

Rules of General Scope in Order to Be Prepared to Deal with CBRN Emergency Situations

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1 Introduction

CBRN events are very often unpredictable but also almost inevitable: taking into account the tremendous damage they can cause, States must establish adequate mitigation measures to minimise the consequences of these events.

This chapter investigates the general preparedness measures which States and, where applicable, international organisations (IOs) are expected to adopt. The analysis is devoted to the relevant rules, including hard and soft law, which regulate disaster governance at the universal, regional¹ and bilateral levels. However, it has to be underlined that preparedness obligations are rooted not only in the specific treaties analysed in the next paragraphs but also in rules aimed at protecting fundamental human rights,² the environment³ and even in an autonomous rule of customary international law. According to the International Law Commission (ILC), '[e]ach State shall reduce the risk of disasters by taking appropriate measures, including through legislation and regulations, to prevent, mitigate, and prepare for disasters.'⁴ This rule draws, according to the ILC, 'on principles emanating from international human rights law [...] and from a number of international environmental law principles, including the "due diligence" principle',⁵ and it is based on a 'widespread

1 The EU rules will not be examined here, as they will be analysed in ch 10 by Villani in this volume.

2 See ch 27 by Venier in this volume.

3 See ch 29 by Antoniazzi in this volume.

4 ILC, 'Draft articles on the protection of persons in the event of disasters' (26 May 2016) UNGA, 'Report of the International Law Commission, Protection of Persons in Event of Disasters' (2016) UN Doc A/71/10, para 9. The ILC further states that the word 'shall' signifies 'the existence of the international legal obligation to act in the manner described in the paragraph and is the most succinct way to convey the sense of that legal obligation', see *ibid*, Commentary to Article 9, para 9.

5 *Ibid* para 4. On the 'due diligence' principle, see more in R Pisillo Mazzeschi, *Due diligence e responsabilità internazionale degli Stati*, (Giuffrè 1989), R Pisillo Mazzeschi, 'The Due Diligence Rule and the Nature of the International Responsibility of States' (1992) 35 German

practice of States reflecting their commitment to reduce the risk of disasters⁶ and recognition that this commitment has been incorporated by States into their national policies and legal frameworks.⁷

Preparedness obligations specific only to given CBRN events, such as terrorist actions, industrial incidents or natural events such as pandemics are not examined in this contribution as they form the core of other chapters in this volume.

2 Terminological Clarification: The Notion of ‘Preparedness’ for CBRN Events

In Chapter 1, specific definitions of the different phases of a CBRN event were provided. However, considering the close interconnections between prevention, preparedness and response actions – and given that the borders between these three phases tend to be thin, making overlapping almost inevitable – it is worthwhile to isolate a few key features of the concept of preparedness. In general terms, this concept refers to the measures that must be adopted to enable the competent authorities to effectively deal with CBRN-related events and mitigate the consequences of such events. Preparedness was more precisely defined in 2016 in a Report to the UN General Assembly as:

The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.⁸

Preparedness measures inevitably involve a wide range of activities to be performed by different actors, such as States, IOs, individuals (who are to be trained on how to behave in emergency situations), civil society and community leaders, and public agencies.

Yearbook of International Law, R Provost (ed.), *State Responsibility in International Law* (Routledge 2002) and J Kulesza, *Due Diligence in International Law* (Brill 2016) 4.

6 ILC (n 4) Commentary to Draft Article 9, para 5.

7 Ibid para 6.

8 UNGA, ‘Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction’ (1 December 2016) UN Doc A/71/644.

3 Preparedness Rules in International Instruments: At the Universal Level

The concept of preparedness likely first emerged during the preparatory works of the Convention Establishing the International Relief Union (IRU) in 1926,⁹ although it did not appear in the final text. After this experience, a new trend emerged: issues related to disaster prevention, preparedness and management were regulated in separate treaties, each dedicated to one specific issue, such as the transport of goods by sea¹⁰ or air,¹¹ customs,¹² health regulations,¹³ international cooperation,¹⁴ human rights,¹⁵ waste management,¹⁶ protection of the safety and security of international personnel involved in emergency operations,¹⁷ safeguarding of the environment,¹⁸ telecommunications¹⁹ and so on. Many of these sectoral agreements are entirely dedicated to preparedness measures,²⁰ while others simply contain one or more preparedness rules.

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- 9 The draft text of the IRU, submitted to the League of Nations States on 14 December 1925, expressly mentioned in art 2, para 4 that the IRU should have been tasked to adopt, if necessary 'measures based upon principles of preparedness and insurance': <https://biblio-archive.unog.ch/Dateien/CouncilMSD/C-2-M-2-1926-II_EN.pdf>. All links were last accessed in May 2021.
- 10 For an example, see the London Convention on Facilitation of International Maritime Traffic (1965), of which Section F is devoted to Natural Disaster Relief Work.
- 11 See letter C of ch 8 of International Standards and Recommended Practices, Facilitation, Annex 9 of the Convention on International Civil Aviation (1997).
- 12 For an example, see the Customs Convention on the Temporary Importation of Professional Equipment (1961), the International Convention on the Simplification and Harmonization of Customs Procedures (Kyoto Convention, 1973), the Revised Kyoto Convention (2000).
- 13 WHO, International Health Regulations, (2005) Second Edition: <http://whqlibdoc.who.int/publications/2008/9789241580410_eng.pdf>.
- 14 Although the activation of the international cooperation mechanism is typically related to the response phase (see more on this in ch 5 by Bakker in this volume), the codified rules which regulate international cooperation are to be considered as preparedness measures as they allow, should cooperation be requested, a swift response.
- 15 See ch 28 by Sommario in this volume.
- 16 Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (1989).
- 17 See the Optional Protocol of the Convention on the Safety of United Nations and Associated Personnel (2005).
- 18 See ch 29 by Antoniazzi in this volume.
- 19 For an example, see the Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations (1998).
- 20 For example, treaties specifically devoted to regulating the modalities of requesting international support to face a given disaster or aimed at regulating the transport of emergency goods in advance.

