalancing inequalities in education, employment, income, housing and health too.

Bookmiller (Chapter 3) then examines international disaster response law ‘at fifteen’, offering a retrospective analysis of its development as a constructive prism for appreciating both old and new challenges in the field’s advancement, particularly in light of the global policy conversation surrounding the draft articles on the Protection of Persons in the Event of Disasters. She points out the stark contrast between international humanitarian law which is historically rooted and has comprehensive coverage applicable to victims of armed conflict on the one hand, and the relatively meagre legal development protecting those impacted by disasters outside of war on the other. Bookmiller offers a helpful overview of the architecture of the international system dealing with disasters, including the United Nations Disaster Relief Office, the IFRC’s International Disaster Relief Law Guidelines, and the work of the ILC on the Articles on Protection of Persons in the Event of Disasters.

Breau (Chapter 4) then discusses the other side of the coin, the responsibility of states in preventing, responding to and rebuilding after disasters. She argues that international law has not yet clarified the nature and scope of international law obligations that bind states in these circumstances. She uses the currently developing framework of the responsibility to protect to examine state obligations in the various...
phases of a disaster event and asserts that the theoretical framework of the responsibility to protect can assist in the development of states’ obligations in international disaster law.

The next group of contributors consider various international law regimes with direct relevance to disasters. Lauta’s contribution (Chapter 5) to this discussion is the contention that human rights are central to disaster management, but that the concrete interrelationship remains somewhat ambiguous. He argues that firstly specialist instruments and guidelines, such as the *Operational Guidelines for Protection of Persons in Situations of Natural Disasters* (updated in 2011), establish that protection is about securing human rights. Secondly, that the ILC Articles on the Protection of Persons in the Event of Disasters, confirm the centrality of human rights and human dignity for persons affected by disaster. His conclusion asserts that human rights discourse coincides with the ideas of resilience and empowerment essential in modern disaster resilience and recovery, but that the precise interlinkage between the two fields of law remains understudied.

Schmid (Chapter 6) then explores the relevance, potential and limitations of international criminal law in relation to preventing, mitigating and responding to disasters. Although, as just observed by Lauta, there are some challenges associated with linking human rights principles to disasters, it can be even less obvious whether and how international criminal law has any remit over them. On balance though, Schmid concludes that it is possible for adverse human agency to be such that it meets the elements of an international crime where the necessary elements of international criminal law are met such as the relevant mental element to establish criminality. She does, however, also explore the question as to the potential utility of any reliance on international criminal law in a disaster context, whether for the purposes of deterrence or retribution, or because of the expressive potential of claims based on international criminal law. As she notes:

> Politically, symbolically and legally, it matters whether lawyers frame a disastrous situation as an unfortunate ‘natural’ event or as a result of potentially criminal human agency. Still, even where there is a role for international criminal law in relation to a disaster, it will never be sufficient to rely on international criminal law in order to avoid, mitigate or overcome the effects of a disaster, let alone to prevent its occurrence in the first place.

She further observes how practice can make distinctions that international criminal law does not, for example between a sudden criminal act resulting in death (for example, through use of a firearm) compared with equally deliberate acts, also with lethal consequences, which are attributable to much slower conditions of life. To some extent, this is reflective of the approach of states, and related controversies, towards the

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43 ILC Draft Articles (p 28).

44 See, e.g., this is illustrated by controversies surrounding interpretation of the scope of economic, social and cultural rights (including their ‘progressive realization’) provided for under
progressive realisation of social and economic rights more generally, which prefer that a narrow interpretative approach be adopted out of fear of opening political, social as well as legal floodgates.

In addition to exploring definitional boundaries, Rodenhäuser and Giacca (Chapter 7) also discuss the international humanitarian law framework governing humanitarian relief during armed conflict and complex emergencies. They highlight contemporary challenges to the delivery of humanitarian relief in situations where non-state armed groups control territory. In considering the question of to what extent the international humanitarian law framework applies in situations of complex emergencies, the authors consider a number of related issues, such as the relationship between international humanitarian law and international disaster law in such circumstances as well as the question to what extent the two fields of law can complement each other. As they argue, the exact borderline and potential overlaps between international humanitarian law and international disaster law remains underexplored. Nevertheless, since it is evident that armed conflicts can coincide with other ‘natural’ or ‘man-made’ disasters, the authors correctly assert that understanding the applicable international humanitarian law legal framework is vital for humanitarian actors.

