

Disaster risk reduction in light of the COVID-19 crisis: Policy and legal considerations

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1. Re-setting the scene: The task at end

The current crisis triggered by the COVID-19 does not seem to have a precedent since World War II in its global scope and import. The etymology of the word ‘crisis’ contains a good indication of the task at end. A Crisis is not only a moment of pain, reaction and mending, it is also a significant moment of assessment, discernment, choices, decisions and, accordingly, action. Indeed, we are faced with some hard questions concerning our development and economic growth paradigms and governance and the risk they create to people, their livelihoods and assets, and the environment; the unjust and ever-growing inequality; the status of international cooperation; and the existence of sufficient and genuine solidarity, good political will and determination to transcend partisan interests.

The fast, global spread of the virus and the cascading effects across the economic, social and environmental dimensions of human life – the three traditional pillars of sustainable development¹ – are due, amongst others, to our interconnected and interdependent world. Such interdependence or globalization, however, is not a new thing; indeed, it is a growing trend, existing since the dawn of civilizations, which over the past two centuries has likely had an exponential acceleration due to various factors, including population growth and technology development. From crisis to crisis, it is as if we are steadily coming to terms with the

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¹ See UN Doc A/RES/66/288 (27 July 2012) para 3 <www.un.org/ga/search/view_doc.asp?symbol=A/RES/66/288&Lang=E>.



fact and practical consequences of being one humanity. What happens in one country is of global relevance and interest to all countries, thus requiring renewed interpretations and applications of the notion of national interest and of key principles of public international law, like the domestic jurisdiction.

Whereas sometimes it may feel as though interconnectedness is too intrusive, we do also appreciate and enjoy the incredible advances it has generated. But not for all. All crises hint at some unjust measures and criteria in the paradigm we have chosen and built. The magnitude of the present crisis clearly tells us how significant the course correction must be and signal to us that remedial action has become imperative for those left behind, and indeed for all and the planet.

The COVID-19 crisis was not created just by a virus. Whereas it was triggered by a virus, it is the result of a dangerous mix of health, economic, social, environmental and political questions and choices. It is a disaster. One thing that we can and must do better is to manage disaster risk. We have a blueprint: The Sendai Framework for Disaster Risk Reduction 2015-2030 (the Sendai Framework).²

The purpose of this article is to take a look at how disaster risk is constructed through unsustainable development and growth practices, what guidance we already have to do a better job, whether we are *de jure* ready to this *de facto* systemic and interconnected reality, and what legal approach and instruments are necessary. It is a contribution to the mark the fifth anniversary since the adoption of the Sendai Framework.

2. *Year 2015: A new context*

Year 2015 was an incredible year in international diplomacy for sustainable development.

The Sendai Framework was adopted by the Third World Conference on Disaster Risk Reduction³ in March and subsequently endorsed by the United Nations (UN) General Assembly in June.⁴ Through it, countries and other stakeholders agreed and committed to a fundamental

² <www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>.

³ See <www.wcdrr.org/>.

⁴ See UN Doc A/RES/69/283 (3 June 2015).



paradigm shift, namely to move from just managing disasters to more fundamentally managing risk. The Sendai Framework brings an *ex ante* focus on risk instead of an *ex post* one on disasters. It treats disasters as something that it is not ineluctable, but it is built into our development and economic growth choices.

It was followed in chronological order by the adoption of the Addis Ababa Action Agenda⁵ in July, the Sustainable Development Goals⁶ (the SDGs) for 2030 in September and the Paris Agreement⁷ in December. But it is also necessary to not lose sight of the SAMOA Pathway⁸ for Small Island Developing States and the Vienna Programme of Action for Landlocked Developing Countries⁹ of 2014, and the New Urban Agenda¹⁰ of 2016.

The significance of 2015 is multifaceted. Important here is the attempt to develop multiple instruments with an intended degree of complementarity and coherence. In this connection, it is key to point out that while the negotiation was developing what would become the Sendai Framework, the UN International Law Commission (ILC) was developing the draft articles on disaster risk reduction for the 'Protection of persons in the event of disasters'¹¹ on the basis of the sixth report¹² of the Special Rapporteur, Mr. Eduardo Valencia-Ospina, presented in 2013. More than just synchronicity it was a case of serendipity, which enabled a rather unique cross-fertilization and synergy between hard law (the draft articles) and soft law (the Sendai Framework) instruments. Easily verified by reading both texts, the former defines the legal obligation to reduce disaster risk and the latter guides how such legal obligation can be discharged. The ILC's proposed draft Article 9¹³ represents a

⁵ See <https://sustainabledevelopment.un.org/content/documents/2051AAAA_Outcome.pdf>.

⁶ See <<https://sustainabledevelopment.un.org/sdgs>>.

⁷ Adopted under the UNFCCC in FCCC/CP/2015/10/Add.1 decision 1/CP.21 <<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>>.

⁸ See <<https://sustainabledevelopment.un.org/samoapathway.html>>.