Sometimes their application is restricted to a specific environment (marine,²¹ atmosphere²²). Over the last three decades, States, IOs, NGOs, the scientific community and the International Federation of Red Cross and Red Crescent Societies (IFRC) have also promoted the adoption of soft law instruments on specific issues related to preparedness activities to better deal with potential man-made or natural disasters involving the release of CBRN substances.²³ These soft law instruments – together with numerous additional political activities, carried out in different emergency-related contexts during recent decades²⁴ – have contributed to raising awareness and creating a sense of urgency in the UN family about the need for a more strategic approach to dealing with disasters. It is within this context that the UN General Assembly adopted the landmark Resolution 46/182 ‘Strengthening of the coordination of humanitarian emergency assistance of the United Nations’, which established the framework within which international disaster relief activities are undertaken. Although Resolution 46/182 already contained several references to preparedness measures, these were further developed in successive UNGA Resolutions which significantly broadened the concept to include new issues, such as the link between prevention, preparedness, disaster risk reduction and capacity building;²⁵ the need to take into account the specific necessities of the affected population and to give appropriate consideration to, *inter alia*,

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- 21 Ch XI-2 of the International Convention for the Safety of Life at Sea (SOLAS; 1974) regulates a significant number of preparedness obligations incumbent on the ship owner. Even more detailed rules were introduced in the 2002 International Ship and Port Facility Security (ISPS) Code.
- 22 For an example, see art 10 of the Agreement Governing the Activities of States on the Moon and other Celestial Bodies (1979): G Oberst, ‘Protecting Satellites From Space Terrorism’, *Satellite Magazine* (March 2009): <https://www.hoganlovells.com/~media/hogan-lovells/pdf/publication/viasatellitemarch2009gerryoberst_pdf>.
- 23 For an example, see the IFRC Declaration of Principles for International Humanitarian Relief to the Civilian Population in Disaster Situations (1969), the Customs Council Recommendation to Expedite the Forwarding of Relief Consignments (1970), the Turku Declaration of Minimum Humanitarian Standards (1990), the Measures to Expedite Relief adopted by both the ICRC and ECOSOC (1997).
- 24 For an example, see the Resolution of the Inter-Parliamentary Union on International Cooperation for the Prevention and Management of Transborder Natural Disasters (2003): <<http://www.ipu.org/conf-e/108-2.htm>> in which the IPU ‘Encourages the international community to co-operate more closely in mitigating the adverse effects of transborder natural disasters through improved preparedness ...’.
- 25 UNGA Res 69/243 (23 December 2014) UN Doc A/RES 69/243, op para 39.

gender;²⁶ age and disability;²⁷ the importance of consistently utilising early warning systems²⁸ and more space-based and ground-based remote-sensing technologies;²⁹ the urgent need to differentiate between disasters occurring in rural and urban areas when designing and implementing preparedness strategies;³⁰ and the importance of international cooperation and multilateralism as an expression of partnership and solidarity among all individuals, communities, States, and regional and international organisations, in all stages of disaster management.³¹

The adoption by the World Conference on Disaster Reduction of the 'Hyogo Framework for Action 2005–2015: Building the resilience of nations and communities to disasters'³² and its successor, the 2015 'Sendai Framework', represent two more key UN achievements. One of the Sendai Framework priorities is dedicated to enhancing disaster preparedness, and specific measures are proposed to achieve this.

To address the challenges identified in the implementation of the Sendai Framework, in 2017, the UN adopted the 'Plan of Action on Disaster Risk Reduction: Towards a Risk-informed and Integrated Approach to Sustainable Development',³³ which emphasises the role and the priorities of the UN in supporting preparedness measures both at the international and local levels. This Plan is perfectly in keeping with the 2030 Agenda for Sustainable Development adopted by the UN General Assembly in September 2015.³⁴

26 Ibid para 34, stressing the importance of the full and equal participation of women in decision-making and of gender mainstreaming in developing and implementing disaster preparedness.

27 Ibid para 36.

28 UNGA Res 54/233 (25 February 2000) UN Doc A/RES/54/233, para 4.

29 UNGA Res 69/243 (n 25) para 28.

30 UNGA Res 231 (21 December 2012) UN Doc A/RES/67/231, para 20.

31 UNGA Res 75/27 (7 December 2020) UN Doc A/RES 75/27.

32 <<http://www.preventionweb.net/english/professional/publications/v.php?id=1037&pid:3&pf:3>>.

33 <https://www.preventionweb.net/files/49076_unplanofaction.pdf>.

34 Sustainable Development Goal 3, devoted to the need to ensure 'healthy lives and promote well-being for all at all ages', indicates the strengthening of the capacity of all countries, in particular developing countries, 'for early warning, risk reduction and management of national and global health risks' as one of the targets to be achieved by 2030: <<https://sdgs.un.org/goals/goal3>>.