Stephens (Chapter 8) then considers very different though equally important issues, namely disasters from the perspective of international environmental law and the Anthropocene. In doing so he argues that international environmental law is concerned both with immediate disasters (such as industrial accidents) and with slow-onset disasters (such as climate change). It is focused mainly on human-induced disasters, which involve major environmental harm and which also have some international dimension, either because they have transboundary impacts or because they affect a domain of shared international concern (for example, pollution on the high seas). Although international environmental law has been developed in order to avert or ameliorate catastrophes attributable to human activities, it also has relevance to the emerging field of disaster law that is primarily concerned with ‘natural’ disaster preparedness, mitigation and response. This important area of international law possesses systems for reducing disaster risk, for emergency notification and response, including rules of liability and compensation, and norms relating to environmental remediation and rehabilitation.

In a logical follow-on from international environmental law, Karimova (Chapter 9) discusses the interplay between sustainable development and disasters. In charting the relevant parameters of sustainable development, she argues that unsustainable development may bring about environmental degradation thus increasing the risk of disasters.

the International Covenant on Economic, Social and Cultural Rights 1966 (adopted on 16 December 1966, entered into force 3 January 1976) (ICESCR), including whether a more restrictive (with less obligations for states parties) or more expansive (with more obligations for states parties) interpretative approach should be taken by the UN Committee on Economic Social and Cultural Rights. The concern of states parties that a more expansive approach might be taken is reflected in the time it took for Optional Protocol I to be adopted (10 December 2008) and to come into effect (5 May 2013), with only 21 states parties to date, compared with the comparable Optional Protocol I to the International Covenant on Civil and Political Rights 1966 which was adopted on 16 December 1966, came into effect on 23 March 1976, and has 115 states parties.
Furthermore, she asserts that disasters disproportionately affect poor communities because of their greater vulnerability. Her thesis is that disaster prevention is primarily an aspect of development, which means that development must take place within sustainable limits. For development to be sustainable, Karimova contends that disaster risk reduction ought to be an integral part of social and economic development. Certainly though, in terms of positive gains to date, it is evident that prevention of disasters through their integration into sustainable development frameworks has clearly been making gains in the *opinio juris* of states.

The remaining two chapters in this part then consider legal regimes which are less obviously connected with disasters, yet nevertheless have an important role to play not only in terms of preventing, responding or recovering from disasters but equally in influencing the development of international disaster law norms. As part of the international economic law discussion, Choukroune (Chapter 10) engages in an analysis of the relationship between disasters and international trade and investment law. She argues that, while not defined as such in international investment law, the concept of disaster prevention and remediation is not an unfamiliar one for these legal regimes which commonly anticipate disasters in terms of risk and remediate the fallout from them on established legal grounds (treaty provisions and contract clauses). Furthermore, Choukroune notes that international investment law proposes regulatory solutions including the mechanisms for the settlement of investment disputes.

The discussion then moves to the issue of responses by private corporations to disasters. In his chapter (Chapter 11), Silingardi identifies how the private sector has been recognised as a major stakeholder and a strategic partner in multiple aspects of humanitarian action alongside governments, international organisations, non-governmental organisations and aid agencies. Indeed, he points to the fact that the role of businesses in disaster management is included in the Hyogo Framework for Action 2005–2015, which recognised the private sector as a key actor and promoted the establishment of public-private partnerships in disaster risk reduction activities. He argues that companies today can make an important contribution to disaster response operations, but also acknowledges that significant challenges and risks exist when companies engage in disaster management activities. This is in part attributable to the fact that the normative and functional frameworks surrounding private sector engagement in disaster scenarios are often not well advanced in their development. Consequently, a key focus of the chapter is on analysing many of the gaps, weaknesses and loopholes that still exist – at the domestic, regional and international levels – concerning the legal treatment of businesses as assisting actors. Too many times private individuals, groups and companies have taken part (and still take part) in relief work without prior humanitarian experience. In response, Silingardi argues in favour of the establishment of an international coordination mechanism that facilitates the full integration of companies within the humanitarian system; as well as the requirement that the voluntary approach so far followed by private actors through codes of conduct,

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best practices and standards be replaced by the establishment of corporate guidelines and/or that a set of binding principles on business engagement in disaster response be adopted.

