International Disaster Law – The Responsibility of States Before and in the Aftermath of a Disaster

Alexandra Martina Birchler

University of Wollongong

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International Disaster Law – The Responsibility of States
Before and in the Aftermath of a Disaster

Alexandra Martina Birchler, MLaw

Supervisors:
Prof. Dr. Stuart Kaye
Prof. Dr. Martina Caroni
Dr. Aurélie Delisle

This thesis is presented as part of the requirement for the conferral of the degree:
Joint PhD
The University of Wollongong
School of Law

October 2019
Abstract

Natural disasters strike every year, and they are often very harsh. It is scientifically proven that climate change is increasing the frequency of extreme weather events, such as hurricanes, cyclones, floods and droughts. So was the hurricane season 2017 one of the most devastating on the record, while in 2019 the strongest cyclone ever recorded to hit the African continent made landfall just a few weeks after the devasting cyclone Idai. Sadly, these phenomena are slowly becoming the new normal. The international law behind natural disasters is fragmented. The Geneva Conventions do not apply, since they are limited in their scope to armed conflicts. Therefore, also the ICRC has no mandate to ensure relief for the victims of natural disasters. However, this issue is currently being addressed. The ILC included a project, called Protection of Persons in the Event of Disasters, into their programme of work. A full set of articles was submitted to the UN General Assembly for treaty adoption in 2016.

Next to the fact that there is a legal uncertainty with regard to natural disasters, there is also the other fact that low-GHG-emitting developing States are more prone to disasters than are other States. It seems unfair that the poorest of the poor suffer the most from anthropogenic climate change triggered primarily by the conduct of developed States. At the same time, the victims of natural disasters are extremely reliant on the conduct of the affected States. In one possible case, the affected State is overwhelmed with the natural disaster and does not seek international help. This research focuses on such a case of injustice, and as such aims to answer the following questions:

(1) Do developed States and emerging markets have a responsibility under international law to financially assist disaster-prone developing States with regard to early warning mechanisms and post-disaster reconstruction?

(2) Does the by a disaster affected State affected by a disaster have an obligation under international law to provide early warning and humanitarian assistance to the affected population? If the affected State is not able to provide early warning and humanitarian assistance by itself, does it have an obligation to seek international assistance?

In order to answer these two questions, this research examines the current relevant international law, in particular also customary international law and the case law of international judicial bodies.

The first major result of this study is the recognition that there is no coherent international law governing natural disasters. The latest attempt of the ILC is not the first. Several other attempts had already been made to codify the law applicable to natural disasters, yet they were unsuccessful. Thus, there are currently over 200 different legal instruments governing different areas of IDL. This fragmentation is also mirrored with regard to the definition of ‘disaster’, where different approaches exist.

The second result is linked to the first research question, which can be answered in the affirmative. The question was examined within the context of international climate change law and international
environmental law in general. The no-harm rule, which is part of customary international environmental law, applies to both the question of financing early warning mechanisms and post-disaster reconstruction. With regard to the latter, this research argues that post-disaster reconstruction is, like early warning, a preventive and not a reactive measure and that as such the no-harm rule applies.

The third result concerns the second research question, which also can be answered in the affirmative. Both humanitarian assistance and early warning are means to fulfil human rights obligations. The human rights that are triggered are in particular the right to life, right to an adequate standard of living, the right to health and the right to safe drinking water and sanitation. With regard to humanitarian assistance the affected State has also the duty to seek international assistance if it is not able to cope with the disaster situation with its own resources.

International disaster law is a fast-evolving area of international law. This research with its findings has the potential to sharpen the development. This research suggests (1) the adoption of the Draft Articles on the Protection of Persons in the Event of Disaster get adopted into the form of a treaty; (2) the enhancement the concept of loss and damage within the international climate-change-law regime, since this would open door for disaster-prone developing States to receive appropriate funding; (3) the incorporation of a legally binding financial target for climate finance; and (4) the enhancement of the affordability of sovereign risk transfer possibilities for disaster-prone developing States.
Acknowledgments

This PhD thesis was realised from September 2015 to April 2018 as a joint PhD between the University of Lucerne (Switzerland) and the University of Wollongong (Australia). I would like to thank both institutions for making this path possible. At the same time, this work would not have been possible without the support of both of my supervisors, each of whom I would like to thank: Prof. Dr Martina Caroni and Prof. Dr Stuart Kaye. I would like to thank you both for your guidance and for reading all my chapters patiently and never doubting me nor my thesis.

Thank you, Martina, for always offering guidance, supporting me and never doubting my skills. In particular during the rough beginning, you stood behind me and advised me on several occasions with care and support. Always when I started to doubt myself and my thesis I was able to talk to you, and you made me feel immediately more confident about myself and my thesis; thank you for always believing in me and never doubting me.

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Another big and personal thank you goes to all of my friends, and in particular to Oliver Buchser, Marina Bachmann, Alessandra Mengotti, Sabine Reindl and Marion Lehmann, who stood by me and accepted, in particular during the last few months, my mood swings—and never doubted me either. Finally and warmly, I would also like to thank my family, in particular my parents Anne-Mette and Martin Birchler for their never-ending love and support throughout all my studies. I love you and I am very grateful for all the opportunities you gave me and that you never stopped believing in me.

Alexandra Martina Birchler
Aarau, 2 October 2019
Certification

I, Alexandra Martina Birchler, declare that this thesis submitted in fulfilment of the requirements for the conferral of the degree Doctor of Philosophy, from the University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. This document has not been submitted for qualifications at any other academic institution.

Alexandra Martina Birchler
2 October 2019
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<td>Additional Protocol 2 / AP 2</td>
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<td>ARC</td>
<td>African Risk Capacity</td>
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<td>ARC Ltd</td>
<td>African Risk Capacity Insurance Company Limited</td>
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<td>Art.</td>
<td>Article</td>
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<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
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<td>Abbreviation</td>
<td>Full Form</td>
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<td>CAT</td>
<td>Convention against Torture and Other Cruel, Inhumane or Degrading Treatment or Punishment, opened for signature 10 December 1984, 1465 UNTS 85 (entered into force 26 June 1987)</td>
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<td>cat bond</td>
<td>catastrophe bond</td>
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<tr>
<td>CBDRRC</td>
<td>common but differentiated responsibilities and respective capabilities</td>
</tr>
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<td>CCRIF</td>
<td>Caribbean Catastrophe Risk Insurance Facility</td>
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<td>CESCR</td>
<td>UN Committee on Economic, Social and Cultural Rights</td>
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<td>CO$_2$</td>
<td>Carbon dioxide</td>
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<tr>
<td>COP</td>
<td>Conference of the Parties to the UNFCCC</td>
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<td>Doc</td>
<td>Document</td>
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<td>DRR</td>
<td>Disaster Risk Reduction</td>
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<td>ECJ</td>
<td>European Court of Justice</td>
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<td>ECOSOC</td>
<td>Economic and Social Council</td>
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<td>ECtHR / Eur Court HR</td>
<td>European Court of Human rights</td>
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<td>eds</td>
<td>Editors</td>
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<tr>
<td>e.g.</td>
<td>exempli gratia (for example)</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FONDEN</td>
<td>Fondo Nacional de Desastres Naturales</td>
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<tr>
<td>GAOR</td>
<td>General Assembly Official Records</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>Geneva Convention I</td>
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<td>GHGs</td>
<td>Greenhouse Gases</td>
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<td>HRC</td>
<td>Human Rights Committee</td>
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<td>IACtHR</td>
<td>Inter-American Court of Human Rights</td>
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<td>IASC</td>
<td>Inter-Agency Standing Committee</td>
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<td>IASC Operational Guidelines</td>
<td>Inter-Agency Standing Committee Operational Guidelines on the Protection of Persons in Situations of Natural Disasters</td>
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<td>ibid</td>
<td>ibidem, the same source</td>
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<tr>
<td>ICCPR</td>
<td>International Covenant on Civil and Political Rights, opened for signature 16 December 1966, 999 UNTS 171 (entered into force 23 March 1976)</td>
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<td>ICISS</td>
<td>International Commission on Intervention and State Sovereignty</td>
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<td>ICJ</td>
<td>International Court of Justice</td>
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<td>ICJ Rep</td>
<td>International Court of Justice Reports</td>
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<tr>
<td>ICJ Statute</td>
<td>Statute of the International Court of Justice</td>
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<td>ICRC</td>
<td>International Committee of the Red Cross</td>
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<td>IDL</td>
<td>International Disaster Law</td>
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<td>IDPs</td>
<td>Internally Displaced Persons</td>
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<td>IFRC</td>
<td>International Federation of Red Cross and Red Crescent Societies</td>
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<td>IFRC Code of Conduct</td>
<td>IFRC and ICRC, Code of Conduct for the International Red Cross and Red Crescent Movement and Non-Governmental Organisations (NGO's) in Disaster Relief, (31 December 1994).</td>
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<td>IFRC Guidelines or Guidelines</td>
<td>IFRC, Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance</td>
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<td>IHL</td>
<td>International Humanitarian Law</td>
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<td>IHRL</td>
<td>International Human Rights Law</td>
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<td>Abbreviation</td>
<td>Full Form</td>
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<td>ILC</td>
<td>International Law Commission</td>
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<td>ILM</td>
<td>International Legal Materials</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<tr>
<td>IRU</td>
<td>International Relief Union</td>
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<tr>
<td>ITLOS</td>
<td>International Tribunal for the Law of the Sea</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<td>OAS</td>
<td>Organisation of American States</td>
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<tr>
<td>OCHA</td>
<td>United Nations Office for the Coordination of Humanitarian Affairs</td>
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<td>OP</td>
<td>Occupying Power</td>
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<td>OP</td>
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<td>PAHO</td>
<td>Pan American Health Organization</td>
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<td>Para</td>
<td>Paragraph</td>
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<td>Paris Agreement</td>
<td>Paris Agreement, opened for signature 12 December 2015, (entered into force 4 November 2016) ('Paris Agreement')</td>
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<td>PCRAFI Facility</td>
<td>Pacific Catastrophe Risk Assessment &amp; Financing Imitative Facility</td>
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<td>R2P</td>
<td>Responsibility to Protect</td>
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<td>RIAA</td>
<td>Reports of International Arbitration Awards</td>
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<td>SBI</td>
<td>Subsidiary Body for Implementation</td>
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<td>Sendai Framework</td>
<td>Sendai Framework for Disaster Risk Reduction 2015 – 2030</td>
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<td>United Nations</td>
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<td>Abbreviation</td>
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<td>UN Charter</td>
<td>Charter of the United Nations</td>
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<td>United Nations General Assembly</td>
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<td>United Nations International Strategy for Disaster Reduction</td>
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<td>UNRRA</td>
<td>United Nations Relief and Rehabilitation Administration</td>
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<td>United Nations Treaty Series</td>
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<td>United States</td>
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<td>USD</td>
<td>US Dollar</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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<td>WIM</td>
<td>Warsaw International Mechanism for Loss and Damage associated with climate change impacts</td>
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<td>WMO</td>
<td>World Meteorological Organization</td>
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<td>Abbreviation</td>
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<td>WTO</td>
<td>World Trade Organisation</td>
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<td>Yokohama Strategy</td>
<td>Yokohama Strategy and Plan of Action for a Safer World</td>
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Part 1: Introduction and General Principles

Are extreme weather events like cyclones, hurricanes and heatwaves the new normal? This question is heavily discussed around the globe.\(^1\) It is a scientific fact that global warming induced by anthropogenic climate change increases the frequency of extreme weather events.\(^2\) This increase in frequency also increases the number of cases in which such extreme weather events turn into natural disasters and devastate societies, communities or even whole nations: One very prominent example of a country struck by such devastation is Haiti.

Haiti was hit by a severe earthquake in 2010, and six years later, in 2016– while the country was still struggling from the consequences of that earthquake – it was hit by a severe hurricane, Matthew. Hurricane Matthew’s consequences in the Caribbean and in particular Haiti were extreme, leading to mass displacement, humanitarian crises and property damages.\(^3\) In 2017, several cyclones and hurricanes again gained attention. In March and beginning of April, cyclone Debbie, one of the strongest to impact Australia, made landfall in Queensland.\(^4\) At the same time, the 2017 hurricane season was one most severe ever recorded, because several high category hurricanes affected different Caribbean islands.\(^5\) The 2018 hurricane and cyclone season had impacts upon disaster-prone States: for example cyclone Gita, which impacted several Pacific island States in February 2018.\(^6\) The 2019 cyclone season was one of the most severe yet recorded. In March 2019, the tropical Cyclone Idai caused severe floods in Mozambique, Malawi and Zimbabwe.\(^7\) The death toll was over 600 in Mozambique alone. Roughly one month later, in April 2019, cyclone Kenneth also made landfall in Mozambique, the strongest cyclone ever recorded to hit the African continent.\(^8\)

Such extreme events have their foremost impacts on human lives and livelihoods. The consequences are also costly, however, which easily is able to put a massive financial burden upon the affected State.

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8. ibid.
1. Part: Introduction and general principles

Dominica, for example, requested in 2017 a total of USD 31.1 million in its flash appeal, in order to help the victims of the hurricane season.9

Next to the fact that humanitarian crises are costly for the affected State, the emergency situation needs also to be managed properly, and procedures must be in place in order to reach the victims.

Yet no coherent international framework exists for disaster situations. Following the 2004 Indian Ocean tsunami, the international community started, again, to think about the possibility of a coherent international framework, dealing with disaster situations.10 This was not the first attempt; the League of Nations had established an International Relief Union (IRU), which had the purpose to render relief to victims of natural disasters within a given legal framework. This organisation did not succeed, however. Despite adopting different approaches over time, they met success with none.11 The newest approach, a project of the International Law Commission (ILC), namely Protection of Persons in the Event of Disaster, has been transferred to the United Nations General Assembly (UNGA) for treaty adoption in 2016, which decided to discuss it in 2018.12 In 2018, the United Nations UNGA took note of the ILC’s Draft Articles on the Protection of Persons in the Event of Disasters (Draft Articles) and decided to bring to the attention of Member States, that it was advised by the ILC to adopt a treaty based on this draft.13

However, since anthropogenic climate change is increasing the frequency of natural disasters, also the international environmental and, in particular, international climate change law plays a significant role in this areas of international law. This connection is also recognised by various specific instruments that acknowledge natural disasters to be an adverse effect of climate change.14 Yet, since natural disasters have extreme effects on humans, not only do international environmental law and international climate change law have to be considered, but also human rights. Since many victims of natural disasters are in desperate need for relief, international humanitarian law (IHL), by analogy, is also crucial. As, such, the law behind natural disasters is fragmented, and different sources are applicable and therefore not limited to the project concerning the Protection of Persons in the Event of Disasters.

This research is primarily guided by the connections between anthropogenic climate change, the frequency of natural disasters and the unfairness thereof: low-greenhouse-gas-emitting developing States are among the most severely and commonly affected by natural disasters. Thus, this research focuses on two important questions:

(1) Do developed states and emerging markets have a responsibility under international law to financially assist disaster-prone developing States with regard to early warning mechanisms and post-disaster reconstruction?

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11 Convention establishing an International Relief Union, opened for signature 12 July 1927, 135 LNTS 247 (entered into force 27 December 1932) (‘IRU Convention’); for a comprehensive discussion on this topic see below: Disaster event and emergency response.
(2) Does the disaster-affected State have an obligation under international law to provide early warning and humanitarian assistance to the affected population? If the affected State is not able to provide early warning and humanitarian assistance by itself, does it have an obligation to seek international assistance?

This research has four main parts. The first serves as an introduction, which has the aim to define terms, to provide the context of the topic and to map the legal framework surrounding this research. Part 2 deals with the first research question: the financial obligations of strong greenhouse-gas-emitting States towards disaster disaster-prone developing States with regard to early warning mechanisms and post-disaster reconstruction. Part 3 deals with the second question and therefore examines the affected State’s duties towards the victims of a natural disaster, in particular with regard to the provision of humanitarian assistance and early warning. Part 4 includes a summary of this research and draws this research’s conclusions.
Chapter I: Disasters Defined

The notion of ‘disaster’ is at the heart of this research. Therefore, it is important to define ‘disaster’. Yet, international disaster law (IDL), as a fast-evolving legal area, is suffering from incoherence. At this point, not one single legal framework deals with natural disasters; in fact, there are over 200 different legal instruments, either bilateral or multilateral, dealing with natural disasters. One effect of this fragmentation is that multiple definitions of the notion ‘disaster’ also exist. Therefore, this chapter aims to define and explain the notion of a ‘disaster’. It begins with an examination of the various definitions of different instruments. Its second section explains the approach of this research with regard to the definition and understanding of ‘disaster’.

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1. Part: Introduction and general principles

1. Disasters Defined

Basically, two major groups of definitions exist: The first views ‘disaster’ as the devastating event itself, while according to the second approach, ‘disaster’ means the consequent situation after a devastating event. Both aspects are considered in the sections below, while a special focus is given to the work and approach of the ILC.

1.1. Disaster as event or situation

Current instruments cover both understandings: A disaster is either referred to as a situation that occurs in the aftermath of a calamitous event, such as a cyclone, or the event itself. This distinction is important for two reasons. Firstly, as the Special Rapporteur on the Protection of Persons in the Event of Disasters has pointed out, an accurate definition helps to identify the situations that are governed by the respective law and its protection, including not only when the protection starts but also when it ends. Contemplating whether a disaster is the calamitous event or the subsequent consequence raises the question of whether the protection should begin during the event as such or later on. Secondly, this distinction is also necessary for the application of disaster mitigation: for example, whether it solely includes measures to prevent the event from happening or whether measures should be taken to decrease the effects of the event in consequent situation.

Thus, both approaches are discussed in this section, while later on the specific approach of this research is defined.

1.1.1. Instruments that define disaster as an event

The importance of a coherent system in relation to disaster relief management was recognised already in the 1980s, when the Draft Convention on Expediting the Delivery of Emergency Assistance (1984 Draft Convention) was drafted. Yet, the project was dropped, and the 1984 Draft Convention was never formally adopted and never gained legal status. Nevertheless, the text cannot be ignored, especially since it includes a definition of ‘disaster’:

“[…] any natural, accidental or deliberate event [not being an ongoing situation of armed conflict] as a result of which assistance is needed from outside the State upon whose territory the event occurred, or which has been affected by the consequences of the event.”

This definition affords a clear example that a disaster might be seen as an event creating a need for international assistance and not the consequent situation. This rendering of the term is clearly indicated by the last half sentence of the definition, which clearly distinguishes between the event, the disaster,

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17 ibid.
and its consequences. The 1984 Draft Convention is not the only instrument to define ‘disaster’; more recent instruments, such as the Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance (IFRC Guidelines), include a definition that describes a disaster as an event. The International Federation of Red Cross and Red Crescent Societies (IFRC) introduced these Guidelines in 2007. The Guidelines contribute to the domestic legal preparedness of States. In order to reach that goal, they impose guidelines for policymakers to strengthen their domestic law with regard to international disaster relief law.

Not only the Guidelines adopted by the IFRC but also the Code of Conduct for the International Red Cross and Red Crescent Movement and Non-Governmental Organisations in Disaster Relief (IFRC Code of Conduct) introduces the event approach for its definition of ‘disaster’. Finally, the very latest example is the final draft of the ILC’s Draft Articles. The Draft Articles also follow the event approach. The project of the ILC with regard to its definition of ‘disaster’ is detailed below.

1.1.2. Instruments that define disaster as a situation

As explained above, some instruments view the notion ‘disaster’ as a situation triggered by a calamitous event. The Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations (Tampere Convention), for example, defines a ‘disaster’ as ‘[…] a serious disruption of the functioning of society, posing a significant, widespread threat to human life, health, property or the environment, whether caused by accident, nature or human activity, and whether developing suddenly or as the result of complex, long-term processes.” This definition has a focus on the post-event situation, by equating a disaster to a ‘serious disruption of the functioning of society’. It is not the event itself that causes a threat, rather the subsequent disruption. This disruption can be caused by an accident, by nature or by human activity. That the Tampere Convention understands a disaster to be a situation is also supported by its explanations with regard to the various hazards that have the potential to trigger a natural disaster. It distinguishes between health hazard and natural hazard. In both cases, the treaty text clearly states that these hazards are events that have ‘the potential for triggering a disaster’. Therefore, the Tampere

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21 IFRC, Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance, 30IC/07/R4 annex, (26 - 30 November 2007).
22 ibid Guidline 2(1).
23 ibid Guidlines 1(1) and (3).
24 IFRC and ICRC, Code of Conduct for the International Red Cross and Red Crescent Movement and Non-Governmental Organisations (NGO’s) in Disaster Relief, (31 December 1994).
25 ibid Preamble: “[…] a calamitous event in loss of life, great human suffering and distress, and large-scale material damage.”
26 Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 13 -7 [48].
27 ibid 14, Art. 3(a).
29 ibid Article 1(6)
30 ibid Article 1(8) and 1(9).
31 ibid Art. 1(8) and 1(9).
32 ibid Article 1(8) and 1(9).
Other legal instruments include a similar approach. One example is the Association of Southeast Asian Nations’ (ASEAN’s) Agreement on Disaster Management and Emergency Response (AADMER).\(^{33}\) The AADMER, like the Tampere Convention, views a disaster as ‘a serious disruption of the functioning of a community or a society […]’.\(^{34}\) The instrument not only defines ‘disaster’ but also other related terms such as, in particular, ‘disaster management’, ‘disaster risk’, ‘disaster risk reduction’ and ‘disaster emergency’.

The definition of a disaster emergency suggests that the AADMER follows a situational approach. It declares in Article 1(7) that a “‘Disaster Emergency’ is a situation where a Party declares that it is unable to cope with a disaster.”\(^{35}\) In other words, the AADMER views the situation in which the state is declares it is unable to handle the disaster situation, and not the devastating event itself, as the official disaster emergency. Therefore, the AADMER follows the Tampere Convention with regard to its situational understanding of ‘disaster’.

Next to these, two hard-law instruments and also soft-law instruments, as well as other sources, support this approach. In addition to the IFRC Guidelines, the IFRC also introduces a different definition of ‘disaster’ on its website:

[...] a sudden, calamitous event that seriously disrupts the functioning of a community of society and causes human, material, and economic or environmental losses, that exceed the community’s or society’s ability to cope using its own resources.\(^{37}\)

In order to explain this understanding, the IFRC uses the following formula: ‘(Vulnerability + Hazard) / Capacity = Disaster’.\(^{38}\)

Although the wording of the definition suggests that the IFRC views ‘disaster’ as an event, like in the IFRC Guidelines, the formula makes clear that the IFRC actually follows a situational approach with this definition. The formula demonstrates that the focus lies on the ratio between the vulnerability to a certain risk, the risk itself and the society’s ability to cope with the subsequent situation. Thus, the formula describes a situation and not an event. Therefore, although the wording ‘event’ is used in the definition, this definition understands ‘disaster’ as a situation.

Next to the IFRC, also the Inter-Agency Standing Committee (IASC) uses in its Operational Guidelines and Field Manual on Human Rights Protection in Situations of Natural Disasters a ratio to define ‘disaster’.\(^{39}\) The consequences of a calamitous event ‘overwhelm local response capacity’ and as such “exceed the ability of the affected community or society to cope by using its own resources.”\(^{40}\) The ratio lies between the effects of the event and the society’s capability to cope with the situation at hand. This definition uses, therefore, a situational approach, since it depends on the circumstances and situation after the event has passed.

\(^{34}\) ibid Art. 1(3); the full definition: " 'Disaster' means a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses."
\(^{35}\) ibid Art. 1(4) - (7).
\(^{36}\) ibid Article 1(7).
\(^{38}\) ibid.
\(^{40}\) ibid 5.
1.2. **Disaster in human rights treaties**

Human rights play an important role within IDL because they serve as a tool for guidance for states with regard to the management of disasters. The importance of IHRL will be discussed in depth below in the respective chapter, as this section concentrates solely on the definition of the notion ‘disaster’. At this point, however, only two major human rights instruments deal explicitly with disasters.

The Convention on the Rights of Persons with Disabilities (CRPD)\(^{41}\) and the *African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (Kampala Convention)*\(^{42}\) both make reference to disasters. As they entered into force in 2008 and 2012, respectively, they are among the youngest human rights instruments.

The CRPD refers to ‘Natural Disaster’ in Article 11. It does not, however, include any definition of the notion ‘disaster’.\(^{43}\) The *Kampala Convention*, on the other hand, introduces several references to natural disasters, such as in Article 5(4). This provision makes a clear connection between natural disasters and climate change:

“State Parties shall take measures to protect and assist persons who have been internally displaced due to natural or human made disasters, including climate change.”\(^{44}\)

Although, the *Kampala Convention* refers six times to ‘Disasters’, like the CRPD it does not define this term. Only the preamble gets close to a definition. The preamble states that the convention addresses “[…] displacement caused by natural disasters, which have a devastating impact on human life, peace, stability, security, and development.”\(^{45}\)

The question arises of whether the *Kampala Convention* covers only natural disasters, which have a distressing effect on human life, peace, security and development. According to Article 31(2) *Vienna Convention on the Law of Treaties* (VCLT) the preamble should be used in the treaty interpretation in order to define the purpose and intention of the specific treaty.\(^{46}\) This imperative extends into the fact that, indeed, the preamble may include supplementary provisions in addition to the interpretative purpose.\(^{47}\) The natures of supplementary provisions in preambles are intended to actually fill gaps in the convention.\(^{48}\)

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\(^{41}\) *Convention on the Rights of Persons with Disabilities*, 2515 UNTS 44910 (entry into force: 3 May 2008).

\(^{42}\) *African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (Kampala Convention)*, opened for signature 23 October 2009, (entered into force 6 December 2012) (‘*Kampala Convention*’).

\(^{43}\) Article 11 CRPD: “States Parties shall take, in accordance with their obligations under international law, including international humanitarian law and international human rights law, all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of natural disasters.”

\(^{44}\) *Kampala Convention* Art. 5(4); other articles with references to Natural Disasters: Preamble,Art. 1(k), Art. 4(1) and (4)(f), Art. 12(3).

\(^{45}\) ibid Preamble para 6.


\(^{47}\) for example the preamble to the Charter of the United Nations which includes also supplementary provisions in its preamble; Makane Moïse Mbengue, *Preamble* (9 September 2015) Max Planck encyclopedia of public international law, online edition <www.mpepil.com>.

\(^{48}\) ibid.47.
Since the treaty text of the Kampala Convention leaves open whether both natural and human-made disasters or only natural disasters are covered, it is possible to argue that the preamble contains supplementary provisions, because the preamble refers to only natural disasters with a certain effect on society. Yet, although the preamble refers to only natural disasters, the treaty text is not limited to natural disasters and rather also includes human-made disasters. In Article 1(k) the Kampala Convention refers to both natural and human-made disasters. Additionally, although the preamble does not include environmental aspects, this omission does not mean that they play no role. Environmental damage enjoys significant importance and should not be understood as left out. The International Court of Justice (ICJ) has recognised the importance of the environment in the human habitat, saying that ‘the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn.’ Thus, although the preamble does not speak about environmental damage, a calamitous event that causes severe environmental damage might also have a ‘distressing effect on human life’. This view is also supported by the Special Rapporteur on the Protection of Persons in the Event of Disasters. The opinion and work of the special rapporteur are discussed in the following section.

1.3. Work of the ILC

After the attempt to unify IDL with the 1984 Draft Convention in the 1980s, the UN made a new attempt in 2006. The ILC decided to include the project on the protection of persons in the event of disasters in its long-term programme of work. In 2007 the ILC decided to include the project in its current work and appointed Eduardo Valencia-Ospina as special rapporteur. He issued his first report in 2008, mainly dealing with the background, as well as with the specific scope of the topic. In the second report, the special rapporteur dealt, with the definition of ‘disaster’ among other things. By drafting the definition of ‘disaster’, the special rapporteur used the definition of the Tampere Convention as guidance for two main reasons: Firstly, it is limited to neither natural disasters nor solely to human-made disasters, and as such it acknowledges that the cause of a disaster might involve a complex set of factors. Secondly, it takes also environmental as well as material damages into account. These kinds of damages can be severe enough to result in the need for protection of the affected persons. Contrary to the IASC, the special rapporteur did not want to include a link to the

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49 ibid Art. 1(k) which states: “‘Internally Displaced Persons’ means persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border.

50 expressively mentioned in: Kampala Convention Art. 1(k).


52 Valencia-Ospina, 61st sess, UN Doc A/CN.4/615 (7 May 2009), 13-4 [38].


57 ibid 15 [44].

58 ibid.; see also: Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) [1996] ICJ Rep 226,
capacity of the affected State to actually cope with the situation.\textsuperscript{59} He argued that such an approach takes away the intended focus solely on the persons who are in need of protection.\textsuperscript{60} By taking this into consideration, the special rapporteur drafted the following definition: “Disaster’ means a serious disruption of the functioning of society, excluding armed conflict, causing significant, widespread human, material or environmental loss.”\textsuperscript{61}

This definition, however, has not been included into the final version of the Draft Articles.\textsuperscript{62} The ILC had several concerns with regard to the proposed definition by the special rapporteur. Firstly, certain members of the ILC wanted the definition, contrary to the Tampere Convention, to define a ‘disaster’ as an event and not as the consequence of an event.\textsuperscript{63} Secondly, the attributes ‘serious’, ‘significant’ and ‘widespread’ would impose a threshold that is too high. This language in the definition could lead to a loophole for affected States not to seek international humanitarian assistance if the event is not considered to meet any of the thresholds.\textsuperscript{64} Thirdly, the phrase ‘excluding armed conflict’ also gave rise for concern. The ILC suggested it rather belongs to the question of scope than to the definition.\textsuperscript{65}

Thus, the ILC suggested taking the reference to armed conflicts out of the definition and replacing it by a ‘without prejudice clause’.\textsuperscript{66} However the ILC also pointed out that, in some situations, it could be difficult to distinguish between a pure disaster and an armed conflict, and that it should be the main goal to ensure the application of IHL as \textit{lex specialis} in situations of armed conflicts.\textsuperscript{67} By having all these concerns in mind, the final draft defines disasters as

“[…] a calamitous event or series of events resulting in widespread loss of life, great human suffering and distress, or large-scale material or environmental damage, thereby seriously disrupting the functioning of society.”\textsuperscript{68}

Thus, all concerns have been implemented into the current definition. The Draft Articles also embody with Art. 18 a ‘without prejudice clause’.\textsuperscript{59} This provision governs the relation of the Draft Articles to (a) other rules of international law and (b) to IHL.\textsuperscript{70} The full set of Draft Articles was referred to the UNGA in May 2016, with the recommendation to adopt a convention.\textsuperscript{71} In 2016, the UNGA took note of the Draft Articles and decided to include them into its Agenda for 2018.\textsuperscript{72} In 2018, the UNGA again

\textsuperscript{59} ibid.
\textsuperscript{60} ibid [45].
\textsuperscript{61} Report of the International Law Commission - Sixty-eighth session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 14 Art. 3(a).
\textsuperscript{62} Report of the International Law Commission - Sixty-first session (4 May - 5 June and 6 July -7 August 2009), GAOR, 64\textsuperscript{th} sess, Supp No 10, UN Doc A/64/10, 339 [169].
\textsuperscript{63} ibid 339 [170].
\textsuperscript{64} ibid 340 [172].
\textsuperscript{65} ibid.
\textsuperscript{66} ibid.
\textsuperscript{67} ibid.
\textsuperscript{68} Report of the International Law Commission - Sixty-eighth session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 14 Art. 3.
\textsuperscript{69} ibid 17 Art. 18.
\textsuperscript{70} ibid. Art. 18: “(1) The present draft articles are without prejudice to other applicable rules of international law. (2) The present articles do not apply to the extent that the response to a disaster is governed by the rules of international humanitarian law.”
\textsuperscript{71} ibid 13 [45] - [46].
\textsuperscript{72} Protection of persons in the event of disasters, GA Res 71/141, 71st sess, Agenda Item 78, UN Doc A/RES/71/141 (19 December 2016), paras 1 and 3.
took note of the *Draft Articles* and decided to inform the states that it was advised by the ILC to adopt the draft into a treaty.\textsuperscript{73}

\textsuperscript{73} Protection of persons in the event of disasters, GA Res 73/209, 62nd plenary mtg, UN Doc A/RES/73/209 (20 December 2018).
2. The Approach of This Research

The question now arises as to which understanding of the notion of ‘disaster’ is the most suitable for the research at hand. The answer to this question is simple: the situational approach seems to fit the best, as it is found, for example, in the Tampere Convention. Yet, for the purposes for this research, the local capacity requirement should also be included.

This research focuses on the obligation of States before and in the aftermath of a calamitous event. Since the event as such cannot be prevented, the access point to this research should regard what can be done to prevent the situation from escalating in such a way – in other words to minimise the risk. Therefore, the approach in this research needs to be a situational approach. Additionally, as mentioned above, it is also necessary to take into account environmental and material damages. As those can have a devastating effect on the quality of life also of human beings. Additionally, not every potential calamitous event calls for international help. For example, in March 2017, Tropical Cyclone Debbie, category 4, hit the shore of Queensland, Australia. As the Australian Government was capable of coping with the consequences of the disaster situation, however, no international assistance was needed. Since this research focuses on situations where international assistance is needed, the logical conclusion is that the local capacity element, as found in the definition of the IASC and introduced in the formula of the IFRC, has to be included into the definition.

The IFRC sees a disaster as the impact of a hazard on vulnerable people and uses the following formula to explain: “(Vulnerability + Hazard) / Capacity = Disaster”

According to the IFRC, this formula shows that “the combination of hazards, vulnerability and inability to reduce the potential negative consequences of risk results in disaster.” At the same time, it understands ‘hazard’ as a “threatening event, or probability of occurrence of a potential damaging phenomenon within a given time period and area.” In other words, ‘hazard’ means the risk of a calamitous event occurring.

However, this understanding, and in particular the formula, has to be modified for two reasons. Firstly, a risk needs to be multiplied and not added. Secondly, although this formula describes the subsequent situation and not the event itself, the hazard should be replaced with the event itself, as it depends more on the event and its respective intensity and not on the general risk of whether it will be a disaster situation.

This can be achieved by merging the two understandings of the IASC and the Tampere Convention. The merging is necessary because the definition by the IASC does not make any references to slow-onset and sudden-onset disasters. This reference is, however, made in the Tampere Convention. Since this research focuses mainly on the consequences of climate change, it is necessary to include slow-onset events in the definition in order to subsume climate-change-related disasters.

As such, the best approach for this research is a combination of the Tampere Convention as well as the ISAC definition, which is as follows:

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74 Cyclone Debbie reaches category four, thousands in low-lying Mackay areas told to leave, above n 4.
75 IFRC, above n 37.
76 ibid.
78 Inter-Agency Standing Committee, above n 39, 5; reaffirmed in: Inter-Agency Standing Committee, IASC Operational Guidelines on the Protection of Persons in Situations of Disasters (The Brookings-Bern Project, 2011) 55. “A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.”
'Disaster’ means a serious disruption of the functioning of a community or society. Posing significant threat to human life, health, property or the environment, whether developed suddenly or as the result of complex long-term processes, and which exceed the ability of the affected community or society to cope using its own resources.

In order to explain this rather long and complex definition in one single line, the formula introduced by the IFRC can be used as an example. As explained above, it requires some modification in order to be practical for this research:

\[(Vulnerability \times Event) / Ability to Cope = Intensity of Disaster Situation.\]

Vulnerability means the current vulnerability to the negative consequences to a specific event. For example, it is common sense that people living in extreme poverty are more likely to suffer from damages to their housing after an earthquake or hurricane, as they do not have, *per se*, the resources to build safer.

Taking into consideration the ‘ability to cope’, not all events and their consequences lead to major disasters that call for international aid. Thus, this factor indicates whether the community or the society has the means to cope with the situation at hand.

At this current stage, and for the purposes of this research, the above shown formula is not used to calculate the exact intensity of a disaster situation. It rather serves as an illustration and should help to explain the notion of ‘disaster’ used for this research.
Chapter II: Disaster Cycle and Legal Framework

With definition of disaster used in this research established, this chapter puts now the term ‘disaster’ into its context. That IDL is a complex area of international law that lacks coherence has been explained above. The question of the context in which ‘disaster’ applies is first explained in this chapter. The second part deals with the complexity of IDL, as such, and maps its legal framework.
1. The Disaster Cycle and Historical Background

Calamitous events and the following disaster situations do not occur in uniform order. Other factors such as compensation and rebuilding also play a significant role, in particular for future events. In order to fully comprehend the complexity of IDL, it is important to acknowledge this fact and view disasters as a cycle that will be repeated over time and not only one time:

![Disaster Cycle Diagram]

Figure 1: Disaster cycle

In order to understand the full complexity of disasters, and as such, IDL, it is important not to focus on only one of these five phases, for example the most predominant in the media: the emergency phase. The disaster cycle has not only the purpose to serve in an explanatory way; rather, it can also serve as a disaster-management tool. In every phase, steps can be taken in order to minimise the negative consequences for a society or community and, thus, increase the ability of the community or society to cope with the situation.

The following sections explain the content of the various stages of a disaster and introduce also some historical background to explain how IDL developed in international law over the last centuries.

1.1. Risk mitigation

The phase of risk mitigation deals primarily with pre-disaster mitigation. Mitigation has the aim to reduce the possible impact or the likelihood of the calamitous event before it happens. Mitigation and its success or failure also plays a significant role in whether the upcoming calamitous event results

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79 Daniel A Farber, 'International Law and the Disaster Cycle' in David D Caron, Michael J Kelly and Anastasia Telesetsky (eds), The International Law of Disaster Relief (Cambridge University Press, 2014) 7, 10; Daniel A Farber, 'Legal Scholarship, the Disaster Cycle, and the Fukushima Accident' (2012) 23 Duke Environmental Law & Policy Forum 1, 3.
80 Farber, 'Legal Scholarship, the Disaster Cycle, and the Fukushima Accident', above n 79, 4.
81 ibid 3.
82 ibid 4.
83 ibid.
84 ibid.
in a routine, manageable disruption or in a major disaster. Yet, as already mentioned, risk mitigation is performed not only at this stage, it can rather also be applied in all other stages.

The importance of risk mitigation, or disaster risk reduction, was stressed out by the UN with the declaration of the 1990s as the ‘International Decade for Natural Disaster Reduction’. The UNGA decided to include a World Conference on Natural Disaster Reduction in its work during the 1990s. The conference took place in Japan in 1994, and the outcome was the Yokohama Strategy and Plan of Action for a Safer World (Yokohama Strategy) that was endorsed by the UNGA in the same year. The Yokohama Strategy includes general principles, a strategy and a plan for action. A second conference was held, also in Japan, in January of 2005, about one month after the 2004 Indian Ocean tsunami. During this conference, the Hyogo Declaration and the Hyogo Framework for Action 2005 – 2015: Building Resilience of Nations and Communities to Disasters (Hygo Framework) were adopted. In 2015, the third conference was held in Sendai, Japan. The outcome was the Sendai Framework for Disaster Risk Reduction 2015 – 2030 (Sendai Framework), which is the current policy in place. At the end of the disaster reduction decade, the UNGA decided to establish an inter-agency task force and an inter-agency secretariat for disaster reduction (UNISDR). This research deals with risk reduction as presented in the various sections below.

1.2. Disaster event and emergency response

Risk-mitigation measures are closely linked to whether the approaching event will cause a routine response that is manageable for the affected state or community or whether it instead leads to a major disaster situation that calls for international response. This section focuses on major disaster situations and, as such, situations in which international help is required. It aims to give a historical overview of how the law concerning emergency responses in the aftermath of disasters slowly developed in the international law community over the past few centuries and how it stagnated after World War II.

1.2.1. The 1755 Lisbon earthquake and Emer de Vattel

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85 ibid.
92 ibid 6 - 27.
94 International Decade for Natural Disaster Reduction: successor arrangements, GA Res 54/219, GAOR, 54th sess, Agenda Item 100 (b), UN Doc A/RES/54/219 (3 February 2000), para 12.
95 See below Chapters: Financing Early Warning Mechanisms, Funding for the Reconstruction Phase and The Responsibility of the Affected State before the Disaster on the pages 49, 78 and 139.
On the 1 November 1755, a tragic earthquake hit Lisbon. The earthquake was followed by severe fires, caused by cooking fires and candles as well as a tsunami that hit the city with three waves. This series of events caused the death of about a quarter of the inhabitants of Lisbon. After this tragic event, King George II of England asked the British parliament to send speedy relief to Lisbon.

Emer de Vattel referred to this relief operation carried out by England as an example of natural international solidarity. He introduced the idea that every State should have ‘offices of humanities between nations’. Those ‘consist generally in doing everything in our power for the preservation and happiness of others, as far as such conduct is reconcilable with our duties towards ourselves’, and thus consist in altruistic obligations. De Vattel names famine, in particular, as an example where such humanitarian assistance should be rendered from one State to another. However, those obligations to assist are only secondary; first a state has to fulfil its duties toward itself. Additionally, linked to de Vattel’s understanding of sovereignty as the independence of states, a state cannot force its offices of humanities upon one another, in the sense that ‘every nation being free, independent, and sole arbiteress of her own actions, it belongs to each to consider whether her situation warrants her in asking or granting anything on this head.’

As such, by introducing this altruistic obligation of states, de Vattel moved away from the understanding that humanitarian assistance is rendered only on the basis of bilateral contracts or private initiatives. Next to this obligation, he also describes the limits that are remain current in contemporary international law, namely the obligation of a State to protect its own citizenry and the dependency of other States on the willingness of the affected State to accept humanitarian assistance.

1.2.2. The beginning of the Red Cross and Crescent Movement

Around a century later, in 1859, Henry Dunant witnessed the battle of Solferino and was shocked by the treatment of wounded soldiers. In answer to his experience, he started to advocate for rules for the protection of victims of international armed conflicts and for the establishment of a relief organisation.
1.2.3. The International Relief Union

After the devastating earthquake in Messina in the year 1908, the president of the Italian Red Cross Society presented the idea of constructing an organisation that ensures solidarity and humanitarian assistance for victims of natural disasters.116 This idea was presented at the International Conference of the Red Cross in the year 1921 and was taken up by the League of Nations in the year 1922.117 The Convention and the Statute for the IRU were adopted on 12 July 1927.118 In its short duration, the IRU rendered relief actions in two disasters. Firstly, in 1934 as an earthquake struck Orissa (India) and in the year 1935 in Baluchistan (Pakistan) when serious earthquakes also struck this region.119 After

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108 Macalister-Smith, above n 100, 9; Henry Dunant, A Memory of Solferino (International Committee of the Red Cross (1866), first published 1862); Jansen-Wilhelm, above n 106, 27.
110 ibid.
111 ibid.
112 ibid.
114 ibid.
116 MD Byrne, 'The International Relief Union' (1928) 134 The Contemporary Review 365, 365; Peter Macalister-Smith, 'International Relief Union-Reflections on the Convention Establishing an International Relief Union of July 12, 1927' (1986) 54 Tijdschrift voor rechtsgeschiedenis 363, 364.
118 ibid 366; IRU Convention.
World War II, when the United Nations replaced the League of Nations, the majority of the members of the IRU found it reasonable to transfer the IRU into an appropriate UN agency. It was not until the year 1967 when the final transference happened, and the IRU was transferred into the United Nations Educational Scientific and Cultural Organization (UNESCO) and thus had to cease all its activities.

1.2.4. United Nation’s undertakings in disaster relief

Already, before the United Nations was formally founded with the adoption of the Charter of the United Nations (UN Charter) in the year 1945, the United Nations Relief and Rehabilitation Administration (UNRRA) was adopted on 9 November 1943. The UNRRA’s purpose was to offer relief to the victims of the Second World War by providing relief goods such as food, fuel, clothing and shelter. Thus, contrary to the IRU, the UNRRA focused on the response to war and not on natural disasters. After World War II, the UNRRA was terminated.

After the UNRRA was liquidated and the IRU was successfully terminated and transferred to UNESCO, the United Nations established in 1971 the position of the Disaster Relief Coordinator. The Disaster Relief Coordinator proposed the 1984 Draft Convention, which was never turned into a legally binding convention. Then, around 20 years later, the ILC started its work on the topic of the protection of persons in the event of disasters, which was been submitted in 2016 to the UNGA for the adoption of an international treaty in this matter. This treaty would represent the first comprehensive binding legal instrument dealing with the rights and obligations of individuals and States in the area of IDL.
1.3. Compensation, insurance and rebuilding

Compensation, insurance and rebuilding, together with the risk mitigation, play a very important role in disaster management. As explained above, the separate phases of the disaster cycle cannot be seen individually, but rather all together, especially since every phase contributes to successful risk mitigation. Thus, during the rebuilding phase, methods can be applied that lessen the impacts of future events.\(^{129}\)

However, the financing of the rebuilding and reconstruction of the affected area is usually a challenge. Generally, three possibilities exist for financing: (1) private insurance, (2) tort litigation and (3) governmental aid or aid from international organisations.\(^{130}\) As such, it is no surprise that insurances or the World Bank are conducting a significant part of the research concerning disaster risk assessment and risk reduction.\(^{131}\) Although insurances seem to play a significant role in financing the consequences of a natural disaster, the numbers on how many loss events are not insured are dramatic. According to a 2017 study of the reinsurer Munich Re on the loss events, in 2016 a total of 750 loss events were counted.\(^{132}\) Those lead to an estimated overall loss of USD 175bn whereof only USD 50bn was covered by insurance: a mere 28.57%.\(^{133}\)

The second pillar, tort litigation, has its limits, especially also in developed countries.\(^{134}\) In 2015 a Peruvian farmer sued a German energy company for climate-related possible future damages on his property. His claim was based on the idea that the energy company with its high share of the global greenhouse gas (GHG) emissions is responsible for climate change and its related damages. The Landgericht Essen dismissed the claim in December 2016, *inter alia*, on the grounds of causation.\(^{135}\)

There are several international organisations relevant to the third option. For example, the International Monetary Fund (IMF) can make funds available for States struggling with the financial consequences of a natural disaster.\(^{136}\) The World Bank also has funds available for those countries; such funds were made available, for example, in Indonesia after the 2004 Southeast Asian Tsunami and the devastating earthquake in Haiti in 2010.\(^{137}\)

Consequently, when talking about disaster management, not do only the emergency response phase and the risk-mitigation phase have to be considered. The above-mentioned rebuilding and compensation phase is as important. However, the current system exhibits gaps, and it is shocking that roughly only around 28.57% of all material losses are insured. This research focuses in its second part

\(^{129}\) Farber, 'Legal Scholarship, the Disaster Cycle, and the Fukushima Accident', above n 79, 4.

\(^{130}\) Farber, 'International Law and the Disaster Cycle', above n 79, 17.


\(^{133}\) ibid 55.

\(^{134}\) Farber, 'International Law and the Disaster Cycle', above n 79, 17.


\(^{136}\) see in general: Joseph Gold, 'Natural disasters and other emergencies beyond control: assistance by the IMF' (1990) 24 *The International Lawyer* 621; Farber, 'International Law and the Disaster Cycle', above n 79, 17.

on the financial aspect of natural disasters and how other States have an obligation to financially assist affected developing States.\textsuperscript{138}

\textsuperscript{138} See below the Chapters: Financing Early Warning Mechanisms and Funding for the Reconstruction Phase on pages 49 and 78.
2. Mapping the Legal Framework

As described above, IDL is a fragmented area of law. Therefore, various areas of international law are applicable. This section aims to map the already existing legal framework applicable to this research.

The first part of this sections deals with the applicability of IHL and IHRL. Those fields of law are especially relevant to the questions of what rights the individuals have and, by contrast, what obligations the affected State has. The second part deals with international environmental law with a strong focus on international climate change law. This area of law is relevant for the questions dealing with the relationship between States, in particular between suffering and polluting States.

2.1. International humanitarian and human rights law

International humanitarian and human rights law is of great relevance during the emergency response phase but is obviously not limited to it. This section firstly discusses IHL, which helps establish the rules and guidelines that need to be followed with regard to delivering humanitarian assistance to the persons in need. The second discusses IHRL, which helps to elucidate the general guidelines for States, on how to manage an emergency situation and early warning in the risk-mitigation phase.

2.1.1. International humanitarian law

Because this research focuses on natural disasters and not on armed conflict, it seems at first glance not entirely correct to include IHL into the legal framework of this study. However, there are overlapping ideas and values in both areas, such as humanitarian assistance and the humanitarian principles, which have been included in the Draft Articles. Therefore, this section applies IHL by analogy to the case of natural disasters.