Likewise, UNESCO,³⁵ UNICRI³⁶ and the IFRC³⁷ have also adopted soft law instruments focusing on preparedness measures in specific areas.

3.1 *At the Regional Level: In Europe*

Given that preparedness measures are highly context-specific, *ie* they need to be tailored to the specific culture and situation to be effective, the development of such measures at the regional level is particularly valuable. The analysis starts with the European continent (with the exception of the EU-specific measures, to which a chapter of this book is devoted)³⁸ before shifting to the other regions of the world. This allows a comparative picture to be developed of interesting lessons learned from the various continents.

In 1987, the Committee of Ministers of the Council of Europe (CoE) adopted Resolution (87) creating the EUR-OPA Major Hazards Agreement.³⁹ Through this Agreement, a series of Medium Term Plans have been adopted, including most recently, the 'Medium Term Plan 2016–2020',⁴⁰ which codifies several recommendations and suggestions on how public authorities can contribute to promoting a healthy perception (rather than fear) of potential risks among the wider public.⁴¹ Within the OSCE (the geographical limits of which go beyond the European continent), attention to disaster preparedness and management emerged much later, and only in 2014 were Participating States invited 'to develop, co-ordinate and implement, where appropriate, disaster risk reduction measures with climate change adaptation and mitigation

35 H Stovel, *Risk Preparedness: A Management Manual for World Cultural Heritage* (ICCROM 1998) <https://www.iccrom.org/sites/default/files/ICCROM_17_RiskPreparedness_en.pdf>.

36 The United Nations Interregional Crime and Justice Research Institute launched the CBRN Risk Mitigation and Security Governance Programme to encourage States to adopt a comprehensive CBRN approach to preparedness measures: <<http://www.unicri.it/topics/cbrn/>>. Subsequently, UNICRI further developed 'CBRN Security Governance indicators' (<http://www.unicri.it/topics/cbrn/security_governance/>) to help national leaders to check whether their preparedness measures are operating effectively.

37 IFRC, 'Guidelines for the domestic facilitation and regulation of international disaster relief and initial recovery assistance' (2007) 30IC/07/R04 <<https://www.icrc.org/en/doc/assets/files/red-cross-crescent-movement/31st-international-conference/idrl-guidelines-en.pdf>>.

38 See ch 6 by Casolari in this volume.

39 Participation in this group is open to Member States of the Council of Europe, the European Commission or any other interested State. Currently, there are 26 Member States: <http://www.coe.int/T/DG4/MajorHazards/Default_en.asp>.

40 <<https://www.coe.int/en/web/europarisks/statutory-meetings>>.

41 Action Plan, pt II.

plans at all appropriate levels'.⁴² Since then, the Office of the Co-ordinator of OSCE Economic and Environmental Activities (OCEEA) has been tasked with assisting the Participating States – upon their request and where appropriate – in implementing 'increased preparedness for cross-border implications of disasters', 'raising disaster risk awareness at the local level, and [promoting] community-based and gender/age/disability-sensitive disaster risk reduction'.⁴³ While these activities testify to an increasing awareness of the importance of preparedness activities,⁴⁴ it is important to note that the OSCE preparedness measures are drafted in a rather vague manner.

Although its geographical scope is, once again, wider than the European continent, NATO has been actively involved in promoting both preparedness structures and policies. The NATO Combined Joint CBRN Defence Task Force is trained and equipped to deal with CBRN events and/or attacks involving hazardous material, which affect NATO populations, territory or forces, including civilian crisis situations such as natural disasters and industrial accidents.⁴⁵ As far as NATO policies are concerned, the document 'Commitment to Enhance Resilience', adopted during the 2016 North Atlantic Council in Warsaw,⁴⁶ emphasised that 'resilience is an essential basis for credible deterrence and defence and effective fulfilment of the Alliance's core tasks'.⁴⁷ In this context,

42 For an example, see the OSCE Madrid Declaration on Environment and Security (2007) and OSCE Ministerial Council, Decision No. 6/14, Enhancing Disaster Risk Reduction (5 December 2014) MC.DEC/6/14 <<https://www.osce.org/files/f/documents/8/6/130406.pdf>>.

43 Ibid.

44 For an example, see the OSCE 'Good Practices Guide on Non-Nuclear Critical Energy Infrastructure Protection from Terrorist Attacks Focusing on Threats Emanating from Cyberspace' <<https://www.osce.org/files/f/documents/4/b/103500.pdf>>.

45 <https://www.nato.int/cps/en/natohq/topics_49156.htm>. According to NATO sources, the Battalion 'played a key planning role during the 2004 Summer Olympics in Greece, and the 2004 Istanbul Summit, where it supported CBRN-related contingency operations'. Ibid.

46 *Warsaw Summit Communiqué Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Warsaw 8–9 July 2016*, <https://www.nato.int/cps/en/natohq/official_texts_133180.htm>.

