Climate Change, Human Rights, and Adaptive Mobility

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Abstract

This thesis explores the way that international law and its rules, rights, and obligations can address the impacts of climate change and respond to the risks they create for those most vulnerable. More specifically, it focuses on obligations related to adaptation within the climate change regime and argues that human mobility is part of the process of adaptation that States are obliged to enable in certain circumstances. In doing so, the thesis offers an addition to the legal protection provided by other areas of international law, which is often limited to movement that is forced and tends to provide legal status only after people have moved or crossed State borders. Furthermore, unlike legal scholarship that considers the problems posed by climate-related displacement, this thesis begins from the premise that mobility can be a beneficial adaptation strategy—particularly if undertaken in an anticipatory, proactive, and precautionary manner.

To reach this conclusion, the thesis applies the tools of treaty interpretation to argue that international human rights law should be integrated into the interpretation and application of adaptation obligations in the climate change regime. The analysis focuses on the rights to life and to an adequate standard of living. It highlights the need to integrate the positive duties accompanying these rights, particularly those related to survival and subsistence, which are central to the ability and decision to move. The process of interpretation also includes the operative principles of the regime, with precaution, equity, and common but differentiated responsibilities and respective capabilities being the most pertinent. Combined with the integration of international human rights law, these principles provide the basis for the key arguments of this thesis: that States must act to address foreseeable risks to human rights; in doing so, they must prioritize those most vulnerable; in some contexts, this requires that States plan for and implement measures to facilitate adaptive mobility, whether within or across borders; and that developed countries are obliged to support vulnerable developing countries in undertaking such measures.

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Table of Abbreviations

ACHPR	African Commission on Human and Peoples' Rights
AOSIS	Alliance of Small Island States
APA	Ad Hoc Working on the Paris Agreement
ARSDRR	Africa Regional Strategy for Disaster Risk Reduction
BIT	Bilateral investment treaty
CAF	Cancun Adaptation Framework
CBDRRC	Common but differentiated responsibilities and respective capabilities
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CESCR	Committee on Economic, Social and Cultural Rights
COP	Conference of the Parties
CRC	Convention on the Rights of the Child
CUP	Cambridge University Press
DRR	Disaster risk reduction
ECHR	European Convention on Human Rights
ECtHR	European Court of Human Rights
ECOWAS	Economic Community of West African States
EEP	Edward Elgar Publishing
FAO	Food and Agriculture Organization
FCCC or UNFCCC	United Nations Framework Convention on Climate Change
FET	Fair and equitable treatment
FRDP	Framework for Resilient Development in the Pacific
GATT	General Agreement on Tariffs and Trade
GC	General Comment
GCF	Green Climate Fund
GEF	Global Environment Facility
HRC	Human Rights Committee
IACtHR	Inter-American Court of Human Rights
IASC	Inter-Agency Standing Committee
ICCPR	International Covenant on Civil and Political Rights
ICERD	International Convention on the Elimination of All Forms of Racial Discrimination
ICESCR	International Covenant on Economic, Social and Cultural Rights

ICJ	International Court of Justice
ICLQ	International & Comparative Law Quarterly
ICRMW	International Convention on the Protection of Rights of All Migrant Workers and Members of Their Families
ICSID	International Centre for Settlement of Investment Disputes
IDMC	Internal Displacment Monitoring Center
IDP	Internally Displaced Person
IHL	International humanitarian law
IIED	International Institute for Environment and Development
ILA	International Law Association
ILC	International Law Commission
ILO	International Labour Organization
INC	Intergovernmental Negotiating Committee for a Framework Convention on Climate Change
IOM	International Organization of Migration
IPCC	Intergovernmental Panel on Climate Change
ITLOS	International Tribunal for the Law of the Sea
LCA	Long-term cooperative action
LCIA	The London Court of International Arbitration
LDC	Least Developed Country
LDCF	Least Developed Country Fund
LECZ	Low-elevation coastal zones
LEG	Least Developed Country Expert Group
MLR	Modern Law Review
MPEPIL	Max Planck Encyclopedia of Public International Law
MPI	Migration Policy Institute
NAP	National Adaptation Plan
NAPA	National Adaptation Programmes of Action
NASA	National Aeornautics and Space Administration
NC	National Communication
NDC	Nationally Determined Contribution
NOAA	National Oceanic and Atmospheric Administration
NRC	Norwegian Refugee Council
NWP	Nairobi Work Programme
NZHC	High Court of New Zealand