⁹ See <<https://unohrlls.org/custom-content/uploads/2015/03/Vienna-Programme-of-Action.pdf>>.

¹⁰ See <<http://habitat3.org/the-new-urban-agenda/>>.

¹¹ See <https://legal.un.org/ilc/guide/6_3.shtml>.

¹² See UN Doc A/CN.4/662 (3 May 2013).

¹³ See UN Doc A/CN.4/L.871 (27 May 2016). Other draft articles are very relevant to disaster risk reduction, in particular draft art 1 on the scope, 2 on the purpose, 3 on

milestone from the perspective of disaster risk reduction, defining and contributing to fill a major gap in public international law. Whereas the decision to translate the ILC's draft articles into an international treaty remains with States, one hopes that this will receive a positive consideration.

In moments like the current crisis, stark normative gaps appear and good political will is necessary to propel us beyond the point of crisis through a preventative approach which adopts clear norms, internationally and domestically. However, for this to happen effectively, disaster risk reduction must be seen beyond the strict realm of 'disasters'. Indeed, it must be seen from the perspective of 'risk' and in particular the economic, environmental and social policies, programs and investments which, through their effects, generate disaster risk by creating and/or exacerbating people and assets' exposure to hazards and vulnerability. In addition, new hazards are created, like cyber-security hazards and pollutants, or made more extreme, like weather events, by human action.

Currently, in the world and in our communities new risk is generated and accumulated at a faster rate than existing risk is reduced.¹⁴ Furthermore, when the risk materializes into a disaster, often other hazards are triggered with cascading impacts across multiple dimensions and sectors, eroding human, environmental and financial resources and capital which are essential to achieving the SDGs. The COVID-19 crisis in its environmental, social and economic dimensions (health, loss of lives, job loss, increases in domestic violence, reduction of liberties, etc.) is a glaring example.

Para 15 is the essence of the Sendai Framework and is the key to address the crux of the matter. In two sentences it defines the scope:

'the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related environmental, technological and biological hazards and risks',

the use of terms, 4 on human dignity, 5 on human rights, 6 on humanitarian principles, and 7 on the duty to cooperate, together with the Preamble.

¹⁴ See United Nations Office for Disaster Risk Reduction, 'Global Assessment Report on Disaster Risk Reduction' (2015) 17, 37 and more broadly Ch 10, at 199 <<https://gar.undrr.org/reports>>.



and the purpose:

‘to guide the multihazard management of disaster risk in development at all levels as well as within and across all sectors’,

of its application. And it would apply to all circumstances, not only in times of peace. In other words, disaster risk must be managed in all circumstances, and thus it is a matter of how, not if.

The COVID-19 crisis has been an extraordinary stress test to the ongoing work and adjustment that countries are undertaking to manage risk, from prevention to response, in a systemic manner in accordance with the Sendai Framework.

At the time of the negotiation of the Sendai Framework the Ebola epidemic had plagued a number of countries. It was clear that the scope of a future framework could and should not be limited to natural hazards and had to comprise other types of hazards, including biological hazards,¹⁵ and, given the systemic nature of risk, a systemic approach to risk management should be adopted.¹⁶ Biological hazards and health-related disaster risk provisions, including the implementation of and coherence with the International Health Regulations,¹⁷ are very prominent throughout the Sendai Framework. In order to expand the interpretation and foster the implementation of such health-related provisions, the International Conference on the Implementation of the Health Aspect of the Sendai Framework for Disaster Risk Reduction 2015-2030, held on 10-11 March 2016, in Bangkok, Thailand, adopted the ‘Bangkok Principles for the implementation of the health aspects of the Sendai Framework for Disaster Risk Reduction 2015-2030’.¹⁸ As such, from the perspective of the provisions of the Sendai Framework the COVID-19 crisis is a

¹⁵ See Sendai Framework (n 4) para 15. ‘The present Framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related environmental, technological and biological hazards and risks. It aims to guide the multihazard management of disaster risk in development at all levels as well as within and across all sectors’.

¹⁶ See Global Assessment Reports 2015 (n 14) and 2019 (<<https://gar.undrr.org/>>).

¹⁷ See Sendai Framework (n 4) paras 30(i); 31(e); 48(b).

¹⁸ See <www.preventionweb.net/english/professional/policies/v.php?id=48396>. The Bangkok Principles, in particular measure 7 and its related actions, call for promoting coherence and the further development of legal frameworks.



disaster, and therefore the Sendai Framework must be used as the blueprint for the development of measures out of the crisis, for the recovery and the creation of future safer conditions by building better.