47 These measures are aimed at guaranteeing the continuity of government and critical government services, energy supplies, resilient food and water resources, and integrity of civil communications and transportation systems, <https://www.nato.int/cps/en/natohq/topics_49158.htm>. In 2020, NATO was expected to present a report on the state of civil preparedness, assessing if and to what extent the 2016 Resilience Commitments have been implemented and/or require updating in the face of new challenges, particularly in the fields of transport and energy. Due to the COVID-19 pandemic, the finalisation of the report has been postponed, <https://www.nato.int/cps/en/natohq/opinions_174772.htm?selectedLocale=en>.

the word ‘resilience’ is used instead of integration to denote the concept of preparedness.⁴⁸ Moreover, NATO has been very active in the preparation of soft law instruments.⁴⁹

In other European areas, such as the Nordic, Central European, Baltic, Arctic and Black Sea regions, attention has been mainly focused on two points: codification of mutual emergency assistance agreements to facilitate the delivery of international assistance in case of incidents,⁵⁰ and codification of agreements devoted specifically to preparedness measures.⁵¹

3.2 *In the African Continent*

The first African Regional Strategy for Disaster Risk Reduction (hereafter the ‘African Strategy’) was developed by the African Union in 2003.⁵² It included various preparedness actions, such as identifying and assessing disaster risks, increasing public awareness of disaster risk reduction and improving the governance of disaster risk reduction institutions. Several Programmes of Action (PoAs) for the Implementation of the African Strategy were subsequently approved: the most recent was adopted in 2017 and covers the period from 2015–2030.⁵³ Three aspects of this PoA deserve special mention: first

48 The preference shown for the term ‘resilience’ is most probably due to the fact that this principle is anchored in art 3 of the Alliance’s founding treaty.

49 For an example, see NATO, ‘NATO guidance on Improving Resilience of National and Cross-Border Energy Networks’, ‘NATO guidance for Incidents Involving Mass Casualties’, the ‘Non-Binding Guidelines and Minimum Standards for CBRN First Responders’ (2014), <https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2016_08/20160802_140801-cep-first-responders-CBRN-.ng.pdf>.

50 In the eastern part of the European continent, an impressive pro-activism – especially by the Commonwealth of Independent States – in the area of preparedness has developed over recent decades, with a specific focus on preparing Member States to request/receive international support and assistance in case of natural or man-made disaster.

51 For an example, see the Agreement Among the Governments of the Participating States of the Black Sea Economic Cooperation on Collaboration in Emergency Assistance and Emergency Response to Natural and Man-made Disasters (1998), the Nordic Public Health Preparedness Agreement (2002) and the Agreement Between the Governments in the Barents Euro-Arctic Region on Cooperation Within the Field of Emergency Prevention, Preparedness and Response (2008).

52 African Union and others, ‘Disaster Risk Reduction for Sustainable Development in Africa, Africa Regional Strategy for Disaster Risk Reduction’ (2004), <https://www.preventionweb.net/files/4038_africaregionalstrategy1.pdf>.

53 Decision of the African Union Executive Council at its 30th Ordinary Session, January 2017 [EX.CL/Dec.943 (XXX)], endorsing the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa, <https://www.preventionweb.net/files/49455_poaforsendaiimplementationinafrica.pdf>.

of all, it includes a matrix of specific activities to be carried out at the continental, regional, national and sub-national/local levels and has a special section devoted to preparedness activities.⁵⁴ Secondly, the PoA introduces a new monitoring and reporting system with the aim of increasing effective implementation.⁵⁵ Finally, the PoA identifies key stakeholders at various levels and describes the roles and tasks assigned to each of them. This last point is extremely important in order to avoid overlapping responsibilities (which might risk exacerbating inter-institutional tensions) and to increase the accountability of the different actors involved.

The path undertaken by the African Union (AU) has also been, in large part, followed by sub-regional organisations, which sometimes focus on specific aspects.⁵⁶ The Economic Community of West African States (ECOWAS), for example, adopted an innovative document in 2020 which devotes special attention to gender issues: the 'ECOWAS Disaster Risk Reduction Gender Strategy and Action Plan 2020–2030'.⁵⁷ This ECOWAS decision should be praised and used as a model, not only within the African continent but globally, for its consideration of the definition and implementation of specific gender-sensitive preparedness activities.

3.3 *In the Americas*

In the American continent, which, due to its geography and morphology, is prone to major natural disasters, the Organization of American States (OAS) and its members have focused mostly on outlining international responses as a preparedness measure. In this context, although it has been ratified by only

54 The matrix identifies specific preparedness goals to be achieved at the continental level ('Effectively coordinate preparedness and integrate preparedness measures for effective response'), the regional level ('Establish and strengthen multi-hazard early warning systems and regional mechanisms for early action and response'), the national level ('Establish and strengthen emergency preparedness, response and recovery support and coordination mechanisms, capacities and facilities, including coordination centres') and at the sub-national/local level ('Establish and Strengthen multidisciplinary local disaster risk management mechanisms').

55 See more in D van Niekerk, C Coetzee, L Nemaokonde, 'Implementing the Sendai Framework in Africa: Progress against the Targets (2015–2018)' (2020) 11 *International Journal of Disaster Risk Science*, 179–189.

56 On the activities of the several African regional organisations in the areas under scrutiny, refer to N Wasonga Orago 'Africa and MENA Region (2018)' 1(1) *Yearbook of International Disaster Law Online*, <https://brill.com/view/journals/yido/1/1/article-p326_326.xml?language=en>.