NZIPT	New Zealand Immigration and Protection Tribunal
NZSC	Supreme Court of New Zealand
OAU	Organisation of African Unity
OECD	Organisation for Economic Co-operation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
OUP	Oxford University Press
PCA	Permanent Court of Arbitration
PDD	Platform on Disaster Displacement
PIFS	Pacific Islands Forum Secretariat
RECIEL	*Review of European, Comparative and International Environmental Law*
RIAA	*Reports of International Arbitral Awards*
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCCF	Special Climate Change Fund
SPC	Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
UDHR	The Universal Declaration of Human Rights
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification in in those Countries Experiencing Serious Drought and/or Desertification
UNCHR	United Nations Commission on Human Rights
UNDP	United Nations Development Programme
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEP	United Nations Environment Programme
UNGA	United Nations General Assembly
UNHCR	United Nations High Commissioner for Refugees
UNHRC	United Nations Human Rights Council
UNICEF	United Nations Children's Fund
UNISDR	United Nations Office for Disaster Risk Reduction
VCLT	Vienna Convention on the Law of Treaties
WFP	World Food Programme
WHO	World Health Organization
WIM	Warsaw International Mechanism for Loss and Damage
WTO	World Trade Organization

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Chapter 1: Introduction

I. Introduction

Climate change is a now a reality, altering ecosystems and natural environments. Its impacts disproportionately affect certain developing countries and vulnerable individuals and communities in these countries. This thesis turns to international law, and the climate change regime in particular,[1] for proactive, anticipatory means to address these impacts and respond to the risks for those most vulnerable. To accomplish this, the arguments look to adaptation and obligations related to adaptation in the regime. These adaptation obligations include duties to act on, assist with, and cooperate in adaptation.

While adaptation under the regime can take a variety of forms, the focus of the analysis is on human mobility as adaptation—or what this thesis refers to as adaptive mobility.[2] Adaptive mobility is characterized by anticipatory, proactive and precautionary movement. Such movement occurs before people experience significant harm from climate

[1] The climate change regime refers to climate agreements—the United Nations Framework Convention on Climate Change (UNFCCC), Kyoto Protocol, and Paris Agreement—and the Conference of the Parties (COP), their institutions and bodies, and the rules, decisions, and practices they create. See UNFCCC (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107; Kyoto Protocol to the UNFCCC (adopted 11 December 1997, entered into force 16 February 2005) 2303 UNTS 162 (Kyoto Protocol); Paris Agreement to the UNFCCC (adopted 12 December 2015, entered into force 4 November 2016) UN Doc FCCC/CP/2015/L.9/Rev/1 (Paris Agreement). See also Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law* (OUP 2017) 10; Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures* (CUP 2005) 3 (regime also includes the international scientific and funding bodies related to climate change).