Biohazards have been on the international agenda and of international concerns for centuries, especially in relation to warfare. Since the beginning of last century, more structured forms of international cooperation were initiated through the creation of two organizations, the Pan American Sanitary Organization in 1902 and the Office International d'Hygiène Publique in 1907, which can be considered the forerunners of the World Health Organization. Over the past hundred years, international agreements have been developed to regulate biohazards in many aspects. There is an important body of law at international and national levels. Whether this body of law is somehow deficient from substantive and international cooperation perspectives may emerge from the review requested by the World Health Assembly¹⁹ as well as from domestic reviews. Furthermore, given zoonotic nature of the disease, there is a question on whether existing practices and norms concerning livestock management, animal business and trade, animal welfare and wild species, indeed may be hazardous and conducive to hazard generation, therefore requiring new norms domestically and internationally.

Whereas a thorough assessment may be premature, as the crisis is ongoing at the time of the writing and the health-focused international and domestic reviews are starting, and in light of the Sendai Framework's provisions on biohazards, health and multihazard requirements, some initial points are emerging, are broad and encompassing an important set of questions, including most fundamental ones about governance and norms. Biohazards are not yet a standard and an integral part of national and local disaster risk reduction strategies; there is considerable room for a stronger integration of the national Sendai Framework focal points in the response and, especially, recovery and rebuilding phases²⁰ as well as in the domestic mechanisms for normative and policy setting in order to support the adoption of a sound risk-informed approach;²¹ and much

¹⁹ See Resolution on the COVID-19 response of 19 May 2020 para 9 (10) <https://apps.who.int/gb/ebwha/pdf_files/WHA73/A73_R1-en.pdf>.

²⁰ See UNDRR webinars and policy briefs series on COVID-19 <www.undrr.org/drr-and-covid-19>.

²¹ The Sendai Framework requires that the responsibilities of national coordination mechanisms and Sendai Framework focal points enshrined in para 27(g) be established



more work is required to integrate a multi-hazard disaster risk reduction approach in business practices,²² especially for micro, small and medium enterprises. Other questions concern the readiness of economic, social and political sectors to handle a pandemic and its consequences, including the health measures' impact and cascading effects on other sectors. These include impacts on the education of children, mental health, the ability to pursue livelihood, the maintenance of law and order, problems of digital divide, and many more. Most fundamentally, what is emerging is that disaster risk is not managed yet in a systemic manner. Each sector is focused on managing the hazards normally associated to its business, with little evidence of sectors systematically taking into account hazards typically associated to other sectors, and the potential unintended negative consequences of other sectors' practices on people's capacity and vulnerability.

3. *Year 2020 and beyond: The work ahead*

Certainly, year 2020 will be remembered for a long time, and hopefully not only for the disaster triggered by the COVID-19, but also for the initiation and adoption of bold measures and reforms to manage risk in a systemic manner.

From the perspective of the Sendai Framework, year 2020 is essential. It is the term agreed to by countries to

‘substantially increase the number of countries with national and local disaster risk reduction strategies’,

in accordance with its Target (e). It is fundamental to stress that whereas all the other six Targets²³ have a 2030 deadline, it was deemed

through laws and other normative instruments to ensure, *inter alia*, a strong institutional foundation and authority.

²² See ‘UNDRR Policy Briefs: Business Resilience in the Face of COVID-19’ <www.undrr.org/publication/undrr-asia-pacific-covid-19-brief-business-resilience-face-covid-19> and the planning tool ‘Is Your Business Resilient to COVID-19’ <www.undrr.org/publication/covid-19-small-business-continuity-and-recovery-planning-toolkit>.

²³ See the Sendai Framework (n 4) para 18.



necessary to have such strategies in place by 2020 in order to achieve the other targets.

The presence of a specific target related to the adoption of normative instruments indicates the importance of having such instruments in place. Data²⁴ warns that we are not on track to achieve full compliance by the end of 2020. Concerns were already expressed in May 2019 at the Global Platform for Disaster Risk Reduction²⁵ and on that occasion guidance²⁶ was presented to support countries to accelerate the pace. National and local strategies for disaster risk reduction are to be multi-hazard in accordance with the scope enshrined in the Sendai Framework's para 15, and work is ongoing to support countries to assess and integrate biohazards²⁷ in such strategies, as this is key to managing the COVID-19 crisis, the recovery phase and beyond. It will be important for the disaster risk reduction strategies to consider not only the measures to assess and mitigate the hazard's impact, ie the virus' impact, but also measures, beyond health, to address the conditions and practices which create opportunities for such hazard to materialize, such as maintaining a respectful relation with nature, examining the relationship to animals as food source, and others.

The fact that disaster risk is on the rise demonstrates that existing normative frameworks at national and international levels are simply not yet adequate. The importance of such normative work is reaffirmed in Priority 2 of the Sendai Framework on 'Strengthening disaster risk governance to manage disaster risk', and in particular para 27 (a) which is very explicit on the importance

'to mainstream and integrate disaster risk reduction within and across all sectors and review and promote the coherence and further development, as appropriate, of national and local frameworks of laws, regulations and public policies'.

²⁴ See the Sendai Framework Monitor <<https://sendaimonitor.undrr.org/>>.

²⁵ See the Co-chairs' Summary paras 9 and 23 <www.preventionweb.net/files/58809_chairsummary.pdf>.