57 <https://www.gfdrr.org/sites/default/files/publication/ECOWAS%20GSAP_EN_Final.pdf>.

six States so far,⁵⁸ the 1991 Inter-American Convention to Facilitate Disaster Assistance introduced several innovations and has influenced subsequent international practice, especially within the continent. A decade later, during the 2001 Third Summit of the Americas, the parties not only confirmed their commitment to continue implementing policies that enhance their ability 'to prevent, mitigate and respond to the consequences of natural disasters',⁵⁹ but also adopted an ambitious Plan of Action in which States are required to adopt several preparedness measures.⁶⁰ Sub-regional agreements aimed at reinforcing international cooperation were adopted in the Caribbean region,⁶¹ Central America⁶² and the Andean region.⁶³

3.4 *In Asia*

One of the main achievements in this region, thus far, was the creation, in 1998, of the Asian Disaster Reduction Centre, located in Kobe, Hyogo Prefecture, Japan.⁶⁴ A few years later, the Association of South-East Asian Nations (ASEAN) finalised the 2005 Agreement on Disaster Management and Emergency Response, in order to provide 'effective mechanisms to achieve substantial reduction of disaster losses in lives and in the social, economic and environmental assets of the Parties'.⁶⁵ The agreement provides detailed disaster preparedness obligations incumbent upon Member States and contains a notable innovation, namely the establishment of the ASEAN Standby Arrangements for Disaster Relief and Emergency Response (Article 9). On a voluntary basis, each party earmarks assets and resources available for disaster

58 The treaty has been ratified by only six States so far, see <<http://www.oas.org/juridico/english/Sigs/a-54.html>>.

59 See the Declaration of Quebec City, <http://www.summit-americas.org/iii_summit/iii_summit_dec_en.pdf>.

60 Plan of Action adopted during the III Summit of the Americas, <http://www.summit-americas.org/iii_summit/iii_summit_poa_en.pdf>.

61 See the Agreement establishing the Caribbean Disaster Emergency Response Agency (1991) and the Agreement for Regional Cooperation on Natural Disasters (1999).

62 For an example, see the Coordination Centre for Natural Disaster Prevention in Central America.

63 See the Comité Andino para la Prevención y Atención de Desastres (2002) and the Protocolo Adicional al Acuerdo Marco sobre Medio Ambiente del MERCOSUR en Materia de Cooperación y Asistencia Frente a Emergencias Ambientales (2004), which also contains very precise rules governing the disaster preparedness phase, see <<http://www.comunidadandina.org/StaticFiles/DocOf/DEC529.pdf>>.

64 Its mission is to enhance the disaster resilience of member countries, build safe communities, and create a society where sustainable development is possible. See more at <<http://www.adrc.asia/aboutus/index.html>>.

65 Art 2 of the 2005 Agreement.

relief and emergency response, such as search and rescue teams, military and civilian assets, emergency stockpiles of disaster relief items, and so forth. An online inventory has been created: it gives the focal points of the ASEAN Committee on Disaster Management (ACDM) rapid access to all the necessary information and provides a clear picture of available resources – an excellent example of a preparedness measure.

The South Asian Association for Regional Cooperation (SAARC), which groups together several States in the region,⁶⁶ approved the Agreement on Rapid Response to Natural Disasters in 2001,⁶⁷ requiring States to jointly or individually develop 'strategies and contingency/response plans to reduce losses from disasters';⁶⁸ to organise periodic mock drills to test their preparedness measures; and to earmark assets and capacities to be used in future disaster management operations.⁶⁹ Similar agreements have been adopted within the framework of the Shanghai Cooperation Organisation (SCO),⁷⁰ while the Gulf Cooperation Council has decided to create a Disaster Centre.⁷¹

3.5 *In the Rest of the World*

Considering the particular situation of the Arctic region and the increasing effects exerted on it by human activities, an Emergency Prevention, Preparedness and Response (EPPR) Working Group was established in 1991, under the auspices of the Arctic Council, with the goal of ensuring adequate emergency responses.⁷² At the opposite end of the world, the 1991 Protocol on Environmental Protection to the Antarctic Treaty⁷³ seems much more focused on the prevention and response phases to the neglect of preparedness obligations.

66 Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are the Member States of SAARC.

67 <https://www.preventionweb.net/files/61014_254.pdf>.

68 Art V of the Treaty.

69 Art VI of the Treaty. For appropriate management of these events, the SAARC Disaster Management Centre (SDMC) is operating in New Delhi.

70 Agreement on Disaster Relief Mutual Assistance between the Governments of the Member States of the Shanghai Cooperation Organization (2005): according to art 1, the agreement is applicable should there be an event causing the dispersion of CBRN substances: <<http://eng.sectsc.org/documents/>>.

71 <<https://www.gcc-sg.org>>.

72 The WG has two tasks: to develop an international instrument on Arctic marine oil pollution preparedness and response and to develop a set of recommendations or best practices in the area of prevention of marine oil pollution. More information can be found at <<https://eppr.org/>>.

73 <<https://treaties.un.org/doc/Publication/UNTS/Volume%202941/volume-2941-A-5778.pdf>>.

More relevant to the topic under discussion here, are the activities promoted by the associations of island States: the Pacific island countries have adopted a list of voluntary preparedness actions in the 'Framework for Resilient Development in the Pacific. An Integrated Approach to Address Climate Change and Disaster Risk Management, 2017–2030'.⁷⁴ Additionally, the Alliance of Small Islands has been actively involved in the promotion of national policies aimed at fostering resilience in all its dimensions and supporting the development of 'Climate smart resilient islands', which can be considered a preparedness measure to better face disasters.⁷⁵

Finally, the role played by the G7/G8 needs to be commented on. Preparedness measures were addressed for the first time in the Annexes to the 2015 Final Declaration of the G7 meeting.⁷⁶ One year later, at the Ise-Shima Summit, the G7 leaders emphasised their commitment to taking concrete actions to advance global health, especially by strengthening 'prevention and preparedness against public health emergencies'.⁷⁷ Additional documents devoted specifically to preparedness measures for the current COVID-19 pandemic are examined in Chapter 17.