This section focuses on the four Geneva Conventions of 1949 and the respective Additional Protocols thereto, as well as on an analysis of the concept of State sovereignty. State sovereignty holds a special position within IDL and such is analysed first. Afterwards, a special focus is rendered on the Geneva Convention Relative to the Protection of Civilians Persons in Time of War (Geneva


1. Part: Introduction and general principles

Convention IV), as it deals with the protection of civilians during armed conflict and, as such, also includes rules on the provision of humanitarian assistance.

2.1.1.1. State sovereignty and humanitarian assistance

The idea of equal nations within the international legal order goes back to the Peace of Westphalia (1648), which consisted in treaties among the European leaders at that time to end what is known as the 30 Years War in Europe. From this understanding the modern concept of State sovereignty developed. The concept of State sovereignty is divided into an external as well as an internal aspect. The external aspect of State sovereignty has been described with the maxim: par in parem non habet imperium and reflects the equality of states. This maxim is reflected by Article 2(1) of the UN Charter. Thus, the equality of States embodies the territorial integrity of states, which is “[…] an essential foundation of international relations.”

On the other side, there is the internal aspect of State sovereignty. This aspect defines the competence of a state within its jurisdiction, which is often referred as the domaine réservé. According to Article 2(7) of the UN Charter, the UN is not allowed to intervene in matters purely within a State’s domestic jurisdiction. This implies that not only does the UN have to refrain from intervening in matters that belong to the domaine réservé, but rather also by other States.

This concept of State sovereignty and especially the respect for the territorial integrity of States has started to be redefined within the international legal order. So have, for example, the current ‘war on terror’ and humanitarian interventions inflamed the discussion on State sovereignty. In the context of this research, in particular the provision of humanitarian assistance in the aftermath of a natural disaster, especially the principle of non-intervention, is crucial. Specifically, since humanitarian assistance comprises not only the provision of supplies but rather also includes relief personnel that need to be deployed to the affected area in the territory of the affected State. As such, if these personnel enter the territory of the affected State without permission, this could constitute a violation of the principle of non-intervention.

143 James Crawford, Brownlie's principles of public international law (Oxford University Press, 2012) 448.
144 UN Charter Art. 2(1): “The Organization is based on the principle of the sovereign equality of all its Members”.
146 UN Charter Art. 2(7): “Nothing contained in the present Charter shall authorize the United Nations to intervene in matters which are essentially within the domestic jurisdiction of any state or shall require the Members to submit such matters to settlement under the present Charter; but this principle shall not prejudice the application of enforcement measures under Chapter VII.”
147 Kuijt, above n 172, 126.
149 Amelia Telec, 'Challenges to State Sovereignty in the Provision of International Natural Disaster Relief' in David D Caron, Michael J Kelly and Anastasie Telesetsky (eds), The International Law of Disaster Relief (Cambridge University Press, 2014) 270, 270.
150 Kuijt, above n 172, 127.
The principle of non-intervention has its roots from the principles of sovereignty and equality of states and is enshrined in Article 2(4) of the UN Charter. In its Nicaragua decision, the ICJ discussed also the principle of non-intervention. The court explained that any direct or indirect interference in to the internal affairs of a State and in particular with force is a violation of this principle. However, the court further declared that the provision of humanitarian assistance cannot be regarded as an interference with the internal matters of State, if it is carried out in the light of the fundamental principles of the Red Cross and as such is, in particular, delivered without discrimination. Yet, the ICJ did not discuss how the entry into the territory of the State for the purpose of humanitarian assistance has to be legal classified and left the legal community in limbo in this regard.

This limbo was notable after the Cyclone Nargis hit Myanmar in 2008 and its government refused to accept international humanitarian assistance for close to a month. Subsequently, the international community started discussing whether they should enter the territory of Myanmar without consent of the government in order to provide humanitarian assistance to the victims of the cyclone. The idea was to get a Security Council Resolution authorising humanitarian intervention in Myanmar. Yet, this proposal was not successful. This example shows how important the consent of the respective State is in gaining access to the territory of the affected country. This difficulty has been reflected by the ILC in its Draft Articles, where Article 13 affirms,

“(1) The provision of external assistance requires the consent of the affected State.

(2) Consent to external assistance shall not be withheld arbitrarily.

(3) When an offer of external assistance is made in accordance with the present draft article the affected State shall, whenever possible, make known its decision regarding the offer in a timely manner”

The ILC argues that this principle of consent is fundamental to international law. Furthermore, the ILC describes the notion of consent as

“the expression of the will of the sovereign who, thereby, permits activities on its territory that may otherwise constitute violations of the principle of non-intervention.”

This view not only is reflected by the Draft Articles, but also has a basis in other instruments such as the Geneva Conventions, the Tampere Convention or the UNGA Resolution 46/182.

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151 UN Charter Art. 2(4): “All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.”


153 ibid 124 - 5 [242] - [243].

154 Kuijt, above n 172, 128-9.


156 Renshaw, above n 155, 174.

157 ibid.

158 ibid 177.


160 ibid 59.

161 Eduardo Valencia-Ospina, Special Rapporteur, Fourth report on the protection of persons in the event of disasters, 63rd sess, UN Doc A/CN.4/643 (11 May 2011), 16 [52].

162 See generally: Eduardo Valencia-Ospina, Third report on the protection of persons in the event of disasters,
However, at the same time, the Draft Articles express that consent to outside humanitarian assistance should not be withheld arbitrarily.\textsuperscript{163} This specification corresponds to the idea that State sovereignty not only embodies rights but also includes obligations.\textsuperscript{164} Thus, the affected State has the obligation to ensure protection and assistance to those in need and those in its territory or under its jurisdiction.\textsuperscript{165} This obligation has also been acknowledged by the UNGA, where it considers that “the abandonment of the victims of natural disasters and similar emergency situations without humanitarian assistance constitutes a threat to human life and an offence to human dignity.”\textsuperscript{166}

Consequently, in order to respect the territorial sovereignty of the affected State and as such the principles of non-intervention, the humanitarian actors that wish to enter the affected territory need the consent of the affected State. Although the ICJ has not ruled on that particular matter, it has been reflected several times by various international bodies, such as just recently by the ILC with the adoption of the Draft Articles. Yet, the ILC affirms at the same time that this understanding of territorial sovereignty is not absolute, since the consent may not be withheld arbitrarily. This topic will be discussed in more detail and depth below in the respective section that deals with the provision of humanitarian assistance.\textsuperscript{167}

\subsection*{2.1.1.2. The concept of humanitarian assistance}

The concept of humanitarian assistance is not clearly defined in international law, especially with regard to the content of humanitarian assistance. Although the exact content is not exhaustively defined, it is at the same time clear that not everything is able to fall within the scope of humanitarian assistance. As this research focuses in the second part also on humanitarian assistance, it is necessary to define the concept of ‘humanitarian assistance’. In order to define this concept, it is appropriate to have a look on IHL and how it defines ‘humanitarian assistance’. Relevant in this context are, on first sight, Geneva Convention IV and the First Additional Protocol, which both deal with the protection of civilians during armed conflict.

The provisions with regard to Humanitarian assistance found in Geneva Convention IV, deal primary with the situation in an occupied territory.\textsuperscript{168} The occupying power has primarily the obligation to supply the civilian population with “necessary foodstuffs, medical stores and other articles […]”.\textsuperscript{169} This, however, only if the resources found in the occupied territory are insufficient.\textsuperscript{170} If the occupying

\begin{flushright}
\textsuperscript{163} Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 59.

\textsuperscript{164} Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 16 Art. 13(2).

\textsuperscript{165} Humanitarian assistance to victims of natural disasters and similar emergency situations, GA Res 43/131, UN GAOR, 75th plenary mtg, UN Doc A/RES/43/131 (8 December 1988), Preamble para 8; Humanitarian assistance to victims of natural disasters and similar emergency situations, GA Res 45/100, UN GAOR, 68th plenary mtg, UN Doc A/RES/45/100 (14 December 1990), Preamble para 6.

\textsuperscript{166} See below Chapter: The Responsibility of the Affected State During and in the Aftermath of a Disaster on page 105.

\textsuperscript{167} Geneva Convention IV Art. 55 and 59.

\textsuperscript{168} ibid Art. 55.

\textsuperscript{169} ibid.
\end{flushright}
power is not able to supply the civilian population with those goods, then the occupying power shall agree to relief schemes, which consist in the facilitation of relief goods such as ‘the provision of consignments of foodstuff, medical supplies and clothing.’¹⁷¹

These lists of relief goods have been elaborated by the AP1.¹⁷² The Protocol Additional to the Geneva Conventions of 12 August 1949 and Relating to the Protection of Victims of International Armed Conflicts (AP 1) extends the possible content of basic needs in occupied territories: Article 69 AP1 mentions expressly “clothing, bedding, means of shelter and other supplies necessary to the survival of the civilian population […] and objects necessary for religious worship.”¹⁷³ Article 70 AP1 deals with relief actions and is applicable in situations other than occupied territories. The provision makes a reference to Article 69 AP1 by saying relief actions shall be undertaken if the civil population “is not adequately provided with the supplies mentioned in Article 69 […]”.¹⁷⁴ Nonetheless, Article 70 AP1 does not specify what the possible content of humanitarian assistance could be. Yet, through the reference to Article 69 AP1 the provision makes clear, that the minimum standard are the items and services listed in Article 69 AP1. Thus, also relief actions in not occupied territories should at least consist in these consignments or even go further, as the individuals in those situations lack the most basics in their everyday live that is necessary for survival.

Yet, Geneva Conventions and their Additional Protocols are not the only source for identifying the concept of ‘humanitarian assistance’. Other bodies within the international community have taken an approach with regard to defining ‘humanitarian assistance’ and in particular the content.

Within the UN system the UNGA took an approach in its resolution 2717 (15 December 1970). There it described the content of humanitarian assistance inter alia to be consistent of “medicines, non-perishable foodstuffs, blankets and clothing, and the earmarking of other facilities such as logistical equipment and helicopters.”¹⁷⁵ One year later the Economic and Social Council (ECOSOC) adopted its Resolution 1612 (LI), which deals specifically with the assistance in the time of natural disasters. There it makes references to emergency aid and states that it consist inter alia of “[…]food supplies, medicines, personnel, transportation and communications […]”.¹⁷⁶ In the same time, the ECOSOC also invites potential affected States “to establish stockpiles of emergency supplies such as tents, blankets and non-perishable foodstuffs.”¹⁷⁷ Also the 1984 Draft Convention included a possible definition of the content of humanitarian assistance.¹⁷⁸ In its provision the 1984 Draft Convention also included a list of goods as a possible content again that list is non-exhaustive.¹⁷⁹ In the 1990s the UN came up with a new resolution that, again, included rather a list of possible goods and services than an abstract formulation of the content of humanitarian assistance.¹⁸⁰ Moreover also the ICJ looked on

¹⁷¹ ibid Art. 59.
¹⁷² Contrary: Kuijt, above n
¹⁷³ Additional Protocol I Art. 69(1).
¹⁷⁴ ibid Art. 70(1).
¹⁷⁵ General Assembly, Assistance in cases of natural disasters, 2717, UN Doc A/2717 (15 December 1970), para. 5(c).
¹⁷⁶ ECOSOC, Assistance in cases of natural disaster and other emergency situations, 1612 (LI), 179th mtg, UN Doc E/1612 (LI) (23 July 1971), para. 7.
¹⁷⁷ ibid para. 8(c); see also: Kuijt, above n 172, 34.
¹⁷⁸ Draft Convention on expediting the delivery of emergency assistance, UN Doc A/39/267/Add.2 and E/1984/96/Add.2 (18 June 1984), Art. 1(c).
¹⁷⁹ ibid Art. 1(c); the list includes inter alia: vehicles, foodstuffs, seeds and agriculture equipment, medical supplies, blankets, shelter materials and other goods of prime necessity.
the concept of humanitarian assistance in its decisions. It also used a very narrow approach in its Nicaragua Judgment, by giving examples of a possible content of humanitarian assistance.\textsuperscript{181} The ICJ further elaborated, that the assistance needs to be strictly humanitarian and must reflect the principle of non-discrimination.\textsuperscript{182}

By looking outside of the UN system, it there exist indeed abstract formulations. For example the \textit{International Guidelines for Humanitarian Assistance Operations} defines ‘humanitarian assistance’ as “urgent material consignment and related services of exclusively humanitarian character including personnel.”\textsuperscript{183} Through this abstract formulation, this understanding is broader than that within the UN system, which uses specific examples. Two years later, in 1993, the \textit{San Remo Principles} were adopted. Contrary to the \textit{International Guidelines for Humanitarian Assistance Operations} they, like the UN system, mention a list of possible items and services rather than an abstract formulation.\textsuperscript{184} At the same time, however, they recognise the importance of religious and spiritual assistance, which the \textit{International Guidelines for Humanitarian Assistance Operations} do not.\textsuperscript{185} Around 10 years later, the Institute for International Law came up with the \textit{Bruges Resolution}, which specifically focuses on humanitarian assistance.\textsuperscript{186} The \textit{Bruges Resolution} uses an abstract description of humanitarian assistance. It defines this assistance as

“[…] all acts, activities and the human and material resources for the provision of goods and services of an exclusively humanitarian character, indispensable for the survival and the fulfilment of the essential needs of the victims of disasters.”\textsuperscript{187}

In order to give teeth to this abstract formulation, the \textit{Bruges Resolution} also defines the terms services and goods in subparagraphs. These definitions are again lists of possible items and services. Here, also religious, spiritual and psychological services are included.\textsuperscript{188}

For the purposes of this research, the understanding of the \textit{Bruges Resolution} seems the most adequate and acceptable approach for two reasons. Firstly, the definition combines an abstract formulation with a non-exhaustive list of possible goods and services. This approach is beneficial because the abstract formulation makes it possible to adapt the list of goods and services to the specific circumstances, which are mostly complex situations. Secondly, it takes both services and goods into consideration. This dual consideration is of great importance since the mere supply of goods might in many circumstances not be enough, and in particular, medical and psychological services are also needed.

### 2.1.1.3. The principles of humanity, impartiality, neutrality and non-discrimination

Next to the content of humanitarian assistance, there are of course also standards on how the humanitarian assistance has to be delivered to the persons in need. Both the UNGA with its Resolution 46/182 as well as the ILC with its work on the \textit{Draft Articles} acknowledge that the provision of

\begin{itemize}
  \item \textsuperscript{181} \textit{Military and Paramilitary Activities in and Against Nicaragua (Nicaragua v United States of America) (Judgment)} [1986] ICJ Rep 14 (‘Nicaragua Case’).
  \item \textsuperscript{182} ibid 124 [242].
  \item \textsuperscript{183} Peter Macalister-Smith, \textit{International Guidelines for Humanitarian Assistance Operations} (Max Planck Institute for Comparative Law and International Law, 1991) Principle 2 (a).
  \item \textsuperscript{184} International Institute of Humanitarian Law, \textit{Guiding Principles on the Right to Humanitarian Assistance} (International Institute of Humanitarian Law, 1993).
  \item \textsuperscript{185} ibid Principle 9.
  \item \textsuperscript{186} Institute of International Law, \textit{Resolution ‘Humanitarian Assistance’}, Bruges sess, (2 September 2003).
  \item \textsuperscript{187} ibid 3 [1].
  \item \textsuperscript{188} ibid 3 [1a].
\end{itemize}
humanitarian assistance has to be guided by the cardinal humanitarian principles of humanity, neutrality, impartiality and non-discrimination. These principles are addressed in this section.

a) The principle of humanity

The principle of humanity is a cornerstone principle for the protection of persons in international law. The principle of humanity was already reflected in the 1899 Martens Clause, which is embodied today in Article 1(2) of AP I. This provision stipulates that even if the Geneva Conventions and its related protocols and any other instrument are not applicable to the specific situation, civilians and combatants remain under the protection of customary international law, the principle of humanity itself and the public conscience.

The principle of humanity has also been considered in jurisprudence. The ICJ was confronted several times with the principle of humanity in its decisions. In its Corfu Channel Case, the ICJ explained that the principle of humanity cannot be invoked only during wartime; rather, it also applies and is even more exacting in time of peace. In a later decision, the ICJ highlighted the importance of the humanitarian principles by observing that the fundamental principles of IHL, including humanity, “constitute intransgressible principles of international customary law.”

The substance of the principle of humanity is divided into three pillars: (1) to prevent and alleviate suffering. This is the primary function of the International Red Cross and Red Crescent Movement, not just in times of war but also in peace. With regard to disaster relief also other non-binding instruments as the Oslo Guidelines as well as the Mohonk principle address that “human suffering must be addressed wherever it is found.” (2) The second pillar is to protect life and health, and (3) the third is to assure respect for the individual. Thus, in order to explain the meaning of humanity, the principle of humanity cannot be invo

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192 See generally Kuijt, above n 172, 40.

193 Additional Protocol I Art. 1(2).


195 ibid 22.

196 Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) [1996] ICJ Rep 226, 35 [79].

197 See generally Jean Pictet, The Fundamental Principles of the Red Cross: Commentary (International Federation of Red Cross and Red Crescent Societies, 1979) 14-17; see also: Military and Paramilitary Activities in and Against Nicaragua (Nicaragua v United States of America) (Judgment) [1986] ICJ Rep 14, 125 [243] ("Nicaragua Case").

198 Pictet, above n 196, 14.


200 Pictet, above n 196, 16.

201 ibid 17.
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it is easier to explain what it is certainly not. The principle of humanity is the clear opposite of “inhumane treatment, the denial of human rights or the degradation of the person, all of which imply the absence of respect and dignity.”

b) The principle of impartiality

Within the statutes of the International Red Cross and Red Crescent Movement, the principle of impartiality means that the movement

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

Thus, the substance of impartiality is divided into three different components: (1) non-discrimination, (2) proportionality and (3) impartiality as a distinguished principle.

With regard to the context of IDL, the ILC has expressed in its commentary to the Draft Articles that, in their view, the principle of non-discrimination needs, because of its importance, to be addressed separately as a distinguished principle. Because of its significance, this research addresses the principle of non-discrimination separately below.

The notion of proportionality serves as a mechanism for the provision of humanitarian assistance. Proportionality means that the humanitarian actors prioritise individuals whose need of humanitarian assistance is more urgent than that of others. The distinguished principle of impartiality, on the other hand, does not refer to the means of delivery of humanitarian assistance. Rather, it refers to the obligation of the individual or the organisations delivering humanitarian assistance to be impartial in their decision-making process. Thus, “humanitarian assistance should be provided on an impartial basis without any adverse distinction to all persons in need.”

c) The principle of neutrality

The Geneva Conventions make no specific reference to the principle of neutrality. However, there are a few provisions that clearly indicate that any humanitarian actor, in order to be under the protection of the Geneva Conventions, must follow the fundamental principles, of which neutrality is one.

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202 Fast, above n 190, 115.
203 ibid.
204 Statutes of the International Red Cross and Red Crescent Movement, Resolution 1 of the 29th International Conference of the Red Cross and Red Crescent, Preamble (Statutes of the International Red Cross and Red Crescent Movement).
205 Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 34.
206 ibid.
207 ibid.
208 Pictet, above n 196, 27.
209 ibid 32; Kuijt, above n 172, 44.
211 Geneva Convention I Art. 44(2); Geneva Convention IV Art. 63(a); Additional Protocol I Art. 81 (2)-(3); Kubo Mačák, 'A matter of principle(s): The legal effect of impartiality and neutrality on States as humanitarian actors' (2015) 97(897-898) International Review of the Red Cross 157, 167; see also common Article 3 to all Four Geneva Conventions.
The fundamental principle of neutrality asks humanitarian actors to neither take sides in hostilities nor engage in any controversies of any kind, such as of political, racial, religious or ideological nature.\textsuperscript{212} Neutrality is important in order to enjoy the confidence the parties give to the humanitarian actor in place.\textsuperscript{213} In the context of humanitarian assistance in the situation of a disaster, neutrality ensures that humanitarian activities follow only the purpose of responding to the disaster.\textsuperscript{214} Thus, the interests of the individuals affected by the disaster have to be the primary concern of the involved humanitarian actor.\textsuperscript{215}

\textit{d) The principle of non-discrimination}

As explained above, traditionally this principle belongs to the notion of impartiality. However, the ILC decided to treat the principle of non-discrimination, because of its importance, as a separate principle.

The principle of non-discrimination is not only anchored in IHL, it is also a very important cornerstone of international human rights law (IHRL). Thus, major human rights instruments deal with the principle of non-discrimination.\textsuperscript{216} The principle of non-discrimination demands that there is no discrimination based on any grounds such as race, ethnic origin, sex, political opinions, religion or disability.\textsuperscript{217} Yet, this list is, in its very nature, inhaustive, and other grounds are consequently possible.\textsuperscript{218}

Providing humanitarian assistance in the case of natural disasters, nevertheless, requires that the needs of particular vulnerable individuals be taken into consideration – despite the principle of non-discrimination.\textsuperscript{219} The ILC has expressed this idea in Article 6 of the \textit{Draft Articles}, by including the phrase “[…] while taking into account the needs of the particularly vulnerable.”\textsuperscript{220} At the same time, the ILC decided not to include a list of vulnerable groups, as all affected individuals by a disaster are, \textit{per se}, vulnerable.\textsuperscript{221} Moreover, by not including a list of vulnerable groups, the ILC reflects the

\textsuperscript{212} Statutes of the International Red Cross and Red Crescent Movement Preamble; Oslo Guidelines - Guidelines on the use of foreign military and civil defence assets in disaster relief from OCHA, 12 [20] <https://docs.unocha.org/sites/dms/Documents/Oslo%20Guidelines%20ENGLISH%20(November%202007).pdf>; Ebersole, above n 199, 196.

\textsuperscript{213} Ibid.

\textsuperscript{214} Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 34.

\textsuperscript{215} Ibid.


\textsuperscript{217} Ibid.

\textsuperscript{218} Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 34.

\textsuperscript{219} Ibid 35.

\textsuperscript{220} Ibid 15 Art. 6.

\textsuperscript{221} Ibid 35.
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...relative nature of vulnerability, which depends on who is disadvantaged in a particular situation.\(^{222}\) This flexibility recognises the fact that the principle of non-discrimination includes the positive obligation to pay specific attention to the needs of particular vulnerable individuals.\(^{223}\)

### 2.1.2. International human rights law

International human rights law is another important source for IDL, since it governs the vertical sphere between State and individual. International human rights law, contrary to IHL, does not only apply in a certain situation but rather in every situation and universally to all individuals. As such, in a disaster situation, the victims obviously also enjoy protection under IHRL.\(^{224}\) Because of its applicability to every situation, IHRL serves not only as a tool for individuals to enforce their rights, but also as a guideline for the affected State concerning how to manage disaster situations and the pre-disaster phases.

Explicit references to natural disasters in human rights treaties are rare. On the global level, only the CRPD makes specific reference to natural disasters.\(^{225}\) While on a regional level, hence in Africa, the Kampala Convention also mentions natural disasters in several provisions.\(^{226}\) However, the Kampala Convention not only includes references to disaster relief but rather also to disaster risk reduction and disaster preparedness.\(^{227}\)

Yet, although the bigger global and regional human rights instruments, such as the International Covenant on Civil and Political Rights (ICCPR), International Covenant on Economic, Social and Cultural Rights (ICESCR), Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR) or the American Convention on Human Rights (ACHR) do not include a specific reference to natural disasters, they are still applicable in a disaster situation. So are various rights that are at stake in a disaster situation, as well as pre- and post-disaster, for example the right to life, the right to food, right to health, right to water, right to adequate standard of living and right not to be discriminated against.\(^{228}\) However, the list is, of course, not limited to these examples.

In order to examine the application of human rights to disaster situations, this section is divided into the post-disaster event- and pre-disaster event situation. The specific rights and their duties are discussed in the respective sections below.\(^{229}\)

#### 2.1.2.1. Application of human rights in the aftermath of a disaster situation

Hurricane Matthew hit Haiti on 4 October 2016. The hurricane affected 2.1 million people of which about 1.4 million people, thus more than half, were in need of humanitarian assistance, with about...
Art. 5 of the Draft Articles, does not mention a single specific human right. The provision rather serves as a reminder to states that human rights do not stop being applicable in a disaster. At the same time, the ILC points out that the best practices for the protection of human rights inter alia are non-binding, such as the Inter-Agency Standing Committee Operational Guidelines on the Protection of Persons in Situations of Natural Disasters (IASC Operational Guidelines) as well as the Guiding Principles on Internal Displacement (Guiding Principles). As the example of Haiti in 2016 shows, natural disasters often force the affected persons to leave their homes and thus displace them. Thus, both the IASC Operational Guidelines as well as the Guiding Principles present a good pathway for states to approach the situation.

As mentioned, both instruments are non-binding and, as such, not per se enforceable. However, neither instrument creates new rights or obligations; they rather apply well-established international human rights law to the situation of displaced persons. Thus, the question arises whether the relevant human rights, as enshrined in international or regional treaties, are possible subjects for any limitations or even derogation.

Not every guaranteed freedom or right in international human rights treaties is an absolute right or freedom. Restrictions and limitations are possible. Generally, in order to justify a limitation of any fundamental right or freedom, a State must fulfil the following criteria: (1) the limitation needs to be in accordance with national law; (2) the limitation needs to be free from any arbitrariness; and (3) in the most cases, the limitation needs to meet the ‘necessity’ test, which demands that the limitation itself responds to a social or public pressing need, pursues a legitimate aim and needs to be proportionate to that aim. Thus, it seems very clear that in a disaster situation, the concerned State is entitled to limitations, as it will most likely meet the requirements for lawful interference. However, the justifications are based on case-by-case decisions. Therefore, the question remains.

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230 OCHA, above n 3, 1.
231 The ILC makes no reference to any specific rights and leaves it rather general: Report of the International Law Commission - Sixty-eighth session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 15 Art. 5.
232 See below Chapter: The Responsibility of the Affected State During and in the Aftermath of a Disaster on page 105.
234 ibid.
235 Inter-Agency Standing Committee, above n 78.
237 ibid Preamble para 2.
238 For an extensive discussion see below Chapter: Responsibilities and Duties of the State in the Aftermath on page 132.
239 See for example: ECHR Art. 2, 5, 8 and 9; ICCPR Art. 6, 9 and 17; ACHR Art. 4, 7 and 11.
240 Note verbal dated 24 August 1984 from the Permanent Representative of the Netherlands to the United Nations Office at Geneva addressed to the Secretary-General, UN ESCOR, 41st sess, Agenda Item 18, Annex 1, paras 1-14 (‘The Siracusa Principles on the Limitation and Derogation Provisions in the Intentional Covenant on Civil and Political Rights’); for example: ECHR Art. 8 and 11; ACHR Art. 12.
whether the state suffering from a disaster may invoke the derogation clauses as for example found in Art. 15 ECHR, Art. 4 ICCPR or Art. 27 ACHR.

Derogation means that a State is allowed to abrogate certain obligations during time of war or public emergencies. Yet, firstly, a State cannot derogate from all rights and secondly, not every human rights instrument includes a derogation clause. Additionally, even if a certain instrument includes a derogation clause, the question is whether a disaster situation fulfils the requirement of ‘public emergency’ as enshrined for example in Article 4 ICCPR, Article 15 ECHR and Article 27 ACHR.

So far, the derogation clauses have been invoked by at least three States in the aftermath of calamitous events leading to disaster situations. (1) Guatemala used the derogation clause under the ICCPR four times: in 1998 and 2005 in the aftermath of devastating hurricanes, 2009 while dealing with the ‘swine flu’ pandemic and, lastly, in 2010 after the eruption of the Pacaya volcano and in the aftermath of a tropical storm. (2) In 2010, Chile derogated from certain rights under Article 4 ICCPR after a severe earthquake. (3) Georgia made use of the derogation clause in relation to a health crisis, trying to stop the further spread of the avian flu virus. At the same time, these have been, so far, the only cases under Art. 15 ECHR. These applications of the derogation clause have not been tested on their conformity with the law. Yet, in its general comment on Article 4 from the year 2001, the Human Rights Committee (HRC) expressed its views on invoking the derogation clause during the time of a natural catastrophe. It expresses concerns and requires States to justify why the derogation is “strictly required by the exigencies of the situation.” Additionally, the HRC pointed out, the appropriate restriction of rights, such as the freedom of movement as well as the freedom of assembly, should be sufficient enough, and as such no derogation would be justified generally in such situations. Despite this view, the derogations, as mentioned above, have not been tested by the HRC. Nevertheless, it seems that the threshold for a State to claim the situation of a public emergency during a disaster situation is relatively high.

The ILC does not take part in the discussion of whether States should be allowed to derogate human rights obligations in disaster situations. Yet, by including the reference that human rights are

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243 ibid 329; Guatemala, Notification under Art 4 ICCPR, 2045 UNTS 257, A -14668; Multilateral Treaties Deposited With the Secretary-General , Status at 1 April 2009, Volume 1, UN Doc ST/LEG/SER.E/26; Guatemala, Notification under Art. 4(3) ICCPR, C.N.347.2009.TREATIES-8, (20 May 2009); Guatemala, Notification under Art. 4(3) ICCPR, C.N.788.2010.TREATIES-36, (3 June 2010).

244 Sommario, above n 242, 329; Chile, Notification under Art. 4(3) ICCPR, C.N.201.2010.TREATIES-5, (22 March 2010).

245 Sommario, above n 242, 329; Georgia, Notification under Art. 4(3) ICCPR, C.N.231.2006.TREATIES-8, (7 March 2006).

246 Sommario, above n 242, 330.

247 ibid 329-30.

248 Human Rights Committee, General Comment No. 29, States of Emergency (Article 4), 1950th mtg, UN Doc CCPR/C/21/Rev.1/Add.11 (31 August 2001), [5].

249 ibid.
2.1.2.2. Application of human rights prior to the disastrous event

Each human right in IHRL enjoys a three-sphere protection: the obligation of States to respect, to protect and to fulfil.252 The obligation to respect is the negative obligation of States not to violate human rights and the fulfilment of rights requires that States give access to the right itself.253 The obligation to protect, however, requires States to protect the right holders from interferences by third parties, but at the same time, it also asks for the prevention of the occurrence of human rights violations, and thus it imposes a positive obligation to prevent.254 The Inter-American Court of Human Rights (IACtHR) has described the positive obligation that derives from the duty to prevent as follows:

“This duty to prevent includes all those means of a legal, political, administrative and cultural nature that promote the protection of human rights and ensure that any violations are considered and treated as illegal acts, which, as such, may lead to the punishment of those responsible and the obligation to indemnify the victims for damages. It is not possible to make a detailed list of all such measures, since they vary with the law and the conditions of each State Party.”255

This understanding of prevention is very closely linked to the notion of ensuring human rights, as found in Article 2(1) ICCPR.256 By demanding States to ensure rights, positive steps need to be taken, in order to ensure that neither State action nor third parties can violate human rights.257 Thus, the duty to prevent human rights violations requires States to take preventive measures before a calamitous event strikes, in order to protect and ensure, for example, the right to life. This argument is supported by two decisions, in particular with reference to the right to life, by the European Court of Human Rights (ECtHR).258

In 2004, the ECtHR delivered its first judgment in relation to a disaster. The Öneryldiz v. Turkey case dealt with a human-made disaster, where a violation of the right to life has been found.259 In this case,

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250 Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 15 Art. 5.
251 ibid 31.
254 Megret, above n 252, 102.
257 ibid 16 [46].
259 Öneryldiz v. Turkey [2004] XIII Eur Court HR 79 (‘Öneryldiz v. Turkey’).
39 people died from a methane explosion of a public rubbish dump. Several years beforehand, authorities were warned about that danger. The authorities were, however, not taking any steps to reduce the risk.\textsuperscript{260} One of the alleged violations was that the Turkish authorities violated the applicant’s right to life according Article 2 ECHR. The ECtHR recognised the positive obligation of states under this provision to actively establish ‘a legislative and administrative framework designed to provide effective deterrence against threats to the right to life.’\textsuperscript{261} The ECtHR went on to stress the need for preventive measures, among which also the public’s right to information plays a certain role.\textsuperscript{262}

The ECtHR reaffirmed this reasoning in 2008 in its \textit{Budayeva v. Russia} judgment.\textsuperscript{263} Also in this case, the ECtHR found a violation of the right to life.\textsuperscript{264} This case dealt with deaths caused by a natural disaster. A mudslide killed several people and destroyed many buildings. The affected town has always been prone to mudslides, and as such was protected by mud-retention dams. These were heavily affected after a mudslide in 1999 and had not been repaired after. A few weeks before the incident, the authorities were warned by the State meteorological institute of the imminent danger, and the agency proposed several measures, of which none were taken by the authorities. Thus, a first mudslide hit the town, without causing any causalities, and the population was evacuated the same day. However, they returned the next day when the mud levels were lower, and the main mudslide hit, killing several people.\textsuperscript{265} The applicants complained, with regard to Article 2 ECHR, that the Russian authorities failed to comply with the positive obligation of their right to life, because they were not taking appropriate measures to mitigate the risk the natural hazard imposed on their lives; they complained also of the failure of the authorities to put in place effective early warning mechanisms.\textsuperscript{266} Here, the ECtHR applied its reasoning from the \textit{Öneryldiz v. Turkey} case, and thus, extended the application to natural disasters.\textsuperscript{267}

Consequently, the right to life, as enshrined in Article 2 ECHR, requires States to take positive measures, such as adopt and implement laws on disaster risk mitigation, put in place early warning mechanisms and evacuate the people in an appropriate manner.\textsuperscript{268}

Thus, human rights law serves – especially with regard to natural disasters – as a tool for States that shows how to handle and manage disaster situations. Before a calamitous event hits, human rights law asks States to take preventive measures to reduce the risk of casualties. As the right to life, as it is enshrined in Article 2 ECHR, is found in all major human rights instruments, other human rights bodies might come to the same conclusion as the ECtHR.\textsuperscript{269} Also with regard to the application of human rights in the aftermath of the calamitous event, during the disaster situation, the IHRL gives good guidance to States on how to handle disaster situations.

\section*{2.2. International Environmental Law}

\textsuperscript{260} ibid 89-93 [9] - [17].
\textsuperscript{261} ibid 115 [89].
\textsuperscript{262} ibid 115 [90].
\textsuperscript{263} \textit{Budayeva and Others v. Russia} [2008] II Eur Court HR 267 (‘Budayeva v. Russia’).
\textsuperscript{264} ibid 296 [160].
\textsuperscript{265} ibid 276 - 280 [7] - [38].
\textsuperscript{266} ibid 285 [116].
\textsuperscript{267} ibid 290-6 [138] - [160].
\textsuperscript{268} Kälin and Dale, above n 258, 39; see for a more comprehensive discussion Chapter: 139 The Responsibility of the Affected State before the Disaster on page 139.
\textsuperscript{269} ibid 39.
The connection between the frequency of natural disasters and climate change is scientifically verified.\textsuperscript{270} Since climate change has such an enormous impact on the frequency of natural disasters, the law concerning climate change, and as such international environmental law in general, cannot be ignored. This section aims firstly to give an overview of the principles international environmental law that are applicable to this research. Secondly, it offers an overview of the international climate change regime as well as of important aspects of the LOSC that cannot be ignored.

### 2.2.1. Principles of international environmental law

The principles of international environmental law of particular relevance for this research and applied in the chapters below\textsuperscript{271} are the no-harm principle, the prevention principle, the precautionary principle and the polluter-pays principle.\textsuperscript{272} This section first discusses these principles, respectively.

The formulation most often used to describe the no-harm principle appears in the \textit{Trail Smelter Arbitration (United States v. Canada)}.\textsuperscript{273} The Tribunal described the principle as follows:

\begin{quote}
“no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.”\textsuperscript{274}
\end{quote}

This principle has been confirmed by the ICJ and even recognised as customary international law.\textsuperscript{275} Later, with the adoption of the Stockholm Declaration in 1972, the notion was extended that no harm should occur not only to other States but also to the environment.\textsuperscript{276} Principle 21 of the Stockholm Declaration embodies not only the no-harm principle but also the related prevention principle:

\begin{quote}
“States have […] the sovereign right to exploit their own resources […] and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States of areas beyond the limits of national jurisdiction.”\textsuperscript{277}
\end{quote}

The first part of Principle 21 reaffirms the no-harm principle, while the second part embodies the principle of prevention. In a comparison of both principles, the principle of prevention goes further than does the no-harm principle, as it asks states not only to respect the environment of other states but also areas beyond national jurisdiction, such as the high seas.\textsuperscript{278} Furthermore, this principle has been acknowledged by the ICJ as a principle of customary international law.\textsuperscript{279}

\textsuperscript{270} IPCC, above n 2, 53.
\textsuperscript{271} See below Chapters: Financing Early Warning Mechanisms and Funding for the Reconstruction Phase on page 49 and 78.
\textsuperscript{273} \textit{Trail Smelter Arbitration (United States v. Canada)} III RIAA 1905 - 82 (‘Trail Smelter’).
\textsuperscript{274} ibid 1965.
\textsuperscript{275} \textit{Corfu Channel Case (United Kingdom of Great Britan and Northern Ireland v. Albania) (Merits)} [1949] ICJ Rep 4, 22.
\textsuperscript{277} ibid.; for a examination on the relationship between the two principles see: Dupuy and Vinuales, above n 272, 55-60.
\textsuperscript{278} for a comprehensive discussion of the precautionary principle and where it is embodied see: Dupuy and Vinuales, above n 272, 61-4.
The precautionary principle is especially relevant to international climate change law and is, therefore, reflected in the relevant legal framework.280 The principle deals, in general, with the idea that even when no scientific proof has been found for potential damage by a certain activity, States nonetheless have to take appropriate steps to avoid damages to the environment.281 Yet, the legal implications of this principle have not been clarified and remain debated.282 However, the principle was acknowledged at the conference in Rio in 1992, during which also the UNFCCC was adopted.283 Nonetheless, it has not been acknowledged as a principle of customary international law by the ICJ.284

The polluter-pays principle is like the precautionary principle and the principle of prevention embodied in the Rio Declaration. Principle 16 of the Rio Declaration states, “National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.”285

This internalisation of the costs, which the principle mentions, means that not the society at large, but for example the company who pollutes the environment or the consumers who are demanding a certain product, should bear the costs.286

As mentioned above, these principles are applied to the substantive matter of this research in the relevant sections below. Thus, at this point it is more important to give a comprehensive background of two substantive areas of international environmental law: climate change law and the law of the sea.

2.2.2. International climate change law

This section presents a comprehensive overview of the international climate-change-law regime. It starts by giving a historical overview of the development of international climate change law. It moves then to an overview of the various aims and objectives of this area of international law and, finally, to a discussion of the compliance mechanism.

2.2.2.1. International climate law regime

The first international platform that dealt with climate change and the danger of global warming was the First World Climate Conference, held in Geneva in 1979.287 The conference was attended only by experts on climate and humankind and thus cannot be considered a political conference.288
Nevertheless this conference made an appeal to all nations "to foresee and to prevent potential man-made changes in climate that might be adverse to the well-being of humanity." 289 It took, however, nine years for international politics to respond to this appeal: The Intergovernmental Panel on Climate Change (IPCC) was established jointly by the United Nations Environmental Programme (UNEP) and the World Meteorological Organization (WMO) in 1988 and got endorsed by the UNGA. 290 One year before the official establishment of the IPCC, the UN released the Report of the World Commission on Environment and Development 'Our Common Future', also known as the Brundtland Report. This report embodies the first definition of 'sustainable development'. 291 The report declares that "sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those in the future." 292

This notion is important in the area of international climate law, as all instruments make reference to sustainable development as a cardinal principle. 293 In 1990, the IPCC released its first assessment report, and the Second World Climate Conference took place. 294 Both called upon the international community to finally adopt an international legal instrument and relevant subsequent protocols to deal with climate change. 295 In the same year, the UNGA adopted its resolution 45/212, which initiated the negotiations process for a framework convention on climate change. 296 This led to the adoption of the UNFCCC, which opened for signature in 1992 and entered into force in 1994. The UNFCCC is the first international binding treaty that acknowledges climate change as a threat to human life. 297

During the negotiations process, two major challenges emerged. 298 Firstly, the question of the scope of the instrument arose; secondly, how it should deal with the differences between developing and developed States. 299 With regard to the first issue, some States, such as the US or other oil-exporting countries, preferred the adoption of a framework convention, and as such they did not want to include any substantial obligations. While as other States, for example European States or Small Island States, advocated against a simple framework convention. 300 The latter issue is still pressing and still highly discussed today. It refers to the problem that, in fact, not every State is contributing the same amount to the problem of climate change and global warming. 301 The UNFCCC represents a compromise and takes both issues into account.

289 ibid.
290 Protection of global climate for present and future generations of mankind, 43/53, 70th mtg, UN Doc A/RES/43/53 (6 December 1988), [5].
292 ibid 30 [49].
293 UNFCCC Art. 3(4); Kyoto Protocol to the United Nations Framework Convention on Climate Change, opened for signature 11 December 1997, 2303 UNTS 162 (entered into force 16 February 2005) Art. 2 (‘Kyoto Protocol’); Paris Agreement Art. 2(1)
295 ibid.
297 UNFCCC Preamble and Art. 2.
298 Daniel Bodansky, ‘The history of the global climate change regime’ in Urs Lutterbacher and Detlef F. Sprinz (eds), International relations and global climate change (MIT Press, 2001) 23-40; Dupuy and Vinuales, above n 272, 146.
299 Dupuy and Vinuales, above n 272, 146.
300 ibid 146.
301 ibid.
The UNFCCC acknowledges in its preamble that, indeed, “the change in the Earth’s climate and its adverse effects are a common concern of humankind.”\(^{302}\) Thus, the parties to the convention recognised impact of climate change. This recognition is mirrored, by the order of definitions in the first article. There again, the notion of ‘adverse effects of climate change’ is the first that is explained.\(^{303}\) After the definitions, the convention sets out its objective, several principles and finally some few substantive and procedural obligations.\(^{304}\)

The main objective of the UNFCCC and its related instruments is described in Art. 2. The provision explains it as the

“[…] stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”\(^{305}\)

Thus, the main focus lies on the stabilisation of GHG concentration in the atmosphere alongside with the prevention of any harm caused by climate change. This objective has been relativized by the objective article in the Paris Agreement.\(^{306}\) This agreement, which was concluded at the Conference of the Parties to the UNFCCC (COP) 21 in Paris in the year 2015, introduces the target of limiting the average global warming to well below 2°C and even tries to cap it at 1.5°C.\(^{307}\) Thus, the COP acknowledges, in formulating such an objective, that the stabilisation of GHGs in the atmosphere, as the UNFCCC requires, is not possible. This impossibility is also reflected by the scientific assessments of GHG concentrations in the atmosphere. According to the IPCC, instead of a reduction of GHGs since the adoption of the UNFCCC, there has been an increase.\(^{308}\)

Article 3 discusses the principles that the UNFCCC and its related instruments follow. The main principles are intergenerational equity and the important notion of ‘common but differentiated responsibilities and respective capabilities’\(^{309}\) (CBDRCC) and the precautionary principle.\(^{310}\) The first principle also leads to the distinction between Annex 1 and non-Annex 1 States, which is essentially the distinction between developed and developing countries.

The Paris Agreement primarily mirrors those principles. However, with regard to the second, it makes a distinction. While negotiating the agreement in December 2015, the developed countries wanted to demolish the wall between developed and developing countries, thus to terminate the distinction between Annex 1 States and non-Annex 1 States. The developing countries, on the other hand, wanted to keep this distinction, as they were not obliged to fulfil any substantive commitments under the Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto Protocol).\(^{311}\) The Paris Agreement engages with this conflict in its Article 2(2), which is now a compromise between the two positions. This provision reflects the principle of ‘common but differentiated responsibilities’ of the UNFCCC. However, it introduces also that this principle has to be implemented in ‘the light of

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\(^{302}\) UNFCCC Preamble.

\(^{303}\) ibid Art. 1(1).

\(^{304}\) Dupuy and Vinuales, above n 272, 146.

\(^{305}\) UNFCCC Art. 2.

\(^{306}\) Paris Agreement Art. 2.

\(^{307}\) ibid.

\(^{308}\) TF Stocker et al, ‘IPCC, 2013: climate change 2013: the physical science basis: Contribution of working group I to the fifth assessment report of the intergovernmental panel on climate change’ (2013), 165.

\(^{309}\) UNFCCC Art. 3(1).

\(^{310}\) ibid Art. 3(3).

Although the Paris Agreement makes no clear-cut distinction between Annex 1 states and non-Annex 1 States anymore, it still includes a distinction between developed and developing States. This distinction is expressed through this amendment to the ‘common but differentiated responsibilities’ principle.\textsuperscript{313}

Article 4 UNFCCC introduces commitments for State parties. The article imposes reporting duties upon all states, but takes the principle of ‘common but differentiated responsibilities’ into account.\textsuperscript{314} In its second paragraph, the difference between the commitments of Annex 1 and non-Annex 1 States is demonstrated.\textsuperscript{315} Annex 1 States have to adopt national policies in order to reduce GHG emissions and enhance GHG sinks and reservoirs within their jurisdictions.\textsuperscript{316} However, the UNFCCC is, as the name states, solely a framework convention. As such, in order to give full effect to the convention, additional instruments are necessary. This is commonly known as the framework – protocol technique. Art. 17 UNFCCC declares that the COP may adopt protocol to the convention. This has been done the first time with the Kyoto Protocol in the year 1997. However, it took until 2005 for the Kyoto Protocol to enter into force. The Kyoto Protocol introduces substantive obligations for its signatory States. According to Article 3 (1) Kyoto Protocol, no Annex 1 State is allowed to exceed its assigned carbon dioxide (CO\textsubscript{2})-equivalent amounts, as listed in Annex B. In order to fulfil this commitment, the Kyoto Protocol introduces also three market-based instruments: emission trading (cap and trade), joint implementation and the clean development mechanism.\textsuperscript{317} These instruments are mitigation mechanisms, and as such they aim to prevent future impacts from further accelerating climate change and to global warming. Originally, the Kyoto Protocol knew a commitment period from only 2008 – 2012.\textsuperscript{318} The COP 15 in Copenhagen in the year 2009 was considered to be the platform in order to develop the post-2012 regime.\textsuperscript{319} Although the signs were more than good that a consensus would be possible, the outcome was only a political agreement: the Copenhagen Accord.\textsuperscript{320} It was not until 2012 at the COP 18 in Doha that the parties decided to extend the Kyoto Protocol by a second commitment period from 2012 to 2020.\textsuperscript{321}

Three years later, in 2015, the Paris Agreement was adopted at the COP 21 for the post-2020 period. There are several differences between the Kyoto Protocol and the Paris Agreement. The most important difference between the two instruments are the reduction targets. While as the Kyoto Protocol imposes binding reduction targets, the Paris Agreement does not. Rather, it leaves the targets open to the states, with so-called nationally determined contributions.\textsuperscript{322} Thus, it lies absolutely within the domestic politics of the states to develop their own goals. The first State to submit its nationally determined contributions was Switzerland, in February of 2015. Switzerland pledged to reduce its GHG emissions by 50% over 1990 levels by 2030.\textsuperscript{323} Yet, since those contributions are all nationally

\begin{thebibliography}{99}
\bibitem{UNFCCC} UNFCCC Art. 2(2).
\bibitem{Obergass} Obergassel et al, above n 311, 17.
\bibitem{UNFCCC_Art.4} UNFCCC Art. 4(1).
\bibitem{ibid_Art.4} ibid Art. 4(2).
\bibitem{ibid_Art.4a} ibid Art. 4(2)(a).
\bibitem{Kyoto_Art.17} Kyoto Protocol Art. 17, 6 and 12
\bibitem{UNFCCC_Art.3} UNFCCC Art. 3(1) last sentence.
\bibitem{ibid} ibid.
\bibitem{Report} Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its eight session, held at Doha from 26 November to 8 December 2012, Decision 1/CMP.8, UN Doc FCCC/KP/CMP/2012/13/Add. 1 (28 February 2013), 3 [4].
\bibitem{Paris_Agreement} Paris Agreement Art. 3 and 4.
\bibitem{FedrealOffice} Fedreal Office for the Environment, Switzerland's intended nationally determined contribution (INDC) and clarifying information (11 April 2016) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Switzerland/1/15%2002%2027_1>
\end{thebibliography}
determined, they are not all as ambitious as the Swiss target. For example, already the target of the European Union (EU) is less ambitious. The target for countries within the EU is a reduction of at least 40% compared to 1990 levels by 2030.324 Both, the EU and Switzerland are using 1990 as the baseline. There are other countries, such as Australia, that uses 2005 as its baseline.325 As already explained, the emissions of GHGs are still increasing, and thus it is easier to cut emissions from a 2005 baseline than from the 1990 baseline, as they were lower further in the past. New Zealand explains this difference very well in its target formulation. It says that it will reduce about 30% compared to 2005 levels, which is the same as a reduction of about 11% compared to 1990 levels.326 However, these are not the only options for setting a baseline. India and China, for example, refer to their gross domestic product (GDP), and measure their baseline from there.327 Finally, there are also states that do not intend to reduce their GHG emissions, such as Bahrain and Qatar.328 Thus, the Paris Agreement offers no coherent system. The effectiveness of those nationally determined limits is also questionable. As explained above, the Paris Agreement introduces the well-below-2°C target. Yet, the now-communicated commitments by the States are not enough to achieve this goal.329 As such, more effort is needed to achieve this goal. This leads to the conclusion that it is questionable whether nationally determined contributions represented an effective path to achieving the well-below-2°C target.