²⁶ See the 'Words into Action Guidelines on Developing National Disaster Risk Reduction Strategies' <www.preventionweb.net/files/65095_wianationaldrrstrategies10052019.pdf> and on Local Disaster Risk Reduction and Resilience Strategies <www.preventionweb.net/files/57399_57399localdrrandresiliencestrategie.pdf> developed by UNDRR and partners.

²⁷ See UNDRR Covid-19 action plan <www.undrr.org/undrr-covid-19-publications>.



Furthermore, para 27 (b)²⁸ clarifies the scope that strategies and plans need to have.

For an effective implementation of the Sendai Framework, the law must be clear that disaster risk reduction is mandatory and not optional, serving the protection of persons, their livelihood and assets, and the environment, among others. The adoption of legislation at national and local level is of the essence to introduce the necessary reforms to address the challenges at hand. The wording of para 27 (a) is particularly important as it clearly indicates that disaster risk management is not a sector per se; that disaster risk needs to be managed within and across sectors, hence in a systemic manner, due to primary, secondary, etc. effects on other sectors; and that normative efforts related to disaster risk reduction cannot be confined to a single instrument; it also indicates the scope of such normative review and development.²⁹ Indeed, by reading the whole Sendai Framework from this perspective it is possible to appreciate the ambitious, and *de facto* peremptory, program *de lege ferenda* it put forward.³⁰

4. *The risk paradigm agreed to in the Sendai Framework*

In September 2019, filling a policy gap in the SDGs, the SDG Summit's Political Declaration, subsequently adopted by the UN General

²⁸ 'To adopt and implement national and local disaster risk reduction strategies and plans, across different timescales, with targets, indicators and time frames, aimed at preventing the creation of risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience'.

²⁹ '(i) addressing disaster risk in publically owned, managed or regulated services and infrastructures; (ii) promoting and providing incentives, as relevant, for actions by persons, households, communities and businesses; (iii) enhancing relevant mechanisms and initiatives for disaster risk transparency, which may include financial incentives, public awareness-raising and training initiatives, reporting requirements and legal and administrative measures; and (iv) putting in place coordination and organizational structures'.

³⁰ See UNDRR, 'Reading the Sendai Framework for Disaster Risk Reduction 2015-2030' (2015) written by author shortly after the adoption of the Sendai Framework, based on his experience as the secretary to the negotiations and the drafting of the text; in particular Chapter 5 lett c <www.preventionweb.net/files/46694_readingsendaiframeworkfordisasterri.pdf>.

Assembly, put disaster risk reduction³¹ at the center of sustainable development and the achievement of the SDGs in the remaining 10 years, the SDG Decade of Action³² until 2030.

An essential question to tackle is: ‘what is risk?’. Very often, in casual conversations and in expert meetings, it is obvious that interpretations vary. It is not unusual to hear ‘risk’, ‘hazard’, ‘threats’, ‘disaster’ and ‘probability’ used interchangeably and as synonyms. Whereas it is a complex question, limited, if not lack of, convergence on concepts has significant practical negative consequences on decision-making, policies, programs and financing, as well as on drafting legislative and regulatory instruments.

The Sendai Framework notably indicates the four variables of disaster risk: exposure, vulnerability, capacity and hazards and their characteristics; and by doing so, it offers an understanding of the scope that measures should have to address risk in all its aspects, hence its entirety. In particular, it gives a description of risk and its characteristics which are key to guide any normative effort. It states that

‘While the drivers of disaster risk may be local, national, regional or global in scope, disaster risks have local and specific characteristics that must be understood for the determination of measures to reduce disaster risk’;³³ ‘Policies and practices for disaster risk management 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’;³⁴

and that is it important

‘to apply risk information in all its dimensions of vulnerability, capacity and exposure of persons, communities, countries and assets, as well as hazard characteristics, to develop and implement disaster risk reduction policies’.³⁵

³¹ See UN Doc A/RES/74/4 para 27(f) (15 October 2019).

³² See <www.un.org/sustainabledevelopment/decade-of-action/>.

³³ See Sendai Framework (n 4) Guiding Principle 19(i).

³⁴ See Sendai Framework (n 4) Priority 1: Understanding disaster risk para 23.

³⁵ *ibid* para 24 (n).



Furthermore, in light of the above and conscious of the importance to have shared definitions to interpret the text, in the concluding provision of the Sendai Framework the World Conference³⁶ recommended to the UN General Assembly the establishment of a Working Group which, *inter alia*, was to consider updating the existing terminology and submit it to the Assembly for its consideration and adoption.³⁷ In February 2017, for the first time, the UN General Assembly, by endorsing³⁸ the report of the Working Group,³⁹ adopted a clear set of definitions relating to disaster risk reduction, developed by delegates and experts from States' administrations, civil society, international organizations and the scientific community as well as the United Nations under the leadership of the UNDRR.

The adopted terminology defines 'disaster risk' as

'the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity'.