3.6 *At the Bilateral Level*

In order to fulfil obligations to protect the basic human rights of the affected population, and being well aware that the magnitude of man-made or natural disasters requires the support and cooperation of other partners, many States have concluded bilateral agreements that refer to serious incidents⁷⁸ or natural or man-made events of a certain gravity (which would undoubtedly apply to an event provoking the release of CBRN substances). Although in most cases these bilateral treaties have been signed between neighbouring States, in several instances they have been concluded between States far away from each other. In such cases, the treaties are often instrumental

74 <http://tep-a.org/wp-content/uploads/2017/05/FRDP_2016_finalResilient_Dev_pacific.pdf>.

75 For more details, see the letter by the Chair of AOSIS to the UNSG on 8 August 2019 on the occasion of the UN Climate Action Summit 2019, <<https://www.aosis.org/wp-content/uploads/2019/09/SIDS-Package-Letter-from-AOSIS-Chair-to-UNSG.pdf>>.

76 Annex to the G7 Leaders' Declaration, Schloss Elmau, Germany, 8 June 2015.

77 In the Biarritz 2019 G7 Declaration dedicated to 'Tackling Fragilities and Preventing Crises in Developing Countries', special attention was devoted to fragile and conflict-prone States and the importance of 'promoting greater investments in prevention, resilience, preparedness and early action, building early warning-early action mechanisms'.

78 Art 2 of the Agreement Between the Republic of Austria and the Republic of Croatia on Mutual Assistance in the Event of Disasters or Serious Accidents (2004). <<http://disaster.law.sssup.it/wp-content/uploads/2014/10/Agreement-Austria-Croatia-2006.pdf>>.

in reinforcing the capacity of one State to deal with major disasters through capacity-building initiatives sponsored and promoted by the partner State.⁷⁹ Many of these treaties regulate not only international assistance, but they also make specific reference to other preparedness obligations incumbent on States.⁸⁰ Some bilateral conventions are devoted to regulating only specific areas of cooperation,⁸¹ while others have been stipulated between a State and IOs (regional or global).⁸²

4 Summing up: The Content of Preparedness Obligations

The investigation carried out in the previous paragraphs highlights that there are numerous international rules (at the universal, regional and even bilateral levels) dedicated to preparedness activities for serious incidents (such as those causing the release of CBRN substances) of any origin that might occur in the foreseeable future. According to these rules, States and IOs (where relevant) are required to:

- a) ensure the acquisition, use and sharing of accurate data and other information, including sex- and age-disaggregated data and data on vulnerable groups, in order to fully assess risks and facilitate more focused preparedness;
- b) strengthen effective multi-hazard early warning systems, for both sudden- and slow-onset hazards, and strengthen the use of science and technology to inform risk management, hazard/disaster preparedness and policy development;

79 For an example, see the MoU between Italy and Venezuela on bilateral cooperation in civil protection issues (2007).

80 In several bilateral treaties, there are rules devoted to reinforcing the level of preparedness of the parties through exchanging information, developing research programmes, and organising specialised courses and emergency operation drills. See, for example, the Protocol of Intentions between the USA Federal Emergency Management Agency and the Ministry of Defence of the Republic of Bulgaria on Cooperation on Natural and Man-made Technological Emergency Prevention and Response (2000).

81 For examples, see the Air Agreement on Humanitarian, Emergency, AirTaxi and Ambulance Flights Between Italy and Spain (1984) and the Agreement between the Governments of the Republic of Kazakhstan, the Kyrgyz Republic and the Republic of Uzbekistan on Co-operation and Interaction in the Field of Research on Earthquakes and Forecasting of Seismic Danger (1995).

82 For an example, see the Scientific Co-operation Agreement on Co-operation in Hydro-Meteorological Monitoring, Natural Disaster Prevention and Early Warning Between Italy and the Caribbean Community (2006).

- c) promote the resilience of new and existing critical infrastructure, including water, transportation and telecommunications infrastructure; educational facilities; and hospitals and other health facilities to ensure that they remain safe, effective and operational during and after disasters to provide life-saving and essential services;
- d) adopt sound preparedness plans in conjunction with interested communities that include clear provisions on the chain of command in case a CBRN event occurs; rules on the potential activation of international cooperation mechanisms; procedures to regularly update the preparedness plans;⁸³ and dedicated financial contributions for their implementation;⁸⁴
- e) have a proper and well-functioning health system, which has the necessary equipment and stands ready to be activated;
- f) establish a contingency stockpile of emergency relief items;
- g) improve coordination among relevant UN bodies and cooperation with governments of affected countries, as well as regional and other relevant organisations, with the aim of maximising the effectiveness of preparedness measures; reducing the impact of natural disasters; and facilitating the delivery of international assistance, particularly to developing countries;⁸⁵
- h) promote regular disaster preparedness, response and recovery exercises, such as evacuation drills, training and the establishment of area-based support systems, with a view to ensuring rapid and effective responses to disasters and related displacement, including access to safe shelter, essential food and non-food relief supplies as per local needs;
- i) ensure information flows are planned well in advance and have clear guidance on who is entitled to issue official updates about the event and its consequences.

In addition to these general rules on preparedness measures for any CBRN event, States must also fulfil preparedness obligations for specific types of CBRN events (such as terrorism, industrial incidents, pandemics). These latter rules are examined in Chapters 16, 17 and 18.