4. PREVENTING, PREPARING FOR, RESPONDING TO AND RECOVERING FROM DISASTERS

After identifying and considering a number of more general concepts and principles forming part of the international architecture governing disasters, the second part of the Handbook examines these in differing contexts of specific types of ‘natural’ and ‘man-made’ disaster. This includes an assessment of how effective the applicable legal regimes are in terms of preventing, preparing for, responding to, and/or recovering from diverse types of disaster.

The first of these chapters is Chapter 12 in which Telesetsky examines issues of food security before, during and after a disaster. She asserts that underlying much of the work of states and non-state actors is the respect, protection and fulfilment of a ‘right to food’, which is an elemental part of the right to an adequate standard of living. There is little controversy over the proposition that achieving food security is a priority for all states. She argues that the topic of disaster and food security presents a unique opportunity to ground disaster-related efforts in a just legal framework that respects human dignity and achieves human rights; furthermore, she states that building a resilient food supply chain matters as an integral part of any food security strategy as well as disaster prevention mechanism. As a unique contribution to this analysis she points out that, somewhat surprisingly in view of the critical role played by food security in limiting or preventing disasters, the Sendai Framework does not identify food systems as examples of ‘critical infrastructure’ or ‘basic services’.46 Whilst the issue of strengthening food production is explicitly mentioned in the Framework, it is only afforded brief, inadequate attention.

Oyewunmi (Chapter 13) continues the broader theme of security by discussing the security implications of conflicts, crises and disasters in the international energy industry. As with food security, energy supplies are critical to the economic and social well-being of countries and communities. He examines the delicate relationship between global reliance on energy, together with the interdependence of related infrastructures, and the potential implications of conflict, crisis or disaster situations on reliable energy supplies. He further considers how, more generally, energy security comprises the economic and commercial guarantee of demand and supply of energy resources, also arguing that the appropriate safeguarding of infrastructure and facilities used for the production and supply of such resources from risks linked to unresolved conflicts, unmitigated crisis or disaster events is increasingly essential if energy-related disasters are to be avoided.

Phan and Winkler (Chapter 14) examine another equally important aspect of longer-term security, namely that of water. As with energy security and food security,

46 Sendai Framework (n 5).
this is linked integrally with prevention of, response to and rebuilding from disasters. The authors describe how in the prevention aspect, too much water (floods) and too little water (droughts) may constitute disasters. Then, during the response phase, access to water is often a significant challenge. Furthermore, in disaster settings, Phan and Winkler discuss how individual water security is governed by a complex interplay of different branches of international law, including international humanitarian law, international criminal law, international environmental law, international water law, climate change law, international refugee law and international human rights law. They conclude that while some of the bodies of law discussed above apply at all times (such as international human rights law and international water law), others deal with exceptional situations, including disasters and emergencies (international humanitarian law and international refugee law). These legal regimes have different rationales and different origins, but they are slowly converging.

The theme of water continues into Chapter 15 where Aronsson-Storrier and Salama consider another important cause of predominantly ‘man-made’ disasters, namely water contamination. They examine how contaminated water poses significant challenges to human life and development, with water crises now being considered to pose one of the main global risks for the coming decade. The chapter examines some of the principal global challenges posed by water contamination through the lens of disaster risk reduction, sustainable development and international human rights law. This includes consideration of recent global initiatives, notably the Sendai Framework, the Sustainable Development Goals 2015, and the acknowledgment by the UN General Assembly of the rights to water and sanitation. The authors contend that water contamination functions as a powerful illustration of how the three areas of international law examined complement and reinforce each other, concluding that the links between them should be further explored and developed by actors seeking to address the significant problems caused by the pollution of water.