The related annotation further explains that

'the definition of disaster risk reflects the concept of hazardous events and disasters as the outcome of continuously present conditions of risk. Disaster risk comprises different types of potential losses which are often difficult to quantify. Nevertheless, with knowledge of the prevailing hazards and the patterns of population and socioeconomic development, disaster risks can be assessed and mapped, in broad terms at least. It is important to consider the social and economic contexts in which disaster risks occur and that people do not necessarily share the same perceptions of risk and their underlying risk factors'.⁴⁰

³⁶ See <www.wcdr.org/>.

³⁷ See Sendai Framework (n 4) para 50.

³⁸ See UN Doc A/RES/71/276 (2 February 2017).

³⁹ See 'Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction' UN Doc A/71/644 (1 December 2016).

⁴⁰ *ibid* 14.

The definition and the annotation clearly indicate that disaster risk has an economic, social, environmental and political construct and is the result of choices. Importantly, the terminology, together with many other important terms therein, also defines ‘disaster’ and ‘hazard’, which includes biological hazards,⁴¹ as well as ‘residual risk’ and ‘resilience’. The definition of ‘disaster’⁴² reinforces the need to focus risk understanding and disaster risk reduction measures beyond just hazards and to include exposure, vulnerability and capacity. In other words, managing disasters and disaster risk focusing on the hazard only without addressing the underpinning economic, social, environmental and political conditions significantly limits the scope, efficiency and effectiveness of action; managing risk hazard-by-hazard and just focusing on the hazard does not work.

Furthermore, the measures themselves need to be assessed, including in their combined application, for their potential and actual effects on people’s and assets’ exposure and vulnerability in order to prevent and address unintended negative consequences.⁴³ For instance, in the context of the COVID-19 crisis, it will be essential to assess the level of anticipation and readiness of economic and financial systems at national and international levels to manage a pandemic and its consequences, including those arising from the necessary application of health measures, and whether the adoption of preventative and better systemic-risk-informed economic, financial and social measures could have eased the burden on the health systems and limited losses. These aspects are of utmost importance, as countries are developing measures to respond to the COVID-19 crisis, and prepare for the recovery and building better, ie

⁴¹ *ibid* 19, namely the annotation. ‘Biological hazards are of organic origin or conveyed by biological vectors, including pathogenic microorganisms, toxins and bioactive substances. Examples are bacteria, viruses or parasites, as well as venomous wildlife and insects, poisonous plants and mosquitoes carrying disease causing agents’.

⁴² *ibid* 13. ‘A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts’.

⁴³ In this connection, it is of interest the Coronavirus Government Response Tracker of the Oxford University <www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker>. Whereas the instrument does not address impacts, at the same time it seems to offer pointer toward the development of methodologies and tools for the combined assessment of measures’ potential impact.



avoid recreating the conditions which generated people's exposure and vulnerability as well as the hazard.

It also becomes clear that 'natural disasters' do not exist, disasters are not natural, some hazards can be. Disasters are the result of the interaction between humans and the environment, unsound policies, practices and investments toward growth and development which do not take in full account: 1) hazards and their characteristics, 2) the (growing) exposure of people and assets to those hazards, and 3) the socio, environmental and economic vulnerability and capacity of people and the structural vulnerability of assets.⁴⁴

In light of the often-referred-to 'resilience', it is necessary to look into the Sendai Framework and the terminology adopted by the UN General Assembly to fully appreciate its potential in managing risk. Resilience is often referred to as the ultimate goal. However, this approach is implicitly built on the assumption that risk can be fully managed by just addressing vulnerability and capacity.⁴⁵ This is not the case. Indeed, efforts also need to be directed at addressing exposure, and, especially for the man-made hazards, the hazards and their characteristics. As a consequence, while measures and investments need to be directed at strengthening resilience, measures and investments must also be directed at reducing exposure and the negative characteristics of hazards, where possible. Therefore, the main focus and objective must remain to manage risk in its entire scope and the four variables. How to strike the right balance of measures and investments across the four variables needs to be addressed in the national and local disaster risk reduction strategies,

⁴⁴ See Intergovernmental Panel on Climate Change 'Summary for Policy Makers in Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation' (2012) <www.ipcc.ch/site/assets/uploads/2018/03/SREX_Full_Report-1.pdf>. 'Exposure and vulnerability are dynamic, varying across temporal and spatial scales, and depend on economic, social, geographic, demographic, cultural, institutional, governance, and environmental factors. Individuals and communities are differentially exposed and vulnerable based on inequalities expressed through levels of wealth and education, disability, and health status, as well as gender, age, class, and other social and cultural characteristics'.

⁴⁵ *ibid* 22. 'Resilience. The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management'.



and in the context of a country's measures for sustainable development⁴⁶ and investment.