Next to the introduction of nationally determined contributions, the Paris Agreement also embodies other major changes. The Kyoto Protocol had a strong focus on mitigation mechanisms, such as the clean development mechanism or the emission-trading schemes. The Paris Agreement on the other hand, includes a variety of possible contributions. Article 3 refers to mitigation, adaptation, finance, technology, capacity-building and transparency as possible forms of contribution.

The developing countries have been asking for a stronger focus on adaptation for many years.330 Yet, it took the international policy makers until the Paris Agreement to put stronger legal language into

324 European Comission, Intended Nationally Determined Contribution of the EU and its Member States (11 April 2016) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Latvia/1/LV-03-06-EU%20INDC.pdf>.

325 Australian Government, Australia’s Intended Nationally Determined Contribution to a new Climate Change Agreement (12 April 2016) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Australia/1/Australias%20Intended%20Nationally%20Determined%20Contribution%20to%20a%20new%20Climate%20Change%20Agreement%20-%20%20August%202015.pdf>.

326 New Zealand Government, New Zealand’s Intended Nationally Determined Contribution (16 April 2016) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/New%20Zealand/1/New%20Zealand%20%20INDC%20%202015.pdf>.

327 Indian Government, India’s Intended Nationally Determined Contribution (12 April 2016) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%202015%20UNFCCC.pdf>; National Development and Reform Commission of China, China’s intended nationally determined contribution (12 April 2016) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/China/1/China%20INDC%20-%202015%20June%202015.pdf>.

328 Kingdom of Bahrain, Submission by Bahrain (12 April 2016) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Bahrain/1/INDC_Kingdom_of_Bahrain.pdf>; Ministry of Environment State of Qatar, Intended Nationally Determined Contributions (INDCs) Report (12 April 2016) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Qatar/1/Qatar%20INDCs%20Report%20-English.pdf>.


330 Obergassel et al, above n 329, 22; Hermann E Ott et al, 'Climate policy-road works and new horizons: an
effect, along with its financing.\textsuperscript{331} Although both the UNFCCC and the \textit{Kyoto Protocol} mention adaptation, their emphasis on it is not as strong as introduced within the Paris Agreement. The UNFCCC embodies adaptation in its principle article and acknowledges adaptation as a form of commitment by the states.\textsuperscript{332} The \textit{Kyoto Protocol}, by contrast, embodies adaptation solely in its reporting system and as part of the clean development mechanism.\textsuperscript{333} The Paris Agreement, for its part, introduces a “global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change […]”.\textsuperscript{334} The legal language used here is stronger and more demanding than that found within the \textit{Kyoto Protocol} and UNFCCC. Additionally, it dedicates a whole article of 14 paragraphs to adaptation.\textsuperscript{335} Next to the demand to include adaptation strategies into the national contributions and thus into domestic policies, the Paris Agreement also stipulates that there has to be a balance between adaptation and mitigation with regard to their financing.\textsuperscript{336}

The new post-Kyoto regime includes, next to the variety of forms of contribution, also a provision on loss and damages.\textsuperscript{337} The concept of loss and damages applies to the adverse effects of climate change, to which no adaptation is possible.\textsuperscript{338} This concept was discussed on the agenda for international politics before the Paris negotiations. Already at the COP 16 in Cancun, the concept of loss and damages was tabled.\textsuperscript{339} There, the COP decision refers \textit{inter alia} explicitly to sea level rise.\textsuperscript{340} In 2013, the COP established the \textit{Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts} (WIM).\textsuperscript{341} The purpose of the WIM is to address loss and damage connected to the impacts imposed by climate change in developing countries, which are particularly vulnerable to the adverse impacts of climate change. These adverse effects include extreme weather and slow-onset events.\textsuperscript{342} Despite this political achievement, the discussion of loss and damage did not progress significantly afterwards.\textsuperscript{343} However, the way was opened for the concept to be included in the Paris Agreement. During the negotiations of the Paris Agreement, the developed countries, including the United States (US), accentuated that this provision should not be understood as a basis for any liability claims.\textsuperscript{344} This freedom from liability is reaffirmed by the COP 21 decision that states, “[…] Article 8 of the Agreement does not involve or provide any liability or compensation.”\textsuperscript{345} Nevertheless, it is a

\begin{footnotesize}
331 Paris Agreement Arts. 7(2), 9(4) and 11(6).
332 UNFCCC Art. 3 and 4.
333 Art. 10 and 11 Kyoto Protocol.
334 Paris Agreement Art. 7.
335 ibid.
336 ibid Art. 9(4).
337 ibid Art. 8.
338 Obergassel et al, above n 329, 27; Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 - 23 November 2013, Decision 2/CP.19, UN Doc FCCC/CP/2013/10/Add.1 (31 January 2014 ), Preamble (‘Warsaw international mechanism for loss and damage associated with climate change impacts ’).
340 ibid.
341 Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 - 23 November 2013, Decision 2/CP.19, UN Doc FCCC/CP/2013/10/Add.1 (31 January 2014 ), [1] (‘Warsaw international mechanism for loss and damage associated with climate change impacts ’).
342 ibid.
343 Obergassel et al, above n 329, 27.
345 Conference of the Parties, \textit{Adoption of the Paris Agreement, Draft Decision CP.21}, Agenda Item 4(b), UN
\end{footnotesize}
strong political achievement that this concept was included into the Paris Agreement. Below, this research deals, in depth, with the connection of the concept loss and damages and natural disasters.346

2.2.2.2. Compliance mechanisms under the UNFCCC regime

The compliance mechanisms within the climate regime are soft and do not trigger any judicial consequences. The compliance mechanisms in the UNFCCC, Kyoto Protocol and Paris Agreement are in the nature of reports with subsequent reviews. The COP serves as the main body and reviewer, assisted by two supplementary bodies: (1) the Subsidiary Body for Scientific and Technological Advice and (2) the Subsidiary Body for Implementation (SBI).347 In relation to the Kyoto Protocol, the reports are reviewed by expert review teams before they are considered by the COP and its subsidiary bodies.348 If a State is not compliant with its obligations, there are, however, no punitive consequences, and it is rather advisory in its character, since the finding of non-compliance is made by a panel of experts.349 Of course, the UNFCCC also includes explicit provisions on dispute settlement in Article 14. However, the only compulsory procedures on this provision are negotiation and non-binding conciliation.350

The Paris Agreement similarly includes this reporting mechanism. It uses even more softer legal language, however.351 It includes compliance into its transparency framework, which demands the use of means that are “non-intrusive, non-punitive manner, respectful of national sovereignty, and avoid placing undue burden on Parties.”352

Thus, even if a party is found not to be compliant with its obligation, the consequences are soft and not punitive in their character. Given the importance of international climate law and the fact that GHG emissions continue to increase, this system based on the goodwill of states seems not to have any sharp teeth. As such, climate change jurisprudence might not be developed from the international climate law regime. Therefore, other international environmental instruments should be taken into consideration for possible legal actions.

2.2.3. The law of the sea

The oceans cover about 72% of Earth’s surface and thus should be of concern in a discussion of the adverse effects of climate change.353 In the Fifth Assessment Report, the IPCC indicated that sea level rise is taking place yearly at a pace of several millimetres, and for some region there is a projected a
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Sea level rise of nearly 1 meter until the year 2100.\(^\text{354}\) However, it is not only the rise in sea levels that call for concern with regard to the oceans. The acidification of the oceans is also considered by the IPCC. Since the beginning of the industrial era, the pH in the ocean has decreased by 0.1, thus the average pH could be lower now than it was for more than 50 million years.\(^\text{355}\) This increase in acidity has effects on the marine environment, such as on corals and shellfish.\(^\text{356}\) At the same time, the impact climate change has on the oceans has also been linked to extreme weather events such as cyclones or hurricanes.\(^\text{357}\) As such, the law of the sea seems to be an alternative tool for climate change implications on the oceans and thus also natural disasters. This section discusses first the historical background and moves on to substantial provisions that are of interest for this research.

2.2.3.1. Historical background

Principally, the law of the sea has existed as long as international law has; it is one of the oldest branches of international law.\(^\text{358}\) The earliest discussed aspect of this law is the question of sovereignty over the sea, which can be traced back to 1493, when Pope Alexander VI established the so called Papal Bull ‘Inter Caetera’, which drew an imaginary line down the Atlantic Ocean.\(^\text{359}\) Everything that was discovered west of that line belonged to Spain, whereas what was on the eastern side of that line was to benefit Portugal.\(^\text{360}\) Spain and Portugal also concluded a bilateral treaty among themselves that was in conformity with the Papal Bull.\(^\text{361}\) This engagement was supported by the other major forces, including England and the Netherlands, at that time.\(^\text{362}\)

In general there were two major doctrines: \textit{mare liberum} and \textit{mare clausum}.\(^\text{363}\) The doctrine of \textit{mare liberum} can be described as the understanding of the free oceans, which means that no possession, thus any sovereign rights over the ocean, can be claimed, and as such the oceans were considered \textit{res communis}.\(^\text{364}\) This notion reflects the view of the English Queen, Elizabeth I.\(^\text{365}\) \textit{Mare clausum} on the other hand reflects the Spanish and Portuguese view.\(^\text{366}\) Thus, the notion is that the sea can be subject to possession and sovereignty.\(^\text{367}\)

From these primary views, the notion of \textit{territorial sea} emerged.\(^\text{368}\) In the 18th century, it was argued that, indeed, the sea is occupied by no one; however, coastal States were able to make a territorial claims to extent to which weapons could reach.\(^\text{369}\) This was called the \textit{cannon shot rule}.\(^\text{370}\) Later, during the 19th and early 20th centuries, State practice included a fixed extension limit for the strip of

\(^{354}\) Stocker et al, above n 308, Chapter 13.
\(^{355}\) ibid Chapter 3, 295
\(^{356}\) ibid.
\(^{357}\) IPCC, above n 2, 7-8, 13.
\(^{358}\) Tullio Treves, 'Historical Development of the Law of the Sea' in Donald R Rothwell et al (eds), \textit{The Oxford Handbook of The Law of The Sea} (Oxford University Press, 2015) 1, 1; Dupuy and Vinuales, above n 272, 93.
\(^{360}\) ibid.
\(^{361}\) ibid.
\(^{362}\) ibid.
\(^{363}\) Koh, above n 358, 2; Treves, above n 358, 4.
\(^{364}\) ibid.
\(^{365}\) Koh, above n 358, 2.
\(^{366}\) ibid.
\(^{367}\) ibid.
\(^{368}\) Treves, above n 358, 5.
\(^{369}\) ibid.
\(^{370}\) ibid; Koh, above n 358, 4.
sea that belonged to the sovereignty of a coastal State. However, the different, mostly European States and Russia used different extension limits. Asian countries, on the other hand, still followed the principle of freedom of the sea.

After World War I, the idea became predominant to codify the law of the sea on an international level. However, the codification process at that time was without success, as the international community could not agree on the breadth of territorial waters, as there was no common state practice. It was not until after World War II, that the international community made a new attempt to codify the law of the sea into a convention. However, they again failed to adopt a single convention and instead they adopted four different conventions, dealing with specific matters of the law of the sea respectively. It took again several decades to adopt in the early 1980s the United Nations Convention on the Law of the Sea (LOSC), as it is known today.

2.2.3.2. The LOSC as a legal instrument dealing with climate change

The LOSC represents a legal framework by which it is possible to develop detailed provisions to deal with specific uses of the ocean. This legal framework embodies the codification and progressive development of the law of the sea. As such, the LOSC contains many provisions that are already considered customary international law.

The LOSC deals not only with the establishment of maritime zones but also includes elements of environmental protection. Part XII deals expressively with the protection and preservation of the marine environment, which declares the LOSC also as an environmental protection treaty. Part XII contains 11 sections that deal with separate issues with regard to the protection and preservation of the marine environment. The first article in Part XII, Article 192, includes the general obligation of States to protect and preserve the marine environment. This provision must, however, be read in conjunction with Article 193 that allows States to exploit their natural resources within their jurisdiction and in accordance with their policies and duties to protect and preserve the marine environment. Next to these positive obligations, the LOSC also includes provisions that require states to appropriately implement such measures. Article 194 requests that State take the measures necessary to prevent, reduce and control the pollution of the marine environment, but only within their respective capabilities. Article 212 deals expressively with pollution from or through the atmosphere. This provision requires states actively to adopt laws and regulations in order to prevent, reduce and control pollutants from or through the atmosphere that affecting the marine environment. As observed by

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371 ibid.
372 Treves, above n 358, 5.
373 ibid.
374 Treves, above n 358, 7.
375 ibid, 8.
376 ibid, 13-14.
379 LOSC Preamble para 7; Churchill, above n 378, 30.
380 Churchill, above n 378, 30.
381 LOSC Part XII
383 LOSC Art. 194(1).
384 ibid Art. 212(1).
the IPCC, GHG emissions create significant impacts on the oceans and the marine environment.\textsuperscript{385} Thus GHG emissions fall arguably within the scope of Part XII and its subsequent positive obligations.\textsuperscript{386}

It is not only for the positive obligations that the LOSC is attractive to apply in the context of IDL. Rather, it appeals also because of its functioning dispute settlement procedure, as this is lacking in the climate regime.\textsuperscript{387} Thus, it might be very attractive to bring claims under the LOSC instead under the less-effective dispute settlement regime of the UNFCCC and its related instruments. Substantial parts of the claims are considered in subsequent sections below, but at this point, it seems necessary to explain the dispute settlement regime of the LOSC.

The LOSC introduces a unique dispute-resolution settlement regime that is enshrined in its Part XV. This part reflects a set of complex provisions and rules. Part XV starts with a set of general provisions, from which the first one reminds the contracting parties that, according to the \textit{UN Charter}, they have to settle disputes by peaceful means.\textsuperscript{388}

Generally, with Part XV the LOSC establishes two procedures: (1) the non-compulsory dispute settlement regime and (2) the compulsory dispute settlement regime, which entails binding decisions.\textsuperscript{389} The main principle of the non-compulsory dispute settlement procedures is, according to Part XV Section 1, that the parties have the right to choose their own means of settling a dispute in peaceful means.\textsuperscript{390} If, however, the parties are unable to reach a settlement of their dispute and their bilateral agreement does not constitute anything otherwise, then the procedures embodied in Section 2 are applicable; thus, the compulsory dispute settlement regime entails binding decisions.\textsuperscript{391}

The \textit{Montreux Formula}, as enshrined in Article 287 LOSC, allows States to choose the procedures for compulsory dispute settlement.\textsuperscript{392} They may choose between (1) the International Tribunal for the Law of the Sea (ITLOS), (2) the ICJ, (3) an arbitral tribunal according to Annex VII and (4) a special arbitral tribunal according to Annex VIII.\textsuperscript{393} On first sight, it seems that there are too many different options for the states to choose their proper body. However, during the negotiations of the LOSC, it became clear that this was a point at which the negotiating parties could not finally agree, and thus the \textit{Montreux Formula} was created, and the rule that any State party, the moment it becomes a party to the convention, has the right to declare which procedure it will choose for the case of a dispute.\textsuperscript{394}

This approach has been criticised within academia. It is argued that the different \textit{modus operandi} lead to a fragmentation of the law of the sea.\textsuperscript{395} Other academics argue that there has not been a

\begin{quote}
\textsuperscript{385} Stocker et al, above n 308, Chapter 3.
\textsuperscript{387} ibid for a comprehensive overview.
\textsuperscript{388} \textit{LOSC} Art. 279.
\textsuperscript{390} \textit{LOSC} Art. 279 -280; Adede, above n 389, 129.
\textsuperscript{391} \textit{LOSC} Art. 281(1). Adede, above n 389, 129.
\textsuperscript{392} Adede, above n 389, 131; \textit{LOSC} Art. 287.
\textsuperscript{393} \textit{LOSC} Art. 287(1).
\textsuperscript{394} ibid.; Adede, above n 389, 131.
\end{quote}
fragmentation yet or that it is too early to tell. The question of whether there has been a fragmentation of the law of the sea is not an essential question for this research, however. The main goal here was to explain how the dispute settlement regime currently under the LOSC works, as it might represent an alternative to the devastating dispute-settlement regime under the UNFCCC regime.

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Part 2: Obligation and Responsibility of the Not Affected States before and in the Aftermath of a Disaster

The connection between climate change and the frequency of extreme weather events has been scientifically proven by the IPCC. Yet, the States that suffer the most devastating impact from extreme weather events are not the same that emit the largest share of CO₂ into the atmosphere. This fact is more than unjust: Developing States are suffering from the actions taken by developed States. Disasters impose not only the obvious threat to human lives but are also costly, in particular the costs for early warning mechanisms and post-disaster reconstruction.

This part of the research deals with this injustice and addresses whether there is an international legal obligation for developing States and emerging markets to financially assist disaster-prone developing States with regard to the adoption of early warning mechanisms and post-disaster reconstruction. The first part of this question is examined in the Chapter III. Chapter IV deals with the latter part of the question.

Chapter III: Financing Early Warning Mechanisms

Early warning systems play a significant role in risk mitigation and are one of the most important tools to effectively manage disasters. The 2004 Indian Ocean tsunami would not have had such a fatal impact if appropriate early warning mechanism had been in place. Not only can early warning mechanisms protect and save lives, they can help to decrease overall material and economic losses. For example, simply shuttering the windows of a house before a hurricane can reduce the material economic loss by around 50%. Furthermore, before a flood, by simply moving goods to the second floor and driving vehicles out of the flood zone, losses can be decreased significantly. However, especially in developing countries, access to early warning systems remains insufficient. They are mostly unable to give accurate information to people and supply the appropriate capacities, skills and resources. This shortfall has so far been reflected in international policy, as the access to as well as the availability of multi-hazard early warning mechanisms is targeted to be increased by 2030.

Thus, the UN defines early warning mechanisms or systems as follows:

“The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.”

Since this definition of ‘early warning mechanisms’ has a strong focus on a society’s or community’s capacity, it suits the definition of ‘disaster’ used in this research.

This chapter focuses, as the title suggests, on the question of how to provide the financial means to increase the availability and access to multi-hazard early warning mechanisms. Firstly, the promotion of early warning mechanisms within the UN system is analysed. Secondly, the connection between climate change and early warning systems is discussed. The third section of this chapter looks at the ILC’s work on the Draft Articles and how it deals with early warning mechanisms. Fourthly, this chapter examines the obligation of non-affected developed States and emerging markets with regard to the financial assistance of disaster-prone developing States. Finally, this chapter considers a possible application of human rights law and the responsibility to protect (R2P) in order to establish an obligation to financially assist disaster-prone developing States with regard to the establishment of early warning mechanisms.

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399 Hallegatte et al, above n 131, 125.
400 ibid.
401 ibid.
403 World Conference on Disaster Reduction, UN Doc A/CONF.224/L.2 (7 April 2015), para 18(g).
405 See above Chapter: *Disasters Defined* on page 5.
1. The Promotion of Early Warning Mechanisms with UN Policies

Within the UN system, several policies are in place to deal with disaster risk reduction, particularly with early warning as a method thereof.\textsuperscript{406} The most important policy instruments are the Yokohama Strategy, the Hyogo Framework for Action 2005 – 2015: Building Resilience of Nations and Communities to Disasters (the Hyogo Framework) and finally the Sendai Framework.\textsuperscript{407} In addition, early warning systems are anchored within the framework of sustainable development disaster reduction.\textsuperscript{408} Although these instruments provide only policy guidelines, they are nonetheless important for the understanding of the material at hand and represent the political will and the acknowledgment of the need for appropriate early warning mechanisms.

This section first examines the more specific instruments: the Yokohama Strategy, the Hyogo Framework and then the Sendai Framework. A short section then examines the connection between these frameworks and the sustainable development instrument.

1.1. Yokohama Strategy

The decade 1990 – 2000 was declared as the International Decade for Natural Disaster Reduction.\textsuperscript{409} The Yokohama Strategy is a product of this decade and the first World Conference on Natural Disaster Risk Reduction in 1994. The strategy has been endorsed by the UNGA in the same year.\textsuperscript{410}

The Yokohama Strategy embodies principles, strategy and a plan of action with regard to disaster risk reduction. Since early warning mechanisms are part of the broader concept of disaster risk reduction, the Yokohama Strategy also deals with early warning: early warning systems are expressly mentioned in the principles and in the plan of action. Principle 5 states that effective early warning mechanisms are key factors to disaster prevention and preparedness.\textsuperscript{411} The plan of action asks for the improvement of early warning systems both on the regional and on the international level.\textsuperscript{412}

After the International Decade for Natural Disaster Reduction ended in the beginning of the year 2000, the UNGA endorsed the idea of establishing an inter-agency task force and a UNISDR.\textsuperscript{413} In 2002, the UNGA agreed to review the Yokohama Strategy in order to identify any gaps and options for improvement.\textsuperscript{414} The report points out that there has been a steady improvement of the technologies

\textsuperscript{406} For a brief overview see above Chapter: Risk mitigation on page 15.
\textsuperscript{408} for example: Transforming our world: the 2030 Agenda for Sustainable Development GA Res 70/1, 70th sess, 4th plenary mtg, UN Doc A/RES/70/1 (21 October 2015 ).
\textsuperscript{410} International Decade for Natural Disaster Reduction, GA Res 49/22, GAOR, 74th plenary mtg, UN Doc A/RES/49/22 (2 December 1994), para 11.
\textsuperscript{412} ibid 13, 15.
\textsuperscript{413} International Decade for Natural Disaster Reduction: successor arrangements, GA Res 54/219, GAOR, 54th sess, Agenda Item 100 (b), UN Doc A/RES/54/219 (3 February 2000), para 4.
2. Part: Obligation and Responsibility of the not affected States

behind early warning systems. The policy and social components, however, were not able to develop at the same pace, therefore leaving a gap. Additionally, this report also shows, in particular, the lack of preparedness and ability to appropriately react to early warnings, as well as the failure to recognise the crucial role of early warnings in sustainable development. This connection between sustainable development and early warning systems is explored in the respective section below. This UNGA review of the Yokohama Strategy was completed one month before the 2005 World Conference on Disaster Reduction in Hyogo, Japan.

1.2. Hyogo Framework


The Hyogo Framework has five main priorities: (1) prioritising disaster risk reduction on a national and local level; (2) identifying and assessing disaster risks and improving early warning thereof; (3) using knowledge and education to construct a culture of safety and resilience on all levels; (4) minimising the underlying risk factors for disasters; and finally, (5) strengthening disaster preparedness at all levels to ensure an effective response.

With regard to early warning systems, the second priority is of particular importance. The Hyogo Framework demands, first of all, the development of people-centred early warning mechanisms. In addition, the adoption of early warning systems alone is insufficient: they have to be understandable to the persons at risk, and the state should also encourage guidance on how to react to an early warning. Exactly this people-centred approach of early warning was identified by the UNGA as a gap while reviewing the impacts of the Yokohama Strategy.

Next to including policy measures for disaster risk reduction on political levels, the Hyogo Framework also provides provisions for financing disaster risk reduction, and as such also early warning. Firstly, States should take measures to provide financial and technical assistance to disaster-prone developing countries. Secondly, States should voluntarily financially contribute to the United Nations Trust Fund for Disaster Reduction. This trust fund was established in 2000 with UNGA resolution 54/219. The fund is fed only with voluntary contributions. In 2016, the fund received

416 ibid para 54.
417 World Conference on Disaster Reduction, UN Doc A/CONF/206/6 (16 March 2005).
418 ibid 9 [13(a)].
419 ibid 11 [14].
420 ibid 13 [17(d)].
421 ibid.
423 World Conference on Disaster Reduction, UN Doc A/CONF/206/6 (16 March 2005), 23-4 [34].
424 ibid 23 [34 (b)].
425 ibid 24 [34 (d)].
426 International Decade for Natural Disaster Reduction: successor arrangements, GA Res 54/219, GAOR, 54th sess, Agenda Item 100 (b), UN Doc A/RES/54/219 (3 February 2000), para 6.
427 ibid.
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contributions of a total of USD 30,272,908. The highest donation was made by the Swedish Government with USD 8,364,725 (unearmarked). The Australian Government donated USD 1,442,125 (earmarked) and the Swiss Government USD 1,374,612 (combination of earmarked and unearmarked contributions).

Not only are governments contributing, but also the private sector, including insurances.

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Thus, the Hyogo Framework asks States to implement policies that both reduce insurance premiums and support the increase of the total insurance coverage, because insurance funding plays a significant role in the rebuilding phase.

Thirdly, the Hyogo Framework represents a policy framework on the international level that clearly supports the development of early warning mechanisms and the financial assistance thereof. Since it is, however, only a policy framework, it embodies no legal obligations and therefore depends on implementation into legislation on local, national, regional or international levels. The Hyogo Framework was in place from 2005 to 2015 and has been replaced in 2015 with the Sendai Framework.

1.3. Sendai Framework

The Sendai Framework is the product of the Third United Nations World Conference on Disaster Risk Reduction held in Sendai, Japan, from 14 to 18 March 2015.

The Sendai Framework identifies its goal, then introduces global targets from which it develops priorities of action and general guiding principles. Before the Sendai Framework addresses the content of its overall goal, it reviews the Hyogo Framework and stresses the importance of disaster risk reduction. It acknowledges the importance of the Hyogo Framework and particularly how it has raised the awareness for disaster risk reduction within the international community.

The Sendai Framework stresses, however, the imminent danger of climate change and the subsequent increase in the frequency of natural disasters, as well as the financial challenges disaster impose especially for the developing states. In this regard, the Sendai Framework calls for support of developing States with financial and technological assistance in accordance with other international commitments.

Contrary to the Hyogo Framework, the Sendai Framework introduces global targets before formulating its key priorities for action. The seven global targets read as follows:

(a) Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020–2030 compared to the period 2005–2015;
(b) Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared to the period 2005–2015;
(c) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;

429 ibid.
430 ibid.
431 World Conference on Disaster Reduction, UN Doc A/CONF/206/6 (16 March 2005), 24 [34 (e)].
432 World Conference on Disaster Reduction, UN Doc A/CONF.224/L.2 (7 April 2015).
434 ibid 2-3 [3].
435 ibid 3 [4].
436 ibid 4 [8].
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(d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;

(e) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020;

(f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030;

g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.\(^{437}\)

The targets seem ambitious and are the first of their kind in this area of international law and policy. With regard to the present research with a focus on financing early warning mechanisms, especially the last two goals are from importance and clearly demand action on all political levels.

The key priorities for the Sendai Framework are guided by the global targets, including (1) to understand disaster risk; (2) to strengthen disaster risk governance in order to manage disasters; (3) to increase investment in disaster risk reduction, for successful disaster resilience; and (4) to enhance disaster preparedness and to ‘build back better’ not only in reconstruction but also in recovery and rehabilitation.\(^{438}\)

With regard to early warning, both the first and the fourth priority relevant. Within its first priority, the Sendai Framework makes a clear connection to early warning mechanisms: on a global level, there should be a better and more enhanced data and statistic sharing with regard to disaster risk, as well as, in general, a strengthening of disaster risk modelling, mapping, assessment monitoring of disaster risk and, finally, a strengthening of early warning systems.\(^{439}\)

The fourth priority takes up the call of the Hyogo Framework to maintain, on a national level, people-centred multi-hazard early warning mechanisms.\(^{440}\) It further asks, also on the national level, for investment in these mechanisms and for them to be tailored to the specific needs of the users, as well as for the promotion of simple and low-cost early warning equipment.\(^{441}\) On the global and regional level, with the same level of priority, the Hyogo Framework calls upon states to promote and invest in early warning mechanisms and to share and exchange relevant data across all States.\(^{442}\)

Contrary to the Hyogo Framework, the Sendai Framework emphasises more strongly the need to finance and financially invest in early warning mechanisms. It urges the United Nations system as a whole to contribute adequately and in a more stable and predictable manner to the United Nations Trust Fund for Disaster Reduction.\(^{443}\) This is in fact not a surprise, since one of the targets of the Sendai Framework is to increase the availability of and access to early warning systems by 2030.\(^{444}\)

Nonetheless, the Sendai Framework is not legally binding; it does not pose any legal obligations on States. Yet, it has been endorsed by the UNGA. This endorsement helps the framework to gain weight, and as such it plays, as a policy instrument, a significant role in the international community.\(^{445}\)

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\(^{437}\) ibid 6-7 [18].

\(^{438}\) ibid 8-9 [20].

\(^{439}\) ibid 10 [25(a)].

\(^{440}\) ibid 17 [33(b)].

\(^{441}\) ibid.

\(^{442}\) ibid 19 [34(c)].

\(^{443}\) ibid 26 [48(g)].

\(^{444}\) ibid 7 [18(g)].

After providing its endorsement in June 2015, the UNGA moved one step further and issued a second resolution in the matter of the Sendai Framework and disaster risk reduction. The UNGA urges the effective implementation of the Sendai Framework. In addition, the UNGA also stresses that even if each single State is responsible for its own disaster risk reduction, it cannot be denied that this is a common concern and, as such, mirrors a shared responsibility between the various governments and stakeholders.\footnote{International Strategy for Disaster Reduction, GA Res 70/204, 70\textsuperscript{th} sess, 81\textsuperscript{st} plenary mtg, Agenda Item 20(c), UN Doc A/RES/70/204 (23 February 2016), para 2 and 12; World Conference on Disaster Reduction, UN Doc A/CONF.224/L.2 (7 April 2015), 7 [19(a)].} In the same resolution, the UNGA also requested a report reviewing the requirement for the implementation of the Sendai Framework within the UN system.\footnote{International Strategy for Disaster Reduction, GA Res 70/204, 70\textsuperscript{th} sess, 81\textsuperscript{st} plenary mtg, Agenda Item 20(c), UN Doc A/RES/70/204 (23 February 2016), para 19.}

The review was completed in July 2016 and examines the latest-developed instruments and policies within the UN with regard to sustainable development and climate change.\footnote{Implementation of the Sendai Framework for Disaster Risk Reduction 2015 - 2030, Report of the Secretary General, 71\textsuperscript{st} sess, UN Doc A/71/230 (29 July 2016), 4-6 [7] - [16].} With regard to the policies concerning sustainable development, the review stresses how they emphasise and consider disaster risk reduction.\footnote{ibid 4-5 [7] - [10].} Especially the Addis Ababa Action Agenda, which was adopted in July 2015, takes the Sendai Framework into consideration.\footnote{ibid 5 [10]; Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa Action Agenda), GA Res 69/313, UN Doc A/RES/69/313 (17 August 2015) Annex 1, 11 [34] (‘Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa Action Agenda)’).} At this policy’s heart is the question of financing sustainable development. It makes reference to early warning mechanisms and their financing, but only in the case of health and financial hazards, which are not within the main focus of this research.\footnote{Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa Action Agenda), GA Res 69/313, UN Doc A/RES/69/313 (17 August 2015) Annex 1, 22 [77], 30 [107] (‘Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa Action Agenda)’).} The review also mentions the connection to the Paris agreement and the ILC’s Draft Articles, both of which are discussed in depth below.\footnote{Implementation of the Sendai Framework for Disaster Risk Reduction 2015 - 2030, Report of the Secretary General, 71\textsuperscript{st} sess, UN Doc A/71/230 (29 July 2016), 4 [6], 5 [11], 6 [16], 7 [24], 17 [64].}

\section{1.4. Early warning and sustainable development}

Sustainable development has been on the international agenda for many decades.\footnote{for a comprehensive overview: Dupuy and Vinuales, above n 272, 79-82.} This section aims to briefly connect sustainable development and early warning and explains why early warning is considered to be a part of sustainable development.

In 1987, the Brundtland Report was adopted, which defines the concept of sustainable development as follows: “sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those in the future.”\footnote{Secretary General, 42\textsuperscript{nd} sess, UN Doc A/42/427 Annex 1, 30 [49] (‘Report of the World Commission on Environment and Development - "Our Common Future"’).}
During the World Conference in 1992 in Rio, not only were the Rio Declaration and the UNFCCC adopted, but also Agenda 21, which deals in particular with the question of sustainable development.\(^{455}\)

The link between sustainable development and disaster risk reduction has already been acknowledged within the Agenda 21.\(^{456}\) Twenty years later, the Rio + 20 summit took place, and its policy outcome *The Future We Want* acknowledges disaster risk reduction as a crucial part of sustainable development.\(^{457}\) This policy instrument clearly links the need to take disaster risk reduction measures into consideration during urban planning.\(^{458}\) It also recognises the particular vulnerable situation of Small Island Developing States with regard to natural disasters.\(^{459}\) Finally, it also devotes a complete section solely to disaster risk reduction.\(^{460}\) This section firstly cross-references the more specialised *Hyogo Framework*.\(^{461}\) The section then follows with an acknowledgement of the importance of early warning systems within disaster risk reduction and asks for more cooperation on all levels in this regard.\(^{462}\)

In the year 2015, *the 2030 Agenda for Sustainable Development (2030 Agenda)* was adopted.\(^{463}\) The 2030 Agenda contains the sustainable development goals for 2015 – 2030.\(^{464}\) They constitute a set of total 17 goals that deal with different aspects of sustainable development, respectively: for example, poverty, hunger, health, education, inequality and equality, water management, energy, economic growth, climate change, sustainable use of the oceans and its resources, ecosystems and access to justice.\(^{465}\) Early warning mechanisms are elaborated within two sustainable development goals: (1) Goal 3, which aims to “ensure healthy lives and promote well-being for all ages” \(^{466}\); and (2) goal 13, which tackles climate change and its impacts.\(^{467}\) The third goal addresses early warning in relation to national and global health risks and is, as such, not relevant to this research.\(^{468}\) Goal 13, on the other hand, addresses early warning in relation to the adverse impacts to climate change, which includes extreme weather events.\(^{469}\)

Goal 13 firstly acknowledges that the UNFCCC and its related instrument are the main instruments governing climate change.\(^{470}\) It then moves on to call upon all States to strengthen their resilience and capacity to deal with the adverse impacts of climate change, including natural disasters.\(^{471}\) The goal also urges State to actively include measures to combat climate change in their domestic policies, strategies and planning.\(^{472}\) Such policies should also include measures to educate, raise awareness and...
strengthen human and institutional capacity with respect to climate change mitigation, adaptation and particularly early warning mechanisms.\textsuperscript{473} The goal then goes on to repeat the financial USD 100 billion target for climate finance, which will be discussed in detail in the respective section below.\textsuperscript{474}

Finally, the goal also mentions the importance of supporting developing States as well as Small Island Developing States, given their particular vulnerability to the adverse effects of climate change.\textsuperscript{475}

Basically, Goal 13 of the 2015 sustainable development goals considers the need to support developing States and the importance of addressing the adverse effects of climate change appropriately. Nonetheless, the regime governing climate change and its adverse impacts is the UNFCCC and its related instruments. Additionally, the Agenda 2030 deals only briefly with early warning systems. Thus, the Agenda 2030 leaves room for the more specific policy instruments on disaster risk reduction, such as the \textit{Yokohama Strategy}, \textit{Hyogo Framework} and \textit{Sendai Framework}. At the same time, all policy instruments related to sustainable development, like the \textit{Yokohama Strategy}, \textit{Hyogo Framework} and \textit{Sendai Framework}, are not legally binding. As such, these instruments do not impose any legally enforceable obligations on States.

\begin{enumerate}
\item \textsuperscript{473} ibid 23 [13.3].
\item \textsuperscript{474} ibid 23 [13.a].
\item \textsuperscript{475} ibid 23 [13.b].
\end{enumerate}
2. Early Warning and the Climate-Change-Law Regime

The UNFCCC and its related instruments are the main governing legal body for climate-change-related concerns. As explored above, this has *inter alia* been acknowledged within the 2030 Agenda and its sustainable development goals for 2015 – 2030. Climate change triggers the frequency of extreme weather events and thus also the frequency of potential disaster situations. Therefore, the climate change legal regime cannot be ignored and might even offer some answers for the question of the funding of early warning mechanisms.

Indeed, the UNFCCC makes a reference to natural disasters. It urges its parties to give full consideration to disaster-prone States while implementing the UNFCCC.\(^{476}\) The *Kyoto Protocol*, however, does not remark on natural disasters. This lack of mention changed with the Paris Agreement, adopted in 2015. The Paris Agreement includes a significant change with the adoption of Article 8, which deals with the question of loss and damages related to climate change.\(^{477}\) In addition, a stronger focus on adaptation and climate finance is supported by the Paris Agreement.\(^{478}\) Particularly, this stronger emphasis on adaption and climate finance is relevant to the question of funding for early warning systems. Thus, this section gives special priority to the Paris Agreement.

This section is divided into two major sections: The first takes a close look at climate finance and its possibilities and limitations with regard to the funding of early warning systems. The second investigates the newly introduced concept of ‘loss and damage’ and its opportunities.

### 2.1. Climate finance

This section aims to give an effective overview on climate finance and its mechanism. Firstly, the system is explained in general terms. Then, the section moves to the climate finance systems under the Paris Agreement, and as such explores the new modifications to it. Afterwards, the issue of using funding from the climate finance system for early warning mechanisms is addressed, followed by an introduction of the USD 100 billion target.

#### 2.1.1. The system of climate finance in general

The fact that climate change mitigation and adaptation measures are costly has not been ignored during the adoption of the UNFCCC regime. Indeed, the regime demands that developed States take the lead in combating climate change, of course in the light of the CBDRRC principle.\(^{479}\) This responsibility means assisting developing countries by financial means, within the developed countries’ capabilities to do so.\(^{480}\) Hence, climate finance represents financial help from developed to developing States in order to assist them with the cost of mitigation and adaptation measures.\(^{481}\)

\(^{476}\) UNFCCC Art. 4(8)(d).

\(^{477}\) Paris Agreement Art. 8.

\(^{478}\) ibid Arts. 7 and 9.

\(^{479}\) UNFCCC Art. 3(1).

\(^{480}\) ibid Art. 4 (4) - (5).

\(^{481}\) Paris Agreement Art. 9(1); Kyoto Protocol Art. 11.
To fulfil the financial obligations under the UNFCCC regime, the UNFCCC introduces a financial mechanism. The mechanism is operated by one or more trusted and already-existing international entities. The UNFCCC has appointed the Global Environment Facility as the operator for the financial mechanism. At COP 17 in Durban, the Green Climate Fund was appointed as the second operating entity under Article 11 UNFCCC. Both entities are guided by the policies made by the parties to the UNFCCC, such as the programme priorities and eligibility criteria.

Later, two additional special funds were adopted by the COP: the special climate fund and the least-developed countries fund. The special climate fund has the purpose of supporting adaptation, technology transfer and mitigation efforts in various sectors, such as in energy and forestry. The least-developed countries fund, on the other hand, supports primarily the national adaptation programmes of the least-developed countries. Both funds are administered by the Global Environment Facility.

Under the governance of the Kyoto Protocol, a third fund was also established: the Adaptation Fund.

2.1.2. Climate finance after the adoption of the Paris Agreement

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482 UNFCCC Art. 11.
483 ibid Art. 11(1).
485 Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011, Decision 3/CP.17, UN Doc FCCC/CP/2011/9/Add.1 (15 March 2012) (‘Launching the Green Climate Fund’).
486 UNFCCC Art. 11(1).
487 Report of the Conference of the Parties on its seventh session, held at Marrakesh from 29 October to 10 November 2001, Decision 7/CP.7, UN Doc FCCC/CP/2001/13/Add.1 (21 January 2002), para 2 and 6 (‘Funding under the Convention’).
488 ibid para 2.
489 ibid para 6.
491 Report of the Conference of the Parties on its seventh session, held at Marrakesh from 29 October to 10 November 2001, Decision 10/CP.7, UN Doc FCCC/CP/2001/13/Add.1 (21 January 2002) (‘Funding under the Kyoto Protocol’).
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Article 9 of the Paris Agreement gives full effect to the financial mechanism of the UNFCCC and the appointed international entities thereof: the Green Climate Fund and the Global Environment Facility.492

Article 9 asks developed States to support financially both mitigation and adaptation measures.493 Furthermore, the provision also encourages other States, thus developing States, to take action and offer support financially, on a voluntarily basis, of course.494 The provision does not include a financial mobilisation goal, although such a goal was included in the negotiation text.495 One of the main reasons this goal was not included stems from the politics of the US, for whom any financial obligation was a line they were unwilling to cross.496

A financial mobilisation goal was envisaged at the COP in Copenhagen in the year 2009. There, the COP agreed, as enshrined in the Copenhagen Accord, to mobilise jointly from developed States USD 100 billion annually by 2020.497 Although this reference cannot be found within the legal text of the Paris Agreement, it is reflected in the accompanying COP decision, which clearly states, “[…] developed countries intend to continue their existing collective mobilization through 2025 in the context of meaningful mitigation actions and transparency on implementation; prior to 2025 the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement shall set new collective quantified goal from a floor of USD 100 billion per year, taking into account the need and priorities of developing countries.”498

This decision raises the following questions: (1) Is climate finance used to fund early warning mechanisms in developing states? (2) Do developed States have a legal obligation to contribute to funds that support early warning mechanisms? These two questions are explored below, each in their own section.

2.1.3. Using climate finance for early warning mechanism

Funds governed under the UNFCCC financial mechanism have indeed been used to fund projects that include, among other things, also early warning mechanisms. In fact, funds have been used from both the Least Developed Countries Fund as well as the Special Climate Change Fund.499

492 Paris Agreement Art. 9(8) and (4).
493 Ibid Art. 9(1).
494 Ibid Art. 9(2).
495 Obergassel et al, above n 329, 30.
496 Ibid.
497 Report of the Conference of the Parties on its fifteenth session, held in Copenhagen from 7 to 19 December 2009, Decision 2/CP.15, UN Doc FCCC/CP/2009/11/Add.1 (30 March 2010 ), para 8 (’Copenhagen Accord ’).
498 Conference of the Parties, Agenda Item 4(b), UN Doc FCCC/CP/2015/L.9/Rev.1 (12 December 2015), para 54.
For example, during its financial year 2016, the Global Environmental Facility funded a project in Afghanistan that aimed to help Afghan communities with resilience to climate-triggered disasters.\textsuperscript{500} This project included, among other things, also the funding for the implementation of early warning systems.\textsuperscript{501} The Global Environmental Facility does not limit itself to supporting countries. Rather, it also supports regional projects, such as the Pacific Resilience Programme.\textsuperscript{502} This project aimed to support Pacific Island States to adapt to the adverse effects of climate change. This support included the investment in early warning systems.\textsuperscript{503} The total effective costs for this project was USD 44.1 million.\textsuperscript{504} Support for early warning mechanisms has been given through the Least Developed Countries Fund and the Special Climate Change Fund since 2005.\textsuperscript{505} As such, these two funds present an important tool for the funding of early warning mechanisms.

Although there seems already to be an inflow of money to support the establishment of early warning mechanisms, an additional initiative was formed during the 2015 negotiations in Paris: the Climate Risk and Early Warning Systems Initiative.\textsuperscript{506} Australia, Canada, France, Germany, Luxembourg and the Netherlands have pledged to contribute more than USD 80 million to the initiative.\textsuperscript{507} Currently, as of 25 July 2017, the fund has received USD 16.51 million from Australia, France, Germany and Luxembourg.\textsuperscript{508}

Thus, the means exist to fund and support early warning mechanism globally. This fact, however, does not imply that there is also an obligation as such to actually contribute to the respective means, such as to the special funds. The question remains, whether there is an international legal obligation of States to financially contribute. This question is addressed in the next section below.

\section*{2.1.4. The annual USD 100 billion target for climate finance}

The COP and the \textit{Kyoto Protocol} are held every year in December. During this conference, a number of decisions are adopted, among which is the USD 100 billion target for climate finance.\textsuperscript{509} During the

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\textsuperscript{500} Report of the Global Environment Facility to the Conference of the Parties, UN Doc FCCC/CP/2016/6 (30 August 2016) Annex 6, 87 (‘Summaries of Projects Approved under the LDCF and the SCCF’).
\textsuperscript{501} ibid 87-88.
\textsuperscript{502} Report of the Global Environment Facility to the Conference of the Parties, UN Doc FCCC/CP/2015/4 (11 September 2015) Annex 5, 61 (‘ Summaries of Projects and Programs Approved under the LDCF and the SCCF’).
\textsuperscript{503} ibid.
\textsuperscript{504} ibid.
\textsuperscript{505} the first record of funding used for early warning in this context: Report of the Global Environment Facility to the Conference of the Parties UN Doc FCCC/CP/2005/3 (20 October 2005) Annex B, 47-8 (‘Concepts Approved for Pipeline Entry under the Strategic Pilot on Adaptation (SPA)’).
\textsuperscript{507} UNISDR, Climate Risk Early Warning Systems initiative launched at COP21 (26 June 2017) UNISDR <https://www.unisdr.org/archive/46913 >.
Paris negotiations in 2015, it was discussed whether this USD 100 billion target should be included into the treaty text, and the target was then rejected, mainly because of the US. Thus, the question arises, whether the decisions adopted at the COP are legally binding decisions by themselves or simply political decisions with no legal impact.

In order that a State is legally bound to any international instrument, it must give its consent to be bound, which can be expressed in various ways, mostly by ratification. Thus, although the COP Decisions are adopted by the State parties to the UNFCCC or the Kyoto Protocol, they do not individually give their consent to each decision. As such, States are not legally bound to the adopted decisions per se. As such, the adopted COP Decisions represent political decisions that are not legally enforceable. Hence, with regard to the USD 100 billion target for climate finance, it is not legally binding upon States per se, and thus enjoys the status of a merely political signal.

2.2. Loss and damage

The term ‘loss and damage’ addresses the adverse effects of climate change to which, in general, no adaptation is possible or exceed the possibilities of adaptation measures. The Paris Agreement expressively includes extreme weather events and slow-onset events among the possibilities that might result in loss and damage related to climate change. Hence, the Paris Agreement refers to exactly such events that may lead to a disaster situation.

‘Loss and damage’ has been on the table of climate discussion, especially pushed by Small Island States, for many years. The major turnaround in this matter started with the Bali Action Plan at COP 13 in the year 2007: The Bali Action Plan recognises the need to address disaster reduction strategies as well as loss and damage. Three years later, at the COP 16 in Cancun, the parties to the UNFCCC decided to establish a work programme on loss and damage in developing countries. The COP in Doha in 2012 dedicated a decision solely to ‘loss and damage’. In this decision, the COP principally recognised the urgent need for more comprehensive cooperation among the parties in the matter of loss and damage. The decision also addresses the need to enhance support, including funding for loss and damage. Most importantly, however, it decides to establish an international mechanism to

512 VCLT Art. 11.
513 Brunnée, above n 511, 32.
514 Obergassel et al, above n 329, 27.
515 Paris Agreement Art. 8(1).
516 ibid para 1.
518 Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010, Decision 1/CP.16, UN Doc FCCC/CP/2010/7/Add.1 (15 March 2011), para 26 ('Cancun Agreements').
519 Report of the Conference of the Parties on its eighteenth session, held in Doha from 26 November to 8 December 2012, Decision 3/CP.18, UN Doc FCCC/CP/2012/8/Add.1 (28 February 2013) ('Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity').
520 ibid preamble para 3, para 7(c).
521 ibid para 1.
address loss and damage. The Warsaw International Mechanism for Loss and Damage (Warsaw Mechanism) was adopted a year later at COP 19. The functions of the mechanism are to improve the knowledge of disaster risk management approaches, to advance the dialogue and coordination between all relevant stakeholders and, finally, to encourage further support through financing, technology and capacity building.