In Chapter 16 Eburn focuses on the international law framework covering a different form of disaster, namely wildfires, in particular legal obligations to mitigate the risk of fire as well as legal arrangements to facilitate international firefighting. He describes how the applicable framework is still very much at a developmental stage, with no overarching coherent or comprehensive international legal framework dealing with international cooperation in preparing for and responding to wildfires; instead the bulk of relevant international law is found in UN declarations and soft law, as well as in bilateral agreements between nations that have agreed to cooperate with respect to ‘natural’ hazards generally, or wildfires in particular. Nevertheless, Eburn suggests that there are three factors that make international law particularly relevant to wildfire. One is that wildfire through smoke and haze may impact states well beyond the immediate impact of the flame. Another is that only to a limited extent can firefighting resources be used to control a fire or, if the fire is too large to control, to protect vulnerable assets. The third factor relates to conditions in one country which can have a direct impact upon the vulnerability of another since fuel load can carry a fire across national boundaries. These features of wildfire mean that states may have a direct interest in how other states prepare for and respond to wildfires burning within their territory. The author further explores how disaster law encourages states to ensure that they have in
place arrangements to identify when and from whom they will seek international assistance and put in place procedures to facilitate the receipt of that assistance.

Kälin and Entwisle Chapuisat (Chapter 17) consider another very topical aspect of disasters, namely displacement and migration associated with ‘natural’ hazards and the impacts of climate change. These serve as a reminder that the numbers of people subject to forced movement as a result of disasters far exceeds those impelled by conflict and other forms of violence. In particular, the authors focus on the specific protection and assistance needs of these affected persons. They conclude that while existing international legal frameworks address some of the needs of disaster-displaced persons, particularly those displaced within their own countries, such frameworks are rarely implemented in practice, or, such as in the case of international human rights law, have not been explicitly applied to disaster displacement contexts. Furthermore, they identify that, generally speaking, legal gaps are particularly acute with respect to cross-border disaster displacement, as well as highlighting what standards should guide admission, a person’s rights during their stay, and finding a lasting solution in such situations. That said, some important progress has been made in recent years at the international and regional levels to address the protection and assistance needs of disaster-displaced persons, particularly in the context of the Nansen Initiative process, which has helped to lay the foundation for the creation of a more comprehensive legal framework for disaster-displaced persons in the future.

Continuing the theme of vulnerable persons affected by disasters, Crock (Chapter 18) examines how international law has responded to the specific protection needs of vulnerable groups in disasters, namely the very old, the very young, the sick, the wounded, persons with disabilities and, in some circumstances, women and minority groups, who can be disproportionally impacted by these events. Women, for example, can be targets for abuse whilst children can be vulnerable to trafficking. Exploring the genesis and evolution of legal norms governing the protection of various groups of vulnerable people in disaster situations, the chapter has two central arguments. The first is that the relevant international legal norms are very much a work in progress, having developed first in response to human conflict and epidemics. Consequently many of the associated legal norms and practices to govern responses to ‘natural’ disasters are recent and ill-defined. The other is that international human rights law has moved away from charity and paternalist and medical models of protection towards a rights-based framework for all vulnerable groups – from women and children through persons with disabilities to minority groups.

In yet another cutting-edge discussion in this Handbook, Green (Chapter 19) introduces disasters caused in cyberspace. In discussing both sides of the coin he argues that disaster response and post-disaster rebuilding can be, and in many instances has been, significantly improved by the use of cyberspace. But at the same time, ‘cyberspace has also become a repository for various threats, vulnerabilities and insecurities’. Although he argues that one must be careful not to overestimate the likelihood of cyber disasters occurring, there is little question that in the modern, cyber-reliant and interconnected world, the potential for disasters to be caused in

cyberspace is now very real. As an example of this, he cites the various Distributed Denial of Service attacks directed against Estonia in 2007 which had a significant impact on the country’s critical infrastructures. In terms of the quality of the legal framework, once again lacuna in the applicable international law framework are identified since it has not yet caught up with the threat that cyberspace poses. In response Green argues that focusing on a different existing rule of international law that has been largely overlooked in the cyber context – the duty of due diligence – is significantly preferable, including as a means of trying to prevent cyber disaster. He contends that such an approach would have the benefit of avoiding significant attribution problems under the prohibition of the use of force, which, in any event, does not extend to cyber-attacks perpetrated by non-state actors nor indeed to unintended cyber harm. Certainly the duty of due diligence has been applied successfully to other issues of international concern.