There is still a significant silo to break between natural and other hazards in the management of risk. Furthermore, significantly, some hazards, including biohazards, concerns questions related to national security. From a disaster risk governance perspective, more work can be done on synergy between security and non-security sectors, including sharing of information, methodologies and tools. Existing silos condition the capacity of organizations, be they public or private, national or international, to manage risk efficiently and effectively.

Discussing prevention by focusing only on disasters and their statistics tells only a small, potentially misleading, part of the story. The story to be told is the story of the future in terms of anticipating trends of population growth, the economy and its structure, social trends, respect for the rule of law, the protection and enjoyment of human rights, urbanization, poverty trends, climate variability, investments in infrastructures, industrial development, business etc. These dimensions clearly point to the fact that disaster risk management is not solely a matter of disaster managers, is a matter that should be of concern to finance ministers, industrial development, planning, unions, etc. as well as legislators, lawyers and judges. It is in this spirit and intent that the Sendai Framework, rather uniquely when compared to other international instruments, includes an entire section⁴⁷ on other stakeholders, their role and responsibility.

5. *A normative programme of work*

A fundamental contribution of the Sendai Framework has been to bring 'risk' to the fore, give it a clear visibility and status, and clearly

⁴⁶ See UN Doc A/RES/73/231 (20 December 2018) para 10: '...and thus urges States to continue to prioritize and support the development of inclusive national and local disaster risk reduction strategies, with particular focus on local strategies and programmes, and to promote their alignment and integration with sustainable development and climate change adaptation strategies, including national adaptation plans,...'; and UN Doc A/RES/74/218 (19 December 2019) para 9: '... the development and implementation of risk-informed strategic plans, policies, programmes and investments and national and local disaster risk reduction strategies are essential for sustainable development and the achievement of the Sustainable Development Goals'.

⁴⁷ See Sendai Framework (n 4) paras 35-37.



indicate that risk must be considered in and of itself rather than through the consequences of its materialization, ie the disaster; in other words, as an intangible good albeit measurable; a good with no physical reality, yet with material consequences when realized. This is enshrined in the Sendai Framework's expected outcome of

'the substantial reduction of disaster risk',

which is distinctly indicated and precedes the

'losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries'.⁴⁸

Whereas risk has some status and definitions in many legal systems, in insurance matters for example, there is a genuine open question on whether the current status and definitions are sufficient to define legal obligations and responsibilities of the scope required by the preventative measures that the Sendai Framework enshrines and countries have committed to.

What appears to be missing under national and international law is the articulation of a clear legal obligation to prevent and reduce disaster risk in accordance with para 17 of the Sendai Framework:

'Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience'.

Undoubtedly, legislating on disaster risk, defining concepts and establishing duties, responsibilities and accountabilities under the law may not be easy and may raise significant and complex questions, yet it must be done.

Among the initial questions to be addressed will be the nature of the obligation to manage disaster risk, and in particular whether it is an

⁴⁸ See the Sendai Framework (n 4) para 16.



obligation of conduct or result. The formulation of the Sendai Framework's expected outcome as the

'substantial reduction of disaster risk and losses'

seems to indicate an obligation of result. Corollaries include the need to assess current levels of disaster risk and periodically assess its variations. Such need and intention are confirmed by the formulation of the Targets (a) and (b) – and the indicated comparison in losses between the 2020-2030 and 2005-2015 decades.⁴⁹ Furthermore, the functional relation and synergy between the Sendai Framework and the SDGs, which is expressed also through the integration of Sendai-related indicators as part of the indicators of SDGs 1, 11 and 13,⁵⁰ reinforces a shared understanding for the need to achieve results, and not just hold a conduct in accordance with certain standards. At the same time, the ILC's commentary to its draft Article 9 describes the obligation as one of conduct,⁵¹ with a similar view held by some country.⁵² Overall, the way the obligation will be defined, especially at national level, will have a significant and very tangible impact on people's life and livelihood as well as the environment. The configuration of the obligation will also be a measure of how far we want to ensure the accountability for disaster risk creation per se and disaster losses. There is a strong need for scholars and the jurisprudence to contribute to this essential question.

Another important and related question is due diligence. Disaster risk reduction is a fast-evolving topic which has been expanding from the initial traditional disaster responders and construction professionals to other sectors of knowledge, where the socio, economic, environmental, and political sciences have a lot to contribute. Rapid developments in technology, computing capacity, digitalization and artificial intelligence contribute to open new frontiers of knowledge and analysis. Data and analysis are essential to understand, for instance, the drivers of growing inequality, which translates in heightened vulnerability and exposure,

⁴⁹ See Sendai Framework (n 4) para 18.

⁵⁰ See <www.preventionweb.net/sendai-framework/sendai-framework-monitor/common-indicators>.

⁵¹ See 'Report of the International Law Commission. Sixty-eighth session (2 May-10 June and 4 July-12 August 2016)' UN Doc A/71/10 (2016) para 10 at 48.