However, the first strong legal support for the Warsaw Mechanism was marked by the adoption of the Paris Agreement, in particular the introduction of Article 8 on loss and damage and the specific reference to the mechanism therein.

The connection between IDL and the climate-change-law regime cannot be ignored, furthermore. By introducing loss and damage into the Paris Agreement, this instrument became an important source of for IDL. Indeed, at the conference in Marrakech in 2016, the COP encouraged all State parties

“to incorporate or continue to incorporate the consideration of extreme events and slow onset events, non-economic losses, displacement, migration and human mobility, and comprehensive risk management into relevant planning and action, as appropriate, and to encourage bilateral and multilateral entities to support such efforts.”

By doing so, this COP decision asks all State parties to improve or at least maintain their disaster management laws or policies and further encourages them to cooperate among themselves. Thus, this highlights the importance of the climate regime in IDL and clearly makes the Paris Agreement a legal source for IDL.

However, Article 8, all relevant COP Decisions and the Warsaw Mechanism do not yet support any funding for early warning mechanisms. The Warsaw Mechanism pointed out in its first work plan its goal to improve the financial situation by strengthening the availability of finance for matters in relation to loss and damage. The work plan also includes a section on extreme weather events, thus events that may lead to disaster situations. This particular section, however, does not deal with any financial aspects. It rather includes the task to understand how to properly prepare, respond and build resilience against loss and damage related to extreme weather events. Furthermore, no specific solutions have yet been offered by the Warsaw Mechanism. This absence is unsurprising, considering the short time that has elapsed since the adoption of the Paris Agreement, at the time of this writing.

Therefore, there are yet no solutions available under the current loss and damage framework. As such, it seems appropriate to look closer at the question of climate finance and adaption and whether the funding for early warning mechanisms may be subsumed under these aspects.

The Paris Agreement, especially its provision on loss and damage, will be further examined under the question of reconstruction and the liability of States in the respective chapter below.

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522 ibid para 9.
523 Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 - 23 November 2013, Decision 2/CP.19, UN Doc FCCC/CP/2013/10/Add.1 (31 January 2014) (‘Warsaw international mechanism for loss and damage associated with climate change impacts’).
524 ibid para 5.
525 Paris Agreement Art. 8(2).
526 Report of the Conference of the Parties on its twenty-second session, held in Marrakech from 7 to 18 November 2016, Decision 3/CP.22, UN Doc FCCC/CP/2016/10/Add.1 (31 January 2017), para 9 (‘Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts’).
527 Report of the Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts, UN Doc FCCC/SB/2014/4 (24 October 2014) Annex 2, 12 (‘Initial two-year workplan of the Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts in accordance with decisions 3/CP.18 and 2/CP.19’).
528 ibid 10.
3. Protection of Persons in the Event of Disasters

The Draft Articles serve not only as guidelines for disaster situations. They also include provisions on disaster risk reduction, specifically on early warning mechanisms.\(^{529}\)

Article 2 extends the scope of the Draft Articles to not only the response situations but also to disaster risk reduction. Thus, they suggest the international community’s considerations on disaster risk reduction to be essential.\(^{530}\)

Disaster risk reduction is dealt with in only one provision: Article 9. This provision deals solely with the disaster risk reduction and states:

“(1) Each state shall reduce the risk of disasters by taking appropriate measures, including through legislation and regulations, to prevent, mitigate, and prepare for disasters.

(2) Disaster risk reduction measures include the conduct of risk assessments, the collection and dissemination of risk and past loss information, and the installation and operation of early warning systems.”\(^{531}\)

The wording of ‘each state’ in this provision stipulates, as confirmed by the ILC within its commentaries, that disaster prevention and, as such, also early warning mechanisms, within the scope of Article 9, belong to the domestic affairs of each State.\(^{532}\) Thus, all interactions between States in the area of disaster preparedness and prevention are not embodied under the scope of Article 9. According to the ILC, all such activities should be governed in the more general duty to cooperate of Article 7.\(^{533}\)

Furthermore, by including the wording ‘each state’ instead of ‘states’, the ILC tries to avoid any association with a possible collective obligation.\(^{534}\)

The general duty to cooperate is embodied in Article 7.\(^{535}\) This provision has a very general character and thus reflects only the general duty to cooperate as a general principle of international law.\(^{536}\) This general principle is also reflected within the UN Charter, which makes specific reference to the humanitarian context within which disaster situations can be placed.\(^{537}\)

The ILC furthermore clearly notes that the duty to cooperate, as enshrined in Article 7, is only complementary.\(^{538}\) With regard to disaster risk reduction and prevention, the ILC cites the Sendai Framework and stresses again the primary responsibility of each State, but also stresses the possibility of complementary international cooperation in this regard.\(^{539}\)

The special rapporteur, on the other hand, supports the idea of including early warning mechanisms and their legal regulation not only in the domestic sphere but also in multilateral and bilateral agreements.\(^{540}\) Such an example is Article 7 AADMER. This provision also embodies a specific duty

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\(^{529}\) Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 14, 15, art. 2 and art. 9.

\(^{530}\) ibid 20.

\(^{531}\) ibid 15, art. 9.

\(^{532}\) ibid 47.

\(^{533}\) ibid.

\(^{534}\) ibid.

\(^{535}\) ibid 15, Art. 17 reads itself as follows: "In the application of the present draft articles, States shall, as appropriate, cooperate among themselves, with the United Nations, with the components of the Red Cross and Red Crescent Movement, and with other assisting actors."

\(^{536}\) ibid 36 - 37.

\(^{537}\) ibid 36; UN Charter Arts. 1(3), 55 and 56.

\(^{538}\) Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 38.

\(^{539}\) ibid 37 -38.

\(^{540}\) Valencia-Ospina, Special Rapporteur, Sixth report on the protection of persons in the event of disasters, 65th
to cooperate in the case of threats with trans-boundary effects.\footnote{AADMER Art. 7(2).} This example helped the special rapporteur to envisage a clearer formulation of the duty to cooperate. He expressly wanted to include disaster prevention measures, including early warning mechanisms, as part of international cooperation.\footnote{Valencia-Ospina, Special Rapporteur, Sixth report on the protection of persons in the event of disasters, 65th sess, UN Doc A/CN.4/662 (3 May 2013), 59 [162].} This approach has, as explained above, not been supported by the ILC, and thus it has not been included into the final version of the articles.

Hence, the Draft Articles, as adopted by the ILC are not as supportive and clear in language for the case of international cooperation with regard to early warning mechanisms as previously formulated by the special rapporteur. If they enter into force as the Draft Articles now appear, they will not constitute any specific legal obligation for cooperation, including financial support, in the case of disaster risk reduction and in particular early warning systems.
4. Obligation of Developed States to Finance Early Warning Systems

Within the climate finance system, the means exist to distribute financial support with regard to disaster risk reduction measures including early warning systems. Although the means exist, the question remains whether there is a legal obligation for developed States to financially feed those means. Additionally, it remains unclear whether also emerging economies should be taken into consideration or whether still only the developed States should be the ones to be in the first row when tackling climate change.

This section aims to answer these two questions. First a close look at the CBDRRC principle is taken. This examination is followed by an analysis of the principles of international environmental law as well as international human rights law and the R2P doctrine.

4.1. Common but differentiated responsibilities and respective capacities principle and climate finance

The Rio Declaration embodies the common but differentiated responsibilities principle within its Principle 7:

“States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.”

The Rio Declaration, as such, clearly stresses the important role developed States have to play with regard to sustainable development, inter alia, because of their financial resources and obviously their past contributions to a common problem of humankind.

Such a common problem of humankind is climate change and its adverse impacts. The common but differentiated responsibilities principle is, therefore, repeated in the UNFCCC, which is the main legal instrument of climate change law. The UNFCCC embodies the common but differentiated responsibilities in Article 3(1). Yet, in the climate change context, the principle referred to as the CBDRRC. It is repeated in the Kyoto Protocol and the Paris Agreement.

The principle deals with the issue of intra-generational equity in international climate change law. The corresponding issue of inter-generational equity is embodied within the notion of “equity” as used by Article 3(1) of the UNFCCC. Intra-generational equity, as embodied in the CBDRRC principle, aims

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544 UNFCCC Art. 3(1).
545 Kyoto Protocol Art. 10(1); Paris Agreement Art. 2(2).
547 ibid 188.
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to establish fairness into the common problem of humankind of climate change, to which not all States have contributed the same amount.\textsuperscript{548}

The CBDRRC principle can be split into two main components: Firstly, the common responsibility part and secondly the differentiated responsibility part. Climate change and its impact are a common responsibilities because the adverse effects are noticeable not only within the GHG-emitting State’s territory.\textsuperscript{549} Some States are facing issues arising out of other States environmental choices, such as amount of GHG emissions, which leaves no other option for all States to than to tackle the problem together, as a common concern.\textsuperscript{550} Hence, the component of common responsibility has its origins in the principle of cooperation.\textsuperscript{551}

Differentiated responsibility, on the other hand, springs from the fact that not every State contributes equally to climate change, as well as the differing capacities of States to take appropriate measures against climate change.\textsuperscript{552} Thus, the CBDRRC builds on the polluter pays principle, by adding past GHG emissions to the current emissions.\textsuperscript{553} As such, the CBDRRC principle requests, at least for the moment, different treatment among the States namely between developed, who emitted more GHG in the past, and developing States.\textsuperscript{554} As however, the core lies on the responsibility for emissions from the past, the CBDRRC principle will even this differential treatment out over time, when the current emissions of developing States also become emissions from their specific past.\textsuperscript{555}

This differing treatment of developed and developing countries is mirrored throughout the climate law regime: The UNFCCC introduces commitments only to the developed countries and names them in Annex 1.\textsuperscript{556} The Kyoto Protocol includes only GHG reduction targets for Annex 1 States.\textsuperscript{557} With regard to climate finance, this difference in treatment also applies: the UNFCCC makes a strong point that developed State parties have to take the lead and support developing States.\textsuperscript{558}

With the adoption of the Paris Agreement, this strict differentiation in the treatment of developed and developing States, as implemented in particular with the Kyoto Protocol, has softened.\textsuperscript{559} The main reason why the Paris Agreement lets the wall between developing and developed States crumble is because it introduces ‘nationally determined contributions’ that are not limited only to developed States, but rather also invite developing States to define their contributions.\textsuperscript{560} Yet, this invitation does not imply that developed States should not still take the lead. Contrary, the Paris Agreement stresses the fact that still developed States have to take the lead with regard to mitigation efforts.\textsuperscript{561} Also with regard to climate finance developed States still are in the position to take the lead.\textsuperscript{562} The developed States should not only take the lead with regard to mobilisation of financial resources, but also by

\begin{itemize}
  \item \textsuperscript{548} Lavanya Rajamani, 'The Principle of Common but Differentiated Responsibility and the Balance of Commitments under the Climate Regime' (2000) 9(2) RECIEL 120, 121.
  \item \textsuperscript{549} ibid.
  \item \textsuperscript{550} ibid.
  \item \textsuperscript{551} ibid.
  \item \textsuperscript{552} ibid.
  \item \textsuperscript{553} ibid 122.
  \item \textsuperscript{554} ibid 121.
  \item \textsuperscript{555} ibid 122.
  \item \textsuperscript{556} UNFCCC Art. 4(2); see also: Rajamani, above n 548, 126.
  \item \textsuperscript{557} Kyoto Protocol Art. 3(1).
  \item \textsuperscript{558} UNFCCC Art. 4(3) - (5).
  \item \textsuperscript{560} Paris Agreement Art. 4(2).
  \item \textsuperscript{561} ibid Art. 4(4).
  \item \textsuperscript{562} ibid Art. 9(1).
\end{itemize}
financially supporting developing States in their mitigation and adaptation measures.\textsuperscript{563} In this matter, the Paris Agreement furthermore asks for a fair balance between funding for mitigation and adaptation measures. At the same time, it also clarifies that country-specific measures should be funded and that particular attention should be rendered to the least-developed and small island developing States, which are in more need of adaptation measures.\textsuperscript{564}

Although there seems to be high acknowledgment within the Paris Agreement of financial flow from developed States to developing States in the matter of mitigation and adaptation measures, the language is weak and imprecise.\textsuperscript{565} The Paris Agreement points out only that there should be a flow of money from the developed States to developing States without making this a clear legal obligation.\textsuperscript{566}

In applying this observation to the question of financial support for early warning systems, one must note that there is no specific obligation under the climate law regime at the current stage. There is a general obligation to financially assist developing States with regard to adaptation measures, under which also early warning mechanisms fall. However, the legal language that is used remains very vague and weak so that no clear legal obligation to do so is available. Especially not with regard to the question of whether there is an obligation under the climate change regime to contribute a certain amount of money to the climate finance mechanism that could introduce the means to support early warning systems projects.

### 4.2. Principles of international environmental law: Precautionary principle, polluter pay principle and no-harm rule

The climate-change-law regime is not the only source of international law that could possibly introduce a legal obligation for the financial support of early warning mechanisms. Of particular interest are approaches from the general principles of international environmental law. In this context, the precautionary principle, the polluter pays principle and the no-harm rule are of relevance.\textsuperscript{567} This section firstly examines the precautionary principle and the no-harm rule. It turns to the precautionary principle in the light of the CBDRRC principle, in order to determine who should be under legal obligation to financially support early warning mechanisms.

The precautionary principle and the no-harm rule are both important principles of international environmental law; they derive, however, from different sources: The precautionary principle is firmly anchored in the Rio Declaration and in the climate regime in the UNFCCC.\textsuperscript{568} The no-harm rule, by contrast, derives from the \textit{Trail Smelter} arbitration and enjoys the status of customary international law.\textsuperscript{569}

\begin{footnotesize}
\begin{enumerate}
\item[563] ibid Art. 9(1) and (3).
\item[564] ibid Art. 9(4).
\item[565] Obergassel et al, above n 329, 47.
\item[566] Paris Agreement Art. 9; Obergassel et al, above n 329, 47.
\item[567] For a brief overview on the principles see above Chapter: Principles of international environmental law, on page 36.
\end{enumerate}
\end{footnotesize}
4.2.1. The precautionary principle and climate change litigation

The precautionary principle, at its core, asks States to take appropriate steps to prevent potential environmental damage, even if there is a lack of exact scientific proof for the potential damage or adverse effects of a certain activity. Thus, it is not a surprise that the precautionary approach has been introduced into the climate law regime, as especially in the 1990s the science behind climate change was not as developed as it is today. Although the precautionary principle has been incorporated into the legal text, the international courts do not follow share the same understanding regarding whether it is a principle of customary international law. The World Trade Organisation (WTO) Dispute Settlement Body and the ICJ do not recognise the precautionary principle as a principle of customary international law, nor thus as a source of international law. In contrast, the ITLOS, ECtHR and the European Court of Justice (ECJ) acknowledge the importance of the precautionary principle and its movement towards a customary status. Yet, this division of understanding of the various courts is unsurprising, as the kinds of cases they hear differ, making the position of the ICJ in this regard more important. Thus, this research follows the opinion of the ICJ that the precautionary principle does not constitute a principle of customary international law.

Nevertheless, the precautionary principle plays a significant role with regard to climate change litigation, specifically with mitigation efforts. There, it has been suggested in academia to use the principle, as it helps to overcome certain scientific uncertainty. The latter aspect is, as already explained above, the essential core of the precautionary principle and has also been embodied in the UNFCCC. As, however, it is the position of this research that this principle does not constitute a principle of customary international law, and as the principle so far has been linked only to climate change mitigation efforts, such as GHG reductions, it will not be explored in more detail here – particularly, since early warning mechanisms represent adaptation measures and thus fall not under the umbrella of mitigation.

4.2.2. The no-harm rule

570 Dupuy and Vinuales, above n 272, 61.
571 ibid 61-64.
573 Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area (Advisory Opinion) (International Tribunal for the Law of the Sea, Case No 17, 1 February 2011) [135]; Tatar v. Romania (European Court of Human Rights, Chamber, Application No 67021/01, 27 January 2009) [120]; Gowan Comércio Internacional e Serviços Lda v Ministero della Salute (Court of Justice of the European Communities, C-77/09, 22 December 2010) [68] - [75]; Dupuy and Vinuales, above n 272, 63-4.
574 Dupuy and Vinuales, above n 272, 64.
575 Miriam Haritz, 'Liability with and liability from the precautionary principle in climate change cases' in Michael Faure and Marjan Peeters (eds), Climate Change Litigation (Edward Elgar, 2011) 15.
576 UNFCCC Art. 3(3) second sentence.
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The no-harm rule is a principle of customary rule and has already been addressed briefly above in the relevant chapter.\(^{577}\) The no-harm rule demands, at its core, that no State exercise its own sovereign rights in a way that would harm another State, including the environment of the other State.\(^{578}\) The Trail Smelter Arbitration was the first case of air pollution brought to an international tribunal.\(^{579}\) Thus, since this case concerned the pollution through the air, noticeable in the territory of another State, this case is indicative of the central issue of this research: the emissions of GHG into the air, which causes climate change and thus global warming, leading to an increase of extreme weather events and, as such, the need for appropriate early warning systems. Hence, it is more than logical to apply the findings of the Trail Smelter Arbitration, and in particular the no-harm rule, to the issue at hand.

The no-harm rule is not only applied after damage has occurred: The ILC also included the no-harm rule in its work on Draft Articles on Prevention of Transboundary Harm from Hazardous Activities.\(^{580}\) These Draft Articles apply to “activities not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences.”\(^{581}\)

The emission of GHGs is not prohibited under international law, as such. The UNFCCC regime solely aims to limit the total of emissions introduced to the atmosphere, by introducing either reduction targets, as within the Kyoto Protocol, or nationally determined contributions, as introduced with the Paris Agreement.\(^{582}\) Furthermore, also the second element of significant transboundary harm is fulfilled. The IPCC established the link between global warming, which is triggered by GHG emissions, and the increase in the frequency of extreme weather events such as cyclones or hurricanes.\(^{583}\) There is also no doubt that extreme weather events may lead, if not managed properly, to massive material damage, environmental damage and human losses. Extreme weather falls within the ILC’s understanding of ‘harm’, which is considered to be personal, material or environmental.\(^{584}\)

Thus, the emission of GHGs falls within the scope of the Draft Articles on Prevention of Transboundary Harm from Hazardous Activities: Firstly, the emissions are not prohibited under international law; secondly, GHG emissions have the potential to cause significant transboundary harm.

Article 3, which mostly represents the no-harm rule, asks States to take action to prevent or minimise the risk of significant harm arising out of transboundary pollution:

“The State of origin shall take all appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof.”\(^{585}\)

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577 See chapter: Principles of international environmental law above on page 36.
579 Trail Smelter Arbitration (United States v. Canada) III RIAA 1905 - 82, 1963 (‘Trail Smelter’).
581 ibid 371, Art. 1.
582 For further explanations see above chapter: International climate change law on page 37.
583 IPCC, above n 2, 53.
585 ibid 372, Art. 3.
Thus, the question is whether an early warning mechanism could be considered an ‘appropriate measure’ according this provision. The World Bank has estimated in its 2017 study that the implementation of appropriate access to early warning mechanisms could save up to USD 100 billion a year and increase, as such, global consumption by the same sum.\textsuperscript{586} Not only would it increase global well-being, according to the global consumption, but also early warning mechanisms would obviously also help to save people’s assets, reducing the loss by about 20%; most importantly, such mechanisms could save lives.\textsuperscript{587} Since the understanding of ‘harm’ in this context is understood by the ILC as personal, material or environmental, there is no doubt that early warning mechanisms are excellent measures to prevent such harm. This argument is supported by the fact that because of the emissions of GHGs, the frequency of extreme weather events is increasing, so early warning systems are now needed more than ever before.

As such, GHG-emitting States have to take preventive measures, according to the no-harm rule, as implemented in Article 3 of the Draft Articles on the Prevention of Transboundary Harm from Hazardous Activities. An example of a preventive measure is financial support for the establishment of early warning systems in disaster-prone States, particularly in developing States.\textsuperscript{588}

\subsection*{4.2.3. The polluter pays principle and CBDRRC}

Thus, the question remains whether all current strong GHG-emitting States should have an obligation to prevent harm occurring in other States or whether this should apply only in the light of the CBDRRC principle to developed States.

The climate regime introduced the CBDRRC on purpose and thus also the different treatment mirrored through it. Thus, the Kyoto Protocol includes only reduction targets that are listed in Annex 1 of the UNFCCC, which are considered to apply to developed States.\textsuperscript{589} Although the CBDRRC principle is repeated in the Paris Agreement, it does not include such a strict distinction between developed and developing States.\textsuperscript{590} Instead of reduction targets, the Paris Agreement introduces ‘nationally determined contributions’ for both developing and developed States.\textsuperscript{591} This new approach does not contradict the CBDRRC principle. Rather, it embraces the fact that the distribution of emissions has changed since the 1990s. As already explained above, the CBDRRC principle derives from the polluter pays principle, since it takes past GHG emissions, in particular, into account.\textsuperscript{592}

Currently, China is the largest emitter of CO\textsubscript{2} globally.\textsuperscript{593} Since the adoption of the UNFCCC, most developed States have reduced their total CO\textsubscript{2} emissions.\textsuperscript{594} Yet, since the Chinese population

\begin{thebibliography}{999}
\addcontentsline{toc}{section}{References}

\bibitem{586} Hallegatte et al, above n 131, 3.
\bibitem{587} ibid 94.
\bibitem{588} The Draft Articles on Transboundary Harm acknowledge in their commentary to Article 3, that the transfer of financial resources is in the common interest of all States and implements the duty of prevention: \textit{Report of the International Law Commission, Fifty-third session, (23 April - 1 June and 2 July - 10 August 2001)}, GAOR, 56th sess, Supp No 10, UN Doc A/56/10(SUPP), 395 [16]; also the Paris Agreement includes a reference to the financial assistance with regard to mitigation and adaptation measures: \textit{Paris Agreement} Art. 9(1).
\bibitem{589} \textit{Kyoto Protocol} Art. 3(1).
\bibitem{590} \textit{Paris Agreement} Art. 2(2).
\bibitem{591} ibid Art. 3.
\bibitem{592} See above the section: \textit{Common but differentiated responsibilities and respective capacities principle and climate finance} on page 65.
\bibitem{593} PBL Netherlands Environmental Assessment Agency and European Comission Joint Research Centre, above n 397, 38.
\bibitem{594} for a good overview: ibid 42-3.
\end{thebibliography}
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represents around 19% of the global population, it seems ideal not only to look at the absolute emissions but also at the relative numbers, in particular emissions per capita.\textsuperscript{595} Given this consideration, the ranking differs. The largest per capita emitter is currently Canada, with 19 tonnes CO\textsubscript{2} in 2015 per person.\textsuperscript{596}

Yet, the emissions per capita decreased in the developed States, while they increased in States with emerging economies, such as China or India.\textsuperscript{597} In China, the per capita emissions increased between 1990 and 2015 by around 281%, while the population grew by about 19%.\textsuperscript{598} In India, the data looks somewhat similar: the per capita emissions increased about 147%, with a population growth of 51% between 1990 and 2015.\textsuperscript{599} The EU, on the other hand, decreased its per capita emissions by around 25%, with a population growth of 6%.\textsuperscript{600} Not only did the per capita emissions decrease, but also the total emissions decreased by 21%.\textsuperscript{601}

Thus, since the emissions of emerging economies, such as China or India, are currently increasing, especially per capita, in the light of the CBDRRC principle, their past emissions should be counted as well. The Paris Agreement reflects this inclusion of past emissions, acknowledging the crucial role of emerging economies and their emissions, and thus it also demands action from those States by introducing the ‘nationally determined contributions’.

Yet, this introduction of these contributions does not imply, that the CBDRRC principle and its model of past-emissions accountability are appropriate for all States. The Paris Agreement still acknowledges that certain States did not contribute and still are not contributing enough to the common problem of climate change, such as the least developed and small island developing States.\textsuperscript{602} Additionally, the agreement stresses that developed States still have to take the lead in combating climate change and its adverse effects: Article 3(4) points out that developed States have to take the lead with regard to emission reduction targets. The finance provisions are in this regard slightly more demanding. Article 9(1) demands that developed States shall support developing States financially with regard to both mitigation and adaptation. Thus, although there is no clear between developed and developing States within the Paris Agreement, developed States are still obliged to take the lead in combating climate change its adverse effects. However, emerging economies such as China or India should also be considered when asking, who should pay for the damages caused by Climate Change. Since their emissions have been increasing over the last 20 years, they have produced a significant share of the global total of GHG emissions and, as such, they now fall under ‘past emissions’, which have to be taken into account, according to the CBDRRC principle.

\textsuperscript{595} ibid 34.
\textsuperscript{596} ibid 45.
\textsuperscript{597} ibid 34, 45.
\textsuperscript{598} ibid 45.
\textsuperscript{599} ibid.
\textsuperscript{600} ibid.
\textsuperscript{601} ibid.
\textsuperscript{602} Paris Agreement Art. 4(6).
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International human rights law provides guidance on how to manage disaster situations.\(^\text{603}\) Hence, the question arises whether developed States also have an obligation under human rights law to finance early warning systems in other States. – or in other words, whether international human rights law applies extraterritorially in the case of early warning mechanisms. Additionally, the focus lies not only on the extraterritorial application of human rights law but also on the question of the R2P. These two notions will be addressed in the section below. It will be argued neither notion is yet applicable in this context.

5.1. Extraterritorial application of human rights obligation

Particularly within the European sphere of human rights law, there exists an extensive case law on the question of extraterritorial applicability of human rights obligations.\(^\text{604}\) The ECtHR uses the ‘effective control’ approach in order to determine whether human rights obligations apply in an extraterritorial fashion.\(^\text{605}\) The ECtHR stresses the exceptionality of such an approach and that it only accepts it if “the respondent State, through the effective control of the relevant territory and its inhabitants abroad as a consequence of military occupation or through the consent, invitation or acquiescence of the government of that territory, exercise[s] all or some of the powers normally to be exercised by that government.”\(^\text{606}\)

The cases concerning the extraterritorial application of human rights obligation are mostly connected to armed conflict, such as Loizidou v. Turkey and Bankovic and others v. Belgium and others, where a State acted on the territory of another. In cases where a State acts on its own territory but the effects are noticed within the territory of another State, the extraterritorial application of human rights is more limited: in cases of extradition, there the extraterritorial application of human rights applies, particularly if the individual faces torture or inhumane or degrading treatment, such as, for example, by the death row phenomenon.\(^\text{607}\) The court reasoned this conclusion with the argument that the action of the respondent State imposed upon the individual any form of torture or inhumane or degrading treatment.\(^\text{608}\) In Ben El Mahi and Others v. Denmark, on the other hand, the ECtHR decided the case was inadmissible on the grounds of lack of jurisdiction.\(^\text{609}\) This case concerned the publication of 12 cartoons of the Prophet Mohammed in private Danish newspaper. The applicants, Moroccan nationals and associations, complained that by not pursuing criminal charges against the publisher, Denmark

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\(^{604}\) see among many others: Soering v. The United Kingdom (1989) 161 Eur Court HR (ser A); Loizidou v Turkey (Preliminary Objections) (1995) 310 Eur Court HR (ser A); Bankovic and others v. Belgium and others [2001] XII Eur Court HR 333; Al-Saadoon and Mufidi v. The United Kingdom (Admissibility Decision) (European Court of Human Rights, Chamber, App. No App. No. 61498/08, 30 June 2009); Medvedyev and Others v. France [2010] III Eur Court HR 61.

\(^{605}\) Loizidou v Turkey (Preliminary Objections) (1995) 310 Eur Court HR (ser A), [63] - [64]; Bankovic and others v. Belgium and others [2001] XII Eur Court HR 333, 355 [71].

\(^{606}\) Bankovic and others v. Belgium and others [2001] XII Eur Court HR 333, 355 [71].

\(^{607}\) Soering v. The United Kingdom (1989) 161 Eur Court HR (ser A).

\(^{608}\) ibid [111].

\(^{609}\) Ben El Mahi and Others v. Denmark [2006] XV Eur Court HR 367.
permitted the publication, and thus discriminated against Muslims.\textsuperscript{610} The ECtHR declared the case inadmissible, since there was no jurisdictional link between Denmark and Morocco.\textsuperscript{611}

By following the case law of the ECtHR, there would be no possibility to link the jurisdiction of, at least European, developed States to disaster-prone developing States, simply because developed States are not exercising any ‘effective control’ within the territory of the disaster-prone developing State, with regard to the management of natural disasters. As such, disaster-prone developing States are left completely responsible for the fulfilment of the human rights of their populations, including a possible right to early warning.\textsuperscript{612} The ILC also follows this reasoning, since it clearly States that each State is responsible by themselves for disaster risk reduction measures.\textsuperscript{613}

However, there exist ideas within the international law community that States should have an obligation to assist other States in fulfilling their human rights obligations.\textsuperscript{614} The Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic and Social and Cultural Rights (Maastricht Principles) expressively proclaims that States shall assist other States to fulfil their human rights obligations in the area of economic, social and cultural rights.\textsuperscript{615} Principle 3 proclaims, “All States have obligations to respect, protect and fulfil human rights, including civil, cultural, economic, political and social rights, both within their territories and extraterritorially.”\textsuperscript{616}

The Maastricht Principle limit themselves not only to the ‘effective control’ criteria but rather also include into their understanding of extraterritorial application “situations over which State acts or omissions bring about foreseeable effects on the enjoyment of economic, social and cultural rights, whether within or outside its territory.”\textsuperscript{617}

If there is an extraterritorial application of human rights, the subsequent obligations, according to the principles, encompass also the duty to cooperate in order to achieve the universal enjoyment of human rights.\textsuperscript{618} This duty of cooperation also entails the duty to provide international assistance in order “[…] to contribute to the fulfilment of economic, social and cultural rights in other States […]”.\textsuperscript{619}

This international assistance, as in the concept of international cooperation, embodies in particular economic support in order to achieve full enjoyment of economic, social and cultural rights.\textsuperscript{620}

Disaster situations, like after an extreme weather event, trigger human rights, especially economic, social and cultural rights: for example, the right to food or right to an adequate standard of living.\textsuperscript{621} Early warning mechanisms are part of disaster risk reduction strategies and thus have the aim of lessening the economic, social and cultural impacts of natural disasters.\textsuperscript{622} Global access to appropriate early warning mechanisms can increase human wellbeing, which is translated into an equivalent

\begin{itemize}
  \item \textsuperscript{610} ibid 369-375.
  \item \textsuperscript{611} ibid 376.
  \item \textsuperscript{612} The notion of a possible ‘right to early warning’ will be discussed in the respective chapter below.
  \item \textsuperscript{613} Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 15, Art. 9.
  \item \textsuperscript{614} see in general: ETOs, Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights (FIAN International, 2013).
  \item \textsuperscript{615} ibid.
  \item \textsuperscript{616} ibid 6, Principle 3.
  \item \textsuperscript{617} ibid 6-7, Principle 9(b).
  \item \textsuperscript{618} ibid 6, Principle 8(b).
  \item \textsuperscript{619} ibid 11 [33].
  \item \textsuperscript{620} Olivier De Schutter et al, 'Commentary to the Maastricht principles on extraterritorial obligations of states in the area of economic, social and cultural rights' (2012) 34(4) Human Rights Quarterly 1084, 1157.
  \item \textsuperscript{621} ICESCR Arts. 11 and 12; Kuijt, above n 172, 186.
  \item \textsuperscript{622} World Conference on Disaster Reduction, UN Doc A/CONF.224/L.2 (7 April 2015), 5 [14].
\end{itemize}
increase of USD 100 billion in annual consumption.\textsuperscript{623} Most obviously, with access to appropriate early warnings, people can get out of danger, move their moveable assets and prepare for the coming event. At the same time, early warning mechanisms obviously also give the government time to prepare and thus to decrease the likelihood of any infringement of relevant economic, social and cultural rights. Hence, the link between the establishment and access of early warning mechanisms to the full enjoyment of economic, social and cultural rights cannot be denied.

Due to climate change, the frequency of extreme weather events is increasing.\textsuperscript{624} The danger of climate change has been on the table of international politics for many years; now, however, since the adoption of the UNFCCC, the Kyoto Protocol and the Paris Agreement, it should be clear that GHG emissions need to be reduced and that efforts should be to adapt to the adverse effects of climate change. Early warning clearly falls within the latter category, as extreme weather events are clearly an adverse effect of climate change. Thus, the developed States arguably should have knowledge that through their emissions of GHGs they trigger climate change and as such also trigger the frequency of extreme weather events. Therefore, the Maastricht Principles could be applicable, leaving room for the possibility of extraterritorial obligations. According to Principle 33, these extraterritorial obligations could entail the duty to support developing states financially in the matter of the realisation of economic, social and cultural rights. Thus, since early warning mechanisms would serve this purpose, it is arguable that developed States have, according to the Maastricht Principles, the extraterritorial obligation to financially support developing States in the case of the establishment of early warning mechanisms.

However, the Maastricht Principles do not constitute any legally binding source of international law and are thus not enforceable. They rather represent the ideas and thoughts of academics and human rights advocates. Nevertheless, there is the possibility that, in the future, this line of thinking will become part of international law.

Therefore, under currently binding international law, no extraterritorial obligation applies to developed States to financially support developing States with the establishment of early warning mechanisms.

### 5.2. R2P and early warning

When considering extraterritorial human rights obligations, the concept of R2P also becomes relevant. As in the last section, this section also argues briefly that this concept is not applicable in the case of financial support of early warning mechanisms.

In his preliminary report, Special Rapporteur Valencia-Ospina made the connection between the protection of persons in the event of disasters in every stage of the disaster cycle and the R2P.\textsuperscript{625} He noted,

“[…] the protection of persons may be located within contemporary reflection on an emerging principle entailing the responsibility to protect. The latter concept entails the responsibility to prevent, react and rebuild corresponding respectively, to the three phases of a disaster situation.”\textsuperscript{626}

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{623} Hallegatte et al, above n 131, 3.
\item \textsuperscript{624} IPCC, above n 2, 53.
\item \textsuperscript{625} Valencia-Ospina, Special Rapporteur, Preliminary report on the protection of persons in the event of disasters, 60th sess, UN Doc A/CN.4/598 (5 May 2008), 19-20 [55].
\item \textsuperscript{626} ibid 19 [55].
\end{itemize}
\end{footnotesize}
However, the secretariat of the ILC notes in its memorandum on the protection of persons in the event of disasters that the R2P doctrine does not apply in disaster situations. Thus, this claim will be briefly examined.

After the horrors of Rwanda and the intervention in Kosovo during the 1990s, the International Commission on Intervention and State Sovereignty (ICISS) was appointed, which delivered a report in 2001 titled The Responsibility to Protect. The report, indeed, identifies three cornerstones of the R2P doctrine: (1) the responsibility to prevent; (2) the responsibility to react; and (3) the responsibility to rebuild. Indeed, on first sight, these three cornerstones resemble the disaster cycle, with the respective stages of mitigation, an emergency phase and rebuilding.

The report was published during the World Summit in 2005, where, among other things, R2P was discussed. The outcome of the summit was clear: the scope of application of the R2P doctrine is limited to the prevention of genocide, war crimes, ethnic cleansing and crimes against humanity.

Since the scope has been limited to the above-mentioned crimes, it is not applicable in the case of natural disasters and early warning systems. The applicability of the R2P doctrine in the aftermath of a disaster will be discussed in the relevant chapters below.

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629 ICISS, above n 628, 19-27, 29-37, 39-45.

630 2005 World Summit Outcome, GA Res 60/1, 60th sess, Agenda Item 46 and 120, UN Doc A/RES/60/1 (24 October 2005 ), para 138.

631 See below Chapter: The R2P doctrine in the case of natural disasters on page 123.
6. Conclusion

With the adoption of the Sendai Framework, the international community agreed to some very ambitious goals with regard to early warning mechanisms. However, it is also clear that there is a need for financing to achieve these goals.

The means that financing for disaster risk reduction projects that include early warning is available, at least through the climate finance mechanism. However, the Paris Agreement does not yet offer under its new loss and damage approach an appropriate financial mechanism. This circumstance might change in the future, when the financial mechanism is elaborated by the COP. Nonetheless, the current general climate finance mechanism offers the financial means for distribution the money. There is, however, no legal obligation within the climate law regime to feed these means with a specific contributions of money. The USD 100 billion per year is a not legally binding target and, as such, is not enforceable.

Additionally, also the Draft Articles do not offer a legal obligation. The Draft Articles emphasise the fact that disaster risk reduction belongs to the internal sovereignty of each State and, as such, constitutes a domestic affair. The articles refer only to a general duty of cooperation.

This argument goes in line with the current status of IHRL. There is, so far, no extraterritorial application of any human rights obligation in the case of natural-disaster-related early warning mechanisms. The ECtHR, which provides an extensive amount of case law related to the extraterritorial application of human rights, uses the ‘effective control’ approach, and this mostly in cases associated with armed conflict. Since the establishment of early warning mechanism does not come in line with the fact that one State has ‘effective control’ over another State, the extraterritorial application of human rights obligations has to be denied in this matter.

However, the Maastricht Principles, which deal with the extraterritorial obligations of States in the case of economic, social and cultural rights, would allow extraterritorial application. They limit themselves not only to ‘effective control’. The Maastricht Principles rather also include situations in which a State does not exercise effective control over the territory of another State, although the State may influence the enjoyment of economic, social and cultural rights in the other State through its acts or omissions. Particularly, if the adverse effects of the enjoyment of the human rights is foreseeable.

Thus, the Maastricht Principles open up a scope for the application of extraterritorial human rights obligations in the case of the establishment of early warning systems. Nonetheless, those principles are not legally binding. Therefore, at the current stage, no extraterritorial application of human rights obligations exists in the matter of support for the establishment of early warning mechanisms.

Furthermore, this section also looked briefly at the R2P doctrine. Particularly, as Special Rapporteur Valencia-Ospina considered the application of it in his preliminary report on the protection of persons in the event of disasters. However, the doctrine is not applicable, since the 2005 World Summit limited the scope of its application to genocide, crimes against humanity, war crimes and ethnic cleansing.

However, the no-harm rule that represents customary international law and its implementation in Article 3 of the Draft Articles on Prevention of Transboundary Harm form Hazardous Activities is a good basis for a legal obligation. The emissions of GHGs are not prohibited under international law. The international climate law regime solely introduces reduction targets, not a total ban. Furthermore, the emission of GHG is linked with global warming and thus the increase of the frequency of extreme weather events, which have devastating impacts. Those impacts can be sufficiently diminished with the establishment of appropriate early warning mechanisms. Since Article 3 asks for preventive measures and since early warning mechanisms would fulfil this request perfectly, it is absolutely possible to argue that GHG-emitting States have an legal obligation under the no-harm principle to financially support disaster-prone developing States.
Since the CBDRRC principle aims to enforce fairness in addressing the common concern of humankind for climate change, this obligation should apply only to developed States and emerging economies, since their total and per capita emissions are on the rise, while developed States are constantly reducing.

The aim of this research is, however, not to point fingers at certain States and hold them liable. Rather, it should serve as a guideline for a group of States, in this case developed States and emerging economies such as India or China, to contribute to the means that will distribute the financial resources to the State parties in need.
Chapter IV: Funding for the Reconstruction Phase

In the light of the disaster cycle, once the emergency phase cools, the next phase starts: reconstruction.\(^{632}\) The reconstruction phase varies in its duration from weeks to years, since it depends completely on the scale of destruction and the countries’ capacities to bounce back effectively and efficiently. One of the major challenges a State faces in this regard is the question of appropriate funding, especially in cases where private insurance coverage is not easily accessible or not available at all, as is the case for most developing States. For example, in 2016 Asia suffered an estimated loss of USD 87 billion due to natural catastrophes, whereof roughly only 11.5% were insured.\(^{633}\) Thus, when appropriate private insurance coverage is lacking, it is up to the respective government to find appropriate funding for reconstruction. This chapter first explores the means available to governments of developing States where usually coverage is appropriate insurance missing to get enough funding for reconstruction in the aftermath of a calamitous event.

In its second part, this chapter explores the connection to climate change in more depth, as the frequency of extreme weather events is triggered by climate change.\(^{634}\) In particular, it looks at the question of State responsibility – whether States could be held responsible for climate change damages, such as damages caused by extreme weather events. As this, however, includes many legal obstacles in order to make a legal sound argument, this chapter also suggests an alternative approach and argues that developed States and emerging economies have an obligation under international law to financially support disaster-prone developing States. This is then followed by an examination of sovereign risk transfer solutions and suggests, in the end, a pragmatic solution to fulfil this obligation.

\(^{632}\) See above chapter: The Disaster Cycle and Historical Background on page 15.

\(^{633}\) This Study of Munich RE includes Geophysical, meteorological, hydrological and climatological events: Munich RE, Natural Catastrophes 2016 - Analyses, assessments positions, above n 132, 58.

\(^{634}\) IPCC, above n 2, 53.
1. Funding and Management of Reconstruction Projects after a Natural Disaster

Compensation and funding for reconstruction in the relevant phase of the disaster cycle are usually either managed through insurance, tort litigation or financial help from other States or international organisations. 635 This research focuses mainly on funding coming from the public sector and insurances, and as such excludes tort litigation form its scope. First, the question of private insurance is addressed, and then this chapter moves on to the question of help from international organisations and other States. The aim of this chapter is to provide an understanding of how the system works and why there are certain limitations and other pathways that need to be explored.

1.1. Private insurance

By insuring private property, such as a house or a business, the individual transfers an economic risk that might be triggered by an external factor such as extreme weather events, to an insurance company. Thus, insurance means nothing other than a transfer of risk. 636

In the context of reconstruction in the aftermath of a natural disaster, insurances play, as such, a significant role: Insurances seem to be the perfect pathway for covering the reconstruction costs after a calamitous event. 637 This has also been recognised by the international community in the Sendai Framework, which asks States to promote domestic insurance mechanisms. 638 However, reinsurances estimate that not even half of all damages caused by natural disasters are actually insured. 639 Another factor that cannot be ignored is the distribution of this kind of insurance protecting the private individual. As already mentioned in 2016, only 11.5% of all damages in Asia were insured, while in Europe, 50% of all damages caused by natural hazards were insured, Australia had an insurance quote of 62% and New Zealand, similar to Europe, 53%. 640

At the same time, appropriate insurance coverage not only facilitates reconstruction and provides funding for it, but by doing so it also helps the affected State’s economy to recover more quickly. This effect can be illustrated with the following example addressing the earthquakes in Haiti in 2010 and in New Zealand in 2011. 641

Both earthquakes were similar in magnitude, the number in casualties and the following economic impact varied drastically, however: in Haiti the earthquake caused around 200,000 casualties, while in New Zealand, this number was around 185. 642 The economic losses were estimated to be USD 8.5 billion in Haiti, which was more than Haiti’s GDP at that point, and USD 31 billion in New Zealand, 18.8% of its GDP of that time. Of those losses, not even 1% were insured in Haiti, while in contrast, around 80% were insured in New Zealand. 643 Among the reasons New Zealand’s economy was better

635 Farber, 'International Law and the Disaster Cycle', above n 79, 17.
637 Farber, 'International Law and the Disaster Cycle', above n 79, 17.
638 World Conference on Disaster Reduction, UN Doc A/CONF.224/L.2 (7 April 2015), 14 [30 (b)].
639 Munich RE, Natural Catastrophes 2016 - Analyses, assessments positions, above n 132, 58.
640 ibid.
641 ibid.
642 ibid.
643 ibid.
able to absorb the experienced losses was the high insurance coverage, which adds to the overall resilience of New Zealand to natural hazards.\textsuperscript{644} As such, private insurance play a significant role in capacity building and making States more resilient to natural hazards. Therefore, the aim of the \textit{Sendai Framework} to improve access and availability of accurate insurance cover for damage caused by natural hazards has to be welcomed and supported.

\section*{1.2. Managing the reconstruction phase: Funding and distribution}

If there is no insurance funding available, it falls to the government of the affected State to find options to make appropriate funding available. In these cases, the question is whether the government can contribute to funding for certain reconstruction projects, and secondly, whether the government is able to quickly mobilise these funds.\textsuperscript{645} There are several options available for the government in order to get post-disaster funding. This section focuses mainly on \textit{ex post} disaster finance options. \textit{Ex ante} financing is discussed below in the section discussing sovereign risk transfer.\textsuperscript{646}

\subsection*{1.2.1. \textit{Ex post} disaster finance}

The first option is to use State-owned funds through budget reallocation.\textsuperscript{647} Budget reallocation can be time consuming, and as such, the question is whether the particular State’s laws allow a speedy reallocation process in such circumstances.\textsuperscript{648}

The second option is, of course, donor assistance for both emergency relief and recovery.\textsuperscript{649} One of the major difficulties with this popular option is it offers no certainty of the amount of funds that will be received.\textsuperscript{650} As such, an overdependence on international assistance can heavily delay the provision of emergency funds in the emergency respond phase.\textsuperscript{651} This option is discussed below, specifically with regard to the establishment of a multi-donor trust fund and its management.

The third option is to take external credit, for example from international financial institutions as the World Bank or the IMF.\textsuperscript{652} The negotiations of the term of the loan can, as well, be very time consuming. For example, the Cook Islands asked for a loan from the Asian Development Bank in the aftermath of several cyclones in 2005, and the approval of the funds took four months, delaying important reconstruction efforts.\textsuperscript{653}

\begin{footnotesize}
\begin{itemize}
  \item[644] ibid.
  \item[646] See below section: \textit{Sovereign Risk Transfer: Solution of the Future?} on page 99.
  \item[647] Jha et al, above n 645, 223.
  \item[648] ibid.
  \item[650] ibid 15.
  \item[651] ibid 16.
  \item[652] Jha et al, above n 645, 223; World Bank, \textit{Advancing Disaster Risk Financing & Insurance in the Pacific, Regional Summary Note & Options for Consideration}, above n 649, 16-7.
  \item[653] World Bank, \textit{Advancing Disaster Risk Financing & Insurance in the Pacific, Regional Summary Note & Options for Consideration}, above n 649, 16-7.
\end{itemize}
\end{footnotesize}
2. Part: Obligation and Responsibility of the not affected States

The fourth option is again a domestic measure that includes tax measures, for example the increase of taxes make more funds available.\textsuperscript{654} Another option is to introduce tax concessions in order to encourage donations, as happened in Fiji in 2012 after cyclone Evan. In that case, Fiji applied a duty-free status to all goods donated in kind.\textsuperscript{655}

Since there are several ways to get ex post disaster funding for the affected State, this funding needs to be managed. One great way that has been used with success is a flash appeal, which is a tool that helps the government to centrally control all incoming contributions.\textsuperscript{656} At the same time, it is important not only to centrally control all incoming contributions through a flash appeal, but also to avoid a fragmentation of contributions. Such fragmentation can be avoided through the establishment of a multi-donor trust fund.\textsuperscript{657} A high fragmentation rate would impact the affected government adversely with, for example, costly transaction fees.\textsuperscript{658}

1.2.2. Managing the reconstruction phase

When it comes to recovery after a calamitous event and the heated emergency phase cools down, other questions arise on how to effectively manage financial contributions. With the reconstruction phase, the focus shifts from delivering emergency help to investing in a sustainable manner that also increases capacity and preparedness for future events.\textsuperscript{659}

In order to achieve a successful reconstruction, it is advisable for States that there are already plans in place, in which, for example, a governmental institution manages the reconstruction phase. There are different options in order to identify such a managing institution: (1) creating a new institution for this purpose, (2) using existing government ministries and (3) following a hybrid model of the first two options.\textsuperscript{660} The benefits for both the new institutional model as well as the hybrid are the efficiency of those management tools, since the government ministries should resume their usual business as soon as possible after the emergency situation, thus going back to normal.\textsuperscript{661} Thus, it seems, for purely practical reasons, reasonable to prefer one of those two options. However, the definite choice depends on the situation at hand and will not be discussed here in more detail. This section aims to raise awareness of the need to have such a political plan at hand in the case that a calamitous event strikes.