[2] While adaptation is the focus of the thesis, the current workstreams of the climate change regime have some overlap. For example, mitigation refers to efforts to prevent or reduce the causes of climate change, thereby lessening the overall need for adaptation. Loss and damage includes efforts to avert, minimize, and address the harm caused by climate change. The more mitigation and adaptation succeeds, the less residual damage will occur. See Intergovernmental Panel on Climate Change (IPCC), 'Annex II: Glossary', in Core Writing Team, Pachauri RK and Meyer LA (eds), *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the IPCC* (2014) 125; 'Non-Economic Losses in the Context of the Work Programme on Loss and Damage' (2013) FCCC/TP/2013/2; Paris Agreement arts 7.4, 8.

change, which helps avoid precarious migration and displacement. It includes movement within and between States.[3] Emphasis on and argument for this kind of mobility is driven, in part, by the migrants I have worked with throughout my legal career. From asylum seekers in the United States to communities facing forced relocation in Southeast Asia, these individuals faced or experienced movement with little outside support or concern for their well-being. Without concerted, cooperative efforts to address climate change, an increasing number of people will likely undertake uncertain, insecure journeys elsewhere.[4] It is also motivated by the so-called 'gaps in protection' under current international law. Within the thesis, protection is concerned with the provision of legal status, a legal means to move, and action to ensure human rights.[5] Gaps in legal protection are briefly outlined in this chapter to illustrate that shortcomings in these frameworks often result from their focus on displacement, or the forced movement of people from their homes, and tendency to provide

[3] The thesis uses States to refer to those countries who are bound by the obligations within the climate change regime. While there is no formal definition of a State in international law, the term broadly refers to an independent country with standing in international law. See Montevideo Convention on the Rights and Duties of States (adopted 26 December 1963, entered into force 26 December 1934) 165 LNTS 19 art 1 (setting out criteria of statehood; treaty also widely considered customary law); James Crawford, *The Creation of States in International Law* (2nd edn, Clarendon Press 2006) 40–45 (on the concept of statehood). See also Matthew Craven and Rose Parfitt, 'Statehood, Self-Determination, and Recognition' in Malcolm D Evans (ed), *International Law* (5th edn, OUP 2018). The terms country and countries are also used—often synonymously with States. Climate agreements refer to Parties; and the regime uses both States and countries. As noted below, there is wide to near universal participation in the climate agreements analysed. See nn 183, 193.

[4] As early as its first report, the IPCC warned the 'gravest effects of climate change may be those on human migration as millions are displaced by shoreline erosion, coastal flooding and severe drought.' IPCC, 'Climate Change: The 1990 and 1992 IPCC Assessments, IPCC First Assessment Report Overview and Policymaker Summaries and 1992 IPCC Supplement' (IPCC 1992) 103.

[5] Protection has specific meanings under different areas of international law. This thesis focuses on legal mobility, status, and human rights. It adopts the idea that protection 'refers to a desired outcome–where rights are acknowledged, respected, and fulfilled by those under a duty to do so, and as a result of which, dignity and freedom is enhanced.' Office of the United Nations High Commissioner for Human Rights (OHCHR), 'The OHCHR Plan of Action: Protection and Empowerment' (2005) 12. See also United Nations High Commissioner for Refugees (UNHCR), 'Note on International Protection' (2018) EC/SC/69/CRP.8 paras 5, 13 (protection entails activities aimed at full respect for the rights of individuals; it goes beyond promoting legal standards to activities that ensure their respect in practice).

legal status and protection of rights only after people have moved or crossed State borders. In contrast, adaptive mobility and the measures to support and enable it—also referred to as adaptive mobility measures in the thesis—aim to plan for and facilitate movement that both embodies precaution and that incorporates the impending, known risks posed by climate change. It begins from the premise that that such mobility is more likely to result in positive, human rights-protective outcomes. Furthermore, as the thesis argues, adaptive mobility is a form of adaptation to climate change that States are obliged to facilitate in certain circumstances.

To reach this conclusion, the thesis explores the role adaptation obligations play in shaping and guiding State actions and policies. It argues that these obligations must be understood in a holistic, integrated manner. Thus, they are part of the broader international legal system, as well as a key feature of the evolving, dynamic climate change regime. The climate change regime provides the foundation for an argument that States must undertake adaptive mobility. Its obligations and principles, including a focus on precautionary action and differentiated obligations, compels anticipatory measures and creates a cooperative framework for action and assistance. Human rights are also critical to adaptive mobility, and to better ensuring safe, dignified conditions for people before, during, and after movement.