⁵² See UN Doc A/C.6/71/SR.21 (2016).



thus risk. At the same time, even the existing knowledge is not fully leveraged upon and applied in policy, programs and investment decisions as well as in the formulation of normative instruments.⁵³ The accrued and fast-accruing available knowledge has a direct impact on due diligence. Through advancements in technology, risk assessment methodologies, and anticipatory risk modelling, it is becoming increasingly possible to unveil disaster risk and its drivers and therefore also the consequences and the related potential financial and legal liabilities of conducts. Knowing and understanding more about disaster risk, its drivers and causes have a strong bearing on how due diligence can be assessed, including in arbitration and judicial proceedings. Normally, these liabilities are considered *post facto*, when it is too late; when lives have been lost; when public funds that could have been invested in socio and economic development, or when private funds that one could have invested in business growth, a better house for the family, education for children and health care, are indeed needed to restart from scratch, as insurance, when available or affordable and even if bought, does not and cannot cover in full direct and indirect loss. Furthermore, an unimaginable number of ‘human life years’ are lost to disasters.⁵⁴ It emerges how pursuing liabilities and identifying ‘remedies’ *post facto* can only go so far. Therefore, can legal obligations, responsibilities and liabilities be defined and assessed for disaster risk creation in and of itself, for the act of creating disaster risk?

Furthermore, it is important to ascertain what normative instruments, from laws to policies and regulations, to other types of instruments with varying degrees of force, are best suited to define obligations and guide actions, while at the same time being able to integrate the fast-evolving knowledge. The scope of the expected disaster risk reduction and

⁵³ See the Co-Chairs’ Summary (n 25) para 15.

⁵⁴ See Global Assessment Report 2015 (n 14). ‘The concept of human life years is introduced as an alternative representation of disaster impact, as it provides a metric that describes the time required to produce economic development and social progress; time which is lost in disasters’. ‘Between 1980 and 2012, 42 million life years were lost in internationally reported disasters each year’. ‘Over 80 per cent of the total life years lost in disasters are spread across low and middle-income countries, representing a serious setback to social and economic development’. ‘The concept of ‘human life years’ provides a better representation of disaster impact, as it provides a metric describing the time required to produce economic development and social progress’. For more information on the concept *ibid* 40-42.

preventative measures is wide, given the systemic nature of risk and its four variables. It may require a multiplicity of integrated, yet different instruments, some of which may even already exist, without being identified as relating to disaster risk reduction, hence not fully utilized.

Moreover, since risk is local by nature because of specific level of exposure, vulnerability, capacity and hazards' characteristics, the legislative competence in disaster risk matters needs to be carefully assigned between central and local authorities in relation to the level of administration where the different aspects of risk, namely exposure, vulnerability, capacity and hazard, can be efficiently and effectively regulated and managed. At the same time, notwithstanding the variety of governance systems across all countries and territories of the world, it seems necessary and unavoidable that local governments be granted the sufficient authority, inclusive legislative, and finance capacity to manage risk locally. As such, this question goes to the core of the norms concerning the organization of a State.

6. *A practical focus to normative efforts*

The scientific, substantive, policy and political value of the provisions of the Sendai Framework and the terminology adopted by a body as representative as the UN General Assembly can and should be used to develop normative instruments of various nature and in accordance with the three-fold goal of the Sendai Framework enshrined in para 17: preventing the creation of new risk, reducing existing risk, and strengthen resilience to residual risk. The followings should be considered in developing normative frameworks, especially at domestic level:

- Establish a clear legal obligation for disaster risk reduction in line with the three-fold goal of the Sendai Framework;
- Be based on the understanding of the risk, and focus on and address all the variables of disaster risk, namely exposure, vulnerability, capacity and hazards, thus requiring the expansion of the normative work beyond disaster management norms in order to manage risk in a systemic way.
- Norms related to economic and financial, social, environmental, and civil (such as discrimination, inclusion, participation etc.) matters should be seen as functional to, and therefore assessed in their potential



of, preventing, reducing or indeed unintendedly creating disaster risk; and not only as individual instruments but also in their combined application. In this connection, norms for disaster risk reduction should target drivers of poverty,⁵⁵ inequality and exclusion and be informed by a human rights-based approach⁵⁶ to ensure that the needs of the most at-risk and marginalized groups are prioritized. Furthermore, and in consideration of the COVID-19 crisis and the zoonotic diseases or zoonoses, a preventative approach requires that norms encompass measures beyond health.

- Frame disaster risk management in a way to enable the synergy of sectoral norms and drive the integrated collaboration of sectors to manage disaster risk in a systemic way.
- Regulate the way institutions collaborate, and assign the necessary competence and authority to various levels of administration. Norms also need to regulate the broader public and private partnerships, including aspects of risk retention and transfer. Weak governance is a driver of disaster risk.⁵⁷ In this connection, norms need to create an enabling environment where other stakeholders can be active actors in managing disaster risk, while being held accountable. Regular parliamentary scrutiny⁵⁸ on progress in the implementation of disaster risk reduction norms and strategies as well as risk monitoring needs to be instituted.