When this plan is set up, the work that the management system faces varies according to the impact the calamitous event caused. The World Bank, and in particular its Global Facility for Disaster Reduction and Recovery, are experienced in assisting States lacking their own experience in dealing with such situations or simply lacking the capacity to do so.\textsuperscript{662}

\textsuperscript{654} ibid 17.
\textsuperscript{655} ibid.
\textsuperscript{656} ibid.
\textsuperscript{657} Global Facility for Disaster Reduction and Recovery, Haiti Earthquake Reconstruction, Knowledge Notes from DRM Global Expert Team for the Government of Haiti (Global Facility for Disaster Reduction and Recovery, 2010) 8.
\textsuperscript{658} ibid.
\textsuperscript{659} ibid 10.
\textsuperscript{660} ibid.
\textsuperscript{661} ibid 13.
\textsuperscript{662} Shahannz Arshad and Sohaib Athar, Rural Housing Reconstruction Program Post 2005 Earthquake, Learning from the Pakistan Experience, A Manual for Post-Disaster Housing Program Managers (The World Bank, 2013); Global Facility for Disaster Reduction and Recovery, above n 657; Jha et al, above n 645.
2. Obligation and Responsibility of the not affected States

2. Obligation to Financially Support Reconstruction in Developing States

The section above discussed the means that exist to assist in the recovery and reconstruction phase of a state that has been shaken by a calamitous event. As the shown above, disaster-prone developing states tend to lack sufficient insurance coverage, which could significantly improve economic recovery and ensure a financial flow for reconstruction activities. This chapter considers the question of whether the current status of international law encompasses an international obligation for developed states and emerging economies to financially support reconstruction projects in disaster-prone developing states. It starts by analysing possible obligations emerging from the climate-change-law regime and then moves on to the general principles of international environmental law and, in particular, the no-harm rule.

2.1. International climate-change-law regime: Loss and damage

Due to climate change, the frequency of extreme weather events is increasing; as such, international climate change law becomes an integral part of IDL. This puts international climate change law into the position of being a good source for a potential obligation to financially support disaster-prone developing states with their reconstruction projects. The various provisions of the climate law regime applicable to the case of disasters have been discussed several times above, and therefore this section will limit itself on the analysis of the loss and damage provision found in the Paris Agreement.

The concept of loss and damage is legally embodied in Art. 8(1) of the Paris Agreement:

'(1) Parties recognize the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage. [...]'

The Paris Agreement does now, however, offer a definition of the concept itself. Yet, in 2012 the SBI of the UNFCCC Regime published a report on various approaches to address loss and damage within the climate law system. In this report, the SBI defined 'loss and damage' as follows:

"the actual/or potential manifestation of impacts associated with climate change in developing countries that negatively affect human and natural systems."

Whereby the SBI understands the notion of ‘loss’ as the “negative impacts in relation to which reparation or restoration is impossible, such as loss of freshwater resources.” 'Damage’ on the other hand was described by the SBI as the

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663 See chapter above: International climate change law on page 37.
664 For the development of the concept see above chapter: Loss and damage on page 61.
665 Paris Agreement Art 8(1).
666 Subsidiary Body for Implementation, A literature review on the topics in the context of thematic area 2 of the work programme on loss and damage: a range of approaches to address loss and damage associated with the adverse effects of climate change, 37th sess, Agenda Item 10, UN Doc FCCC/SBI/2012/INF.14 (15 November 2012).
667 ibid 3 [2]; Maxine Burkett, 'Loss and damage' (2014) 4 Climate Law 119, 121.
668 Subsidiary Body for Implementation, 37th sess, Agenda Item 10, UN Doc FCCC/SBI/2012/INF.14 (15 November 2012), 3 [2].
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"negative impact in relation to which reparation or restoration is possible, such as windstorm damage to the roof of a building or restoration of a coastal mangrove forest as a result of coastal surges."\(^{\text{669}}\)

After the adoption of the Paris Agreement, ‘loss and damage’ was described by scholars in broader terms as the “adverse effects of climate change which cannot be adapted to.”\(^{\text{670}}\)

Article 8 uses the example of extreme weather events and slow onset events, such as droughts, as examples of the area of application of the notion. Thus, there is no doubt that this provision is applicable in the context of this research. Both the SBI’s descriptions of ‘loss’ and ‘damage’ are applicable in the case of natural disasters, whereas ‘damage’ is the most obvious one with regard to reconstruction: such as damaged houses and infrastructure.

The effectiveness of this provision, however, still needs to be determined. The wording of the provision states that the States “recognize the importance of averting, minimizing and addressing of loss and damage […].”\(^{\text{671}}\) This phrasing does not hint a strong legal obligation. In fact, during the negotiations in Paris, it was not even clear whether the notion of ‘loss and damage’ would make it into the agreement.\(^{\text{672}}\) The developed States were extremely reluctant about this concept, as they wanted to avoid any grounds for liability; on the other hand, the developing States were asking for compensational language in this provision.\(^{\text{673}}\) In order to be safe, the developed State parties included a clause in the accompanying COP decision to the Paris Agreement, which states, “[…] Article 8 of the Agreement does not involve or provide a basis for any liability or compensation;”\(^{\text{674}}\)

Since this clause has not been included into the Agreement itself, but in the COP decision and as such does not constitute binding law, it can be removed with another COP decision. Therefore, time will tell how the international community deals with the question of liability for loss and damage. As the provision stands currently, it does not give any plausible grounds for any liability for any climate change loss or damage, under which, in particular, the reconstruction after an extreme weather event falls.

2.2. Customary international law: No-harm rule and polluter pays principle

Since the UNFCCC regime is currently not yet developed enough to deal adequately with the question of financial support for reconstruction project, customary international law, in particular the no-harm rule, is another good source for a possible obligation. This rule of customary international law was already successful in establishing an argument with regard to financial support of early warning mechanisms in disaster-prone developing States.\(^{\text{675}}\)

This section will argue that the no-harm rule is also applicable to the question of financing reconstruction projects in the aftermath of disasters. Firstly, this section explains why reconstruction can be seen as a preventive measure. Secondly, the no-harm rule is explored, and a legal argument that

\(^{\text{669}}\) ibid.
\(^{\text{670}}\) Obergassel et al, above n 329, 27.
\(^{\text{671}}\) Paris Agreement Art. 8(1).
\(^{\text{672}}\) Obergassel et al, above n 329, 27-8.
\(^{\text{673}}\) ibid 27-8.
\(^{\text{674}}\) Conference of the Parties, Agenda Item 4(b), UN Doc FCCC/CP/2015/L.9/Rev.1 (12 December 2015), para 52.
\(^{\text{675}}\) See Chapter: The no-harm rule above on page 68.
2.2.2. Reconstruction and build back better as a preventive measure

According to the disaster cycle, as described above in Figure 1, the phases following a destructive event are not linear. It is a cycle, and thus each phase includes elements that help to prepare for the next calamitous event. Thus, this preparation also includes the reconstruction phase. The Sendai Framework mirrors this model, as it includes ‘build back better’ as one of its main priorities for the years 2015 – 2030. It stresses the fact that the reconstruction phase is an essential opportunity to build back better.

The notion of building back better has been identified as follows:

“The use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies and the environment.”

Thus, the term ‘build back better’ is very straightforward: the reconstruction phase is a good opportunity to use new technologies and building methods to increase the resilience of buildings and, as such, of the whole community against a possible future disaster.

Therefore, the reconstruction phase does not merely reconstruct the damage caused by the calamitous event. The phase is rather involves the implementation of new preventive measures by improving buildings as they are reconstructed, thus increasing the resilience of the affected community. As such, the reconstruction of the destroyed infrastructure and buildings is a preventive measure to lessen the future impacts on material damage or human lives and health.

2.2.2. Reconstruction and the no-harm rule

As seen above, reconstruction is a preventive measure and increases a resilience against future calamitous events, thus helping to lessen the future impacts of these kinds of events. Therefore, it is logical that there are several resonances between building back better and the financial support of early warning mechanisms. This research argues that the no-harm rule, in particular the Trail Smelter Arbitration and other judgements applying the no-harm rule, are applicable to the case of early warning mechanisms. The no-harm rule is not only applicable, as such, it also constitutes a legal obligation for developed States and emerging economies to financially support disaster-prone developing States.
Because of the similarities, this line of argumentation will also be considered for the question of financial support for reconstruction projects.

As already discussed, the core of the no-harm rule is that no State has the right to do harm to another State while exploiting its own resources. The emitting State has to take preventive measures to inhibit harm to occur outside of its territory, thus in the territory of another State.\(^{682}\) As explored above in the relevant section dealing with early warning systems, the Draft Articles on Prevention of Transboundary Harm from Hazardous Activities are applicable in the case of climate change and, in particular, the emissions of GHGs. Their emissions are not prohibited under international law. The UNFCCC regime simply reduces them but does not prohibit them.\(^{683}\) This instrument is an implementation of the no-harm rule and asks States to take preventive measures to lessen impacts from transboundary harm. As explored above, early warning systems and their financial support fall into the category of ‘preventive measures’.\(^{684}\) This category, however, is not only limited to early warning systems: the same line of reasoning should be applicable to the question of financing reconstruction in the aftermath of natural disaster.

The reconstruction phase is indeed a very important part of risk mitigation.\(^{685}\) In particular, when the reconstruction projects at stake aim to build back better and therefore increase the resilience of the affected community to disaster. As such, reconstruction is not a question only of compensating damage, but is much more about including preventive measures to lessen future impacts.

Therefore, the same line of legal reasoning is as applicable to reconstruction as it is to early warning systems: GHG-emitting States have a legal obligation to prevent harm from happening in other States; this obligation can be met by financially supporting reconstruction projects that aim to build back better and thus aim for a more resilience community as a whole.

### 2.2.3. Reconstruction and the polluter pays principle

After having established that the no-harm rule implies the legal obligation of GHG-emitting States to take preventive measures in order to prevent transboundary harm, such as financially supporting reconstruction projects that aim to build back better, the question remains: which States are addressed?

This question has already been answered above in the relevant section while discussing financial support for early warning systems.\(^{686}\) The exact same argument is applicable to the question of financial support of reconstruction projects, because the obligation to financially support both early warning systems and reconstruction projects derives from the same argument.

The current CO\(_2\) data shows that China is, indeed, the world largest GHG emitter in total numbers, but by taking the relative numbers, per capita, Canada is currently the leader.\(^{687}\) China, on the other hand, with regard to the emissions per capita, is close to the EU.\(^{688}\) However, all developed States have decreased their total and relative GHG emissions, while emerging economies such as China or India

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\(^{682}\) See above Chapter: The no-harm rule on page 68.

\(^{683}\) The Kyoto Protocol includes reduction targets and the Paris Agreement uses the instrument of nationally determined contributions in order to achieve global reduction of GHG emissions.


\(^{685}\) About risk mitigation in general see above chapter: Risk mitigation on page 15.

\(^{686}\) See above chapter: The polluter pays principle and CBDRRC on page 70.

\(^{687}\) PBL Netherlands Environmental Assessment Agency and European Comission Joint Research Centre, above n 593, 45.

\(^{688}\) The European Union emitted 6.9 tonnes CO\(_2\) per capita; China emitted 7.7 tonnes per capita; ibid 45.
are still increasing. Thus, the point where CBDRRC principle also takes into account the past emissions of those States is reached. This is mirrored through the Paris Agreement, which does not, contrary to the Kyoto Protocol, include only reduction targets for developed States, but rather asks all States reducing their emissions.

Therefore, also with regard reconstruction projects, the answer must be that both developed and emerging economies are now in the position of such a legal obligation to financially support disaster-prone developing States.

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689 ibid.
690 See above chapter: The polluter pays principle and CBDRRC on page 70.
3. Failing Argument: State Responsibility for International Wrongful Acts in the Case of Climate Change Damage

Other scholars dealing with the question of liability for climate change damage, such as after an extreme weather event, usually discuss this in the framework of State responsibility. This approach uses a different focus: it looks only at the damage *ex post*. As such, it is important for this research to distinguish itself from the State responsibility approach and explain the difficulties a State responsibility claim faces and why it is thus impractical.

The term ‘responsibility’ is not only a legal concept: it can be found in moral, religious, ethical and social contexts. In many cases, ‘responsibility’ is used with a broad meaning, such as in Article 24 of the UN Charter, which gives the responsibility to the UN Security Council to ensure peace and security. The concept of State responsibility in public international law, as we know it today, can be traced back to the *Spanish Zone of Morocco Arbitration* in the year 1925, where Judge Huber stated that responsibility is the corollary of any violation of an international right or obligation, and State responsibility entails reparation. This has been confirmed by the PCIJ, which furthermore stressed the applicability of State responsibility to all kinds of violations of international law. More famous applications of State responsibility, and in the context of this research, more important cases, are the *Trail Smelter* arbitration and the *Corfu Channel Case*.

This chapter focuses primarily on the *Draft Articles on Responsibility of States for Internationally Wrongful Acts (ARSIWA)*, adopted by the ILC in 2001. It discusses the development of this instrument and its legal status and moves then to the application to climate-change-related damage, such as the reconstruction in the aftermath of a natural disaster, and in particular why the application fails.

### 3.1. Development and legal status of ARSIWA

The law on State responsibility has been on the agenda of the ILC for many decades. It began its work on the topic already in 1956 with Garcia Amador, the appointed special rapporteur for the topic...
at that time. Back then, the topic focused on State responsibility for injuries to aliens and their property. Garcia Amador submitted a total of six reports to the ILC between 1956 and 1961. His reports were not really discussed by the ILC at that time, because of the importance of other topics and because there was no consensus on a way forward with the topic. Amador was then replaced by Roberto Ago in 1963, who then suggested to focus the topic on the international responsibility of States. During his time as special rapporteur, Ago produced eight reports and a complete set of articles for the first part of the new instrument. This part dealt mainly with the origin of State responsibility. After Ago was elected to the ICJ, the ILC appointed Willem Riphagen as the new special rapporteur in 1979. He submitted several reports and concluded part two and three of the new instrument: the content and form of international responsibility and the settlement of disputes. Riphagen was not re-elected to the ILC; thus, the ILC appointed Geanto Arangio-Ruiz as his successor. Arangio-Ruiz completed the first draft and, in 1996, and submitted it for a first reading to the ILC. He resigned in the same year, following some disagreements with the ILC. Thereafter, James Crawford was appointed as the new special rapporteur, who presented the ARSIWA as they stand today to the ILC in 2001.

After the adoption of the ARSIWA, several States opposed the idea that these articles should be adopted in the form of a treaty, such as the Czech Republic, the Nordic countries and the United Kingdom. The reasons were mainly that they were afraid negotiations would jeopardise the balance the ARSIWA demonstrated. They were also concerned because the ARSIWA was already part of public international law and regularly referred to by international courts or tribunals as well as various governments. Indeed, the provisions of the ARSIWA enjoy mostly the status of customary

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699 ibid 1.
700 ibid.
701 ibid.
702 ibid.
705 ibid 3.
706 ibid.
710 Responsibility of States for internationally wrongful acts, Comments and information received from Governments, Report of the Secretary-General 62nd sess, Agenda Item 80, UN Doc A/62/63 (9 March 2007).
711 ibid 2, 4, 6-7.
712 ibid 2, 3, 6.
international law and as such are a source of international law according to Art. 38 (b) and (c) of the Statute of the International Court of Justice (ICJ Statute).

The following sections explore the applicability of the ARSIWA to climate change and its related damages, such as in the aftermath of a natural disaster. At the same time, the section aims to point out the difficulties such a claim faces and why the approach of seeing reconstruction as a preventive measure is more pragmatic.

3.2. State responsibility for climate change damage

The ARSIWA is divided into four parts dealing with the international wrongful act of a State, the content of the international responsibility of a State, the implementation of international responsibility of a State, and general provisions, respectively. This section focuses mainly on the first and second part. It first examines whether the ARSIWA is applicable to the situation at hand and then explores other requirements needed to establish a responsibility under the ARSIWA. At the same time, this section aims to show the difficulties and as such support the argument to consider reconstruction as a preventive measure.

3.2.1. Scope of application: Problem of self-contained regimes

The ARSIWA is a set of secondary rules. As such, there is a need for a primary obligation that needs to be breached in a regime that does not contain any secondary rules already in order to trigger the ARSIWA.

According to Article 55, ARSIWA the articles are not applicable, if the breached primary obligation belongs to a self-contained regime, thus one that includes its own secondary rules. This understanding is rooted in the maxim lex specialis derogat legi generali. As such, the first step while examining the applicability of the ARSIWA to this research is determining whether international climate change law is a self-contained regime.

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Crawford, Brownlie's principles of public international law, above n 143, 540; Verheyen, above n 691, 226; for a comprehensive list of cases of international law bodies making references to the ARSIWA see: Responsibility of States for internationally wrongful acts, Compilation of decisions of international courts, tribunals and other bodies, Report of the Secretary-General, 62nd sess, UN Doc A/62/62 (1 February 2007); Responsibility of States for internationally wrongful acts, Compilation of decisions of international courts, tribunals and other bodies, Report of the Secretary-General, Addendum, 62nd sess, UN Doc A/62/62/Add.1 (17 April 2007); Responsibility of States for internationally wrongful acts, Compilation of decisions of international courts, tribunals and other bodies, Report of the Secretary-General, 65th sess, Agenda Item 77, UN Doc A/65/76 (30 April 2010).

Statute of the International Court of Justice, Art. 38 (‘ICJ Statute’).

For a good and comprehensive overview on the ARSIWA see: Crawford, Brownlie's principles of public international law, above n 143, Part IX, 539-603.

ibid 540.

The concept of self-contained regimes was invented by the ICJ.\textsuperscript{718} In its 1980 \textit{Teheran Hostages} case, the ICJ formulated this concept.\textsuperscript{719} This case involved the application of diplomatic law and the possible legal consequences of a breach of a provision. The ICJ expressed,

The rules of diplomatic law, in short, constitute a self-contained régime which, on the one hand, lays down the receiving State’s obligations regarding the facilities, privileges and immunities to be accorded to diplomatic missions and, on the other, foresees their possible abuse by members of the mission and specifies the means at the disposal of the receiving State to counter any such abuse.\textsuperscript{720}

Thus, the involved State parties are not free to apply any legal consequences for a breach of an obligation, if the set of rules, which contain this primary obligation, also provide specific legal consequences for such a breach.\textsuperscript{721} This is, as mentioned above, reflected in Article 55 ARSIWA, which reflects a strong understanding of the concept of \textit{lex specialis}.

In the context of climate change law, there is an understanding that this is not a self-contained regime and thus the ARSIWA, as a set of secondary rules, is applicable.\textsuperscript{722} The main argument for this conclusion that the mechanism for non-compliance in international climate change law is not equipped to deal with the question of compensation of climate change damages.\textsuperscript{723} Because of this lack of secondary rule for this particular question, the ARSIWA is applicable.\textsuperscript{724} This line of argument is correct and thus does not need to be disputed. In the case of the application of customary international law (i.e. the no-harm rule), it is even more obvious that the ARSIWA are applicable, as they constitute customary international law by themselves.

\subsection*{3.2.2. Attribution to the State}

An internationally wrongful act of a State consists in a conduct that is attributable to the State and constitutes a breach of international law.\textsuperscript{725} This section deals with the question of attribution, while the breach of an international obligation is discussed in the following section.

The ARSIWA gives comprehensive guidance to what kind of conducts are attributable to a State.\textsuperscript{726} In the case of climate change, it is obviously not the State or its government that are the main source for GHG emissions within the State’s territory. There are rather many different sources, such as industry or the conduct of individuals and private houses, among other things. Thus, in this context, the question of attribution to the State enjoys certain significance.\textsuperscript{727}

With regard to GHG emissions produced by private individuals and entities, Article 8 ARSIWA is of particular interest.\textsuperscript{728} The provision deals with conduct directed or controlled by the State in

\begin{itemize}
\item \textsuperscript{718} For a complete discussion on self-contained regimes and climate change see: Verheyen, above n 691, 139 – 43.
\item \textsuperscript{719} United States Diplomatic and Consular Staff in Teheran (United States of America v. Iran) (Judgment) [1980] ICJ Rep 3 (‘Teheran Hostages’).
\item \textsuperscript{720} ibid 40 [86].
\item \textsuperscript{721} Verheyen, above n 691, 139.
\item \textsuperscript{722} for a extensive discussion see: ibid 142-3; Voigt, above n 691, 3-4.
\item \textsuperscript{723} Voigt, above n 691, 4; Verheyen, above n 691, 143.
\item \textsuperscript{724} ibid.
\item \textsuperscript{725} Responsibility of States for internationally wrongful acts, 56/83, 56\textsuperscript{th} sess, Agenda Item 162, UN Doc A/Res/56/83 (28 January 2002) Annex 1, Art. 2.
\item \textsuperscript{726} ibid Art. 4 - 11.
\item \textsuperscript{727} Verheyen, above n 691, 238-40; Voigt, above n 691, 9-15.
\item \textsuperscript{728} See also: Verheyen, above n 691, 239.
\end{itemize}
2. Part: Obligation and Responsibility of the not affected States

The State is liable for the conduct of private individuals or entities if they acted under the instruction of the State or under its direction or control. In the case of GHG emissions, in particular, the control requirement is of interest: the private individuals and entities act under the jurisdiction of the State. The ILC uses an ‘effective control’ approach as adopted by the ICJ in its Nicaragua decision, in order to determine whether private entities or individuals acted under the control of the State. Of course, States have the power to introduce policies and legislation that limit the total GHG emissions in their territories, and as such they control over the allowances of total GHG emissions. This idea is affirmed in the 2015 Dutch Urgenda Case. This is the first case in which a domestic court compels the State to increase its GHG reductions. There the court concluded that GHG emissions within the territory of the Netherlands are attributable, as they fall within its jurisdiction. Article 11 ARSIWA is also of relevance in establishing an attribution to the State. Article 11 sees an act as attributed to a State when the acknowledges and adopts the behaviour of the private individual or entity in question. However, this provision applies only in a subsidiary manner, thus only if no other provision is applicable. Therefore it is not necessary to discuss Article 11, as its application is precluded by the application of Article 8.

Consequently, this phase of the argument faces not many difficulties. It is clear that the GHG emissions conducted within the territory of the respondent State are also attributable to that State.

3.2.3. Breach of an international obligation

As explained above, the ARSIWA is a set of secondary rules and thus, in order to be triggered, these rules require a breach of an international legal obligation. Scholars dealing with the question of State responsibility for climate change damages usually argue that the failure to sufficiently reduce GHG emissions is the issue. As such, for example failing to comply with the reduction targets in the Kyoto Protocol or the general obligations of the UNFCCC, but also customary international law (i.e. the no-harm rule) are discussed in determining a breach.

Generally speaking, a breach is understood as an act or omission that is not in compliance with what an international obligation demands from a State. Such an obligation has obviously to be in force

730 ibid.
731 Report of the International Law Commission, Fifty-third session, (23 April - 1 June and 2 July - 10 August 2001), GAOR, 56th sess, Supp No 10, UN Doc A/56/10(SUPP), 105-7; Military and Paramilitary Activities in and Against Nicaragua (Nicaragua v United States of America) (Judgment) [1986] ICJ Rep 14 ('Nicaragua Case')
735 Verheyen, above n 691, 239.
737 ibid Art. 11, first part of the sentence.
738 Voigt, above n 691, 5-9; Verheyen, above n 691, 235-8, 313-4.
2. Part: Obligation and Responsibility of the not affected States

for the State in question, thus legally binding for it.\textsuperscript{740} As not all States are party to the UNFCCC and its related instruments, it is necessary to also consider customary international law. This area of law is, because of its nature, binding to all States \textit{per se}.

This section firstly considers the arguments of academics under the UNFCCC regime and then turns to the no-harm rule. It also discusses the limitations and weaknesses of these arguments.

3.2.3.1. \textit{International climate change law}

By following the approach of considering the financial cost of reconstruction as damages caused by the failure to reduce GHG emissions, it appears obvious to look on the reduction targets within the UNFCCC regime and, in particular, the \textit{Kyoto Protocol}.\textsuperscript{741} Thus, the argument would be simple: the State in question failed to comply with the obligation established in the UNFCCC and in particular the \textit{Kyoto Protocol}.\textsuperscript{742}

The problem of such an argument is, however, the fact that if a State reduces its GHG emissions and meets its reduction targets, then the case for liability falls apart. At the same time, not all developed States have ratified the \textit{Kyoto Protocol}, such as the US or Australia; thus, they cannot be held liable, as they have no obligation to reach a certain reduction level.\textsuperscript{743} This reasoning also applies to developing States and, in particular, emerging economies such as China or India, as they are also not subject to the \textit{Kyoto Protocols} reduction targets. This is, however, not favourable, since the GHG emissions are on the rise in the emerging economies.\textsuperscript{744}

3.2.3.2. \textit{Customary international law: No-harm rule}

The consideration of a breach of customary international law, which is by nature applicable to all States, is a possibility. The rule of customary international law to be considered is the no-harm rule, originating from the \textit{Trail Smelter Arbitration}.\textsuperscript{745} In order to fulfil the no-harm rule, a State has to fulfil a standard of care, thus to fulfil \textit{due diligence}.\textsuperscript{746} Due diligence applies as well to the State if the source of the questionable conduct is a private individual or entity.\textsuperscript{747} This attribution would therefore simplify the question of attribution.

On the other hand, the definition of \textit{due diligence} is quite vague.\textsuperscript{748} The ITLOS describes due diligence as \textquote{a variable concept}.\textsuperscript{749} Because of this vagueness and because of the fact that due diligence is an obligation of conduct and not a result, the applicable standards vary with each situation.\textsuperscript{750} Therefore, it is not possible to say how much reduction of GHG emissions is necessary to fulfil this duty of

\textsuperscript{740} ibid Art. 13.
\textsuperscript{741} Verheyen, above n 691, 235-7.
\textsuperscript{742} ibid.
\textsuperscript{743} ibid.
\textsuperscript{744} PBL Netherlands Environmental Assessment Agency and European Comission Joint Research Centre, above n 593, 42-3, 45.
\textsuperscript{746} ibid 63; Voigt, above n 691, 9.
\textsuperscript{747} Voigt, above n 691, 9; \textit{Certain Phosphate Lands in Nauru (Nauru v Australia)} [1992] ICJ Rep 240, 281 (Judge Shahabuddeen).
\textsuperscript{748} Voigt, above n 691, 10; Peel, above n 745, 63.
\textsuperscript{749} \textit{Responsibilities and obligations of States with respect to activities in the Area (Advisory Opinion)} [2011] ITLOS Rep 10, 43 [117].
\textsuperscript{750} Peel, above n 745, 63.
2. Part: Obligation and Responsibility of the not affected States

As such, the extent of reductions rather depends on the particular State and its circumstances, so determining this extent happens on a case-by-case basis. Thus, this approach seems unfavourable when it comes to establishing a responsibility to compensate damage occurring from natural disasters. There is no time in the aftermath of a disaster available to look at each country and decide individually whether the standard of care has been met.

However, by following the approach of seeing reconstruction as a preventive measure, as introduced above, it is possible to avoid such discussions and, in particular, the need to point fingers at certain States that do less: Climate change remains a common problem of humankind and therefore its consequences should be tackled together, but of course in the light of the CBDRRC principle. The Paris Agreement reflects the shared nature of this problem, as it appeals to all State parties to develop their own strategies on how much they would like to contribute to lessen the problem. This truly reflects the fact that it is a common problem of humankind and that it is no longer the developed States that contribute the most to climate change: emerging economies such as China and India are taking over.

If the question of financial contribution to reconstruction is seen as a preventive measure and not as a legal consequence because of a breach of an international obligation, there is no need for questions such as, Is there a breach? How much GHG emissions is too much? Are developing States, including emerging economies, allowed to emit more than are developed States such as the European States? This is one of the reasons the doctrine of State responsibility is not the best path to choose in order to solve the matter at hand. Nonetheless, this section will explain the further limitations of this approach.

3.2.4. Causation

In order to hold a State liable for an internationally wrongful act and thus seek reparations, there needs to be a causal link between the conduct that is a breach of an international obligation and the damage suffered by the other State. The question of causation is, in the case of climate change, a difficult question to answer.

Causation can be distinguished between general causation and specific causation. General causation considers a very general link between the emissions of GHGs and climate change damages, such as natural disasters and their consequences. Specific causation, by contrast, demands that a certain conduct causes a specific injury, for which responsibility is sought. In this latter case, the conduct must be *conditio sine qua non* to the injury. This specific understanding is, contrary to general causation, not very friendly towards climate change cases, because of the nature of climate change: there are too many contributors. Furthermore, the science behind climate change and global warming must accommodate uncertainty. Additionally, it is not possible to say that the particular emissions of a certain State explicitly causes a specific damage.

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531 ibid.
532 ibid 63; Voigt, above n 691, 15.
534 Voigt, above n 691, 15; Stallard, above n 691, 184; Tol and Verheyen, above n 753, 1112.
535 ibid.
536 ibid.
537 Voigt, above n 691, 15; Stallard, above n 691, 183.
538 Voigt, above n 691, 15; for the general causation and applicability to climate change see: Tol and Verheyen, above n 753, 1112.
539 For a comprehensive discussion see: Voigt, above n ; Stallard, above n 691, 182-6.
As such, the question of causation goes hand in hand with the question of standard of proof: the proof of the causation chain. Climate change is not the only area about which there is uncertainty. A common problem also exists in the area of transboundary air pollution, in particular with regard to long-term harms. Different international tribunals and courts have dealt with this problem in different ways. The ITLOS, for example, showed a willingness to consider the precautionary principle in situations where the complexity of the facts led to uncertainty and thus allowed a lower standard of proof with reference to the precautionary principle. The ICJ, on the other hand, demands scientific evidence in transboundary pollution cases in order to establish a causational link.

Taking these different approaches of the ICJ and ITLOS into consideration, it seems that it will be very difficult to establish a causation chain for climate change damage in front of an international law body without exact scientific proof. However, in domestic liability cases in the area of climate change, courts are more willing to accept causation. The most recent example is the above-mentioned Urgenda case. In this case, The Hague District Court acknowledges causation. It states very concretely,

"[...] a sufficient causal link can be assumed to exist between the Dutch greenhouse gas emissions, global climate change and the effects (now and in the future) on the Dutch living climate."

In this decision, the court not only recognises the causation between climate change and GHG emissions as such, but also acknowledges the role of past and future emissions as well as the fact that a general GHG reduction does not alter the finding:

"The fact that current Dutch greenhouse gas emissions are limited on a global scale does not alter the fact that these emissions contribute to climate change. The court has taken into consideration in this respect as well that the Dutch greenhouse emissions have contributed to climate change and by their nature will also continue to contribute to climate change."

Indeed, this ruling seems to be highly supportive of future climate change claims. Currently, there is a similar case pending in front of a Belgian national court. Thus, it is likely that such cases will accumulate and, if their findings regarding causation are similar, that these findings could constitute ‘general principles of law recognised by civilised nations’ according to Art. 38(1)(c) of the ICJ Statute.

Because of the nature of climate change, global warming and its connected scientific uncertainty and the very conservative approach of the ICJ, with regard to causation it is a more solution-oriented approach to consider reconstruction as a preventive measure. It is arguable that for the preventive purposes, a more general causation chain would be sufficient, which would be met with the scientific data available, since the IPCC has confirmed the increased frequency of extreme weather events due to climate change.

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760 Peel, above n 745, 69-72.
761 See for a comprehensive discussion: ibid.
762 Southern Bluefin Tuna (Australia and New Zealand v Japan) (Request for Provisional Measures) (ITLOS, Case No 3 and 4, 27 August 1999) [80]; Responsibilities and obligations of States with respect to activities in the Area (Advisory Opinion) [2011] ITLOS Rep 10, 46-7 [132].
764 Peel, above n 745, 72.
766 ibid.
768 See also: Peel, above n 745, 73.
3.2.5. Consequences of an internationally wrongful act

If we follow the assumption that an international tribunal would accept causation in climate change damages cases, it would turn on the possible consequences. The legal consequences of an internationally wrongful act are (1) cessation of the act or reparation of the injury suffered, or both, or (2) countermeasures. The latter is only then applicable when efforts of cessation and reparation are unsuccessful and only “to induce that State to comply with its obligations under Part Two.”770 where part two refers to cessation and reparation. This section will focus only on cessation and reparation in connection to natural disasters.

With regard to cessation Article 30, ARSIWA demands the respondent State “to cease that act, if it is continuing” as well as “to offer appropriate assurances and guarantees of non-repetition, if circumstances require.”771 As such, cessation is by its nature unsuitable for climate change damages. It is impossible to cease GHG emissions, thus to reduce them significantly, within days or months. Additionally, the ‘escaping’ of GHGs into other territories, thus the transboundary effect, cannot be stopped.772

To make full reparation for the injury caused, as embodied in Article 31, ARSIWA is an established principle of international law.773 The PCIJ stated in its Chorzow Factory case:

“The essential principle contained in the actual notion of an illegal act - a principle which seems to be established by international practice and in particular by the decisions of arbitral tribunals - is that reparation must, as far as possible, wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have existed if that act had not been committed. Restitution in kind, or, if this is not possible, payment of a sum corresponding to the value which a restitution in kind would bear; the award, if need be, of damages for loss sustained which would not be covered by restitution in kind or payment in place of it - such are the principles which should serve to determine the amount of compensation due for an act contrary to international law.”774

This judgment is reflected within the ARSIWA. Firstly, Article 31 demands full reparation. Secondly, the ARSIWA acknowledges restitution, compensation and satisfaction as possible forms for reparation.775 Restitution means restitution in kind; thus, a withdrawal of the illegal measure, for example by returning the unlawfully detained person.776 Compensation means the payment of money in the amount of the damage.777 Satisfaction, on the other hand, refers to means available where

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770 Responsibility of States for internationally wrongful acts, 56/83, 56th sess, Agenda Item 162, UN Doc A/Res/56/83 (28 January 2002) Annex 1, Art. 49(1); Crawford, Brownlie's principles of public international law, above n 143, 566.
772 Verheyen, above n 691, 242; Voigt, above n 691, 18.
773 Case Concerning the Factory at Chorzow (Merits) [1928] PCIJ (Ser A) No 17, 47 ('Chorzow Factory').
774 ibid.
776 Crawford, Brownlie's principles of public international law, above n 143, 567.
777 Responsibility of States for internationally wrongful acts, 56/83, 56th sess, Agenda Item 162, UN Doc A/Res/56/83 (28 January 2002) Annex 1, Art. 36; Crawford, Brownlie's principles of public international
restoration or compensation cannot make things good, for example a formal apology or the acknowledgment of the wrongdoing.\textsuperscript{778}

With regard to financing reconstruction in the aftermath of a natural disaster, both restitution and compensation seem to be possible. As mentioned above, restitution means restoration according to the situation \textit{ex ante}. This definition would imply restoring something to the State it was in before the calamitous event hit the injured State. However, Article 35 ARSIWA also clearly states that restitution is not an option if it is out of all proportion compared to monetary compensation.\textsuperscript{779} If it would be argued that such an obligation to restore would not be proportionate and thus that compensation would be a better fit, the amount that would be awarded would certainly not exceed the value of the situation \textit{ex ante}, since this situation determines the extent of restitution.

This reasoning shows another limitation of the responsibility claim approach: the consequences would not include any means to build back better, as they do not restore a situation to its pre-calamitous-event state. By taking the approach of seeing reconstruction as a preventive measure, this problem could be avoided and certainly improve resilience to natural hazards in developing States prone to natural disasters.

\textbf{3.2.6. Exemptions}

The ARSIWA deals with exemptions for liability in Articles 20 – 27. There are six exemptions available: consent, self-defence, countermeasures, force majeure, distress, necessity and compliance with peremptory norms.\textsuperscript{780}

With regard to environmental damage cases, the ICJ discussed, in particular, the exemption of necessity in its \textit{Gabcikovo} case.\textsuperscript{781} In this case, Hungary insisted it acted with regard to ecological necessity and, as such, would benefit from being exempted for any wrongdoing.\textsuperscript{782} The ICJ states clearly that this ground for exemption constitutes customary international law, but applies only in exceptional cases.\textsuperscript{783} The court also refers to the ARSIWA for the conditions under which this exemption might be applicable.\textsuperscript{784} Article 25 ARSIWA deals with this exemption and imposes very strict requirements under which it can be successfully invoked:

“1. Necessity may not be invoked by a State as a ground for precluding the wrongfulness of an act not in conformity with an international obligation of that State unless the act:

(a) is the only way for the State to safeguard an essential interest against a grave and imminent peril; and


\textsuperscript{779} \textit{Responsibility of States for internationally wrongful acts}, 56/83, 56th sess, Agenda Item 162, UN Doc A/Res/56/83 (28 January 2002) Annex 1, Art. 35(b): “does not involve a burden out of all proportion to the benefit deriving from restitution instead of compensation.”.

\textsuperscript{780} ibid Art. 20 -26 respectively.

\textsuperscript{781} \textit{Gabcikovo-Nagymaros Project (Hungary v. Slovakia) (Judgment)}, [1997] ICJ Rep 7, 35 [40] et seq (‘\textit{Gabcikovo-Nagymaros Project}’).

\textsuperscript{782} ibid 35 [40].

\textsuperscript{783} ibid 40 [51].

\textsuperscript{784} ibid 40 -1 [52].
2. Part: Obligation and Responsibility of the not affected States

(b) does not seriously impair an essential interest of the State or States towards which the obligation exists, or of the international community as a whole.

2. In any case, necessity may not be invoked by a State as a ground for precluding wrongfulness if:
(a) the international obligation in question excludes the possibility of invoking necessity; or
(b) the State has contributed to the situation of necessity.\textsuperscript{785}

It is difficult, however, to translate this judgement and, in particular, this exemption to the case of climate change damages.\textsuperscript{786} It is obvious that the requirements are nearly impossible to meet in the case of GHG emissions and related climate change damages. It is even questionable how a State could use one of the exemptions as a reason with regards to climate change damage, as none of the reasons would clearly apply.\textsuperscript{787}

3.2.7. Responsibility for a group of states or the international community

Another issue to address, at least briefly, is that not only one State emits GHG into the atmosphere. In this regard, the ARSIWA acknowledges that under certain circumstances, there is not only one State to blame. This accommodation of multiple responsibility is reflected within the chapter concerning the invocation of State responsibility.\textsuperscript{788} Article 42 ARSIWA clearly stipulates that the injured State may invoke responsibility to a single State, a group of States or the international community as a whole. If, however, the injured State invokes it to a group of States, the group of States have to be responsible for the same wrongful act.\textsuperscript{789} As such, it is not applicable to situations where several States individual conduct contribute to inseparable harm, for example climate change damage.\textsuperscript{790} To this point, it remains unclear in international law how to deal with this kind of situation, where States independently contribute to a particular harm.\textsuperscript{791}

Again, this discussion could be avoided by considering post-disaster reconstruction as a preventive measure. As an obligation, it would apply, in the light of the above-discussed CBDRRC principle, to a group of States, namely developed States and emerging economies.

3.3. Conclusion for climate-change-related reconstruction measures

This research argues that the approach of considering reconstruction as a measure to prevent future harm is more suitable and more rewarding for the injured State than invoking State responsibility. This conclusion derives from many considerations.

Already, the establishment of a breach of an international legal obligation demonstrates certain difficulties. The emission of GHGs is not an illegal act \textit{per se}; it becomes illegal, according to the no-harm rule, when the GHGs leave the ‘territorial atmosphere’ of the ‘polluting’ State and cause harm in another State. However, in order to clearly establish an infringement of the no-harm rule, a failure to meet the required standard of due diligence must also be established. This requirement raises the

\textsuperscript{785} Responsibility of States for internationally wrongful acts, 56/83, 56\textsuperscript{th} sess, Agenda Item 162, UN Doc A/Res/56/83 (28 January 2002) Annex 1, Art. 25.
\textsuperscript{786} Verheyen, above n 691, 241.
\textsuperscript{787} ibid.
\textsuperscript{789} ibid Art. 47.
\textsuperscript{790} Voigt, above n 691, 19.
\textsuperscript{791} ibid 20.
question of how much emissions are allowed. With regard to the recent development in international climate change law, the adoption of the Paris Agreement, where a shift from binding reduction targets to nationally determined contributions has been introduced, there is no clear-cut answer to this question.

Secondly, the strict causal link between the conduct of the State (releasing GHG emissions into the atmosphere) and the harm suffered (damage caused by calamitous events such as extreme weather events) is difficult to prove. It is questionable whether a general causational link is alone sufficient in a State responsibility claim, where what is required is the conduct of the specific respondent State. It is in the nature of climate change that it is rather a problem of accumulation of all emissions that causes global warming and its adverse effects. Domestic courts, however, acknowledge a general causational chain to be sufficient. If more domestic courts follow this reasoning, this acknowledgment may become a principle of international law, as established by civilised nations, according to Article 38(1)(c) ICJ Statute. The question of causation accompanies the question of standard of proof. On this matter, there is no coherence within the jurisprudence of the various international courts and tribunals. The ITLOS, for example, takes the precautionary principle into consideration and lowers the standard of proof in cases of scientific uncertainty. The ICJ, on the other hand, rejects this argument. Therefore, a State responsibility claim for climate change damages might depend on the tribunal to which it is taken.

Additionally, also with regard to the question of whether there would be a responsibility, the legal consequences of restitution or compensation would refer only to the status as it was before the calamitous event. Thus, it would not include any financial help to build back better in order to make the communities more resilient to extreme weather events. Finally, another issue is the facts that such claims would be needed to be addressed to each polluting State individually, as the ARSIWA requires that in order to for States to be held jointly responsible, they must have committed the same wrongdoing. However, as already mentioned, it is in the nature of climate change and global warming that it is a problem of accumulation of various individual and different contributions of different States.

In pursuing the approach of considering reconstruction as a preventive measure, most of these obstacles vanish. First of all, no breach of an obligation needs to be argued for, as contributing financially to the post-disaster reconstruction phase is the obligation. Furthermore, no strict causational chain is necessary; general causation, which is without any doubt met, when considering the latest IPCC reports, is sufficient.

The problem with establishing the value of the damage, and whether it should take into consideration building back better is unimportant, because by seeing reconstruction as a preventive measure it should aim to build back better and as such make the communities more resilient against natural hazards. This approach also deals better with the fact many States are together to blame. Climate change is a common problem of humankind and, as such, should also be tackled as a common problem of humankind. Under the argument that there is an international obligation to prevent future harm and that one appropriate measure is to financially assist reconstruction projects aiming to build back better, climate change and its adverse effects can be faced together.
4. Sovereign Risk Transfer: Solution of the Future?

The sections above have argued that reconstruction has to be considered as a preventive measure, which improves a community’s resilience to natural hazards. Reconstruction costs should not be seen as damages caused by the calamitous event, but rather as investments in resilience. Therefore, the focus has now to turn on the question of ex ante financing. This will be discussed in this chapter with a particular focus on sovereign risk transfer.

Insurances, and in particular reinsurances, play a significant role in the speedy recovery of a community affected by a natural disaster. Therefore, it is no surprise that the insurance market, specifically, is reacting and producing new insurance products, which could offer a solution to the question of financing reconstruction. Such products include, for example, macro insurance, which comprises risk transfer for governments; a pool scheme; a country-wide insurance solution for countries with uniform risk; and micro insurance, which is another term for private insurance.792 The last option is discussed above in the respective section. This section focuses on the first: macro insurance or, in other words, sovereign risk transfer.

This section explains the mechanism for sovereign risk transfer with two major examples: Mexico, on the one hand, and Caribbean and the Pacific small islands, on the other hand.

4.1. Mexico as the pioneer in sovereign risk transfer

There is more than just one option for how to transfer a sovereign risk. One of the first and most important schemes developed is the Fondo Nacional de Desastres Naturales (FONDEN) in Mexico in 1996.793

In the aftermath of a calamitous event that leads to a disaster, it is FONDEN’s purpose to ensure the immediately availability of financial resources needed for the emergency phase and post-disaster phase.794 These resources are made available, obviously, without triggering the time-consuming process of federal budget allocation.795 In particular, FONDEN finances (1) emergency assistance to the affected persons; (2) post-disaster reconstruction and rehabilitation of public buildings, which includes to a certain extent also the restoration of the environment; and (3) reconstruction and rehabilitation of low-income households.796

Since its establishment in 1996, FONDEN has evolved.797 The most important change happened in 2006, when a new domestic law was passed that required the Mexican Government to commit a fixed percentage of its annual budget to FONDEN, which is at the moment minimum 0.4%, in other words approximately USD 800 million per annum.798

Fondo Nacional de Desastres Naturales is organised into two main core programs: FONDEN Program for Prevention and FONDEN Program for Reconstruction. Both programs embody trust funds, which

792 Swiss Re, *Closing the protection gap - Disaster risk financing: Smart solutions for the public sector*, above n 641, 10.
794 ibid.
795 ibid.
796 ibid 10.
797 For a comprehensive summary of changes see: ibid 5-7.
798 ibid 6.
are managed by Mexico’s national development Bank, BANOBRAS. The prevention program has its own preventative trust, which is used for ex ante risk management. The FONDEN Trust on the other hand, which is embodied in the Program for Reconstruction, encompasses subaccounts for (a) emergency relief and (b) for reconstruction for each disaster. One of these cat bonds was triggered in the aftermath of the devastating earthquakes just a month after the establishment of the cat bonds in September 2017. Next to the cat bond, FONDEN also transfers some of its financial risks to an insurance company through indemnity-based excess-of-loss insurance. In 2011, this insurance policy covered USD 1.4 billion.

4.2. Parametric insurances in the Pacific Caribbean and Africa

For developing States in the Caribbean Pacific and Africa, parametric insurance, also known as index insurance, is the most commonly chosen form of sovereign risk transfer. The advantage of parametric insurance is that the pay-outs of the insured coverage come faster than they do with the classic indemnity insurance. Indemnity insurance covers the actual losses suffered. Therefore this specific loss needs to be defined after the damaging event has occurred, and as such, the pay-out process is slow. Parametric insurance, on the other hand, uses another trigger for the pay-out mechanism: it uses, as the name suggests, parametric triggers. Such parameters include data on rainfall in the event of a flooding. Pay-outs are based on such parameters and ex ante determined sums; as such, there is no need for individual ex post loss assessment, as is the case with classic indemnity insurance.

In 2012, forty-one member States of the African Union signed the African Risk Capacity (ARC) treaty. The ARC’s main objective is

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799 ibid 12.
800 ibid 11.
801 ibid 12.
802 ibid 14.
805 World Bank and Government of Mexico, above n 793, 37.
806 Swiss Re, Closing the protection gap - Disaster risk financing: Smart solutions for the public sector, above n 641, 11.
808 ibid 62.
809 ibid 63.
810 ibid.
811 ibid.
As such, the ARC works not only as a financial support agency, but also has the aim to assist its State parties to adopt domestic disaster preparedness plans.\textsuperscript{814} The main focus lies on droughts, and other events shall be added over time.\textsuperscript{815} In fact, epidemics and outbreaks have just been recently added in 2017.\textsuperscript{816} In its function as a financial support agency, it also has the mandate to establish and operate an African Risk Capacity Insurance Company Limited (ARC Ltd), which has the aim to interact with insurances, reinsurances, derive interactions and other options for risk transfer in order to ensure an effective management of disaster funding.\textsuperscript{817} The ARC Ltd was established a year later, in 2013.\textsuperscript{818} The ARC Ltd transferred the risk of more than USD 192 million to a group of 18 reinsurers, among them Swiss Re.\textsuperscript{819} The first pay-out happened in early 2014, whereby the Governments of Mauritania, Niger and Senegal received more than USD 26 million. In particular, those funds were made available before the humanitarian aid appeal was made under the UN umbrella.\textsuperscript{820} This fast pay-out happened because the insurance purchased by the respective governments is a parametric insurance.\textsuperscript{821}

The Caribbean the Caribbean Catastrophe Risk Insurance Facility (CCRIF) is the financial institution that enables Caribbean Islands to purchase insurance cover.\textsuperscript{822} The CCRIF was established in 2007 with the support of the World Bank and other State donors such as Japan.\textsuperscript{823} The CCRIF transfers some of its risk with the use of cat bonds of approximately USD 30 million in the size.\textsuperscript{824} The risks covered are tropical cyclones and earthquakes, and the pay-outs are triggered by a parametrically modelled loss.\textsuperscript{825} Because of this parametric approach, the pay-outs are fast, so the pay-outs from this instrument were the first ones reach Haiti in the aftermath of the devastating earthquake in 2010.\textsuperscript{826}

A similar system is in place for Pacific Island States. In 2013, the World Bank launched jointly with the Secretariat of the Pacific Community and the financial support of the Japanese government the Pacific Catastrophe Insurance Pilot.\textsuperscript{827} Again with support of the World Bank, the Pacific Catastrophe

\textsuperscript{813} ibid Art. 3.
\textsuperscript{814} see for all functions: ibid Art. 4.
\textsuperscript{815} ibid Art. 2(b).
\textsuperscript{817} ARC Treaty Art. 2(g).
\textsuperscript{819} Swiss Re, 'Closing the gap, A sovereign insurance pool for Africa' 2 <http://www.swissre.com/library/factsheets-publication/Closing_the_gap_A_sovereign_insurance_pool_for_Africa.html>.
\textsuperscript{820} ibid.
\textsuperscript{821} ibid 1.
\textsuperscript{823} ibid.
\textsuperscript{824} ibid 2.
\textsuperscript{825} ibid.
\textsuperscript{826} ibid 1.
\textsuperscript{827} World Bank, Advancing Disaster Risk Financing & Insurance in the Pacific, Regional Summary Note & Options for Consideration, above n
2. Part: Obligation and Responsibility of the not affected States

Risk Assessment & Financing Imitative Facility (PCRAFI Facility) was established in 2016 and is based in the Cook Islands. The PCRAFI Facility is supported by a multi-donor trust fund and received USD 6 million during its first year of operation. At the same time, the PCRAFI Facility transferred USD 38 million to the reinsurance market, where again Swiss Re and Munich Re are among the reinsurers. The insurance that can be purchased by Pacific Island States is also a parametric insurance, with policy coverage of approximately USD 40 million. Additionally, this parametric programme is globally the first to include tsunamis in the covered risks.