The discussion in the Handbook then moves from the examination of different types and effects of disasters to broader themes concerned with responding to and recovering from the different forms that these can take. With respect to the former, Whitbourn (Chapter 20) discusses national contingency planning in the sense of disaster awareness and readiness. Returning to the issue of responses by states, he asserts that as part of the sovereign responsibility of a state, national plans should be understood, regularly reviewed and practised. He introduces the term ‘disaster risk governance’ for such responses since national contingency planning as a term is becoming obsolete. That said, the United Nations (including under the Sendai Framework) uses ‘preparedness’ which allows the implementation of instruments relevant to disaster risk reduction and sustainable development. As with a number of other contributors, he relies on the ILC articles, which he argues may form the basis of a generic disaster treaty, setting out explicitly states’ duties to take measures, including through legislation and regulation, to prevent, mitigate and prepare for disasters. Furthermore, in terms of the governing framework, he argues for not only the centrality of human rights principles, but also of what he considers to be a most promising Sendai Framework since it confirms the primary responsibility of states to prevent and reduce disaster risk. His thesis is that these goals will require governments to improve national contingency planning in order to ensure disaster resilience and response.

In the next chapter (Chapter 21), O’Donnell and Allan explore a thought-provoking issue, namely whether a duty of solidarity exists under international law. This chapter focuses on the ILC’s Draft Articles and queries whether there is a duty to offer assistance in disasters particularly since international solidarity is proclaimed as a key value of the international community, and responding to inter alia ‘natural’ disasters offers a most suitable context for its demonstration. They illustrate, with examples, that although international actors frequently are willing to offer aid donations and assistance, there is no related guarantee in the event of a disaster, at least while the governing legal framework remains uncertain. O’Donnell and Allan argue that the Articles appear to be motivated by a sense of solidarity and that they reflect a theme of international responsibility. This is suggested by the inclusion of such terms as ‘right’, ‘obligation’ and ‘duty’ within the text of the Articles, though the language used is not always consistent or clear. For example, the term ‘duty’ may entail a legal obligation; at the very least it conveys a strong encouragement/direction towards a particular course of
action. Ultimately, the resistance of states to the notion of legally enforceable duties, specifically here the duty to provide aid, continues to hamper the work of the ILC in developing binding obligations under a convention.

In the penultimate chapter, Bisset (Chapter 22) examines transitional justice responses in building resilience in a post-conflict disaster context, focusing on the rights and needs of children. As she observes, children have a pivotal part to play in such a context in relation to the reconstruction, reconciliation and future stability of the affected country/countries, not least since they represent the next generation who will be responsible for the progression of post-conflict agreements and initiatives. She supports Crock in her argument about the special vulnerability of children which renders them more liable to be targets for abduction, trafficking, sexual violence and unlawful recruitment as child soldiers. Bisset focuses on the contribution of transitional justice mechanisms to delivering improvements in respect for and realisation of children’s rights. Her analysis includes those provisions within the UN Convention on the Rights of the Child which protect against violence, neglect and abuse, and trafficking, as well as economic and sexual exploitation. She also discusses the equal importance of economic, social and cultural rights since many children are exposed to poverty, hunger and a lack of access to health care and education. A particularly notable contribution to this Handbook is her identification and discussion of the large number of hard and soft laws aimed at the protection of children and ensuring their rights in post-conflict disaster contexts.