Accordingly, to bring human rights to bear on mobility under the climate change regime, this thesis argues for the integration of rights into the interpretation and application of adaptation obligations. Systemic integration, as well as the application of the operative principles of the regime, provides the basis for the key arguments of this thesis. Foremost, as a result of the interpretive process, States must act to address foreseeable risks to human rights. In doing so, and because of concern arising from human rights law, they must prioritize those most vulnerable to climate change. As the arguments will demonstrate, in certain circumstances this requires that States plan for adaptive mobility and implement

adaptive mobility measures. Furthermore, in light of the principles and differentiation in the regime, developed countries are obliged to support developing countries in their adaptive mobility measures. This leads to support for efforts to protect vulnerable people in locations facing some of the greatest risks from climate change. To illustrate the potential for adaptive mobility in action, the thesis also looks to several developing country and regional contexts. These examples highlight developed countries' obligations to assist across contexts, in order to ensure that vulnerable developing countries are able to undertake the kind of anticipatory, proactive mobility advanced by the thesis.

II. Structure of the thesis

This introductory chapter lays the foundation for the rest of the thesis. Section III explains the analytical focus on climate change adaptation and sets out the concept and importance of adaptive mobility. It also explains other key concepts and terminology, in particular how mobility and vulnerability are understood in the thesis. Section IV then discusses certain foundational assumptions that are necessary for subsequent arguments to build upon. This includes the evidentiary basis for observations and predictions of the adverse impacts of climate change—referred to as climate impacts—as well as the disproportionate way climate change affects many developing countries. This chapter closes by briefly analysing the gaps in legal protection under other international protection regimes, gaps that this thesis speaks to through adaptive mobility.

Chapter 2 analyses adaptation and its evolution within the climate change regime. It argues that climate change adaptation is a process, one that necessarily evolves in anticipation of or to address changing conditions. Thus, it is both a form of precaution in action and a response to a given context, which includes socio-economic, cultural, and environmental conditions. As the adaptation obligations in the regime are the primary driver of adaptive mobility, the bulk of the chapter interprets these obligations. It looks to the

United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement to identify three adaptation obligations: to act on adaptation, including by planning for and implementing measures; for certain developed States to assist with adaptation, primarily through financial support; and to cooperate in adaptation efforts.[6] Interpretation of these obligations is also guided and shaped by the principles of the regime.[7] These principles serve this role for two reasons. First, they are the operative principles of the UNFCCC and remain applicable to the Paris Agreement. Second, they are part of the interpretive context of the treaty and thus must be included in an understanding of obligations.[8] The principles of precaution, equity, and common but differentiated responsibilities and respective capabilities (CBDRRC) are particularly important. The principle of precaution compels State action to address the serious or irreversible threats climate change poses, even in the face of uncertainty. It anchors arguments for proactive, anticipatory movement. Equity and CBDRRC are foundational to differentiated obligations: developing countries are owed assistance in adaptation and developed countries owe assistance.[9] Finally, the chapter introduces other textual provisions of climate agreements, including the preambular recognition of human rights obligations in the Paris Agreement.[10] Like operative principles, these form a part of the treaty context that are central to the

[6] See UNFCCC arts 4(1)(b), 4(1)(e), 4(3), 4(4); Paris Agreement arts 7.1, 7.13, 9.1. The Kyoto Protocol also includes an adaptation obligation, that essentially restates art 4(1)(b) of the UNFCCC. See Kyoto Protocol art 10(b). However, as the Protocol is focused on mitigation, and is effectively replaced by the Paris Agreement, it is not analysed herein.

[7] See UNFCCC art 3.

[8] See Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331(VCLT) art 31(2).

[9] See n 53; ch 2, III.B.2, discussing which developed countries owe assistance.