4.3. Benefits and risks of parametric sovereign risk transfer

The strongest benefit, which has already been mentioned several times, is the fast pay-out after the threshold is met in order to trigger the pay-out. The main reason for the strength of this benefit is that parametric risk transfer solutions do not require time-consuming individual loss assessment, contrary to classic indemnity insurance.

However, there are also risks, in particular the so-called basis risk. Because a certain index or parameter is used in order to determine whether a pay-out is made, this pay-out might not mirror the actual damage felt in the area concerned. This lack of correspondence was the case for Jamaica in 2009, when Hurricane Dean hit, but the insurance index was not triggered, and consequently no pay-out was made. The same happened also in the Pacific with the Solomon Islands: there, the losses after the Santa Cruz earthquake were not high enough to reach the threshold of the policy, and the 2014 flash foods were not covered in this policy. These experiences of Jamaica and the Solomon Islands show that there is no a single risk-transfer solution. It is rather important to tailor such solutions exactly to the needs of a particular country.

Nonetheless, the quick availability of the pay-out for the country in need is a big benefit, in particular because the pay-out is received before any external donations. At the same time, States that have such a scheme in place are less dependent on quick international donations, and as such, the States are able to get back on their feet in far less time. Therefore, appropriate insurance can reduce long-term losses and development setbacks and, as such, also save lives and livelihoods.

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829 ibid.
830 ibid.
831 ibid.
832 ibid 2.
833 Swiss Re, 'Closing the gap, Sovereign risk insurance proves its worth for Asia Pacific islands' 1 <http://www.swissre.com/library/archive/Closing_the_gap_Sovereign_risk_insurance_proves_its_worth_for_Asia_Pacific_Islands.html>.
834 ibid 94.
836 ibid 21.
837 Linnerooth-Bayer and Hochrainer-Stigler, above n 833, 94.
838 ibid.
5. Conclusion

This chapter has explored the financial problems that disaster-prone developing States face during the reconstruction phase. Since availability of private insurance is limited in those States, it is important that the affected States have an effective plan in place to make it easier to bounce back after such a devastating event. In this regard, Mexico is a pioneer with its national fund for disaster preparedness and rehabilitation: FONDEN. In order to protect itself against the financial risk, the Mexican government transfers some of its financial risks to the international capital markets and reinsurance markets. Similar, but not identical, approaches are currently under development in the Caribbean, Africa and the Pacific islands.

Although there are certain means available for disaster-prone developing States not to be too reliant on external donations in the case of reconstruction, the question of liability remains. Scholars dealing with the question of climate change damage, such as the damage caused by an extreme weather event as a cyclone, usually argue for State responsibility under the ARSIWA. This approach, however, suffers from difficulties. First of all, no single State alone emits GHG into the atmosphere; it is rather a large group of States or even all States together. However, at the same time, not all States have not been and are still not emitting the same amount of GHGs. This difference in emissions then leads to the question of how much GHGs is a State allowed to emit, thus where the thresholds of responsibility lies.

Secondly, causation also imposes difficulties in making a sound legal argument. Strict causation, which is often described with the condition sine qua non formula, is hard to meet in the case of reconstruction costs caused by climate-change-related extreme weather events and the emissions of GHGs into the atmosphere. It is a fact that climate change and its consequences are still accompanied with uncertainty. This uncertainty cannot be ignored, while establishing a causational link between the emitting of GHGs, climate change and the extreme weather event that is responsible for the reconstruction phase.

On the other hand, by acknowledging that no disaster is a one-off event but rather a part of a circle and that, as such, every phase in the disaster cycle contributes to more resilience for the next event, such difficulties are less prominent. Within the reconstruction phase, it is acknowledged that it has the goal to ‘build back better’, with the ultimate aim of making the community more resilient for future events. Therefore, reconstruction that aims to build back better is indeed a preventive measure.

By recognising reconstruction as a preventive measure, a similar approach to the question of financial support of early warning systems can be asked possible. In this regard, the no-harm rule is applicable, and thus, it is possible to argue that developed States and emerging economies have an obligation under customary international law to financially support disaster-prone developing States with regard to post-disaster – and in the light of the disaster cycle – pre-disaster reconstruction.

A highly pragmatic option for this required financial support would be to commit funds to the respective insurance facility that offers insurance to the concerned governments: ARC Ltd. in Africa, CCRIF in the Caribbean and the PCRAFI Facility in the Pacific. For example, the PCRAFI Facility receives funds from the PCRAFI Multi-Donor Trust Fund with the donors Germany, Japan, United Kingdom and the US.\(^{39}\) This list of donors should be extended to developed States and emerging economies, in order to tackle climate change commonly as a common concern of humankind.

\(^{39}\) World Bank, New Insurance Facility to Boost Natural Disaster Resilience in Pacific Island Countries, above n 828.
Part 3: The Responsibility of the Affected State before, during and in the Aftermath of a Disaster

Having established what the financial obligations of developed States and emerging economies towards disaster-prone developing States are, the study now turns the perspective. This part starts with a vertical perspective, with the relationship between the victims of a natural disaster and the affected State, regarding two major topics in IDL: the access to humanitarian assistance and the provision of early warning.

The first chapter deals with the question of what the duties of the affected State towards the victims are in the emergency relief phase and partially beyond of the disaster cycle. Yet, since there are many topics to consider in this phase, this part limits itself mostly to the provision of humanitarian assistance: hence, whether the affected State has an obligation to provide humanitarian assistance and whether its own capacities are exceeded if it has to seek international assistance. However, a brief examination of the issue of internally displaced persons (IDPs) and their rights is also provided.

The second chapter in this part deals, on the other hand, with the pre-disastrous event phase of the disaster cycle: thus the risk-mitigation phase. Contrary to Chapter III, this chapter offers a vertical perspective. As such, it examines whether the affected State has an obligation to provide early warning.
Chapter V: The Responsibility of the Affected State During and in the Aftermath of a Disaster

The 2017 hurricane season led to unprecedented damages in the Caribbean. It started with Hurricane Irma in early September, the most powerful hurricane recorded, with a maximum wind speed of 296 km/h. Irma impacted many Caribbean Islands and was then followed by Hurricane Jose, and a few days later Hurricane Maria, which developed from a category 1 to a category 5 hurricane within 18 hours. Hurricane Maria devastated Dominica, in particular, a small Caribbean Island. It impacted the entire population of the island, and 92% of the inhabitants were in need for humanitarian aid. On 29 September 2017, a flash appeal for Dominica was launched. This flash appeal requested USD 31.1 million in order to provide live-saving assistance to the affected population. The flash appeal also identified the most urgent needs that needed to be addressed: food, water, electricity, building repair materials and tarpaulins. As such, most of the flash appeal will be dedicated to food security and access to water.

This chapter deals with this very scenario: the event has passed, and the State is overwhelmed and incapable of coping with the situation itself; thus it is a disaster in the sense defined by this research. Positioned in the emergency relief phase, according to the disaster cycle, as described above in Figure 1, this chapter’s focus differs from that of the previous chapters. This chapter, as well as Chapter VI, examines the duties and obligations of the affected State and what the rights of the affected individuals are.

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841 OCHA, 'Flash Appeal Hurricane Maria, September to December 2017', above n 9, 2.
843 OCHA, 'Flash Appeal Hurricane Maria, September to December 2017', above n 9, 2; OCHA, 'The Caribbean: Hurricane Season, situation Report No. 12 (as of 13 October 2017)', above n 842, 2.
844 OCHA, 'Flash Appeal Hurricane Maria, September to December 2017', above n 9, 4.
845 ibid 8.
846 See above the chapter dealing with the definition of Disaster for this research: *The Approach of This Research* on page 12.
847 See above chapter: *The Disaster Cycle and Historical Background* on page 15.
1. Responsibilities and Duties of the State During the Disaster

The first part of this chapter analyses the duties of the affected State during a disaster situation. The main focus lies on the protection of the affected population. Therefore, first, the obligation to protect the victims themselves is examined, and then the first section of the chapter continues by examining the possible duty to seek international assistance, along with whether and under which conditions this duty applies. This analysis affords a very close look at the Draft Articles, in particular Articles 10, 11 and 13. General international human rights law is also taken into consideration while developing the legal arguments.

1.1. Obligation to protect people affected by the natural disaster

Victims of natural disasters are vulnerable and thus need protection. This section looks on both the human rights obligations of the affected State towards the victims and the possible obligation to ensure the provision of humanitarian assistance. The obligation of States to provide humanitarian assistance to the suffering population is not only discussed in the case of natural disasters but also in situations for armed conflict.

Human rights apply, by their nature, universally and at any time. Especially in a disaster situation, during the emergency phase, certain human rights are at risk. The Draft Articles reflect this application in Article 5, which reminds all involved parties that the affected persons still enjoy the protection of international human rights law in the case of disasters.

This section aims to examine those rights and pursues the goal of acknowledging human rights as a management tool for the government, in particular, with regard to the content of humanitarian assistance, which has been defined above. According to the Bruges Resolution, humanitarian assistance includes, among other things:

“[…] foodstuffs, drinking water, medical supplies and equipment, means of shelter, clothing, bedding, vehicles, and all other goods indispensable for the survival and the fulfillment of the essential needs of the victims of disasters […]”

Because of this list, this section discusses in particular the right to life, the right to adequate food, right to adequate housing the right to health and right to safe drinking water and sanitation. These rights have also been stressed by the ILC as the most important ones during a disaster situation.

Most of these rights happen to be economic and social rights, and thus the main source is the ICESCR. Therefore, it is necessary to address the concept of ‘progressive realisation’ according to Article 2(1)

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848 For a comprehensive discussion on the Internally Displaced Persons’s right to humanitarian assistance see David Fisher, 'The right to humanitarian assistance' (2010) 41 Studies in Transnational Legal Policy 47.
850 Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 15, Article 5.
852 Institute of International Law, Bruges sess, (2 September 2003), para 1(a).
3. Part: The Responsibility of the affected State before, during and in the aftermath

ICESCR before examining the substantive rights individually. Article 2(1) ICESCR reads itself as follows:

“Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.”

The UN Committee on Economic, Social and Cultural Rights (CESCR) discusses this provision in depth in its General Comment 3. The progressive realisation of the rights enshrined in the ICESCR allows States to fulfil the obligations step by step and takes as such consideration of the various economic and social structures of the various States. However, this does not mean that States have complete autonomy in deciding what and when they want to achieve the specific social, economic and cultural rights. The CESCR highlights that although the rights enshrined in the ICESCR can be addressed progressively, this gradual process does not mean that there are no certain core obligations that represent a minimum standard to be guaranteed at all times. Since the ICESCR allows this progressive realisation, it does not allow any derogation of its rights. Thus, the core obligations have to be fulfilled at all times and cannot be derogated from at all. In addition, as is in particular relevant to the right of adequate food and housing and right to health, discussed below, the CESCR stated in the same general comment,

“[… ] a State party in which any significant number of individuals is deprived of essential foodstuffs, of essential primary health care, of basic shelter and housing, or of the most basic forms of education is, prima facie, failing to discharge its obligations under the Covenant.”

Although the CESCR does not define the term ‘significant number’, this number will most likely be determined in the disaster situation, according to the definition of this research. Yet, the respective rights are detailed below. First, the right to life will be examined, which is, obviously, not an economic, social or cultural right. Afterwards, attention is given to the right to food, housing, health and, finally, water and sanitation.

1.1.1. Right to life

The right to life is, in the context of natural disasters and humanitarian assistance, the most crucial and fundamental right. The UNGA acknowledged this relationship in its resolution 43/101 (8 December 1988):

“[… ] the abandonment of the victims of natural disasters and similar emergency situations without humanitarian assistance constitutes a threat to human life and an offence to human dignity.”

The right to life is enshrined in various treaties on an international and regional level: Article 6 ICCPR, Article 2 ECHR, Article 4 ACHR and Article 4 of the African Charter on Human and Peoples’ Rights

855 ICESCR Article 2(1).
857 ibid para 9.
858 ibid para 10.
859 ibid.
860 see for similar argumentation: Kuijt, above n 172, 170-2.
861 Humanitarian assistance to victims of natural disasters and similar emergency situations, GA Res 43/131, UN GAOR, 75th plenary mtg, UN Doc A/RES/43/131 (8 December 1988), Preamble para 8.
3. Part: The Responsibility of the affected State before, during and in the aftermath (ACHPR). It is not an absolute right, and thus limitations are possible: The ICCPR, ACHR and ACHPR guarantee not to be “arbitrarily deprived of life”. This guarantee, however, does not mean that the right to life allows derogation. In fact, there are no derogations available in the time of emergencies for the right to life, which is mirrored in the treaty text of nearly all human rights instruments. The ICCPR, ACHR and ACHPR guarantee that the right to life does not allow derogation. In fact, there are no derogations available in the time of emergencies for the right to life, which is mirrored in the treaty text of nearly all human rights instruments. According to the HRC, this rule also applies to natural catastrophes. The only human rights instrument that does not contain a derogation clause at all is the ACHPR. This was interpreted in the way that the African human rights regime does not allow any limitations of rights based on public emergencies. This reasoning, therefore, also applies to the right to life.

Although in times of emergencies no derogation from the right to life is possible, it is important to assess what kind of obligation the right to life imposes on the affected State, in particular during a natural disaster. The right to life does not only impose negative obligations, thus not to intervene into the protected sphere, but rather also includes positive obligations, like adopting positive measures.

In the context of natural disasters, an example, of a positive measure would be the provision of humanitarian assistance to the affected population, if needed, after a calamitous event leads to a disaster situation. The access to humanitarian assistance in the aftermath of such an event is often lifesaving, as it addresses basic human needs that are necessary for survival. The crucial role of humanitarian assistance has been reaffirmed by the UNGA in the above-mentioned quote, indicating that the abandonment of people gravely affected by a calamitous event and the failure to provide them with humanitarian assistance imposes a threat to human life.

1.1.2. Right to adequate standard of living

The right to adequate standard of living encompasses four components: (1) adequate standard of living itself, (2) the right to adequate food, (3) right to clothing and housing and (4) to the continuous improvement of living conditions:

“1. The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international cooperation based on free consent.”

This section will focus on the right to adequate food as well as the right to adequate housing. In the intermediate aftermath of a calamitous event, these two aspects of the right to adequate standard of living are of great importance.

862 Wording of: ICCPR Art. 6(1); see also: Nigel S Rodley, 'Integrity of the Person' in Daniel Moeckli et al (eds), International Human Rights Law (Oxford University Press, 2nd ed, 2014) 174, 184.
863 ICCPR Art. 4(2); ECHR Art. 15(2); ACHR Art. 27(2).
864 Human Rights Committee, 1950th mtg, UN Doc CCPR/C/21/Rev.1/Add.11 (31 August 2001), [5].
867 See also: Kuijt, above n 172, 187-91.
868 Humanitarian assistance to victims of natural disasters and similar emergency situations, GA Res 43/131, UN GAOR, 75th plenary mtg, UN Doc A/RES/43/131 (8 December 1988), Preamble para 8.
869 ICESCR Art. 11(1).
1.1.2.1. The right to adequate food

The right to adequate food is protected not only in the ICESCR; it is also protected on a regional level in the Americas and in Africa, where the right to adequate food has been acknowledged to be implicit within the ACHPR.\(^{870}\)

The CESCR details in its General Comment 12 the right to adequate food, according to Article 11 ICESCR.\(^{871}\)

First of all, the right to adequate food requires, as the wording itself suggests, a certain minimum standard. This emphasis on adequacy underlines the fact that the specific circumstances determine whether the accessible diet is appropriate.\(^{872}\) Next, to be appropriate, the food also has to be available. Both requirements imply the core content:

“The availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture; the accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights.”\(^{873}\)

With regard to accessibility, the CESCR stresses the distinction between economic and physical accessibility.\(^{874}\) In particular, with regard to physical accessibility, the specific needs of the victims of natural disasters have been addressed, and thus stressed as a case to which States should give special attention.\(^{875}\)

The CESCR clarifies that this human right should not be interpreted in a narrow or restrictive sense, as it will be realised progressively over time.\(^{876}\) Despite the progressive realisation, States still have to meet the core obligation, which is enshrined in section 2 of this provision: the fundamental right to be free from hunger.\(^{877}\) This means, therefore, in the context of natural disasters that the affected State has an obligation to ensure the physical accessibility of food.\(^{878}\) This accessibility can be achieved by the provision of humanitarian assistance, which certainly also includes foodstuffs if needed.\(^{879}\)

1.1.2.2. The right to adequate housing

Like the right to adequate food, also the right to adequate housing is not only enshrined in the ICESCR, but enjoys also regional protection.\(^{880}\) On a global level, it is not only the ICESCR that offers


\(^{872}\) CESCR, General Comment 12, 20th sess, UN Doc E/C.12/1999/5 (12 May 1999).

\(^{873}\) ibid 3 [7].

\(^{874}\) ibid 3 [8].

\(^{875}\) ibid 4 [13].

\(^{876}\) ibid.

\(^{877}\) ibid 3 [6].

\(^{878}\) ibid.

\(^{879}\) see also: Inter-Agency Standing Committee, above n 78, 32-3 [B.2.1]; see for a comprehensive discussion: Jansen-Wilhelm, above n 106, 183-5.

\(^{880}\) European Social Charter, opened for signature 3 May 1996, 2151 UNTS 277 (entered into force 1 July 1999) Article 31 ('European Social Charter'); the right to housing is recognised implicit within the African System: \(^{880}\) SERAC v Nigeria (African Commission on Human and People's Rights, Case No 155/96, 27 October 2001) [60]; for the Inter-American System the right to adequate housing has only been referred to in the American Declaration of the Rights and Duties of Man: America Declaration of the Rights and
protection of the right to adequate housing; this right is also embodied in other human rights treaties: namely the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the International Convention on the Elimination of All Forms of Racial Discrimination (CERD), the Convention on the Rights of the Child (CRC) and CRPD.\footnote{Duties of Man, OAS Res XXX, adopted by ninth international conference of American States, Article XI. CEDAW Article 14(2); CERD Article 5(e)(iii); CRC Article 27(3); CRPD Article 28.}

Within the regime of the ICESCR, the CESCR confirms that this right means more than solely “having a roof over one’s head.”\footnote{CESCR, Report on the Sixth Session, UN ESCOR, Supp No 3, UN Doc E/1992/23(SUPP)-E/C.12/1991/4 Annex II, para 7 (‘General comment No. 4: The right to adequate housing (art. 11 (1) of the Covenant’).} On the contrary, the right to adequate housing means “the right to live somewhere in security, peace and dignity.” The term ‘adequate’ in this context bears the meaning of adequacy in space, privacy, security lighting and ventilation, basic infrastructure and location, with regard to work and basic facilities. Yet, the CESCR has not explicitly formulated any specific core obligations with regard to the right to adequate housing.\footnote{ibid.} This, however, does not mean that there are no minimum standards applicable in the case of natural disasters.\footnote{ibid.} The CESCR has explained that regardless of their specific level of development, States have immediate duties arising from the right to adequate housing.\footnote{ibid.} These immediate duties arise because “many of the measures required to promote the right to housing would only require the abstention by the Government from certain practices and a commitment to facilitating ‘self-help’ by affected groups.”\footnote{ibid.}

The CESCR states further that if these duties for some reason exceed the particular State’s maximum resources, then the State has an obligation to request international cooperation as soon as possible.\footnote{ibid.} The CESCR description of how those duties look is very vague. Firstly, it stresses that States have to effectively monitor and “to ascertain the full extent of homelessness and inadequate housing within its jurisdiction.”\footnote{ibid.} Hence, means that States have to include in their reports information about these groups “that are vulnerable and disadvantaged with regard to housing.”\footnote{ibid.} At the same time, the CESCR identifies the victims of natural disasters as belonging to a disadvantaged group with regard to the right to adequate housing.\footnote{ibid.}

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\footnote{CESCR, Report on the Sixth Session, UN ESCOR, Supp No 3, UN Doc E/1992/23(SUPP)-E/C.12/1991/4 Annex II, para 7 (‘General comment No. 4: The right to adequate housing (art. 11 (1) of the Covenant’).}

\footnote{ibid.}

\footnote{ibid.}

\footnote{see in this regard with a special and comprehensive discussion on this topic: Jansen-Wilhelm, above n 106,175-80.}

\footnote{ibid 177.}

\footnote{CESCR, Report on the Sixth Session, UN ESCOR, Supp No 3, UN Doc E/1992/23(SUPP)-E/C.12/1991/4 Annex II, para 10 (‘General comment No. 4: The right to adequate housing (art. 11 (1) of the Covenant’); Jansen-Wilhelm, above n 106, 177.}

\footnote{CESCR, Report on the Sixth Session, UN ESCOR, Supp No 3, UN Doc E/1992/23(SUPP)-E/C.12/1991/4 Annex II, para 10 (‘General comment No. 4: The right to adequate housing (art. 11 (1) of the Covenant’).}

\footnote{ibid.}

\footnote{ibid para 11; Jansen-Wilhelm, above n 106, 177.}


\footnote{CESCR, Report on the Sixth Session, UN ESCOR, Supp No 3, UN Doc E/1992/23(SUPP)-E/C.12/1991/4 Annex II, para 8(e) (‘General comment No. 4: The right to adequate housing (art. 11 (1) of the Covenant’).}
Those obligations of States are more important as soon as the emergency situation cools and the reconstruction phase begins. The State has therefore to assess how many people are left homeless because of calamitous event that lead to the natural disaster. If the affected State, however, is unable to do so or fears being unable to do so, it has to seek international assistance in order to fulfil these duties.

Yet, that does not mean that there are no standards available for the disaster phase, thus the emergency response phase. In particular, the *IASC Operational Guidelines* offer guidance for States with regard to emergency shelter and the standard thereof. The *IASC Operational Guidelines* principally repeat what the right to housing means:

“The right to shelter should be respected and protected. It should be understood as the right to have an accommodation allowing persons to live there in security, peace and dignity.”

The *IASC Operational Guidelines* also discuss further protection standards, such as that all affected individuals living in a camp are allowed to move freely in and out of a camp, that there should be no armed personnel at a campsite and, furthermore, that there should be specific space where children and women feel safe and secure.

As such, the ICESCR does not present clear obligations to States with regard to the establishment of emergency shelters. However, such an obligation would most likely be implicit from the right to life, as emergency shelters are necessary for the primary survival of victims of a natural disaster. This implication is mirrored within the recognition of the right to shelter as embodied in the *IASC Operational Guidelines*.

### 1.1.3. Right to health

Next to securing the availability of food and shelter during a disaster situation, the right to health also imposes certain obligations upon the affected State. The right to health enjoys very broad cover and is not only rooted in global human rights instruments but is, like the other examined rights, anchored regionally in the Americas, Africa and Europe. On an international level, the right to health is predominantly anchored in Art. 12 ICESCR:

“The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”

The CESC stresses very firmly, that the right to health does not mean the right ‘to be healthy’. Instead, the right to health embodies

“a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health, such as food and nutrition, housing, access

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894 for a similar assessment see: Jansen-Wilhelm, above n 179
895 see also: ibid 178.178
896 Inter-Agency Standing Committee, above n 78, 34 [B.23].
897 ibid.
898 ibid.
899 *Protocol of San Salvador* Art. 10; *ACHPR* Art. 16; *European Social Charter* Art. 11; *CEDAW* Art. 12; *CERD* Art. 5(e)(iv); *CRC* Art. 24; *CRPD* Art. 25.
900 *ICESCR* Art. 12(1).
to safe and potable water and adequate sanitation, safe and healthy working conditions, and a healthy environment.\footnote{902}

Consequently, Article 12 ICESCR covers three human rights important during a disaster: (1) the right to health, (2) the right to water and (3) the right to adequate sanitation. This section focuses only on the right to health. The other two aspects are discussed in the next section.

The right to the highest attainable standard of health is an economic, social and cultural right, and as such it does not allow for derogation, since the ICESCR does not contain a derogation clause. This, however, does not mean that there are no limitations possible.\footnote{903} At the same time, because it is an economic, social and cultural right, it can be realised progressively over time.\footnote{904} This, however, is not applicable to the minimum core obligations, which each State has to fulfil. Thus, if they are not met, in any circumstances, it would lead to a violation of that particular right.

With regard to the core obligations of the right to health, the CESCR firstly explains the core obligation in a very general way: States are obliged to fulfil the right without discrimination of any kind and to take deliberate, concrete and targeted steps towards the realisation of the right.\footnote{905} Next to this general description, it also provides a list of core obligations which inter alia also includes the access to health facilities, services and goods, which have to be distributed equitably and to which access has to be given without discrimination of any kind.\footnote{906}

As those are the core obligations, this means for the case of natural disasters, that the affected State has the obligation under Article 12 ICESCR to provide access to health care facilities, services and goods without any discrimination. In particular, if a significant number of individuals do not have access to essential primary healthcare, this lack of access would constitute a violation of one of the core obligations of the ICESCR.\footnote{907} At the same time, it is not only the immediate care of the injured individuals that is necessary in a disaster. Such situations are a perfect breeding ground for infectious diseases, such as cholera, and there needs to be assistance in place in order to avoid the situation moving from a natural disaster to a health disaster.\footnote{908} For example, after Hurricane Matthew hit Haiti in October 2016, a significant increase in cholera cases was recorded. In response, the Haitian Health Ministry, supported by the World Health Organisation (WHO), Pan American Health Organization (PAHO) and United Nations Children’s Fund (UNICEF), started a vaccination campaign against cholera in the most endangered areas and put more health care facilities for cholera cases into place.\footnote{909}

The ICESCR itself deals with the question of “prevention, treatment and control of epidemic, endemic, occupational and other diseases.”\footnote{910} Those responsibilities have been considered by the CESCR as

\footnote{902} ibid 2 [4].
\footnote{903} General limitations clause in ICESCR Art. 4.
\footnote{904} ibid Art. 2(1).
\footnote{905} CESCR, General Comment No. 14, The right to the highest attainable standard of health (article 12 of the International Covenant on Economic, Social and Cultural Rights), 22nd sess, Agenda Item 3, UN Doc E/C.12/2000/4 (11 August 2000), 9 [30].
\footnote{906} ibid 12-3 [43(a), (e)].
\footnote{908} Kuijt, above n 172, 202; Jansen-Wilhelm, above n 106, 191-2.
\footnote{909} PAHO, Haiti’s Ministry of Health organizing a vaccination campaign against cholera in areas affected by Hurricane Matthew, supported by PAHO-WHO, UNICEF and other partners (23 October 2017) <http://www.paho.org/hq/index.php?option=com_content&view=article&id=12682&Itemid=1926&lang=en>.
\footnote{910} ICESCR Art. 12(2)(c).
obligations of the same priority as core obligations. Thus, as they enjoy the same priority, in particular the prevention of epidemics and the spread of infectious diseases have to be taken into account by the affected State when dealing with the emergency relief phase and beyond.

1.1.4. The right to safe drinking water and sanitation

Next to food, a human being also needs water for survival. However, the right to safe drinking water is not enshrined in a separate provision in one of the major international or regional human rights treaties. Nonetheless, certain specialised human rights instruments contain explicit references to access to drinking water: The CRC urges States to take appropriate measures to ensure the provision of clean drinking water in order to combat diseases and malnutrition. Moreover, the CEDAW makes a reference to access to water with regard to adequate living conditions. Similarly, the CRPD obliges States to ensure equal access for persons with disabilities to clean water services, with regard to the right to adequate standard of living.

On a regional level, the African continent ensures the best protection with regard to the right to water. The Additional Protocol to the ACHPR on the Rights of Women in Africa demands that States make steps to provide women access to safe drinking water. Similarly, the African Charter on the Rights and Welfare of the Child asks its State parties to ensure the provision of safe drinking water to children. On the European level, the ECHR does not make any reference to the right to safe drinking water and sanitation. However, the European Charter on Water Resources, adopted by the Committee of Ministers of the Council of Europe in 2001, recognises that “everyone has the right to sufficient quantity of water for his or her basic needs.” Thus, on the European level, the right to water does not enjoy a strong connection to the ECHR. In the Americas the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (Protocol of San Salvador) does not make any reference to water or sanitation at all.

Although on the global level, the ICESCR does not make any explicit reference to the right to water and sanitation; rather, the CESCR still embodies this right in the notion of Articles 11 and 12 ICESCR: the right to adequate standard of living and the right to health. It explains that the right to water “[…] entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water-related disease and to provide for consumption, cooking, personal and domestic hygienic requirements.”

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911 CESCR, General Comment No. 14, The right to the highest attainable standard of health (article 12 of the International Covenant on Economic, Social and Cultural Rights), 22nd sess, Agenda Item 3, UN Doc E/C.12/2000/4 (11 August 2000), 13 [44(c)].
912 CRC Art. 24(2)(c).
913 CEDAW Art. 14(2)(h).
914 CRPD Art. 28(2)(a).
915 Kuijt, above n 172, 209.
919 CESCR, General Comment No. 15 (2002), the right o water (arts. 11 and 12 of the International Covenant on Economic, social and Cultural Rights), 29th sess, UN Doc E/C.12/2002/11 (20 January 2003), 2 [3]; see also: Kuijt, above n 172, 209.
920 CESCR, General Comment No. 15 (2002), the right o water (arts. 11 and 12 of the International Covenant...
The CESCR also indicates, that the right has to be seen not only as a part of the right to an adequate standard of living and the right to health, but rather in conjunction with all rights enshrined in the International Bill of Human Rights, which encompasses the UDHR, ICCPR and ICESCR. This consideration has to happen in particular in connection with the right to life and human dignity. This implicit approach of the CESCR has affected several discussions in academia.

The UNGA adopted a resolution with regard to the right to water and sanitation, declaring that it “recognizes the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights.”

In doing so, the UNGA clearly positions itself next to the CESCR and understands the right to water and sanitation as a freestanding right.

The crucial part water plays in a natural disaster and the emergency response phase has been highlighted in the context of the right to water. In such situations, priority should be given to the provision of water to the affected population. This is clearly in line with the identified core obligations of the right to water, which inter alia demand States to “ensure access to the minimum essential amount of water, that is sufficient and safe for personal and domestic use to prevent disease.” This shows that the affected State has an obligation in the case of a natural disaster to ensure access to drinking water. The provision of safe drinking water could be achieved through the provision of humanitarian assistance, which, according to the Bruges Resolution also includes water.

### 1.2. Obligation to ensure the provision of humanitarian Assistance

The section above examined obligations deriving from human rights law that is of particular relevance during disaster situations. This section furthers this examination by investigating the possible obligation of the affected State to ensure the provision of humanitarian assistance to the victims of the natural disaster.

First, this section analyses human rights treaties as a basis for such an obligation, and then it moves on to customary international law.

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921 ibid 2 [3].
923 The human right to water and sanitation, GA Res 64/292, 64th sess, Agenda Item 48, UN Doc A/RES/64/292 (3 August 2010), para 1.
924 See also: Bulto, above n 922, 314.
925 CESCR, *General Comment No. 15 (2002), the right o water (arts. 11 and 12 of the International Covenant on Economic, social and Cultural Rights)*, 29th sess, UN Doc E/C.12/2002/11 (20 January 2003), 12 [34]; Inter-Agency Standing Committee, above n 78, 35-7 [B.2.5].
927 see also: Jansen-Wilhelm, above n 106, 186-8.
3. Part: The Responsibility of the affected State before, during and in the aftermath

1.2.1. Access to humanitarian assistance in human rights treaties

The major global human rights treaties do not contain any specific reference to humanitarian assistance. Yet, some specific human rights treaties do, as for example the CRPD or CRC and, on a regional level in Africa, the Kampala Convention as well as the African Charter on the Rights and Welfare of the Child.928 As such, this paragraph focuses on these four instruments. The first section discusses the two instruments from the UN regime, and the second section focuses on the African human rights system. The third section deals with the question of whether customary international law provides such an obligation.

1.2.1.1. Access to humanitarian assistance within the UN human rights system

Both the CRPD and the CRC belong within the UN human rights system and are, as such, not restricted solely to a regional application. The two instruments do not recognise a distinct human right to humanitarian assistance per se, yet they acknowledge the importance of humanitarian assistance for the full enjoyment of other human rights:929 The CRPD asks States to

“ensure the protection and safety of persons with disabilities in situations of risk, including […] humanitarian emergencies and the occurrence of natural disaster.”930

In other words, this provision asks State to protect and ensure the safety of disabled individuals during natural disasters and humanitarian emergencies. This provision obviously covers disaster situations as defined by this research. Yet, this provision does not stipulate at all that there is a distinct human right to receive humanitarian assistance. The focus of this provision lies on the protection and safety of individuals with disabilities, as a particularly vulnerable group. Thus, this provision rather reminds the affected State that it has obligations of protection towards its citizen, deriving for example from the right to life, right to food or right to health.931

The CRC is a little more specific with regard to the connection of humanitarian assistance and the enjoyment of human rights. It declares,

“States Parties shall take appropriate measures to ensure that a child who is seeking refugee status or who is considered a refugee […] shall, […] receive appropriate protection and humanitarian assistance in the enjoyment of applicable rights set forth in the present Convention and in other international human rights or humanitarian instruments to which the said States are Parties.”932

The language here is again clear that there is no distinct human right to receive humanitarian assistance for refugee children or children that seek refugee status. However, humanitarian assistance is considered to be necessary for the enjoyment of other human rights within the CRC, as well as within other international instruments to which the affected State is a party.933

Consequently, although human rights instruments within the UN system acknowledge the importance of humanitarian assistance with regard to the enjoyment of other human rights, they do not contain a distinct right to receive humanitarian assistance.

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928 CRPD Art. 11; CRC Art. 22; Kampala Convention Arts. 5(1), 7(5)(g), 9(2)(b) and (m); African Charter on the Rights and Welfare of the Child Art. 23.
929 See also: Kuijt, above n 172, 175.
930 CRPD Art. 11.
931 See also: Kuijt, above n 172, 175.
932 CRC Art. 22 (1).
933 See also: Kuijt, above n 172, 175.
1.2.1.2. **Access to humanitarian assistance within the African human rights system**

Africa is the only regional system that contains human rights provisions with regard to humanitarian assistance and offers, as such, broader protection than other regional human rights systems. The *African Charter on the Welfare of the Child* adopted a provision similar to that of the CRC. Like the CRC, it recognises that refugee children, or children who are seeking refugee status, are entitled to humanitarian assistance for the enjoyment of the rights within the charter as well as for the enjoyment of rights embodied in other international instruments to which the affected State is a party. Yet, at one point, the *African Charter on the Welfare of the Child* goes further than does the CRC. It recognises this important connection between humanitarian assistance and the enjoyment of human rights not only for refugee children and children who seek refugee status, but also *mutatis mutandis* to children internally displaced through natural disasters.

Consequently, the legal protection offered to children that are victims of natural disasters within the African system is broader than within the CRC. In order for the CRC provision to be applicable, a child must at least seek refugee status, which is ultimately linked to the fact that the child has crossed an international recognised border. However, in the event of a natural disaster, this fact is not often the case, which makes it important also to recognise this to cases where the victims stay within the State and become IDPs. This importance is reflected by the *African Charter on the Rights and Welfare of the Child*, which allows the application of the provision *mutatis mutandis* to children who are victims of natural disasters and have become internally displaced. At the same time, both instruments connect humanitarian assistance and human rights not only within their own guaranteed rights; rather, they also recognise the importance of other international instruments in this regard, as for example the ICCPR, ICESCR or ACHPR.

Access to humanitarian assistance on the African continent is not only discussed with regard to children. The *Kampala Convention*, which deals with IDPs in general, includes provisions with regard to humanitarian assistance. The *Kampala Convention* is not a human rights treaty *per se*, but it still imposes duties on the States with regard to the protection of IDPs, in particular with regard to humanitarian assistance. The *Kampala Convention* reminds the States that it is their obligation to provide protection and humanitarian assistance to IDPs to the fullest practicable extent and with the least possible delay. Although the language used in the *Kampala Convention* is strong and affirmative of the obligations of State to provide humanitarian assistance to IDPs, it does not contain a human right to access to humanitarian assistance.

Consequently, although the African continent provides, in comparison, broader protection for victims of natural disasters than do other regional or international systems, African human rights treaty law does not contain a distinct right to receive humanitarian assistance.

1.2.1.3. **Customary international law**

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*For a comprehensive overview see: ibid 176-7.*

*The *African Charter on the Rights and Welfare of the Child* Art. 23(1).*

*ibid Art. 23(4).*


*This chapter deals with IDPs in depth below.*

*See also: Kuijt, above n 172, 176.*

*Kampala Convention* Arts. 5(1), 9(2)(b).

*See also: Kuijt, above n 172, 177.*
3. Part: The Responsibility of the affected State before, during and in the aftermath

Neither global nor regional human rights treaties protect a distinct human right to receive humanitarian assistance. Since treaty law is not the only source of international law, however, and since customary international law also represents a source, the question is whether the latter embodies a human right to receive humanitarian assistance.\footnote[942]{The ICJ recognises customary international law as a source of international law: \textit{ICJ Statute} Article 38(1)(b).} According to the jurisprudence of the ICJ, in order for a rule of international law to be considered customary international law, it must fulfil two criteria: the rule must reflect \textit{opinio juris} as well as \textit{State Practice}.\footnote[943]{\textit{Military and Paramilitary Activities in and Against Nicaragua (Nicaragua v United States of America) (Judgment)} [1986] ICJ Rep 14, 108-9 [207] (\textit{Nicaragua Case}); \textit{North Sea Continental Shelf Cases (Federal Republic of Germany v Denmark) (Merits)} [1969] ICJ Rep 3, 43 [74] (\textit{North Sea Continental Shelf Cases}); Crawford, \textit{Brownlie's principles of public international law}, above n 143, 24-7.}

Insufficient evidence presently exists that there is currently a customary norm emerging with the content of a human right to receive humanitarian assistance.\footnote[944]{Kuijpt, above n 172, 177-181.} Although there are soft-law instruments available that clearly suggest the existence of a human right to receive humanitarian assistance, this soft-law has not been backed up by State practice and their belief that such conduct would be necessary to adhere to an international rule, which is a component of \textit{opinio juris sive necessitas}.\footnote[945]{See for a comprehensive discussion: ibid.172, 177-181; \textit{Military and Paramilitary Activities in and Against Nicaragua (Nicaragua v United States of America) (Judgment)} [1986] ICJ Rep 14, 108-9 [207] (\textit{Nicaragua Case}).}

Examples of such soft-law instruments include the 1993 \textit{San Remo Principles}, the Mohonk Criteria and the \textit{Bruges Resolution}. All three declare that there is a right to request humanitarian assistance.\footnote[946]{International Institute of Humanitarian Law, above n 184, Principle 2; Ebersole, above n 199, 196; Institute of International Law, Bruges sess, (2 September 2003), Principle II(1) - (2).} In particular, the \textit{Bruges Resolution} deals with the victims of natural disaster. The resolution states, \footnote[947]{Institute of International Law, Bruges sess, (2 September 2003), Principle II(1) - (2).}

\textbf{“II. Right to humanitarian assistance

1. Leaving the victims of disaster without humanitarian assistance constitutes a threat to human life and an offence to human dignity and therefore a violation of fundamental human rights.

2. The victims of disaster are entitled to request and receive humanitarian assistance. Assistance may be sought on behalf of the victims, by the members of the group, by local and regional authorities, the government of the affected State, and national or international organizations.\footnote[948]{Humanitarian assistance to victims of natural disasters and similar emergency situations, GA Res 43/131, UN GAOR, 75th plenary mtg, UN Doc A/RES/43/131 (8 December 1988), Preamble para 8.}

The first of the above two paragraphs resembles UNGA Resolution 43/131, which also states that leaving the victims of natural disasters without aid poses a threat to human life.\footnote[949]{Kuijpt, above n 172, 177.} The second paragraph clearly indicates the rights of the victims of a natural disaster to seek humanitarian assistance. However, neither the UNGA or the UN Security Council have moved directly in this direction and declared in any of their resolutions the explicit right to receive humanitarian assistance.\footnote[946]{Humanitarian assistance to victims of natural disasters and similar emergency situations, GA Res 43/131, UN GAOR, 75th plenary mtg, UN Doc A/RES/43/131 (8 December 1988), Preamble para 8.} This addition would be important, as the ICJ considers resolutions from UN organs, in particular from the UNGA, to be indicators of an eventual \textit{opinio juris}.\footnote[950]{Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) [1996] ICJ Rep 226, 254-5 [70].} Yet, their silence indicates that there is also no State practice with regard to the right to receive humanitarian assistance.\footnote[951]{Kuijpt, above n 172, 181.}
1.2.2. Humanitarian assistance as the means to fulfil human rights obligations

As has been shown, under current international treaty law as well as customary international law, no distinct human right to receive humanitarian assistance exists; nonetheless, it is important to examine further the link between the fulfilment of human rights obligations and humanitarian assistance. This research uses the approach of the Bruges Resolution in order to define humanitarian assistance. The Bruges Resolution defines humanitarian assistance as

“[…] all acts, activities and the human and material resources for the provision of goods and services of an exclusively humanitarian character, indispensable for the survival and the fulfilment of the essential needs of the victims of disasters.”

Aside from adopting an abstract definition of humanitarian assistance, the resolution also gives a non-exhaustive list of possible goods and services. Such possible services and goods include, among other things, food, drinking water, medical supplies and medical services. A comparison of this non-exhaustive list to the identified human rights obligations that a State must satisfy during a natural disaster demonstrates a strong resemblance.

As identified above, the affected State has to assure its citizens, even during public emergencies, of the core content of the right to adequate food according to Article 11 ICESCR, which lies in the fundamental right to be free from hunger. Thus, in order to fulfil this human rights obligation, a State is obliged to provide food during a natural disaster, in order for the victims of such a disaster enjoy their fundamental right to be free from hunger. The provision of food is one of the core aspects of humanitarian assistance. Hence, through the provision of foodstuffs, as part of the provision of humanitarian assistance, the affected State fulfils its core obligations under Article 11 ICESCR.

A similar argument is valid with regard to the right to health. In this regard, the affected State also has at least to guarantee the fulfilment of core obligations. According to the CESCR, one of the core obligations under the right to health, as enshrined in Article 12 ICESCR, is access to health facilities, services and goods, without discrimination. Additionally, the has an obligation to ensure that no infectious diseases break out because of the disaster situation. As such, neglecting emergency medical attention to victims of a natural disaster after a calamitous event hit would be a violation of the individual’s right to health. Additionally, the affected State has also the precautionary obligation to do its best to prevent the outbreak of infectious diseases. At the same time, neglecting emergency medical assistance to the victims of a natural disaster would most likely also be a violation of the right to life.

The same approach is appropriate for the right to water and sanitation. As examined above, this right is an integral part of the Articles 11 and 12 ICESCR. Additionally, water is necessary for the survival, and the need for water in emergency situations in the aftermath of a calamitous event has been highlighted by the CESCR. Thus, also with regard to the right to water by providing humanitarian
3. Part: The Responsibility of the affected State before, during and in the aftermath

assistance, which also includes safe drinking water, the affected State is fulfilling its human rights obligations under the ICESCR as well as under the ICCPR.

Similarly, the right to housing is at stake during a disaster situation. However, since the CESCR has not defined explicit core obligations in this regard and has mentioned only obligations of immediate effect, concerning the monitoring and establishing of the number of homeless people, the right to emergency shelter falls more likely into the provision of the right to life. Emergency shelters are necessary for survival, and the right to life demonstrates the heart of all survival rights. This aspect of the right to life can be fulfilled by the provision of humanitarian assistance, as this, according to the Bruges Resolution, also includes emergency shelter.

As such, humanitarian assistance and the access to it, is not a distinct human right. However, the provision of humanitarian assistance during the time of natural disasters to the affected persons represents the means for the affected State to fulfil its minimum core human rights obligations of survival rights. Thus, humanitarian assistance is the means for the affected State to fulfil its human rights obligations under the ICCPR and ICESCR, as well as other regional instruments; neglect constitutes a breach of the relevant human rights.

1.2.3. Protection of persons in the event of disasters: Article 10

As mentioned above, the Draft Articles also address the duties of the State affected by a natural disaster. These duties are enshrined in Article 10:

“(1) The affected State has the duty to ensure the protection of persons and provision of disaster relief assistance in its territory, or in territory under its jurisdiction or control.

(2) The affected State has the primary role in the direction, control, coordination and supervision of such relief assistance.”

The first paragraph embodies the two main priorities of this provision: firstly, the obligation of the affected State to protect the victims of a natural disaster, and secondly, the obligation to provide humanitarian assistance. The second paragraph elaborates upon the second obligation, explaining what the obligation to provide humanitarian assistance entails.

This first paragraph is premised on the concept of sovereignty. The ILC refers to the separate opinion of Judge Alvarez in the Corfu Channel Case, where he stated that sovereignty not only gives States rights but also imposes obligations on them. One of these obligations is to protect their populations. In particular, in relation to natural disasters, the UNGA has reaffirmed this duty to protect

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958 See also: Kuijt, above n 172, 218-220.
960 ibid 51.
3. Part: The Responsibility of the affected State before, during and in the aftermath on several occasions. Not only has the UNGA acknowledged this duty. Soft-law instruments such as the 
Bruges Resolution or the IFRC Guidelines confirm this duty.

Although Article 10 stresses the fact that the affected State has the obligation to protect the victims and to provide disaster relief assistance, it does not constitute a distinct human right to receive humanitarian assistance. As already mentioned, this provision derives not from human rights obligations but from the general public international umbrella and its concept of State sovereignty. Thus, both the protection of the victims and the provision of humanitarian assistance derive from the concept of State sovereignty. However, as argued in the sections above, humanitarian assistance is a tool by which to fulfil the respective human rights at stake and is, hence, strongly connected to the fulfilment of other human rights obligations. Therefore, Article 10 does not constitute an independent human right to receive humanitarian assistance, but it imposes an obligation on the affected State to be in charge of the provision of such assistance in the case of natural disasters. Thus, it serves as a reminder that the affected State has a primary obligation to protect victims and to provide necessary humanitarian assistance.

This provision is crucial within the framework of international law. International law already recognises, in the case of non-international armed conflict, the primary obligation of the affected State to be in charge of the provision of emergency relief. As such, it seems unjust that such an obligation has not been formulated yet in hard law for humanitarian emergencies in times of military peace, such as during natural disasters. If the Draft Articles are adopted into the form of an international treaty, this gap will be filled.

### 1.3. Obligation to seek international assistance

The paragraphs above have concluded that humanitarian assistance is a tool for the affected State to fulfil its human rights obligations. The question remains, however, of whether the affected State has to seek international assistance if it is unable to provide relief by itself.

This section focuses on this question and considers the principle of State sovereignty and its accompanying consent requirement. With regard to legal scope, this section focuses mainly on the relevant provisions found in the Draft Articles. Of relevance are both Article 11 and Article 13. The first provision deals with the situation, namely when the natural disaster exceeds the affected State’s response capacity. The latter provision considers State sovereignty, in particular the requirement of consent.