In the final chapter (Chapter 23), Hill-Cawthorne introduces the important area of dispute settlement in the post-disaster context. His thesis is that any effective plan for recovery must include mechanisms by which all of these varied disputes can be resolved speedily and fairly. He considers the appropriateness of a number of existing dispute settlement mechanisms, both international and domestic, to settle different disputes relating to disasters – ranging from international courts and tribunals, to domestic courts, as well as alternative dispute resolution – illustrated by a number of pertinent case studies. In this way, his contribution addresses an important gap in existing scholarship, by offering an in-depth assessment of various mechanisms that might be employed to resolve future disaster-related disputes including in terms of their effectiveness. Furthermore, his analysis of a number of examples of post-disaster dispute settlement enable important lessons from past experiences to be identified, notably the types of problems that can be avoided with proper planning.

5. CONCLUSION

As is evident, this Handbook has adopted a broader approach than is often the case to the concept of what may constitute a ‘natural’ or ‘man-made’ disaster and responses to these under international law. Notably – despite its exclusion from the text of the ILC’s Articles on the Protection of Persons in the Event of Disasters – the editors, together with a number of other contributors, elected to include the notion of armed conflicts within the parameters of a disaster, believing that there are justifiable legal (as well as numerous non-legal, such as social and moral) grounds for doing so. Conflicts, with their resultant devastating consequences, especially in terms of the degree of human
suffering and the longevity of their aftermath, must surely represent the most severe form of ‘man-made’ disasters.

More generally, the Handbook has examined a wide range of different concepts and principles drawn from diverse yet increasingly connected legal regimes. This has included regimes which at first glance may have a less obvious yet nevertheless important role to play in preventing, responding to or recovering from disasters, such as international economic or trade law, or sustainable development. Furthermore, it has critiqued the existence, adequacy and effectiveness of existing legal frameworks in relation to specific types, causes and responses to disasters, such as food/energy/water security, water contamination, wildfires, cyber-attacks and so forth.

In doing so, a number of key conclusions may be drawn. One is that a significant amount of hard as well as soft law relevant to governing responses to most, if not all, types and causes of ‘natural’ and ‘man-made’ disasters already exists in international law, even though the relevant provisions may not be couched in such terms. Of course, the existence of relevant norms is not necessarily synonymous with their adequacy or effectiveness. Indeed a related conclusion is that most, if not all, of these legal regimes suffer from varying degrees of weakness and gaps, with the result that they are generally not coherent or consistent when applied to disaster contexts. This leads to a more specific observation regarding the development of a distinct corpus of international disaster law and, if so, in what form. The evidence gathered in this Handbook points to some development of such a body of law beyond the more established body of international disaster response/relief law where much of international efforts to date have been in terms of shaping and enforcing a dedicated legal regime governing disasters. As Bookmiller pointed out, however, even this legal regime suffers from a yawning gap since:

There is no definitive, broadly accepted source of international law which spells out legal standards, procedures, rights and duties pertaining to disaster response and assistance. No systematic attempt has been made to pull together the disparate threads of existing law, to formalize customary law or to expand and develop the law in new ways.

It is evident from other contributions to this Handbook that this is equally true of other legal regimes responding to disaster events, which generally suffer from the absence of a consistent, coherent and cohesive approach both within as well as across legal regimes. In some areas of law – such as international human rights law or international environmental law (or indeed, international humanitarian law) – international law governing disasters is more developed, whereas in other areas – such as international law governing wildfires, or cyber-attacks by non-state actors – less so. It is for such reasons that the current Handbook has been titled with the more reserved ‘Disasters and International Law’ rather than ‘International Disaster Law’.

All that said, the editors wish to end on an optimistic note, namely that it is their strong belief that current significant global initiatives – notably, though by no means exclusively, the Sendai Framework, the Sustainable Development Goals, the UN Climate Change Conference, and the forthcoming Humanitarian Summit, coupled with the reality of increasingly numerous and devastating disasters – will have a significant and positive effect on how international law evolves and responds to disaster events, including under the umbrella of international disaster law. To that end, the current
editors hope that this Handbook might make some modest contribution in terms of further informing, debating and shaping international law, policy and practice governing all forms of disasters.