⁵⁵ The New York City Health Department's statistics on COVID-19 seem to show a direct and significant correlation between poverty and COVID-19 impact with a steeper trend from number of cases, to hospitalizations and loss of life <www1.nyc.gov/site/doh/covid/covid-19-data.page>.

⁵⁶ See the UN Special Representative of the Secretary-General for Disaster Risk Reduction, Ms Mami Mizutori <www.undrr.org/news/human-rights-dimensions-covid-19-pandemic>. Furthermore, a specific mention needs to be made of how disaster risk reduction and the Sendai Framework have been increasingly picked up by the Human Rights Treaty Bodies, and in particular by the CRPD, CEDAW, CRC and CERD – hopefully also the CESCR and the CCPR will follow suit. Indeed, many of the issues addressed by the last two conventions and the treaty bodies are also drivers of vulnerability and exposure to disaster risk.

⁵⁷ See Summary for Policy Makers (n 44) 'Development practice, policy, and outcomes are critical to shaping disaster risk, which may be increased by shortcomings in development (high confidence). High exposure and vulnerability are generally the outcome of skewed development processes such as those associated with environmental degradation, rapid and unplanned urbanization in hazardous areas, failures of governance, and the scarcity of livelihood options for the poor'.

⁵⁸ See Sendai Framework (n 4) para 27(e).

- Include cross-boundary management of risk with a scope not limited to managing specific hazards and/or disasters only; such norms and agreements should be considered as means to enhance international co-operation, in line with the Sendai Framework.
- Develop norms, regulations, policies and instruments that guide capital investment and financing in prevention;⁵⁹ oblige the accounting of disaster risk in the budgets of public institutions and private enterprises, and the public disclosure of disaster risk in public and private transactions, including in investments by institutional investors;⁶⁰ guide insurance underwriters and risk pricing; enable consumers and investors to know whether an asset has vulnerabilities and is exposed to hazards, hence its disaster risk level, in a similar manner in which one can know the ingredients of food products or the energy consumption of appliances. In this connection, the disclosure of disaster risk and the dissemination and accessibility of risk information need to be seen as corollaries and enablers of the freedom of choice and informed decision-making.⁶¹

⁵⁹ See UN Doc A/RES/74/218 (19 December 2019) para 28: Recognizes that financing for disaster risk reduction requires greater attention, and in this regard encourages increased investments in disaster risk reduction, including resilient infrastructure, ... developing comprehensive disaster risk reduction financing strategies in support of national and local disaster risk reduction strategies, and incentivizing investments in resilience and prevention, and to explore the development of tailored financing mechanisms for disaster risk reduction...; and UN Doc E/FFDF/2020/L.1/Rev.1 (23 April 2020) Draft intergovernmentally agreed conclusions and recommendations of the fifth ECOSOC Forum on Financing for Development follow-up, submitted by the President of the Economic and Social Council, Mona Juul (Norway), on the basis of informal consultations. In particular para 6.

⁶⁰ Normally, ESG (environmental, social and governance) indicators and metrics do not contemplate disaster risk and it is very difficult, if not impossible, for investors – institutional or not – to know the disaster risk associated to their investment and whether the businesses their investment are going to fund actually create or reduce disaster risk.

⁶¹ In the context of financing there are important questions concerning private international law. See M Aronsson-Storrier, 'Sendai Five Years on: Reflections on the Role of International Law in the Creation and Reduction of Disaster Risk' (2020) 11 *Intl J Disaster Risk Science* 230–238.



7. *The beginning of a new, better and risk-informed cycle of normative work: An imperative choice*

In conclusion, the COVID-19 crisis, despite the warnings by previous epidemics in just the past 20 years, may be characterized as a Black Swan,⁶² and somehow induce in the long term a certain acceptance and forgetfulness, leaving to just health scientists and personnel the hard and impossible task of keeping the memory and advocating for the adoption of proper preventative measures, beyond the health sector. This should not happen, it would recreate risk. We have the means not to let it happen. Biohazards cannot be managed in isolation, independently from other hazards and other factors impacting on people and assets' exposure, vulnerability and capacity.

The interdependence of socio, economic, political and environmental systems requires innovations in the way we legislate on disaster risk. It requires the further development of domestic and international legally binding instruments to manage disaster risk in a systemic way, across sectors and borders, and cooperate. The need is evident for enshrining a clear obligation under the law at domestic and international levels to prevent and reduce disaster risk. The hope is that a critical mass of legislators and jurists take the issue at heart. Until such clear and far reaching obligation is enshrined in national and international law, likely disaster risk will continue to rise, and disasters will continue to kill people, destroy the environment and living species, erode hard-fought SDGs advances, and push people into poverty.

There is a roadmap, the Sendai Framework is there, and the needs are clear. In the interest of the people and the planet we need to move forward with wisdom, strong and skillful determination, perseverance and goodwill.

⁶² See N Taleb, *The Black Swan* (Random House 2007).