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962 Humanitarian assistance to victims of natural disasters and similar emergency situations, GA Res 43/131, UN GAOR, 75th plenary mtg, UN Doc A/RES/43/131 (8 December 1988), para 2; Humanitarian assistance to victims of natural disasters and similar emergency situations, GA Res 45/100, UN GAOR, 68th plenary mtg, UN Doc A/RES/45/100 (14 December 1990), Preamble para 3, para 2; Strengthening of the coordination of humanitarian emergency assistance of the United Nations, GA Res 46/182, 78th plenary mtg, UN Doc A/RES/46/182 Annex 1, para 4; International cooperation on humanitarian assistance in the field of natural disasters, from relief to development, GA Res 63/141, 63rd sess, Agenda Item 659(a), UN Doc A/RES/63/141 (11 December 2008), Preamble para 4; International cooperation on humanitarian assistance in the field of natural disasters, from relief to development, GA Res 64/251, 64th sess, Agenda Item 71(a), UN Doc A/RES/64/251 (22 January 2010), Preamble para 5.


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Article 11 has the headline: “Duty of the affected State to seek external assistance”\(^965\) and reads as follows:

“To the extent that a disaster manifestly exceeds its national response capacity, the affected State has the duty to seek assistance from, as appropriate, other States, the United Nations and other potential assisting actors.”\(^966\)

In the commentary on this provision, the ILC stresses the complementary nature of this provision. This provision is a specification of the duty to cooperate, embodied in Article 7, and the obligation to protect the victims and provide humanitarian assistance, as enshrined in Article 10.\(^967\)

The duty to cooperate is elaborated by this provision in the sense that not only do third States have the obligation to do so; the affected State also has to seek help and thus cooperate with other actors.\(^968\) The obligation to protect and provide humanitarian assistance is reaffirmed in Article 11, as it stresses again the fact that the affected State has to do its utmost to provide assistance to the victims and has a primary responsibility to do so.\(^969\) Yet, the general obligation to protect the victims and provide humanitarian assistance in Article 10 is based on the concept of State sovereignty. With Article 11, however, the ILC places the basis in human rights law: humanitarian assistance is a means fulfilling international human rights obligations, including seeking international assistance, if the country’s own resources are overwhelmed by the natural disaster.\(^970\)

Yet, the terminology used in this provision is vague, offering certain flexibility as to when this provision has to be applied. This ambiguity was intended by the ILC in order to craft this provision so as to ensure exactly this flexibility.\(^971\) This flexibility is, in particular, expressed in the phrase ‘to the extent that’, which refers to the fact that natural disasters are complex situations and as such cannot be described in absolute terms.\(^972\) For example, the affected State can be overwhelmed with one aspect of the relief operations but not in other areas.\(^973\) Thus, the complete first part of the first sentence of Article 11 applies to the situation “in which a disaster appears likely to manifestly exceed an affected State’s national response capacity.”\(^974\) This flexible approach is used in order to ensure the adequate and effective response needed by the victims, which is in line with the human rights law that is the foundation of this provision.\(^975\)

Not only do the Draft Articles include such an obligation to seek international assistance, but also other soft-law instruments include this obligation:\(^976\) for example, the IDRL Guidelines, the Oslo Guidelines and the Bruges Resolution, whereby the latter states,\(^977\)

\(^{965}\) Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 15, Art. 11.

\(^{966}\) ibid.

\(^{967}\) ibid 53.

\(^{968}\) ibid.

\(^{969}\) ibid.

\(^{970}\) ibid 53-5; Valencia-Ospina, Special Rapporteur, Fourth report on the protection of persons in the event of disasters, 63\(^{rd}\) sess, UN Doc A/CN.4/643 (11 May 2011), 13-6.

\(^{971}\) Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 53.

\(^{972}\) ibid.

\(^{973}\) ibid.

\(^{974}\) ibid.

\(^{975}\) ibid.

\(^{976}\) Special Rapporteur Valencia-Ospina used the existence of soft-law instruments to argue for this duty: Valencia-Ospina, Special Rapporteur, Fourth report on the protection of persons in the event of disasters, 63\(^{rd}\) sess, UN Doc A/CN.4/643 (11 May 2011), 13-5.

\(^{977}\) IFRC, 30IC/07/R4 annex, (26 - 30 November 2007), Guideline 3(2); Oslo Guidelines - Guidelines on the use of foreign military and civil defence assets in disaster relief from OCHA, 18 [58]
“Whenever the affected State is unable to provide sufficient humanitarian assistance to the victims placed under its jurisdiction or de facto control, it shall seek assistance from competent international organizations and/or from third States.”

Indeed, if the Draft Articles are adopted as a treaty, that treaty will be the first binding instrument that acknowledges an obligation to seek international help if it is overwhelmed in peacetime.

On the other hand, Article 13 of the Draft Articles deals with the affected State’s external sovereignty, and in particular the consent requirement with regard to international assistance:

“(1) the provision of external assistance requires the consent of the affected State.

(2) Consent to external assistance shall not be withheld arbitrarily.

(3) When an offer of external assistance is made in accordance with the present draft articles, the affected State shall, whenever possible, make known its decision regarding the offer in a timely manner.”

The first paragraph clearly mirrors the principle of State sovereignty and derivative principle of non-intervention. By giving its consent to international humanitarian assistance on its territory, the affected State allows activities on its territory that otherwise would be qualified as violations of the principle of non-intervention. At the same time, this consent regime would, if not limited, give the affected State extraordinary power, as the State could freely choose to whom to give consent. With this awareness, Article 13 encompasses a qualified consent regime. The second paragraph imposes a limitation on the affected State. Yes, the State has the ability to refuse a third-party offer, but this refusal must not be arbitrary. Determining whether a certain withholding of consent is arbitrary is done on a case-by-case basis.

Yet, the ILC put together three circumstances under which there is certainly no arbitrariness. The first ground to refuse an offer for assistance without it being considered to be arbitrary would be the case where the affected State’s national capacity to respond has not been exceeded. The second situation is where the affected State has accepted sufficient external assistance from another third party and as such is not dependent on the offer in question. The third circumstance in which a withholding of consent is considered to be justified is where the offer itself is not made in accordance with the Draft Articles. Consequenctly, if there is no other offer available, and the offer in question is made in accordance with the Draft Articles, the ILC sees no grounds for justification of a withholding of consent.

The reason to include the limitation on the affected State’s sovereignty springs from the dual nature of sovereignty, imparting both rights and duties. As such, this limitation reflects the principle that

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978 Institute of International Law, Bruges sess, (2 September 2003), Principle III (3).
980 Valencia-Ospina, Special Rapporteur, Fourth report on the protection of persons in the event of disasters, 63rd sess, UN Doc A/643 (11 May 2011), 16 [52].
982 ibid 61-2.
983 ibid 61.
984 ibid.
985 ibid 61-2.
986 ibid 62.
987 ibid 59.
the affected State has the primary R2P the victims and provide humanitarian assistance according to Article 10(1). Additionally, this kind of limitation has been acknowledged in soft-law instruments, such as the Guiding Principles. These principles not only include the requirement of non-arbitrariness, but also explain that arbitrariness occurs ‘when the authorities concerned are unable or unwilling to provide the required humanitarian assistance.’

Consequently, the affected State has an obligation to seek international assistance, if the response to the natural disaster exceeds its national capacity. This obligation derives from international human rights law and customary international law. Humanitarian assistance is the tool for the affected State to fulfil its human rights obligations. Yet, at the same time, the affected State is also privileged by the consent system, such that it has the power to decide whether it wants to accept the offer of a certain third-party. At the same time, this power is not limitless and is safeguarded by the requirement that such a withholding of consent cannot be arbitrary. This limitation is based on the affected State’s internal sovereignty, which imposes the primary R2P the victims and to provide humanitarian assistance to those in need.

1.4. The failure to provide humanitarian assistance: legal enforcement

Since the affected State has an obligation to seek international assistance if its own capacities are exceeded, the question of enforcement, which gives necessary force to the obligation, remains. This section of the present chapter focuses on this question: what are the possibilities to enforce the provision of humanitarian assistance if the affected State is unable to provide humanitarian assistance by itself and is unwilling to accept international help?

This scenario has happened in the past. In 2008, cyclone Nargis hit Myanmar. The government was obviously overwhelmed and unable to provide proper relief assistance. Thus, several international actors offered their help, but the government did not allow their entry into its territory. This disallowance sparked discussion within the international community about whether the doctrine of R2P is applicable in this kind of situation and whether there should be forceful interference in order to provide relief to the victims of the cyclone. However, such forceful interference was not necessitated, as after a month the government opened its boarders to humanitarian actors.

Thus, this example already lists one possibility that comes into mind: the R2P doctrine. Other possibilities are enforcement through the human rights system and finally through general public international law, in particular the ARSIWA. This section discusses all three possibilities and considers the latter in the particular context of the Draft Articles.

1.4.1. The R2P doctrine in the case of natural disasters

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988 ibid 59, 15 Article 10.
990 ibid Principle 25 (2); Institute of International Law, Bruges sess, (2 September 2003), Principle VIII.
991 For a good and comprehensive overview on the events in Myanmar in 2008 see: Renshaw, above n 155, 165-184.
992 See also for humanitarian assistance in peace as well as war time: Kuijt, above n 172, 413-519, 414.
The concept of R2P has already been discussed above. The concept applies as a justification for armed intervention into another state in order to provide, for example, humanitarian relief. The 2005 World Summit identified four cases where R2P would be applicable: genocide, war crimes, ethnic cleansing and crimes against humanity. In the case of armed conflicts, when the civilian population is not adequately supplied with humanitarian relief goods, the R2P Doctrine, thus the use of force, is discussed within the international community. Hence, the doctrine could also be applicable in the case of natural disasters, where the affected population is not provided with adequate humanitarian assistance by the state.

In this scenario, the application of R2P could be based on an argument from crimes against humanity. One legal definition of crimes against humanity is found in Article 7 of the Rome Statute of the International Criminal Court (Rome Statute). The provision lists acts including murder, extermination, enslavement, deportation, imprisonment or other deprivations of liberty against fundamental international law, torture, rape and sexual violence, persecution, enforced disappearance, crimes of apartheid and other inhumane acts. These acts have to be “committed as part of a widespread or systematic attack directed against any civilian population, with knowledge of the attack.”

Thus, the question is whether the non-provision of humanitarian aid in the time of natural disasters can be mirrored by those two elements of a crime against humanity. There is obviously not an absolute answer to this question, and has to be determined individually in each case. In the aftermath of Cyclone Nargis in Myanmar, scholars argued that the affected government would indeed fulfill the criteria of having committed a crime against humanity by not letting humanitarian actors help the victims and, as such, these scholars would have supported the invocation of the R2P.

However, the international community at that point opposed the idea and was highly afraid that an intervention on the grounds of R2P would worsen the situation. Nearly 10 years later, Myanmar is again the ground zero of a humanitarian crisis: the Rohingya crisis. Several hundred thousand Rohingya are fleeing Myanmar to Bangladesh to seek shelter, after violence against the minority population broke out August 2017. The victims tell horrific stories of human rights violations, killings and burnings of villages. Amnesty International has even argued that these acts constitute crimes against humanity. Yet, despite the severity of this humanitarian crisis and the alleged seriousness

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993 See above Chapter: R2P and early warning on page 74.
994 2005 World Summit Outcome, GA Res 60/1, 60th sess, Agenda Item 46 and 120, UN Doc A/RES/60/1 (24 October 2005 ), para 138.
995 For a comprehensive discussion see: Kuijt, above n 172, 464-475.
998 Rome Statute Article 7(1).
999 Cohen, above n 996, 255; agreeing on crimes against humanity: Ford, above n 996, 261; McLachlan-Bent and Langmore, above n 996, 59.
1000 For a comprehensive overview on the grounds see: Renshaw, above n 155, 173-9.
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of the crimes, this did not spark any discussion of R2P in the international community. Not only does the international community seem so far unwilling to accept the invocation of the R2P doctrine in these cases, but also the ILC stated that it does not find the R2P doctrine to be applicable in the cases of natural disasters.\footnote{ILC, UN Doc A/CN.4/590 (11 December 2007 ), 147-8 [250]; a more affirmative opinion: Valencia-Ospina, Special Rapporteur, \textit{Preliminary report on the protection of persons in the event of disasters}, 60th sess, UN Doc A/CN.4/598 (5 May 2008), 19-20 [55].}

Hence, it does not seem – even if there might be legal grounds to invoke R2P and even if intervention could be justified – that R2P will be enforced by States. This assessment of the States is accurate, in particular, with regard to the UN Charter, where the use of force is generally speaking prohibited, with the general exception of self-defence and UN Security Council authorisation.\footnote{UN Charter Articles 2(4), 51, 42; Crawford, \textit{Brownlie's principles of public international law}, above n 143, 746-768.} Nevertheless, the use of force remains \textit{ultima ratio}, as firstly attempts must be made to settle a dispute in a peaceful manner.\footnote{See generally: UN Charter Articles 41 and 42.}

Yet, this justification does not imply that a State and, in particular its government, can do with victims of natural disasters as it wishes. Human rights still apply, and if the behaviour of certain government officials leads to a crime against humanity, international criminal law could be still an option, although this option will not be explored in this research.\footnote{See above Chapter: \textit{State sovereignty and humanitarian assistance} on page 23.}

\subsection{1.4.2. Enforcement through the human rights system}

Another option to give force to the obligation to seek international assistance is the enforcement of human rights through the human rights system, specifically by recognising the firm connection between the provision of humanitarian assistance in humanitarian emergencies and the fulfilment of human rights obligations. Possible scenarios include both interstate and, more obviously, individual-state complaints.\footnote{The UN is based on the sovereign equality of States: UN Charter Article 2(1); Crawford, \textit{Brownlie's principles of public international law}, above n 143, 447-55.} Yet, as discussed above, the distinct human right to receive humanitarian assistance does not exist. Thus, complaints within the human rights law system are bound to the alleged non-fulfilment of the underlying human rights. Such as, foremost is the right to life, followed by other

\footnote{UN Charter Articles 2(4), 51, 42; Crawford, \textit{Brownlie's principles of public international law}, above n 143, 447-55.}
survival rights, such as the right to food, right to housing, right to health and the right to water and sanitation. 1010

Both the ICCPR and ICESCR enjoy high ratification numbers, and even more States have ratified the two human rights instruments that make reference to humanitarian assistance: the CRC and CRPD. 1011 However, the individual complaint mechanisms and the interstate mechanisms are not embodied in the main treaty texts, with exception of the ICCPR, which includes a possibility for interstate complaints. 1012 Thus, optional protocols for the respective instruments have been adopted. 1013 Yet, although the ratification numbers for the treaty itself are high, the respective optional protocols do not enjoy the same wide range of ratification. 1014 At the same there has been so far no interstate complaints within the UN human rights system, showing that States are unwilling to pursue this path under the current system. This fact and the low ratification rate of the respective optional protocols that would allow individual complaints mechanisms show that it seems very unlikely that the UN human rights system is the right forum in which to enforce the provision of humanitarian assistance through human rights.

This looks very different at the regional level. In Europe, the ECtHR has the competence to hear both interstate and individual complaints. It gets the competence directly from Articles 33 and 34 ECHR. 1015 While in the Americas, the IACtHR gets the competence to hear individual complaints from the ACHR and a possible interstate complaint competence if the States have declared acceptance of the jurisdiction of the court. 1016 On the African continent, the African Court on Human and People’s Rights (AChPR) was established through the relevant protocol of the ACHPR in 1998, which entered into force in 2004. 1017 According to the protocol, the AChPR has the power to decide and to give advisory opinions on matters relating to the ACHPR and other human rights instruments to which a State in question is a party. 1018 The court can be accessed by the African Commission on Human and Peoples’ Rights, individuals and non-governmental organisations (NGOs), as well as other State parties. 1019 However, in order for the AChPR to have jurisdiction over a particular State with regard to complaints lodged by individuals or NGOs, this State has not only to ratify the protocol but also to

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1010 See also: ibid 476.
1011 The current ratification statuses: the ICCPR has 169 State parties, the ICESCR has 166 State parties, the CRC has 196 State parties and the CRPD has 175 State parties; OHCHR, Status of Ratification, Interactive Dashboard (15 November 2017) <http://indicators.ohchr.org/>.
1012 ICCPR Art. 41.
1014 The current ratification statuses for the optional protocols are: The Optional Protocol to the ICCPR has still the most State parties with a total number of 116 ratifications, the optional protocol to the ICESCR has a total of 22 State parties, the respective optional protocol to the CRC has 36 ratifications and the optional protocol to the CRPD has a total of 91 State parties: OHCHR, above n 1011.
1015 Article 33 ECHR states: "Any High Contracting Party may refer to the Court any alleged breach of the provisions of the Convention and the Protocols thereto by another High Contracting Party."
1016 ACHR Articles 44 and 45.
1018 ibid Article 3 and 4.
1019 ibid Article 5.
leave a declaration acknowledging the ACtHPR’s jurisdiction. 1020 So far, only eight States have lodged such a declaration. 1021 This limited number of signatories makes the ACtHPR the one regional court with the least influence over States with regard to individual complaints. The African Commission on Human and Peoples’ Rights has only the ability to make non-binding recommendations, which is why the ACtHPR would be an important tool to enforce human rights standards on a legally binding basis. 1022 At the same time, the ACtHPR is also the youngest court among the three regional human rights courts and, as such, time should be given in order for the ACtHPR to grow.

Thus, with regard to the enforcement of humanitarian assistance within the human rights system on a regional level, the IACtHR and the ECtHR seem the fora to choose. The ECtHR has one case in which it dealt with the availability of humanitarian assistance in the aftermath of a bombing of a Turkish village. 1023 Although the ECtHR did not have to examine the lack of basic humanitarian assistance, it still concluded under its observations of Article 3 ECHR the right to be free from torture, inhumane and degrading treatment:

“In addition to the apparent lack of the slightest concern for human life on the part of the pilots who bombed the villages and their superiors who ordered the bombings and then tried to cover up their act by refusing to hand over the flight logs, the Court is further struck by the national authorities’ failure to offer even the minimum humanitarian assistance to the applicants in the aftermath of the bombing.”1024

However, the ECtHR has not decided on a specific case yet, where the explicit denial of humanitarian assistance led to a violation of a human right governed by the ECHR. 1025

Since, however, human rights proceedings tend to take a very long time, the question of using provisional measures is predominant in the case of providing humanitarian assistance to the victims of a natural disaster. Both the IACtHR and the ECtHR use the model and doctrine of the ICJ with regard to provisional measures, and as such, all three systems have parallels. 1026

The ECtHR has the power to grant interim measures according to Rule 39 of its Rules of the Court. 1027 The ECtHR has extensive case law dealing with the question of granting interim measures. 1028 The court is generally very reluctant to grant these measures and grants them only on exceptional occasions. 1029 At the same time, if no interim measures would be granted, the applicant would need to

1020 ibid Art. 34(6).
1022 ACtHPR Articles 52, 53, 58(2).
1023 Benzer and others v. Turkey European Court of Human Rights, App No. 23502/06 12 November 2013).
1024 ibid [211]; Kuijt, above n 172, 480.
1025 For further remarks see: Kuijt, above n 172, 480.
1027 Rules of the Court, opened for signature 14 November 2016, (entered into force 14 November 2016) (‘ECtHR Rules of the Court’).
1029 Conka and others v Belgium (Admissibility) (European Court of Human Rights, Chamber, Application No
face irreparable damage, imminent or impending. Furthermore, there must be no further domestic remedies available with a suspensive effect. With regard to the standard of proof, the applicant needs to show the danger to her or his person in a *prima facie* manner. Contrary to the E CtHR, the IACtHR has the competence to grant provisional measures from the convention and, thus, the ACHR, directly. These measures shall only be granted in “cases of extreme gravity and urgency, and when necessary to avoid irreparable damage to persons [...]”. As such, the requirements are comparable to the criteria the ECtHR uses. This is also valid for the standard of proof, where a *prima facie* situation is also required. The IACtHR accepts *prima facie* violation if the situation is of extreme gravity and urgency, requiring measures to protect persons from irreparable damage.

On the question of enforcing humanitarian assistance with regard to the violation of underpinning human rights, the invoking of provisional measures at either the IACtHR or ECtHR is an option. If in one of the governed regions, a State that is affected by a natural disaster is obviously overwhelmed by the natural disaster and is withholding international assistance, provisional measures could be filed against that particular State by either a representing NGO on behalf of the victims or the by the victims themselves. The requirements, in order to grant the provisional measure, thus the delivery of humanitarian assistance, will also be met; however, these decisions will be made on a case-by-case basis, and no general assumption can be made. It is rather the aim of this research to point out the possibilities that could be used in order to help the victims of a natural disaster under the current regime of international law. Yet, given the fact that the ECtHR and IACtHR govern only a relatively small proportion of the world, and considering the fact that, in particular, the States in South East Asia and in the Pacific are disaster-prone States, these possibilities are not helpful. Nor is it helpful that this region does not have a high ratification rate for the relevant optional protocols to the ICCPR and ICESCR, which would give certain judicial power to the respective governing bodies. Thus, this shows that the current system is lacking certain enforcement mechanisms with regard to the enforcement of the underlying human rights in the context of humanitarian assistance.

**1.4.3. Draft Articles: Enforcement**

As established above in the context of receiving humanitarian assistance as well as the obligation of the affected State to seek international assistance, in particular the Draft Articles are conclusive, in particular Articles 10, 11 and 13. This section deals with the question of what happens if a future signatory to this instrument does not obey its rules and what the legal consequences and means are for the enforcement.

The Draft Articles do not contain any provisions on the dispute resolution; thus, no secondary obligations are embodied in the text as it currently stands. The articles therefore do not represent a self-contained regime, so customary international law applies. However, first it has to be

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1030 Cruz Varas and Others v. Sweden (1991) 201 Eur court HR (ser A), [53]; Haeck and Herrera, above n 1028, 640-1.

1031 Öcalan v Turkey (Admissibility) (European Court of Human Rights, Chamber, Application No 46221/99, 14 December 2000) 14-5; Haeck and Herrera, above n 1028, 640.

1032 See for further discussion: Haeck and Herrera, above n 1028, 641-5.

1033 ACHR Article 63(2).

1034 ibid.


1036 For a comprehensive overview on the doctrine behind ‘self-contained regimes’ see above chapter: Scope of
determined whom the articles address. Secondly, it must be determined how the ARSIWA, if applicable, sharpens this legal instrument.

1.4.3.1. Draft Articles: Who is addressed?

Article 1 defines the scope of the Draft Articles as follows:

“The present draft articles apply to the protection of persons in the event of disasters.”

Therefore, the main focus of the Draft Articles lies on the protection of persons, which are threatened by natural disasters in their lives, wellbeing and property, as is also mirrored in the explanations of the scope ratione personae. Yet, ILC clarifies in its commentary that the Draft Articles cover ratione materiae the rights as well as the obligations of States affected by a disaster with respect to the protection of the persons within their territory or in a territory that is under their jurisdiction. As such, the main focus of the Draft Articles is to protect the persons affected by a disaster, through the determination of rights and obligations of the affected State. Thus, the Draft Articles address States and not individuals directly. This is also in line with the logic, used above, that Article 10 of the Draft Articles does not constitute a human right to receive humanitarian assistance.

1.4.3.2. ARSIWA as secondary rules for the Draft Articles

As established above, the ARSIWA constitutes a set of secondary rules for non-self-contained regimes, thus regimes that lack their own set of this kind of rules. If the Draft Articles are adopted as a treaty as they now stand, they will constitute one of the regimes that are not self-contained. As such, they would constitute an area of international law where the ARSIWA would be applicable. Thus, the question arises whether the ARSIWA would be a tool for enforcement of the provision of humanitarian assistance if the affected State withholdings its consent arbitrarily, while the disaster exceeds its own response capacity.

This described passiveness of a State would most likely constitute the needed breach according to the Articles 10 and 11 of the Draft Articles. Such a breach would constitute a breach of a primary obligation, which is needed in order to trigger the measures of State responsibility as indicated in the ARSIWA. Therefore, this section focuses on the possible measures for the enforcement of humanitarian assistance that the ARSIWA offers.

The ARSIWA offers a range of options; not all, however, are useful in the context of the enforcement of the acceptance of international humanitarian assistance. Hence, for example, full reparation, according to Article 31 ARSIWA, is not useful for the purpose of enforcing international humanitarian assistance.

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1038 ibid 18-9.
1039 ibid 18.
1040 see above Chapter: Protection of persons in the event of disasters: Article 10 on page 119.
1043 for a similar question but in the context of reconstruction costs see above Chapter: Consequences of an internationally wrongful act on page 95.
1044 For a comprehensive overview please see above Chapter: Consequences of an internationally wrongful act on page 95.
assistance, if the affected State withholds its consent arbitrarily while being obviously overwhelmed by the disaster situation. Cessation and non-repetition, on the basis of Article 30 ARSIWA, on the other hand, make sense in such circumstances. These measures would mean that the affected Stated would have to stop the arbitrary withholding of its consent of international assistance and at the same time not to repeat this behaviour during another disaster. Cessation and non-repetition have to be invoked in front of a judicial body, and if the nature of the claim requires the exhaustion of local remedies, they need to be exhausted before addressing an international legal body such as the ICJ.\footnote{\textit{Responsibility of States for internationally wrongful acts}, 56/83, 56\textsuperscript{th} sess, Agenda Item 162, UN Doc A/Res/56/83 (28 January 2002) Annex 1, Article 44.}

The other option, which does not include a judicial process, is countermeasures according to Article 49 and following ARSIWA. The ARSIWA do not contain a specific definition of countermeasures, but in general they are understood as “non-compliance by one state with an international obligation owed towards another state, adopted in response to a prior breach of international law by that other state and aimed at inducing it to comply with its obligations of cessation and reparation.”\footnote{James Crawford, \textit{State responsibility: the general part} (Cambridge University Press, 2013) 685.}

In order to be justified, the countermeasures firstly need to be taken only against the responsible State for the internationally wrongful act in order to induce the State to comply with its international obligation.\footnote{\textit{Responsibility of States for internationally wrongful acts}, 56/83, 56\textsuperscript{th} sess, Agenda Item 162, UN Doc A/Res/56/83 (28 January 2002) Annex 1, Article 49(1).} Secondly, the countermeasures are limited to the time during which the State is violating international law.\footnote{ibid Article 49(2).} Thirdly, the injured State is not allowed to use its countermeasures to infringe the prohibition of the use of force, fundamental human rights, obligations of a humanitarian character that prohibit reprisals or other peremptory rules of general international law.\footnote{ibid Article 50(1).} In particular, the prohibition of force in a disaster situation is favourable. As already discussed above with regard to the R2P, the use of force is not in favour of the already suffering population that is affected by the disaster. Fourthly, the countermeasures need also to fulfil the criteria of proportionality.\footnote{ibid Article 51.} Countermeasures should not be confused with the concept of retorsion, which is an unfriendly act without being inconsistent with any obligation under international law.\footnote{Crawford, \textit{State responsibility: the general part}, above n 1046, 676.} Because of their nature as lawful self-help measures, they fall not within the scope of the ARSIWA.\footnote{ibid 677; \textit{Report of the International Law Commission, Fifty-third session}, (23 April - 1 June and 2 July - 10 August 2001), GAOR, 56th sess, Supp No 10, UN Doc A/56/10(SUPP), 325-6.} Retorsion is considered to be a freedom of States, so they are largely not regulated in international law.\footnote{Crawford, \textit{State responsibility: the general part}, above n 1046, 677.}

Obviously, both retorsion and countermeasures are possible options for the State that wants to enforce the acceptance of international assistance. The same is valid for the options under the VCLT, where Article 60 provides the options of termination or suspension for both multilateral and bilateral treaties. The VCLT, however, is not in favour of enforcing the acceptance of international humanitarian assistance for the victims of a disaster. However, within the framework of ARSIWA, only countermeasures are within the scope of its application.

Another option outside of the scope of ARSIWA is the invocation of diplomatic protection.\footnote{For a general and comprehensive overview see: ibid 566-97.} This option requires that a national of a State is injured by another State that is breaching minimum standards of conduct. Such a breach could occur, for example, if citizens of a foreign State are among the victims of a disaster and the affected State is completely overwhelmed with the situation but refuses...
international humanitarian assistance, which would be necessary for the survival of the victims. However, by nature of this concept, if the claim were successful, this would only mean that the affected State has to guarantee a minimum standard for the foreign nationals and not its own citizens. This would not reflect the same purpose as, for example, cessation or the unilateral means of retorsion or countermeasures, all of which would aim in this situation to protect all victims of the particular disaster, regardless of their nationality.

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2. Responsibilities and Duties of the State in the Aftermath

This second section of Chapter V deals with the question of what the duties of the affected States are towards the victims of a natural disaster when the emergency situation is cooling down. This part focuses on the question of protecting IDPs, as many victims might end up displaced in the aftermath of a natural disaster. The first section lays out the concept of being internally displaced, while the second discusses the applicable hard and soft-law instruments, and the third finally examines the question of protecting IDPs in the aftermath of a natural disaster.

2.1. IDPs: Basic concept

Before examining the legal instruments that are available for the protection of IDPs, it is necessary to explain what exactly the concept of an IDP, and thus of internal displacement, means. This understanding is important in the determination of the applicable law, especially with regard to the question of whether IDPs enjoy the same protection as refugees, as granted by the 1951 Refugee Convention, since IDPs and refugees have much in common.

The term IDP is defined by the UN in its Guiding Principles on Internal Displacement (Guiding Principles) as

"persons or groups of persons who have been forced or obliged to flee or to leave their homes of places of habitual residence, in particular as a result of or in order to avoid effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border." 1056

To begin with, this definition from the UN makes clear that the 1951 Refugee Convention is not applicable to IDPs. The first and most obvious reason for this exclusion is that IDPs do not cross any internationally recognised borders and thus stay internal to a particular State. The 1951 Refugee Convention requires that a person crosses a border in order to qualify as a refugee. 1057 Secondly, the motives behind the act of leaving differ. The Guiding Principles state that the persons in question leave their homes because of avoiding the effects of armed conflict, situations of generalised violence, human rights violations and, for this research most importantly, natural disasters. The 1951 Refugee Convention, on the other hand, names five specific grounds for persecution because of which a person who leaves a country can be considered a refugee: race, religion, nationality, membership of a particular social group or political opinion. 1058 Consequently, the IDPs do not enjoy the same protection as persons who are granted refugee status. 1059 Therefore, it is necessary to determine what kind of protection IDPs enjoy and where it is regulated. Both aspects are discussed below.

1056 Report of the Representative of the Secretary-General, Mr. Francis M. Deng, submitted pursuant to Commission resolution 1997/39, 54th sess, Agenda Item 9(d), UN Doc E/CN.4/1998/53/Add.2 (11 February 1998) Annex 1, para 2 (‘Guiding Principles on Internal Displacement’); the same definition was also adopted by the Kampala Convention Article 1(k).
1057 Refugee Convention Article 1(A)(2).
1058 ibid.
3. Part: The Responsibility of the affected State before, during and in the aftermath

2.2. Regulating hard and soft-law instruments

It is important to note that the specific law governing IDPs is covered only with a hard-law instrument on the African continent.\(^{1060}\) The main global instrument, by contrast, is a soft-law instrument: the Guiding Principles.\(^{1061}\) Because the Guiding Principles were established in a timely manner before the Kampala Convention was adopted, the Guiding Principles are discussed first. Afterwards, this section moves on to the Kampala Convention and other specific human rights instruments that make reference to IDPs.

2.2.1. Global protection: The guiding principles on internal displacement

Internally displaced persons become a part of the international agenda during the 1990s when the Cold War was over, and several civil wars were emerging.\(^{1062}\) Within a decade, the estimated number of internally displaced persons increased, between 1982 to 1992, by about 20 times: from around 1 million persons to 20–25 million persons.\(^{1063}\) That there was a protection gap became clear when humanitarian actors tried to help these affected persons in need, but there were no clear rules on this issue.\(^{1064}\) In order to untangle this issue, the Human Rights Commission requested the secretary-general to appoint a special representative who should examine the at that time the current legal framework applicable to IDPs.\(^{1065}\) Francis Deng was appointed and submitted his first report in 1993.\(^{1066}\) In this report, Deng examines the causes of displacement and the effects of internal displacement on the full enjoyment of human rights.\(^{1067}\) The report also contains a comprehensive examination of the rights of IDPs.\(^{1068}\) The report ends with the conclusion that there was no clear statement on the rights of IDPs. Additionally, also the fact that international standards for both human rights and humanitarian law do not apply during all circumstances, e.g. humanitarian law that is only applicable for displacement caused by an armed conflict, or human rights that can be limited under certain circumstances.\(^{1069}\) Deng also points out that there is a need for clear guidelines and that such guidelines would solely be a clarification of existing

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\(^{1060}\) The only regional legal instruments for the protection of IDPs is the Kampala Convention.


\(^{1064}\) Cohen, 'The guiding principles on internal displacement: An innovation in international standard setting', above n 1062, 461.


\(^{1066}\) Commission on Human Rights, Further promotion and encouragement of human rights and fundamental freedoms, including the question of the programme and methods of work of the commission, 49th sess, Annex 1 (‘Comperhensive study prepared by Mr. Francis M. Deng, Representative of the Secretary-General on the human rights issue related to internally displaced persons, pursuant to Commission on Human Rights resolution 1992/73’).

\(^{1067}\) Ibid 5-11, 11-19.

\(^{1068}\) Ibid 21-7.

\(^{1069}\) Ibid 26.
human rights obligations, which are in particular at stake for IDPs. It was, however, not until 1998 that the Guiding Principles were introduced by Deng to the UN. The Guiding Principles were never adopted into a treaty and thus stayed a soft-law instrument. This decision was made intentionally. There were three main reasons: Firstly, there was not enough government support for the adoption of a treaty, since the matter was very sensitive. Secondly, time was another issue, since the adoption of a new treaty may take decades, and given the dramatic circumstances, the international community was in need of an immediate solution. Thirdly, there was no need to formulate new rights, because the protection for IDPs was basically already there and just needed to be brought together and tailored to the needs of IDPs. After the submission of the Guiding Principles to the UN, they slowly started to enjoy acceptance from governments, NGOs and UN agencies. Yet, it took until the 2005 World Summit for the Guiding Principles to receive affirmation that they constitute “an important international framework for the protection of internally displaced persons” and that the States “resolve to take effective measures to increase the protection of internally displaced persons.”

The substantive content of the Guiding Principles will be explored in relation to the case of IDPs in the context of natural disasters in the respective section below. First, however, the Kampala Convention, as the first regional binding instrument with regard to IDPs, is addressed.

2.2.2. Regional protection: Kampala Convention

The Kampala Convention was adopted in 2009 in Kampala, Uganda, under the umbrella of the African Union. It is the first regional instrument that specifically deals with the protection of IDP. That Africa takes over a pioneering role with regard to the protection of IDPs is not surprising. It was estimated in 2012 that Africa is the home to around 40% of all worldwide IDPs. In 2016, the Sub-Saharan region was again the place where about 38% of conflict and violence related IDPs was found. With regard to displacement caused by natural disasters, on the other hand, South East Asia is the most affected region world-wide.

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1070 ibid.
1073 ibid.
1074 ibid 467.
1075 2005 World Summit Outcome, GA Res 60/1, 60th sess, Agenda Item 46 and 120, UN Doc A/RES/60/1 (24 October 2005 ), para 132; Kälin, above n 1071, 612.
1077 ibid.
1078 ibid.
1080 ibid 33.
In 2006, the International Conference on the Great Lakes Region took place. The outcome of this conference was the adoption of the *Pact on Security, Stability and Development in the Great Lakes Region (Great Lakes Pact)*.\(^{1081}\) As the name of the instruments suggests, its purpose is, firstly, to “provide a legal framework between the Member States” and secondly, to “create conditions for security, stability, and sustainable development between the Member States.”\(^{1082}\) In order to achieve this, the *Great Lakes Pact* demands the establishment of 10 additional protocols.\(^{1083}\) Two of them deal, in particular, with the protection of IDPs: *The Protocol on the Protection and Assistance to Internally Displaced Persons* and *The Protocol on Property Rights of Returning Persons*.\(^{1084}\) At the same time, the *Great Lakes Pact* also asks States to adopt and implement the *Guiding Principles*.\(^{1085}\) This legal instrument, however, is valid only for the Great Lakes Region, and as such, it encompasses the following 12 member States: “Republic of Angola, Republic of Burundi, Central African Republic, Republic of the Congo, Democratic Republic of the Congo, Republic of Kenya, Republic of Rwanda, Republic of South Sudan, Republic of Sudan, United Republic of Tanzania, Republic of Uganda, and the Republic of Zambia.”\(^{1086}\)

Aware of these developments, the African Union considered around the same time of the adoption of a convention that should be applicable across the region. In 2004 the African Union Executive Council decided that firstly it should be ensured that IDPs enjoy an appropriate framework that ensures their adequate assistance and protection.\(^{1087}\) In the same session, the council also decided that these kind of needs, specific to IDPs and their assistance, should be protected by a separate legal instrument.\(^{1088}\) Later, in 2009, the Kampala Summit was held, the outcome of which was the Kampala Declaration, in turn leading to the *Kampala Convention*.\(^{1089}\) The convention was strongly inspired by the *Guiding Principles* and adopts therefore the same definition of IDP\(^{1090}\) as well as the same structure of provisions before and during displacement, as well as certain provisions for returning and for family reunion.\(^{1091}\)

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\(^{1081}\) *The Pact on Security, Stability and Development For the Great Lakes Region*, opened for signature 15 December 2006, 46 ILM 175 (entered into force 1 June 2008) (*the Great Lakes Pact*).

\(^{1082}\) ibid Article 2(a) and (c); see for a comprehensive overview: Duchatellier and Phuong, above n 1076, 652.

\(^{1083}\) *the Great Lakes Pact* Article 5-14.

\(^{1084}\) ibid Article 12 and 13; all documents can be found under: International Conference on the Great Lakes Region, <http://www.icglr.org/index.php/en/>; for a discussion see also: Duchatellier and Phuong, above n 1076, 652-4.

\(^{1085}\) *the Great Lakes Pact* Article 12 in fine.

\(^{1086}\) ibid Article 1(d).


\(^{1088}\) AU Executive Council, *Decision on the Meeting of Experts on the Review of OAU/AU Treaties*, EX.CL/Dec.129 (V) (2004), para 4(i); see also for a comprehensive overview on the topic: Duchatellier and Phuong, above n 1076, 654-5.


\(^{1090}\) *Kampala Convention* Article 1(k); Duchatellier and Phuong, above n 655-6

The substantive provisions of the Kampala Convention with regard to the protection of IDPs in the aftermath of a natural disaster will be explored in the section below.

2.3. Protection of IDPs in the aftermath of a disaster

As demonstrated above, on a global level, only a soft-law instrument is applicable, while in Africa, on a regional basis, a hard-law instrument, the Kampala Convention, exists. This section will examine both instruments, the rights of IDPs and the duties of states towards IDPs in the aftermath of a natural disaster.

Persons who are displaced experience different protection and assistance needs than people who are not displaced. Both the Guiding Principles and the Kampala Convention address this differential need, yet slightly differently. The focus of the Guiding Principles is primarily to remind States that human rights obligations apply also to IDPs, and by extension it lists specific human rights that are at stake for IDPs.\textsuperscript{1092} The Kampala Convention has stronger language and does not simply remind States that IDPs enjoy the same human rights but rather names specific obligations and duties of States towards IDPs.\textsuperscript{1093} With regard to the rights guaranteed or which the States get reminded, the Kampala Convention takes over most of the rights guaranteed within the Guiding Principles.\textsuperscript{1094}

Section III of the Guiding Principles deals with the situation during displacement. This section, basically, as described above, reminds States that human rights are applicable to IDPs and thus explains what those rights mean in the context of internal displacement.\textsuperscript{1095} The majority of those principles in this section relate to internal displacement caused by conflict; however, most of these principles are nonetheless also applicable to disaster related displacement.\textsuperscript{1096} In the context of this section, thus, after the emergency phase has cooled down, in particular the following principles are of interest:

Principle 18 reinstates the right to an adequate standard of living, meaning that the affected State needs to safeguard citizens’ access to essential food and water, basic shelter and housing, appropriate clothing and essential medical services and sanitation.\textsuperscript{1097} The Guiding Principles also recognise the importance of the right to property in Principle 21. This provision especially stresses, that the property that has been left behind by IDPs “should be protected against destruction and arbitrary and illegal appropriation, occupation or use.”\textsuperscript{1098} Furthermore, Principle 23, which embodies the right to education, is important in this context. This principle states that, in particular, children should be given free and compulsory education, at least at the primary level; that positive effort should be taken to ensure the participation also of girls and women in the educational programmes; and finally, that there should be education and training facilities available in camps especially for adolescents and

\begin{itemize}
\item \textsuperscript{1092} Report of the Represenative of the Secretary-General, Mr. Francis M. Deng, submitted pursuant to Comission resolution 1997/39, 54th sess, Agenda Item 9(d), UN Doc E/CN.4/1998/53/Add.2 (11 February 1998) Annex 1, Principle1, Principles 10-23 (‘Guiding Principles on Internal Displacement’).
\item \textsuperscript{1093} Kampala Convention Articles 5 and 9.
\item \textsuperscript{1094} Duchatellier and Phuong, above n 1076, 659.
\item \textsuperscript{1095} Walter Kälin, ‘The Guiding Principles on Internal Displacement and the search for a universal framework of protection for internally displaced persons’ in Vincent Chetail and Bauloz Céline (eds)ibid. 612, 619.
\item \textsuperscript{1096} ibid.
\item \textsuperscript{1097} Report of the Represenative of the Secretary-General, Mr. Francis M. Deng, submitted pursuant to Comission resolution 1997/39, 54th sess, Agenda Item 9(d), UN Doc E/CN.4/1998/53/Add.2 (11 February 1998) Annex 1, Principle 18(2)(a)-(d) (‘Guiding Principles on Internal Displacement’).
\item \textsuperscript{1098} ibid Principle 21(3).
\end{itemize}
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women. Yet, of course, the other principles are also relevant when it comes to IDPs in the context of natural disasters, such as Principle 10 or Principle 17, each of which deal with the right to life and the right to family, respectively.

The *Guiding Principles* offer a perfect basis for governments of affected States to deal with IDPs that are displaced because of a natural disaster. As mentioned above, this instrument does not introduce new obligations; rather, it restates existing human rights law and explains the duties of States thereof with regard to IDPs. An increasing number of States, UN organisations and NGOs are applying the *Guiding Principles*, so all those stakeholders acknowledge the importance of the *Guiding Principles* and their support of them. Because of this growing support, the *Guiding Principles* play a crucial role, even if they are only a soft-law instrument. Although it is most likely too premature to consider the *Guiding Principles* as customary international law, they still bring together already-existing customary international law and thus, despite their status as soft-law instruments, their importance and success cannot be neglected.

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1099 ibid Principle 23(2)-(4).

1100 *Protection of and assistance to internally displaced persons*, GA Res 66/165, 66th sess, Agenda Item 69(b), UN Doc A/RES/66/165 (22 March 2012), para 12; *Protection of and assistance to internally displaced persons*, GA Res 64/162, 64th sess, Agenda Item 69(b), UN Doc A/RES/64/162 (7 March 2010), para 10; *Protection of and assistance to internally displaced persons*, GA Res 62/153, 62nd sess, Agenda Item 70(b), UN Doc A/RES/62/153 (6 March 2008), para 10; Kälin, above n 1095, 621.

1101 for a comprehensive discussion on this topic see: Kälin, above n 1095, 627-30.
3. Conclusion

The main conclusion from this part is that a distinct human right to receive humanitarian assistance does not exist. Humanitarian assistance must instead be viewed as the means to fulfill underlying human rights obligations, in particular deriving from survival rights such as, most importantly, the right to life. The UNGA also made the connection between the denial of basic humanitarian assistance for the victims of natural disasters and the infringement of their right to life.

Although the existence of a distinct human right to receive humanitarian assistance has to be denied, the affected State still has the primary obligation to protect the victims of disasters, and if it is unable to cope with the disaster situation by itself, it has the obligation to seek international assistance. Both of these duties derive from the affected State’s sovereignty, which not only entails rights but also obligations. If, however, a State does not follow this obligation, offers help to the victims and does not seek international assistance while being obviously overwhelmed, the international community has several options. As humanitarian assistance is the means to fulfill core human rights obligation, interstate claims and relevant provisional measures are an option that can be applied in Europe and in the Americas. If the Draft Articles come into force, this kind of behaviour of the affected State would most likely constitute a breach of the embodied provisions. As such, the doors open for secondary rules, as found within the ARSIWA, which clearly allow countermeasures as a non-judicial method. Cessation would be also a possibility, while being a judicial option. Outside of the ARSIWA, retorsion and diplomatic protection claims are possibilities that have not been discussed in detail in this research.

In the aftermath of Cyclone Nargis in 2008, in particular the R2P was widely discussed. This right cannot, however, be enforced by foreign States. First of all, the conduct of the affected State would need to be a crime against humanity, and secondly, it is not in favour of the victims, if in particular Western States take military action against the State, since this action could lead to more suffering, leaving R2P as only an ultima ratio option.

With regard to the protection of victims of natural disasters in the aftermath, in particular the rules governing IDPs are relevant, since natural disasters are one of the most predominant grounds for internal displacement. In this regard, the African continent is the only regional system that offers protection to IDPs with a special legal instrument. Globally, only the Guiding Principles are applicable. These principles constitute only soft law, though, and thus not legally binding. Their qualification as a legally binding instrument is, however, not necessary, since these guidelines serve as reminder of human rights obligations also protect IDPs and thus explain what the content of already-existing human rights obligations mean in the case of internal displacement. Therefore, the Guiding Principles serve as an ideal instrument for States that shows them how to deal with the situation of internal displacement.
Chapter VI: The Responsibility of the Affected State before the Disaster

The relevant chapter above discusses early warning and disaster risk reduction in detail. However, it considers it mostly from a financial perspective. This chapter deals with the question of disaster preparedness and early warning from the affected State’s perspective and thus examines its responsibilities and duties. It first reviews disaster prevention in general and how it is situated in international law and, in particular, in international human rights law. The chapter then moves on to the possible obligation of States to provide early warning and examines this possibility with regard to the relevant case law of the ECtHR.

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1102 See above chapter: *The Promotion of Early Warning Mechanisms with UN Policies* on page 50.
1. Disaster Prevention and International Law

Disaster prevention is described by the UNISDR as “The outright avoidance of adverse impacts of hazards and related disasters.” As such, disaster prevention refers to actions that occur before the calamitous event strikes and thus leads to a disaster situation. This definition is in its essence vague and needs further specification in order to determine what kind of actions are meant. Eduardo Valencia-Ospina, the Special Rapporteur on the Protection of Persons in the Event of Disasters, stresses in his sixth report that disaster prevention is an overarching principle that encompasses disaster preparedness and disaster mitigation. Therefore, in order to discuss disaster prevention in the context of international law, it is necessary to determine the two aspects of disaster prevention. After these two aspects have been discussed, this section moves on to place disaster prevention into the context of international law.

1.1. Disaster preparedness and disaster mitigation

In order to place disaster prevention correctly into international law, the notion of disaster preparedness needs first to be examined. As already explored, disaster prevention encompasses both disaster preparedness and disaster mitigation. First, a close look on disaster preparedness is given, followed by an examination of disaster mitigation.

1.1.1. Disaster preparedness

Disaster preparedness is one of the two aspects of disaster prevention. In order to fully understand the term, a close look at possible definitions is necessary. Yet, there exists more than only one understanding of disaster preparedness: in particular the UNISDR and the Special Rapporteur on the Protection of Persons in the Event of Disasters use different approaches.

This research already defined early warning mechanisms and disaster prevention according to the understanding of the UNISDR. As such, their definition of disaster preparedness is considered at this stage. The UNISDR defines disaster preparedness thus:

“The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.”

This understanding of the notion creates a strong focus on the respective knowledge and capacities of all involved actors, which obviously implies a subjective element. This subjective element is demonstrated through the UNISDR’s further explanations: Preparedness has the aim of enhancing capacities in advance through appropriate actions, which are not only of institutional and legislative nature.