The analysis of the preparedness rules allows us to draw a few conclusions: first of all, it appears that those drafted at the universal level are comprehensive and they cover almost all the relevant aspects, without significant gaps. This is strong evidence that awareness about the importance of CBRN preparedness

83 UNGA Resolution 65/133 (15 December 2010) UN Doc A/RES/65/133, para 11.

84 UNGA/RES/69/243 (n 25).

85 UNGA Resolution 59/212 (3 March 2005) UN Doc A/RES/59/212, para 7.

measures has significantly increased in the international community over recent decades, at least as far as the codification of the rules is concerned.

A second aspect which emerges is the limited codification of specific CBRN preparedness rules at the regional level. This might be explained by the fact that the universal rules are generally perceived as sufficient. Only a very limited number of regional organisations (especially NATO and, albeit to a more limited extent, ECOWAS) have devoted significant efforts to upgrading and updating their preparedness capacities to deal with CBRN events. The proactive preparedness attitude of NATO and ECOWAS might be explained by the military background of NATO and the specific attention to regional security issues of ECOWAS.

A third emerging issue is the lack of distinction between prevention and preparedness measures on one side and preparedness and response measures on the other. However, dividing the management of a CBRN event into phases is crucial in order to better identify what has to be done and who is responsible for the different activities to be carried out. The lack of distinction between different phases might also cause a risk of confusing overlaps; thus, a comprehensive and well-structured approach to the different phases of an event involving the release of CBRN substances is of fundamental importance.

5 Preliminary Assessment of the Degree of Implementation of the International Preparedness Rules within States' Domestic Legal Orders and Concluding Remarks

To implement all these measures, States (and sometimes relevant IOs) not only have a heavy workload but also significant costs. With a few exceptions,⁸⁶ there is very limited information available regarding the degree of effective domestication of the generic international preparedness measures listed above. A few States have implemented most of the general preparedness measures in their domestic systems, creating ad hoc institutions or publishing manuals and guidelines on how to manage a CBRN event⁸⁷ and adopting

86 For example, the status of the implementation of UNSC Resolution 1540 (28 April 2004) UN Doc S/RES/1540 is regularly monitored by the Resolution Committee, which is tasked to report on the resolution's implementation to the Security Council: see <<https://www.un.org/en/sc/1540/comprehensive-and-annual-reviews/2021-comprehensive-review.shtml>>.

87 Public Health England, 'Chemical, biological, radiological and nuclear incidents: clinical management and health protection' (2018) and 'Chemical, biological, radiological and

national CBRN strategies.⁸⁸ However, in most cases, States have not been very active in implementing the preparedness measures,⁸⁹ with the most popular justification for the failure to fulfil these obligations⁹⁰ being a lack of financial resources. While this argument is well founded in the case of vulnerable States or States affected by a conflict or international sanctions,⁹¹ it is less convincing for countries with reasonably comprehensive and robust health systems. In fact, it has been calculated that ‘financing improved preparedness might cost less than \$1 per person per year, not a huge sum compared to the scale of the risks to human lives and livelihoods’.⁹² Nonetheless, in a few – mainly Western – countries, guaranteeing sustained commitment to financing preparedness measures often proves to be extremely difficult ‘since the mark of success is that nothing happens, and there will always be multiple competing

nuclear incidents: clinical action cards’, <<https://www.gov.uk/government/publications/chemical-biological-radiological-and-nuclear-incidents-recognise-and-respond>>.

- 88 For an example, see the Chemical, Biological, Radiological, Nuclear and Explosives Resilience Action Plan for Canada, 2011: <<https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/rslnc-ctn-pln/rslnc-ctn-pln-eng.pdf>>. This document includes a significant number of preparedness actions which the Government of Canada undertakes to implement. See also the Emergency Management Strategy for Canada, Toward a Resilient 2030: <<https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/mrgncy-mngmnt-strtg/mrgncy-mngmnt-strtg-en.pdf>>.
- 89 This is also confirmed by a recent study carried out at the request of the European Parliament: EP, Directorate General for Internal Policies, Policy Department for Citizens’ Rights and Constitutional Affairs, ‘Member States’ Preparedness for CBRN Threat Study’ (2018), <<https://www.statewatch.org/news/2018/may/ep-study-cbrn-threats-ms-preparedness-5-18.pdf>>.
- 90 According to another line of thinking, the poor performance of various States can be explained by the influence of external elements on their attitude, such as ‘perceived risk, disaster preparedness knowledge, prior disaster experiences, and certain sociodemographic characteristics such as gender, age, education, and family income’: E Y Chan, J Y Ho ‘Urban community disaster and emergency health risk perceptions and preparedness’, in R Shaw, K Shiwaku, T Izumi (eds.) *Science and Technology in Disaster Risk Reduction in Asia* (Elsevier 2018). See also S Appleby-Arnold, N Brockdorff, I Jakovljević, S Zdravković, ‘Applying cultural values to encourage disaster preparedness: Lessons from a low-hazard country’ (2018) 31 *International Journal of Disaster Risk Reduction*, 37–44.
- 91 In a recent study on the impact of economic sanctions on preparedness measures, the authors demonstrated that, due to their high costs, preparedness measures may be among the first to suffer from economic sanctions: E V McLean and T Whang ‘Economic Sanctions and Government Spending Adjustments: The Case of Disaster Preparedness?’ (2019) *British Journal of Political Science*, First View, 1.
- 92 World Bank, International Working Group on Financing Preparedness, ‘From Panic and Neglect to Investing in Health Security: Financing Pandemic Preparedness at a National Level’ (2017), <<https://documents.worldbank.org/en/publication/documents-reports/documentdetail/979591495652724770/from-panic-and-neglect-to-investing-in-health-security-financing-pandemic-preparedness-at-a-national-level>>.