1103 UNISDR, UNISDR Terminology on Disaster Risk Reduction, above n 404, 22.
1104 ibid.
1105 Valencia-Ospina, Special Rapporteur, Sixth report on the protection of persons in the event of disasters, 65th sess, UN Doc A/CN.4/662 (3 May 2013), 14[40].
1106 For early warning mechanisms see above Financing Early Warning Mechanisms on page 49
1107 UNISDR, UNISDR Terminology on Disaster Risk Reduction, above n 404, 21.
1108 ibid.
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Consequently, according to the UNISDR, disaster preparedness includes, among other things, first of all the risk assessment of various hazards and in this regard also the connection of hazards to early warning mechanisms. It includes, secondly, advanced measures for the management of the emergency relief phase, such as the stockpiling of supplies and equipment, the development of coordination arrangements and the associated training of personnel.\footnote{ibid.}

The Special Rapporteur on the Protection of Persons in the Event of Disasters, on the other hand, focuses his understanding of disaster preparedness not to the same extent on enhancing capacity and knowledge, but rather on the management of resources that allow effective response, such as early warning systems and evacuations.\footnote{ibid.}

Given the definition of ‘disaster’ used in this research, it is clear that capacity for disaster response is of crucial relevance.\footnote{Valencia-Ospina, Special Rapporteur, Sixth report on the protection of persons in th event of disasters, 65th sess, UN Doc A/CN.4/662 (3 May 2013), 13 [38].} The capacity element decides whether the calamitous event leads to a disaster situation that requires international attention. Thus, neglecting this capacity element when talking of disaster preparedness seems unjust: in order to be prepared for a calamitous event and its consequences, response capacity needs to be built. This capacity includes the knowledge of individuals on how to respond to such a calamitous event and the means to be prepared. Therefore, for the purpose of this research, the understanding of the UNISDR with regard to disaster preparedness is more apt, since it includes a subjective element and therefore focuses on the enhancement of the capacity to respond to a calamitous event, which is important according to the definition of ‘disaster’ in this research.\footnote{For the definition see above chapter: Disasters Defined on page 5 and following.}

The international community has also stressed the importance of disaster preparedness. The Sendai Framework, for example, explicitly deals with the disaster preparedness. It declares disaster preparedness as one of the top priorities for 2015 – 2030.\footnote{Also the ILC decided to follow the UNISDR’s terminology: Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 49.} The framework clearly explains that preparedness is necessary in order for a society to bounce back accordingly and that preparedness is essential to ensure effective response, thus also emergency relief.\footnote{Sendai Framework for Disaster Risk Reduction 2015–2030, GA Res 69/283, 69th sess, 92\textsuperscript{nd} plenary mtg, Agenda Item 19 (c), UN Doc A/RES/69/283 (23 June 2015), 8[20], 16-8 [32]-[34].} At the same time, the framework stresses the link between all phases of the disaster cycle, and as such that disaster preparedness is happening not only during one phase rather predominates in all of them.\footnote{ibid 16 [32].} Still, this is a soft-law instrument and is therefore not legally binding. In terms of possible future treaty law, the importance of disaster preparedness is furthermore recognised. Article 9 of the Draft Articles deals with the question of disaster preparedness and explains the duties of States in this regard. This provision clearly defines that it is each State’s own responsibility to minimize risk and prepare for natural disasters.\footnote{ibid.} This preparation includes, \textit{inter alia}, the adoption of appropriate legislation and policies.\footnote{Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 15 Article 9(1).} Thus, the importance of being prepared for a natural disaster cannot be neglected, as is also demonstrated by the awareness of international policy makers in respective instruments and future instruments. The questions regarding the position of disaster preparedness in international law is examined together with disaster prevention in general in the relevant section below.

\footnote{ibid.}
1.1.2. Disaster mitigation

The second aspect of disaster prevention is disaster mitigation. In this context, mitigation enjoys a different understanding than it does in the context of climate change, where it means essentially the reduction of CO₂ emissions. In the context of disaster mitigation, ‘mitigation’ means ‘the lessening or limitation of the adverse impacts of hazards and related disasters.’ Thus, contrary to the understanding of mitigation in the context of climate change, the notion deployed here does not aim to lessen the cause of natural disasters but rather aims to reduce their adverse effects. This aim means, with regard to possible measures, that disaster mitigation refers to both structural and non-structural measures. Examples include engineering techniques, hazard-resistant constructions, the improvement of environmental policies and public awareness of the possible danger.

The comparison of disaster mitigation and the overarching principle of disaster prevention reveals that the two notions have similar definitions. Thus, the terms ‘disaster mitigation’ and ‘disaster prevention’ are interchangeable, depending on the specific situation. However, disaster mitigation means disaster prevention in a stricter sense, while disaster mitigation does not include a subjective element, although this element is embodied within the notion of disaster preparedness. This subjective element is indispensable for the ‘outright avoidance of adverse impacts of hazards and related disasters.’

The main and obvious reason for its importance is that not only objective measures such as hazard-resistant constructions are necessary. The subjective point of enhancing the knowledge of people with regard to the danger and how to behave in an emergency situation – for example seeking shelter appropriately and enhancing the capacity to deal with these kinds of situations – is as important if not more important. Therefore, the umbrella of disaster prevention encompasses not only disaster mitigation but rather also includes disaster preparedness.

1.2. Disaster prevention in international law

This research has dealt already with the question of preventive measures above, in the context of reconstruction. There, it was argued that reconstruction that aims to build back better reflects a preventive measure. This chapter, on the other hand, takes a different perspective, assessing the duties of the affected State towards the victims of a natural disaster. As such, this section examines first how disaster prevention is situated in international law in general. The following sections look more closely at the State’s obligation to provide early warning.

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1118 See for more details above Chapter: International climate law regime on page 37; see also: UNISDR, UNISDR Terminology on Disaster Risk Reduction, above n 404, 19-20.
1119 ibid.; Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 49.; see also above Chapter: Risk mitigation on page 15.
1121 see also: UNISDR, UNISDR Terminology on Disaster Risk Reduction, above n 404, 22.
1122 ibid.
1123 See above: Reconstruction and build back better as a preventive measure on page 84.
The duty to prevent harm can be recognised as a general principle of international law. Firstly, the UN Charter itself suggests this recognition. The charter states that one purpose of the UN is “to maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace”.

Secondly, the ILC concluded the same, while dealing with the topic Prevention of Transboundary Harm from Hazardous Activities. It considered the duty to prevent harm as a “well-established principle”. Indeed, the duty to prevent harm is found in both international human rights law and in international environmental law.

The duty to prevent harm can be recognised as a general principle of international law embodied in the State’s duty to protect individuals from human rights violations. This duty to protect is, for example, expressly required within the Convention on the Prevention and Punishment of the Crime of Genocide (Genocide Convention), as well as the Convention against Torture and Other Cruel, Inhumane or Degrading Treatment or Punishment (CAT). At the regional level, the duty to prevent is enshrined in the respective court’s jurisprudence. The IACtHR describes the duty to prevent human rights violations in its landmark decision Velasquez Rodrigo v Honduras. In that decision, the IACtHR explained that even if the act that is violating the human rights of an individual cannot be traced back to the respondent State but rather to a third party, the respondent State is still liable because of its lack of due diligence to prevent the violation. The court goes on to explain what preventive measures, among other things, include: all means that are of legal, administrative and cultural nature that ensure the promotion and protection of human rights and that all acts which violate human rights are recognised as illegal.

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1124 Valencia-Ospina, Special Rapporteur, Sixth report on the protection of persons in th event of disasters, 65th sess, UN Doc A/CN.4/662 (3 May 2013), 14 [40].
1125 UN Charter Article 1(1); see also: Valencia-Ospina, Special Rapporteur, Sixth report on the protection of persons in th event of disasters, 65th sess, UN Doc A/CN.4/662 (3 May 2013), 14 [40].
1127 ibid.
1128 See above Chapter: Customary international law: No-harm rule and polluter pays principle on page 83.
1129 See above in a more general way the Chapter: International human rights law on page 31.
1130 See above Chapter: Application of human rights prior to the disastrous event on page 34.
1133 ibid [172].
1134 ibid [175].
The ECtHR follows a similar approach. The ECtHR recognised under the positive obligations of the right to life, that a State has to take preventive measures, in particular, to avoid dangerous activities.\textsuperscript{1135} This was later reaffirmed by the court in a case in which a mudslide caused the death of several individuals in Russia.\textsuperscript{1136}

International human rights law, therefore, again serves as a comprehensive guiding instrument for States, also in the situation prior to a calamitous event. As described above with regard to humanitarian assistance, several human rights are at stake in a disaster situation.\textsuperscript{1137} Thus, States have a duty to prevent human right violations caused by disasters and, thus, have to undertake preventive measures – especially since it is well known that climate change is increasing the frequency of extreme weather events, such as storms and floods, which can create disaster situations. Above, this research already discussed the question of financing early warning mechanisms. The research argued that both the developed world and emerging markets have an obligation under international law to financially assist disaster-prone developing States with regard to the establishment of early warning mechanisms.\textsuperscript{1138} This chapter offers a different perspective, examining in the following sections the duty of States to provide early warning.

\textsuperscript{1135} Önerylidiz v. Turkey (2004) XIII Eur Court HR 79, 115 [90] (‘Önerylidiz v. Turkey’).

\textsuperscript{1136} Budayeva and Others v. Russia (2008) II Eur Court HR 267, 289 [130] (‘Budayeva v. Russia’).

\textsuperscript{1137} See above Chapter: The Responsibility of the Affected State During and in the Aftermath of a Disaster on page 105. The Responsibility of the Affected State During and in the Aftermath of a Disaster

\textsuperscript{1138} See above Financing Early Warning Mechanisms on page 49.
2. Possible Obligation to Provide Early Warning

This section discusses the possible right to receive early warning. Already in the context of financing early warning projects, the important role that early warning mechanisms play was highlighted. Early warning mechanisms not only save lives, but also reduce economic loss by up to 50%.\(^{1139}\) Thus, early warning mechanisms play a significant role in reducing casualties and supporting the affected State’s recovery after such a calamitous event.

In order to establish a possible duty of States to provide early warning, a close look at human rights is necessary. As such, the sections below first discuss the right to life, which is mainly triggered by the neglect of early warning measures.

2.1. Early warning mechanisms and human rights

Here, the question is whether neglecting early warning before a calamitous event strikes results in a human rights violation. This question is pursued in this section with a focus on the right to life. The second part of this section looks at the ground-breaking case law from the ECtHR, which has already dealt on two occasions with natural and human-made disasters.

2.1.1. Right to life

The chapter above concerning the obligation to provide humanitarian assistance describes already where the right to life is anchored and the fact that the right to life entails positive obligations.\(^{1140}\) Yet, for the following arguments, it is necessary to repeat and adjust the notion of the right to life to early warnings.

The right to life is anchored in all major global human rights treaties as well as in all regional treaties: Article 6 ICCPR, Article 2 ECHR, Article 4 ACHR and Article 4 ACHPR. This right imparts not only negative obligations but also includes positive obligations.\(^{1141}\) In the context of disaster prevention, and thus the establishment of early warning mechanisms in particular, the positive obligations are of importance. However, in the context of this chapter, specifically in the examination of the case law of the ECtHR in the section below, this section deals mainly with regional systems in Europe and in the Americas.

2.1.1.1. Positive obligations of the right to life in the European system

The ECtHR clearly states with regard to the right to life that a State has “not only to refrain from the intentional and unlawful taking of life, but also to take appropriate steps to safeguard the lives of those within its jurisdiction.”\(^{1142}\) The court explains further that the right to life implies

\(^{1139}\) Hallegatte et al, above n 131, 125; see above Financing Early Warning Mechanisms on page 49.

\(^{1140}\) See above Chapter: Right to life on page 107.


“a positive obligation on the authorities to take preventive operational measures to protect an individual whose life is at risk from the criminal acts of another individual.”

Thus, the right to life embodies, according to the ECtHR, the positive obligation to protect, which can be translated into the obligation to prevent the death of individuals within the State’s jurisdiction through appropriate safeguarding steps. Yet, whether a state is to be held liable for a failure to prevent a violation of the right to life of an individual is clarified through the so-called Osman Test. This test was developed by the ECtHR in the judgment of the case Osman v The United Kingdom in the year 1998. In this case, the court decided that, next to the fact that the right to life contains positive obligations, the State can be liable for these positive obligations only if the following conditions are met:

“[…] it must be established to its satisfaction that the authorities knew or ought to have known at the time of the existence of a real and immediate risk to the life of an identified individual or individuals from the criminal acts of a third party and that they failed to take measures within the scope of their powers which, judged reasonably, might have been expected to avoid that risk.”

Thus, the requirements are (1) the existence of a risk to the right to life that is (2) real and (3) immediate, and that (4) concerns an identified individual or individuals and, finally, (5) where the State knew or should have known of this risk.

Since its adoption in 1998, this test has been applied several times and extended by the ECtHR. In general, there are three groups of application for the test: (a) risks caused by non-state actors, (b) risks which are non-attributable to a specific actor, for example accidents, and (c) risks that involve the State’s conduct. For the case of natural disasters, both the second and the third group are of interest. The application of it will be discussed below in the discussion of the relevant case law of the ECtHR as it applies to natural and human-made disasters.

### 2.1.1.2. Positive obligations of the right to life in the Inter-American system

As explained above, also the ACHR protects the right to life. Similar to the ECtHR, the IACtHR recognises positive obligations under the right to life, dating back to one of its first cases, in the year 1988. There, the court stated that Article 4, the right to life, in conjunction with Article 1, the obligation to respect rights,

“imply an obligation on the part of State Parties to take reasonable steps to prevent situations that could result in the violation of that right.”

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1143 Osman v The United Kingdom [1998] VIII Eur Court HR, [115] (’Osman v The United Kingdom’).
1145 Osman v The United Kingdom [1998] VIII Eur Court HR (’Osman v The United Kingdom’).
1146 ibid [116].
1147 Ebert and Sijniensky, above n 1144, 347.
1148 ibid 348.
1149 citing relevant respective case law: ibid.
1150 ACHR Article 4(1): “Every person has the right to have his life respected. This right shall be protected by law and, in general, from the moment of conception. No one shall be arbitrarily deprived of his life”.
Thus, according to the IACtHR a State is liable for a violation of the right to life or any other right enshrined in the ACHR if it lacked due diligence that could have prevented this violation.\footnote{ibid [172]; see also for a comprehensive overview: Ebert and Sijniensky, above n 1144, 352.}

Later in 2006, the IACtHR included the ECtHR’s approach of the Osman Test into its case law.\footnote{Pueblo Bello Massacre v Colombia [2006] IACHR Series C No 140, [123] – [124]; see also: Ebert and Sijniensky, above n 1144, 352-3.} Firstly the court stated that the possible attribution to the State depends largely on the specific circumstances of the case and the protection required by the individual.\footnote{ibid [123]; see for a similar analysis: Ebert and Sijniensky, above n 1144, 353.} In order to define afterwards the specific responsibility in that case, the IACtHR considered the ECtHR’s Osman Test and stated the following:

“the Court acknowledges that a State cannot be responsible for all the human rights violations committed between individuals within its jurisdiction. Indeed, the nature erga omnes of the treaty-based guarantee obligations of the States does not imply their unlimited responsibility for all acts or deeds of individuals, because its obligations to adopt prevention and protection measures for individuals in their relationships with each other are conditioned by the awareness of a situation of real and imminent danger for a specific individual or group of individuals and to the reasonable possibilities of preventing or avoiding that danger.”\footnote{Öneryildiz v. Turkey [2004] XIII Eur Court HR 79 (‘Öneryildiz v. Turkey’); Budayeva and Others v. Russia [2008] II Eur Court HR 267 (‘Budayeva v. Russia’).}

Thus, this means, in consequence, that both the Inter-American and the European system follow a similar approach and that the right to life enjoys similar protection, with regard to the protection of an individual’s life by the State. What this approach to the protection of the right to life means in the case of natural and human-made disasters is explored below with regard to the relevant case law from the ECtHR.

### 2.2. Ground-breaking case law of the ECtHR in the case of natural and human-made disasters

The ECtHR delivered two ground-breaking decisions with regard to human-made and natural disasters: Öneryildiz v Turkey and Budayeva and Others v Russia.\footnote{See above Chapter: Application of human rights prior to the disastrous event on page 34.} The first deals with a human-made disaster and the second with a natural disaster. The facts of both cases were already described above.\footnote{ibid [123]; see for a similar analysis: Ebert and Sijniensky, above n 1144, 353.} This section will mainly focus on the findings of the ECtHR and explain why they are so important with regard to the establishment of early warning mechanisms, repeating the most relevant aspects of the cases.

#### 2.2.1. Öneryildiz v Turkey

This case concerned a rubbish tip (i.e. garbage dump) close to Istanbul. The applicant lived with his relatives in a slum situated below the rubbish tip. An expert report highlighted that this rubbish site demonstrated a risk for the health and lives of the inhabitants of the slums below the rubbish tip. However, the inhabitants were not informed, and neither was anything done by the authorities to...
reduce the risk. On 28 April 1993, a methane explosion on the rubbish tip caused a landslide of refuse, which destroyed around 10 homes in the slums and killed around 39 people. Although this case does not concern a natural disaster per se, the key findings with regard to the right to life are still important and valuable with respect to the discussion below of the Budayeva v Russia case.

The ECtHR firstly stresses that Article 2 embodies not only negative aspects but rather also includes positive obligations and that this positive obligation entails above all the obligation to "put in place a legislative and administrative framework designed to provide effective deterrence against threats to the right to life." So far, this was a reaffirmation of the principles of the above-discussed principles of the right to life under the ECHR. The court further explains that this principle applies in the context of any activity, but in particular with regard to dangerous ones such as those that occur at rubbish sites. This particular link to any potential dangerous activity is new.

Another innovation in this judgment is the court’s assessment that the right to life also embodies preventive measures such as, in particular, the public’s right to information. In Guerra and Others v Italy, the applicant complained that the authorities did not provide any information with regard to the danger the nearby chemical factory imposed and that no information was rendered with regard to evacuation in the case of an accident which had happened before. The court noted that "severe environmental pollution may affect individuals’ well-being and prevent them from enjoying their homes in such a way as to affect their private and family life adversely […]. In the instant case the applicants waited, right up until the production of fertilisers ceased in 1994, for essential information that would have enabled them to assess the risks they and their families might run if they continued to live at Manfredonia, a town particularly exposed to danger in the event of an accident at the factory. The Court holds, therefore, that the respondent State did not fulfil its obligation to secure the applicants’ right to respect for their private and family life, in breach of Article 8 of the Convention."

In Öneryildiz v Turkey the ECtHR relied on this reasoning to establish the public’s right to information under the right to life. This rationale justified this elaboration of the content of the right to life additionally with the current development in European standards and referred explicitly to Resolution 1087 (1996) of the Council of Europe, which deals with the consequences of the Chernobyl disaster. There, the Council of Europe stated that it believes access to public information is a basic human right.

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1160 ibid 110 [71], 115 [89].
1161 ibid 110 [71], 115 [90].
1162 ibid 115 [90].
1164 Guerra and Others v Italy [1998] I Eur Court HR, [12] – [36] (‘Guerra and Others v Italy’).
1165 ibid [60].
1166 Öneryildiz v. Turkey [2004] XIII Eur Court HR 79, 115 [90] (‘Öneryildiz v. Turkey’).
1167 ibid.; Council of Europe, Consequences of the Chernobyl disaster, Resolution 1087 (1996), (26 April 1996).
In order to find a violation of the right to life by Turkey in that case, the ECtHR applied with regard to the first aspect, namely the failure to take preventive measures, the Osman Test. The court found a violation of the right to life by Turkey in both aspects.

2.2.2. **Budayeva v Russia**

Contrary to Önerylidiz v Turkey, the case of Budayeva v Russia concerns a natural disaster and is therefore of great relevance to this research. The case is described in brief above; nonetheless, the major facts and key findings are discussed here again.

The case concerned a mudslide in the Russian town of Tyranauz that killed eight people. The town is prone to mudslides, and these were registered nearly every year; the inhabitants and the local authorities were generally aware of the risk. In August 1999, mud and debris flow damaged the dam, which protected the town from the mudslides. However, the dam was never repaired, although the Mountain Institute, a State agency responsible for monitoring the weather and hazards at high altitudes, warned the local authorities on several occasions of the immediate risk the damaged dam posed. On 7 July 2000, the Mountain Institute suggested that local authorities set up observation points on the Gerhozhansu River in order to monitor the river at all times and thus to issue an emergency warning in the case of a mudslide. This suggestion was not implemented. Thus, the disastrous mudslide hit Tyranauz in several waves from 18 – 25 July 2000. The applicants claimed that the authorities failed to comply with their obligations under the right to life to take appropriate steps to mitigate the risks to their lives.

Before applying the law to the case at hand, the ECtHR firstly explained the main principles with regard to the right to life, referring to a large extent to Önerylidiz v Turkey.

As in the case of Önerylidiz v Turkey, the ECtHR expressed that the right to life also embodies positive obligations, in particular to take appropriate measures to safeguard the lives of individuals within the State’s jurisdiction, and above all to ensure a legislative and administrative framework in this respect. The court goes on to apply the principle adopted in Önerylidiz v Turkey, namely that obligations apply in the context of any activity, but in particular with regard to dangerous activities.

That is not the only principle that the ECtHR repeated from Önerylidiz v Turkey. It stresses that the right to life also embodies, like the right to private and family life according to Article 8 ECHR, the positive obligation “to adequately inform the public about any life-threatening emergency [...].” The ECtHR elaborates at this point this new approach and opens even more towards Article 8 by stating the following:

“It has been recognised that in the context of dangerous activities the scope of the positive obligations under Article 2 of the Convention largely overlap with those under Article 8 [...]. Consequently, the
principles developed in the Court’s case-law relating to planning and environmental matters affecting private life and home may also be relied on for the protection of the right to life.”

In the subsequent paragraph, the ECtHR refers to the established case law with regard to environmental matters under Article 8. It refers in particular to *Fadeyeva v Russia* and explains that in a case where a State has to take positive measures, the choice of means falls within the State’s margin of appreciation. Simultaneously, the ECtHR clarifies that because of the wide margin of appreciation, the positive obligations of the right to life must not impose a disproportionate burden upon States without considering the operational choices States have to make in the light of priorities and resources. The ECtHR takes this rule and applies it to the case of natural disasters and states:

“This consideration must be afforded even greater weight in the sphere of emergency relief in relation to a meteorological event, which is as such beyond human control, than in the sphere of dangerous activities of a man-made nature.”

Finally, the court explains that it has to consider all relevant circumstances of the particular case when determining whether the State failed to comply with its positive obligations. With regard to emergency relief, the ECtHR stated,

“In the sphere of emergency relief, where the State is directly involved in the protection of human lives through the mitigation of natural hazards, these considerations should apply in so far as the circumstances of particular case point to the imminence of a natural hazard that had been clearly identifiable, and especially where it concerned a recurring calamity affecting a distinct area developed for human habitation or use […]. The scope of the positive obligations imputable to the State in the particular circumstance would depend on the origin of the threat and the extent to which one or the other risk is susceptible to mitigation.”

The ECtHR concluded with regard to the case at hand that Russia was unable to justify its omissions in this case. The court even concluded that although Russia enjoyed a wide margin of appreciation with regard what kinds of measures it could take in order to fulfil its positive obligations, it did not take up any measure at all. Consequently, Russia violated the applicants’ right to life.

3. Obligation to Provide Early Warning

This section now applies the above-stated principles to the question whether States have an obligation to provide early warning. The answer has to be in the affirmative, despite that a distinct right to receive early warning does not exist. The reasons for this conclusion are discussed in this section.

That the right to life embodies also the positive obligation to take appropriate steps to safeguard the lives of the individuals within the jurisdiction of a State is undoubted. Such positive obligations

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1177 ibid 289 [133].
1178 *Fadeyeva v Russia* [2005] IV Eur Court HR 255 (’Fadeyeva v Russia’); *Budayeva and Others v. Russia* [2008] II Eur Court HR 267, 289-90 [134] (’Budayeva v. Russia’).
1179 *Budayeva and Others v. Russia* [2008] II Eur Court HR 267, 290 [135] (’Budayeva v. Russia’).
1180 ibid.
1181 ibid 290 [136].
1182 ibid 290 [137].
1183 ibid 293-6 [147]-[160].
can also be translated to preventive measures. Types of measures have been largely identified and named by the ECtHR in the case of dangerous activities, whereby the court pays special attention to the public’s right to information in this matter.\footnote{1185} Although this principle was adopted in the case of ‘dangerous activities’, the ECtHR applied it also in Budayeva v Russia, which concerned a mudslide, thus a natural hazard.\footnote{1186} Since, in this case specifically, the neglect of the local authorities to repair the damaged dam and to observe the situation, although they knew about the increased risk of mudslides leading to the catastrophe, the ECtHR reasoned as follows:

“In such circumstances the authorities could reasonably be expected to acknowledge the increased risk of accidents in the event of a mudslide that year and to show all possible diligence in informing the civilians and making advanced arrangement for the emergency evacuation. In any event, informing the public about inherent risks was one of the essential practical measures needed to ensure effective protection of the citizen concerned.”\footnote{1187}

Thus, although positive obligations should not impose disproportionate burden onto the State, and this in particular in the cases of natural hazards, since they go beyond human control, the State still needs to act with diligence towards the individuals within its jurisdiction.\footnote{1188} This requirement applies, in particular, if the State in question has knowledge of the risk at hand. Through this knowledge, the Osman Test, which requires knowledge of the immediate danger for a specific individual by the State in question in order to trigger positive obligations, is fulfilled. Since the IACtHR also applied the Osman Test in its case-law, it seems just to reason that the IACtHR would also follow the ECtHR’s Budayeva v Russia decision, since it demonstrates in its essence a special application of the Osman Test. Thus, this gives more weight to the ECtHR’s judgment with regard to natural hazards.

The ECtHR’s judgment in the case of Budayeva v Russia also applies to extreme weather events connected to climate change. As examined above on several occasions, it is scientifically proven that climate-change-induced global warming increases the frequency of extreme weather events.\footnote{1189} It is not only the scientific community that has expressed awareness of this fact, but also the international community.\footnote{1190} Thus, at least the governments of all States should know extreme weather events will increase in frequency in the future.

Transferring this understanding to the question of whether State have an obligation to provide early warning yield the answer that, yes, States have an obligation to provide early warning. First of all, they know of the fact that extreme weather events, such as cyclones or hurricanes, are increasing in frequency. Thus, States, especially disaster-prone States, have a positive obligation under the right to life to provide the public with information about immediate risks. This information could, for example, be offered in the form of raising public awareness of the danger of increasing frequencies of extreme weather events and the early warning of the immediate danger. Secondly, although these events are the results of natural hazards, and as such beyond human control – which has to be given due consideration according to the ECtHR –, the disaster-prone States cannot hide behind this lack of control: they have the knowledge, and as the ECtHR stated in its Budayeva v Russia judgment, in cases where the State has knowledge of the danger, it could at least be expected that the State informs the public about the immediate danger.\footnote{1191} This expectation is also reflected in Article 9 of the Draft

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\begin{itemize}
  \item \[1988] IACtHR Series C No 4, [188].
  \item Budayeva and Others v. Russia [2008] II Eur Court HR 267, 293-6 [147] [160] (‘Budayeva v. Russia’).
  \item ibid 294 [152].
  \item ibid 290 [135].
  \item See in particular above Chapter: The no-harm rule on page 68; IPCC, above n 2, 53.
  \item see for example: World Conference on Disaster Reduction, UN Doc A/CONF.224/L.2 (7 April 2015), 3 [4].
  \item see also: Kälin and Dale, above n 258.
\end{itemize}
3. Part: The Responsibility of the affected State before, during and in the aftermath

Articles. There, the provision clearly expresses that each State has an obligation to ensure domestic disaster preparedness, including the provision of early warning.\textsuperscript{1192}

Thus, disaster-prone States have an obligation under the right to life to perform disaster preparedness by, for example, raising public awareness of the danger and then issuing early warnings in cases of immediate danger. As such, early warning should be viewed as a tool to fulfil the right to life. The fast-evolving law behind the right to life offers enough flexibility of application to cover this matter, making it unnecessary to argue for the adoption of a distinct human right to receive early warning.

\textsuperscript{1192} Report of the International Law Commission - Sixty-eight session (2 May - 10 June and 4 July - 12 August 2016), GAOR, 71st sess, Supp No 10, UN Doc A/71/10, 15 Article 9.
3. Part: The Responsibility of the affected State before, during and in the aftermath

4. Conclusion

Early warning mechanisms are one part of the bigger picture that disaster prevention offers. Disaster prevention encompasses both a subjective element, where the knowledge of persons and the capacity of societies is enhanced, and an objective part, which demands for example hazard-resistant infrastructure. Disaster prevention is well situated in international law, especially in international human rights law.

Within international human rights law, in particular the right to life offers comprehensive guidance for States on how to deal with questions of disaster prevention. The right to life embodies a positive obligation to prevent, thus to safeguard, the lives of the individuals within the jurisdiction of the State. In two landmark decisions, the ECtHR examined the right to life with regard to human-made and natural disasters. It reasoned that if the State has knowledge of the risk and fails to do anything in its power to protect the individuals, it violates their right to life. In particular, the court expected the State to, at minimum, inform the public of the danger.

This argumentation also applies to natural disasters connected to climate change. It cannot be ignored that it is scientifically proven that the frequency of extreme weather events is increasing because of climate-change-induced global warming. This has also been acknowledged within the international community. Thus, the governments around the world have knowledge of this fact. This leaves States that are often subject to extreme weather events with the duty to take positive obligations, and at least inform the public of the danger and issue early warnings. As such, early warning represents a tool to support the right to life and cannot be considered to be a distinct human right.
Part 4: Final Conclusions and Summary

This part draws the final conclusion of this research and serves at the same time as a summary. It includes the major findings of each chapter and starts with an introduction that aims to place the topic of this research in its context. This part closes with suggestions of actions required of the international community to ensure the effective protection of the victims of natural disasters.
Chapter VII: Final Conclusion and Summary

1. Introduction

This is scientifically proven: climate-change-induced global warming is increasing the frequency of natural disasters, such as extreme weather events. That extreme weather events have devastating impacts can be shown in many examples: Hurricane Matthew, which devastated Haiti in 2016, or the hurricane season in 2017, which hit the whole Caribbean several times severely. Data on GHG emissions show that the disaster-prone States, which also often happen to be developing States (e.g., Pacific or Caribbean islands), are not contributing as much to anthropogenic climate change as are other states; however, at the same time, these States are the ones that suffer the most from natural disasters. This applies also in the case of financial means for disaster preparedness measures, for example for early warning mechanisms and post-disaster reconstruction. This research is based on this injustice. Therefore, the starting points of this research are the questions of responsibilities and duties of both the unaffected and affected State in order to guarantee effective protection of the victims of natural disasters. The first aspect is relevant to financial assistance in the case of early warning systems and post-disaster reconstruction. The latter enjoys significance in the light of the obligation to provide humanitarian assistance and to seek international help, as well as the obligation to provide early warning to individuals suffering from natural disasters.

Therefore, the two primary research questions were as follows:

(1) Do developed states and emerging markets have a responsibility under international law to financially assist disaster-prone developing states with regard to early-warning mechanisms and post-disaster reconstruction?

(2) Does the state affected by a disaster have an obligation under international law to provide early warning and humanitarian assistance to the affected population? If the affected state is not able to provide early warning and humanitarian assistance by itself, does it have an obligation to seek international assistance?

In order to answer these two questions, this research first defines the most relevant terms and lays out the relevant legal framework, where also the fact is discussed that there is no coherent international legal system with regard to the law governing natural disasters. The research moves then in the second part to answer the first question, and in the third part, it examines the second question. The respective results and key findings of each part are discussed here.

2. Lack of a Coherent Legal System Dealing with Natural Disasters

Before examining the two main research questions, this research puts the topic into its context, explains the surrounding terms and maps the relevant legal framework. The major finding of this chapter is that there is no coherent legal framework with regard to natural disasters. It is rather a mixture of different areas of law such as human rights law, humanitarian law, international environmental law, international climate change law and general public international law.1193 If the Draft Articles were adopted, they would constitute the first universally instrument dealing with all sorts of disasters, thus human-made or natural disaster and the protection of the victims. So far, they have not been adopted. They were transferred for treaty adoption to the UNGA in 2016, which

1193 See above Chapter: Mapping the Legal Framework on page 22.
discussed this matter in 2018. Thus, as the law currently stands, there is no clear-cut system of law applicable in the context of natural disasters.

That there is no definite legal framework for the case of natural disasters is also indicated by the fact that there is no coherent definition of ‘disaster’. Since this term is crucial for this research, it is therefore necessary to develop a definition that works for the scope of this research, by looking at other instruments that deal with natural disasters, such as the Tampere Convention and the IFRC Guidelines. The latter describes a ‘disaster’ as an event, while the former views a ‘disaster’ as a situation, thus the consequence of a calamitous event. This research has treated a ‘disaster’ as consequential situation, because of the strong focus on disaster prevention. The event cannot be stopped, but its devastating consequences can be minimised. This makes it necessary to view disaster as the consequence of a calamitous event. Next, to pursue the situational approach, it is also necessary to include an element of local capacity in the definition, because of the other focus of this research: the obligation to seek international assistance. This research looks, in particular, at situations in which the affected government is unable to cope with the situation that follows the calamitous event, and therefore the definition should include a reference to capacity. Therefore, according to this research, a ‘disaster’ is a serious disruption of the functioning of a community or society, posing significant threat to human life, health, property or the environment, whether developed suddenly or as the result of complex long-term processes, and which exceeds the ability of the affected community or society to cope using its own resources.

This definition reflects a combination of the definition used in the Tampere Convention and by the IASC.

Since, this definition is rather complex, it can be illustrated with a formula, as modelled by the IFRC. However, the original formula of the IFCRC has to be tailored to the understanding of ‘disaster’ pursued by this research, as the understandings are not identical. The formula that suits the approach of this research looks as follows:

\[(\text{Vulnerability} \times \text{Event}) / \text{Ability to Cope} = \text{Intensity of Disaster Situation}.\]

By dividing the vulnerability to a certain event, multiplied by the actual event, with the ability to cope with the consequential situation, the focus falls on ability to cope. This emphasis is also mirrored in the written definition, which clearly states that it is only a disaster according to this research if the community or society is not able to cope with the consequences.\(^{1194}\)

3. Legal Obligation of Developed States and Emerging Markets to Financially Assist Disaster-Prone Developing States

The second part of this study deals with two questions: firstly, whether developed States and emerging markets have an obligation under international law to financially assist disaster-prone States with regard to the establishment of early warning mechanisms; and secondly, whether developed States and emerging markets have an obligation to financially assist disaster-prone developing States in post-disaster reconstruction. Both questions are answered in the affirmative, each on similar but not identical grounds.

\(^{1194}\) See above Chapter: Disasters Defined on page 5.
3.1. Financial assistance with regard to early warning mechanisms

Early warning mechanisms not only save lives but decrease economic losses due to natural disasters by about 50%. However, disaster-prone developing States lack the ability to provide early warning mechanisms to people. At the same time, they also lack the appropriate capacities, skills and resources to create these mechanisms. This shortfall has been pointed out by the international community in its *Sendai Framework* for the time period 2015 – 2030. One of its main goals is to enhance the access to multi-hazard early warning mechanisms by 2030. Since this is a very ambitious target, the *Sendai Framework* also stresses the need for financial assistance, which is necessary in order to achieve this target. Yet, the *Sendai Framework* is not a legally binding instrument and as such does not contain any enforceable obligations. Thus, the international community agrees to the enhancement of the access to early warning mechanisms and that this should be supported financially.

The international climate-change-law regime already has the means to financially assist developing States with regard to the establishment of early warning mechanisms through specialised funds: The Least Developed Countries Fund and the Special Climate Change Fund. Although the means are available, the question of how those funds are to be distributed remains unanswered. The international climate change regime acknowledges an annual USD 100 billion target for climate finance. This goal has been included in numerous COP decisions, and during the negotiations of the Paris Agreement it was considered for inclusion in the treaty text. This inclusion, however, did not happen, so the target is only anchored in COP decisions, which are not legally binding and demonstrate only political will. Yet, during the Paris negotiations, a new approach in climate finance was included: loss and damage. This approach addresses generally the adverse effects of climate change to which no adaptation is possible or which exceed the capacity of the adaptation measures. The Paris Agreement explicitly refers to extreme weather events and slow-onset events as circumstances that could lead to loss and damage caused by climate change. However, this system is not yet in place to effectively support disaster-prone developing States. The COP decision that accompanies the Paris Agreement clearly states that the loss and damage provision cannot be understood as a ground for liability. Since this provision was included, however, into the text of the COP decision, the provision may be implemented in the Paris Agreement in future, which would open the door to disaster-prone developing States to get financial assistance through the loss and damage system, for example.

The obligation of developed States and emerging markets rather derives from the no-harm rule, which constitutes customary international law, and from the application of the CBDRRRC principles that is a cornerstone of international climate change law.

The no-harm rule demands that no State exercises its own sovereign rights in a way that would harm another State, including the environment of the other State. This rule has been implemented in Article 3 of the *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities*. This provision asks emitting States to take appropriate measures to prevent significant transboundary harm. These *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities* apply to cases where the conduct (e.g. the emission of GHGs) is not prohibited by international law.

In fact, the emission of GHGs is not prohibited under international law. International climate change law limits it by introducing reduction targets but does not prohibit the emission. Additionally, the emission of GHGs is linked with global warming and thus the increase of the frequency of extreme weather events, which have the potential to trigger major disasters with devastating impacts. Those impacts can be sufficiently diminished with the establishment of appropriate early-warning mechanisms. Article 3 asks for preventive measures, and the establishment of appropriate early warning systems is definitely a preventive measure. Thus, by financially supporting disaster-prone developing States, developed States would fulfil their obligations under the no-harm rule.

In addition, the newer data on GHG emission show that it is not only developed States that contribute the most to climate change. Rather, emerging markets such as China or India have a great share in the
global emissions and are not yet decreasing these emissions. The CBRRC principle has the aim of ensuring that climate change as a common concern of humankind is tackled with fairness. Since the newest data on GHG emissions show that the emerging markets raising emission both in total and per capita, while developed States are constantly decreasing theirs has to be taken into account. This insight is mirrored in the Paris Agreement, which lets the wall between developed and developing states tumble by inviting all States to reduce their GHG emissions. Therefore, the question of whether there is an obligation for developed states and emerging markets to financially support disaster-prone States with regard to the establishment of early warning mechanisms has to be answered in the affirmative. This obligation could be performed by contributing to the respective funds that will distribute the financial aid to the State in need. Thus, the financial target of, for example, the annual USD 100 billion target should be fixed into treaty and made a positive obligation.1195

3.2. Financial assistance for the post-disaster reconstruction

Next to the establishment of early warning mechanisms before the calamitous event hits a State, post-disaster reconstruction also plays a significant role in enhancing societies’ or communities’ ability to cope with a disaster situation, which is particularly costly.

States with appropriate private insurance availability and affordability are more likely to bounce back faster after a disastrous event hits. However, in disaster-prone developing States, the access to and affordability of private insurance is lacking. Therefore, these States are more dependent on other ways to overcome the financial obstacles of natural disasters. There are several ways to overcome these obstacles: (1) ex post disaster budget allocation, which is very time consuming; (2) financial assistance form international financial institutes such as the World Bank or the IMF; (3) reliance on donations; and (4) macro insurance. The latter is the newest approach and the most promising. Mexico is in this regard the pioneer, with its program called FONDEN. In order to protect itself against the financial risk of natural disasters, the Mexican Government transfers some of its financial risks to the international reinsurance and capital markets. Similar approaches, but not identical, are under development in the Caribbean, Africa and the Pacific Islands. Although those financial means are available, disaster-prone developing states still rely upon external donations for reconstruction, so the question of liability remains.

Contrary to other academic work, this research argues not for the State responsibility of GHG-emitting States under the ARSIWA, because such an approach suffers from legal obstacles. Firstly, it is not only the conduct of one State causes anthropogenic climate change, but rather the GHG emissions of a large group of States together. At the same time, not all States contribute the same amount of emissions. The question thus arises of how much GHGs a State is allowed to emit and when the threshold is met to impart a responsibility for the consequences of climate change. Secondly, causation imposes another obstacle. Strict causation, as described with the conditio sine qua non formula, is difficult to determine because climate change and its consequences are still accompanied by uncertainty. This uncertainty cannot be ignored, while establishing a strict causal link between the GHG emissions of a certain State and the and the extreme weather events responsible for the reconstruction phase.

This research argues, however, that disasters are cyclical. Therefore, every stage of preventative action in the disaster cycle can contribute to a more resilient community and society. Within the reconstruction phase, this possibility is known as the aim to ‘build back better’. This effort has ultimate aim to make the community more resilient for future events by using the reconstruction phase to build

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1195 See above the Chapter: Financing Early Warning Mechanisms on 49.
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back in a safer way. As such, post-disaster reconstruction that aims to build back better is a pre-disaster preventive phase.

By accepting reconstruction as a preventive and not reactive measure, a similar approach to that of financing early warning mechanisms can be used. Here, the no-harm rule in conjunction with the CBDRRC principles apply. Again, an emitting State has the duty to prevent harm from its emissions in another State. Like the adoption of early warning mechanisms, the financial support of the reconstruction phase aims to build back better as an appropriate preventive measure. Therefore, both developed States and emerging markets have the legal obligation under customary international law to financially support disaster-prone developing States with regard to the pre-disaster reconstruction phase.

A very pragmatic solution for those States to fulfil their obligation would be to financially support the respective insurance facility that offers insurance to the concerned governments: ARC Ltd in Africa, CCRIF in the Caribbean and the PCRAFI Facility in the Pacific. The latter receives funds from the PCRAFI Multi-Donor Trust Fund with the donors from Germany, Japan, the United Kingdom and the US. This list of donors should be completed with developed States and emerging economies in general, in order to tackle climate change as a common concern of humankind.1196

4. Legal Obligation of the Affected State During the Disaster Situation

The third examines disasters from a vertical perspective, investigating what obligations and duties the affected State have towards victims in those States. This part answered two questions: firstly, whether the affected State has an obligation to provide humanitarian assistance to the victims of a disaster; and secondly, whether the affected State has an obligation to provide early warning. Both questions are answered in the affirmative, with a similar but not identical justification.

4.1. Obligation of the affected State during the disaster situation

Humanitarian assistance is crucial for the survival of the victims of a natural disaster and is situated in the emergency phase of the disaster cycle. However, it is not always the case that the affected State actually renders humanitarian assistance to the victims and seeks international help if it is overwhelmed with the situation. For instance, in 2008 when Cyclone Nargis hit Myanmar, the government refused international assistance for nearly four weeks, although it was obviously overwhelmed by the situation.

The obligation to provide humanitarian assistance is anchored in international human rights law, yet not as a distinct human right. The provision of humanitarian assistance is rather a means to fulfil underlying human rights. Foremost are the right to life, right to adequate standard of living, right to health and right to safe drinking water and sanitation. In particular with regard to the right to life, the UNGA has stated that the abandonment of victims of natural disaster without humanitarian assistance has to be considered as a threat to human life and is as such not in accordance with the right to life.

If, the affected State is not able to cope alone with the situation, it has to seek international assistance in order to fulfil its human rights obligations and as such to provide humanitarian assistance. This obligation is reflected in the Draft Articles, where it is acknowledged that if the affected State’s capacity to respond accurately to the natural disaster is exceeded, it has to seek international help from

1196 See above Funding for the Reconstruction Phase on page 78.
the UN or other States. At the same time, the Draft Articles also stress that the consent of the affected State is needed before an assisting party is allowed to enter the territory of the affected State. This consent, however, cannot be withheld arbitrarily. The ILC argues that both the obligation to seek international assistance and the consent requirement derive from the affected State’s internal and external sovereignty, respectively.

In the example of Cyclone Nargis, however, the question remains what can be done if a State refuses to accept international assistance. There, the R2P doctrine was considered to be an option. However, unless the behaviour of the government during the emergency phase constitutes a crime against humanity, the R2P doctrine is not applicable and was in the case of Nargis not supported by the international community. Thus, the question of enforcement of the obligation to seek and accept international assistance remains.

Since humanitarian assistance serves to fulfil underlying human rights obligations, the enforcement is also possible through the different human rights systems (e.g. through interstate claims in Europe or the Americas and by requesting provisional measures). However, since the most disaster-prone States are not within Europe or the Americas, but Asia and Africa, this solution is difficult to implement. The Additional Protocols to the ICCPR and ICESCR, respectively, that allow proceedings before an international human rights body do not have high ratification numbers in these areas of the world. As such, this option is a possibility only in Europe and the Americas.

If, however, the Draft Articles are adopted as they currently stand and enter into force, this move would open the door for the ARSIWA. The affected State’s behaviour not to accept any international assistance although it is obviously overwhelmed would most likely breach the primary obligations enshrined in the Draft Articles. The ARSIWA offers a range of options. The most useful option is clearly cessation, as it would demand the affected State to immediately accept international assistance.

Additionally, the affected State has not only a duty to protect the victims of a natural disaster during the emergency phase, but rather also when this phase cools down and slowly the reconstruction phase begins. In this phase, in particular the problem of IDPs becomes predominant. The Guiding Principles serve as an excellent guidance for State on how to deal with this situation. Yet, this instrument is a soft-law instrument and is, as such, not legally binding, which is not a disadvantage at all, because it rather summarises and interprets existing human rights law to the case of IDPs."

4.2. Obligation of the affected state to provide early warning

In order to close the circle of this research, it also deals with the question whether the affected State has to ensure early warning to its population. Again, this can be answered in the affirmative, with a similar approach to the question of the provision of humanitarian assistance.

Early warning mechanisms play a significant role in disaster prevention. Prevention itself is a principle of international law, specifically within human rights law. In particular, the right to life offers perfect guidance for States on how to deal with disaster prevention. In this regard, in particular the ECtHR has already dealt with two cases dealing with human-made and natural disasters, respectively. In both cases, the ECtHR noted the respondent State’s failure to prevent harm although it was aware of the risk and described it as a violation of the right to life. In particular, the court expected the State to, at minimum, inform the public of the danger.

Since it cannot be ignored that it is scientifically proven that the frequency of extreme weather events is increasing because of climate-change-induced global warming, the ECtHR’s view also applies to climate-change-related disasters. In fact, governments around the world have knowledge of this

1197 See above The Responsibility of the Affected State During and in the Aftermath of a Disaster on page 105.
scientific fact. This leaves States that are often subject to extreme weather events with the duty to uphold their positive obligations and at least inform the public of the danger and prepare to issue early warnings. As such, early warning represents a tool to fulfil the right to life and cannot be considered a distinct human right.\textsuperscript{198}

5. Actions Required by the International Community to Effectively Protect the Victims of Natural Disasters

This research shows that disaster law comes from many sources and relies heavily on customary international law. As such, it is time that a single instrument comes into force and to give clear guidance to the States on their duties and on how to react in these kinds of situations. This guidance could be afforded by the adoption of the \textit{Draft Articles} into the form of a treaty. Additionally, the international climate change regime offers the flexibility to achieve a greater protection, in particular with regard the financial aspect of natural disasters, such as financing early warning systems and reconstruction efforts. Therefore, in the view of this research, the following steps are necessary to ensure improvement to the protection of the victims of natural disasters:

- \textit{The Draft Articles} are, as they stand, a good instrument to achieve this protection. In particular with regard to the duties of the affected State, they offer a promising legal pathway. The ILC referred them to the UNGA for treaty adoption in May 2016. They have since been endorsed by the UNGA. It is thus advisable that they be adopted into the form of a treaty as soon as possible, ideally as they were drafted by the ILC.
- Elaborate and manifest the loss and damage pathway within the climate change regime. The concept of loss and damage could help potentially disaster-prone developing States to get the financial aid they need in order to enhance their disaster preparedness with regard to post-disaster reconstruction.
- Opt for a legally binding climate finance target for developed States and emerging markets in order to ensure financial assistance for disaster-prone developing States with regard to preventive measures, such as early warning mechanisms or disaster-safe constructions in order to enhance their resilience.
- Enhance the affordability of developing States to opt for sovereign risk transfer, thus macro insurance. Insurance helps the affected State’s economy to recuperate in a timely manner and as such lessens both the economic loss as well as disaster-induced development setbacks. This enhancement could be achieved if the developed States and emerging markets would contribute financially to those insurance facilities. This is supported by their obligation to financially assist disaster-prone developing States with regard to reconstruction efforts.

\textsuperscript{198} See above \textit{The Responsibility of the Affected State before the Disaster} on page 139
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