priorities'.⁹³ This dilemma was addressed in a well-known European Court of Human Rights judgment, which stated in clear terms that 'an impossible or disproportionate burden must not be imposed on the authorities without consideration being given, in particular, to the operational choices which they must make in terms of priorities and resources'.⁹⁴ Borrowing a concept widely used in the jurisprudence of international human rights courts, States enjoy a 'margin of appreciation' in determining which preparedness measures must come first and which will have to be implemented later.⁹⁵ The exercise of this discretionary power is, however, always subject to the control of the relevant courts should there be a dispute as to whether a State respected its preparedness obligations.⁹⁶

To face the worldwide problem of scarcity of financial resources to implement preparedness measures, international financial institutions have undertaken specific initiatives. For example, the World Bank launched the Global Facility for Disaster Reduction and Recovery (GFDRR), a global partnership that helps developing countries better understand and reduce their vulnerability to natural hazards and climate change.⁹⁷ Additionally, the EU has generously supported several national projects around the world to increase preparedness for the serious risks associated with disasters and especially CBRN events.⁹⁸

93 Ibid.

94 European Court of Human Rights (ECtHR), *Budayeva and others v Russia* (2014) 59 EHRR 2, para 135.

95 When it comes to choosing the measures to be adopted by the States, the ECtHR has consistently held that 'where the State is required to take positive measures, the choice of means is in principle a matter that falls within the Contracting State's margin of appreciation. There are different avenues to ensure Convention rights, and even if the State has failed to apply one particular measure provided by domestic law, it may still fulfil its positive duty by other means': ECtHR, *Kolyadenko and Others v Russia*, App. nos. 17423/05 et al., para 220.

96 In *Budayeva* (n 95) para 136, the ECtHR stated that 'In assessing whether the respondent State had complied with the positive obligation, the Court must consider [...] the domestic decision-making process, including the appropriate investigations and studies, and the complexity of the issue, especially where conflicting Convention interests are involved'.

97 GFDRR is a grant-funding mechanism managed by the World Bank that supports disaster risk management projects worldwide <<https://www.gfdr.org/en/global-facility-disaster-reduction-and-recovery>>.

98 See more on these EU programmes in ch 10 by Villani in this volume.

In general terms, as revealed by several recent studies,⁹⁹ the degree of implementation of preparedness rules at the national level is far from ideal and the delays are not always due to the high costs of the required measures. The full implementation of the international preparedness rules at national level is an essential condition for minimising the consequences of any CBRN event, and there is an urgent need to identify new tools to improve the current situation. It might be useful to introduce more detailed targets to be achieved within a specific time period:¹⁰⁰ this would help the individual States to better coordinate and synchronise the implementation phase. It is also of utmost importance to design more sophisticated and convincing monitoring mechanisms.¹⁰¹ Compared with other thematic areas, such as human rights, in which effective monitoring and enforcement mechanisms have significantly increased respect for the relevant rules, the current monitoring mechanisms devoted to preparedness measures are woefully insufficient (if not non-existent) with very limited exceptions.¹⁰² This is a problematic issue which deserves to receive more attention in the near future: any new treaty (universal or regional) dealing with preparedness obligations should always incorporate a strong and sophisticated monitoring and implementation verification mechanism. The credibility and effectiveness of the relevant rules would enormously benefit from this innovation.

This survey of the general preparedness obligations codified in international treaties (universal, regional and bilateral), as well as in soft law instruments,

99 See, for example, the data regularly provided in the Global Health Security Index, <<https://www.ghsindex.org/>>.

100 The approach of the Sendai Framework of identifying seven global targets to achieve is an important step as this makes it easier to track global progress towards achieving the goal of the Sendai Framework itself.

101 It is not by chance that one of the expected key results of the 'UN Plan of Action on Disaster Risk Reduction for Resilience: Towards a Risk-informed and Integrated Approach to Sustainable Development' is that the 'UN system and related organizations [will] have supported countries in monitoring the implementation of the Sendai Framework, ensuring coherence with the monitoring frameworks of the Sustainable Development Goals, the Paris Agreement, the New Urban Agenda and other international frameworks'.

102 For example, the sophisticated and innovative monitoring mechanism introduced in the treaties regulating preparedness measures in the health sector: see ch 17 by de Guttery in this volume. An interesting example of a monitoring system for preparedness obligations is foreseen in the OPCW Convention, where States are required to provide the Secretariat with information about the various means of protection available against chemical weapons. The annual 'Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction'.

has demonstrated that there are currently many (potentially too many) diverse sources regulating similar State obligations. Although this situation is preferable to the opposite (no rules at all), it highlights the extraordinary importance of closer relations and more effective forms of cooperation among the different actors involved in the production of these rules. While acknowledging the strenuous efforts of the UN to encourage closer coordination of all relevant international actors involved in disaster management, it is the opinion of the present author that more could and should be done. In many regional treaties, there are interesting and promising commitments to reinforce cooperation with other relevant actors: nice words codified into the various treaties now need to be transformed into concrete measures which will achieve real cooperation and synergy among the actors involved in both the definition and monitoring of preparedness measures. Further delays cannot be justified considering current risks and the lessons learned from various disasters in which CBRN substances have been released.

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