[10] See Paris Agreement preamble.

interpretation and application of adaptation obligations. The preamble can also shed light on the object and purpose of the Agreement.

Chapter 3 builds on the analysis of the climate change regime and focuses on the interpretive process. It starts from an underlying assumption of the thesis that international law is a system that should aim for coherence and consistency. To that end, chapter 3 argues that the tools of treaty interpretation provide a means to understand adaptation obligations in a way that accords with the broader international legal system. The central methodology of the thesis relies on the interpretive process and the use of its tools, to focus on the terms of climate agreements, their context, the object and purpose of the treaties, and the systemic integration of relevant rules of international law.[11] While these are all part of a single interpretive process,[12] the analysis examines how each element contributes to an interpretation of adaptation obligations that requires States to take anticipatory and precautionary adaptation measures. The chapter demonstrates that the integration of international human rights law is necessary, setting out the steps that lead to such a conclusion: it establishes the general relevance of human rights law, argues for an evolutive interpretation in line with the nature of adaptation and the climate change regime, and discusses the broad applicability of human rights to the Parties.

Chapter 4 integrates specific human rights and their positive duties into the climate change regime. It begins with an analysis of vulnerability under human rights law, which when combined with a focus on vulnerable developing countries in the regime prioritizes those most vulnerable to climate impacts in some of the most vulnerable places in the world. Rights associated with mobility are briefly analysed next. A human right to mobility, which allows people to move freely, is a premise that both motivates the thesis and underpins

[11] See VCLT arts 31(1), 31(2), 31(3)(c).

[12] See ch 3, n 432.

adaptive mobility. Related rights affect the experience of mobility. The rights to the liberty of movement and the freedom to choose one's residence within a country can protect against forced displacement, but their applicability is narrowed by the need for lawful presence. Likewise, the right to leave any country is limited by the lack of a general right to enter another country. While these rights can inform how adaptive mobility is undertaken, the positive duties associated with them are also underexplored. Due to their limitations, the thesis does not rely on mobility rights to establish arguments for adaptive mobility. While the interdependence and indivisibility of human rights are not disputed,[13] the analytical work to support the arguments of the thesis is borne by other rights. As this chapter argues, certain substantive rights—to life and to an adequate standard of living—are critical to survival and subsistence in the face of adverse climate impacts. They also play a significant role in whether a person is able to stay or move elsewhere. Integration of positive duties associated with these rights—through the interpretive process of the thesis—requires States to take action in the face of foreseeable risks from climate impacts to ensure *inter alia* access to minimum essential resources and a life with dignity. In certain circumstances, these duties will necessitate that States plan for adaptive mobility and implement adaptive mobility measures. Procedural rights of participation in decision-making and access to information are also key to States' adaptation measures; integrating their positive duties into adaptation obligations translates into the provision of information, participation, and consultation by the State, thereby including affected persons' input in the process of adaptive mobility. Additionally, the chapter applies the regime's precautionary principle to reinforce and transform obligations, strengthening arguments for anticipatory action that can address

[13] Climate change creates a paradigmatic example of the indivisibility of human rights; its impacts will hinder the enjoyment of many rights. Erin Daly and James R May, 'Indivisibility of Human and Environmental Rights' in James R May and Erin Daly (eds), *Human Rights and the Environment: Legality, Indivisibility, Dignity and Geography*, Elgar Encyclopedia of Environmental Law Series, vol VII (EEP 2019) 175.

foreseeable risks. In contrast to reliance on human rights alone, the thesis demonstrates that their use combined with precaution can trigger adaptive action sooner to address the potential or actual risks posed by climate change. Finally, this chapter argues that duties from human rights law can also be integrated into adaptation obligations of assistance and cooperation. As with adaptation measures, such support is shaped by the principles of the regime—namely equity and CBDRRC—which require developed countries to support developing countries adaptation efforts, including adaptive mobility. This support is crucial when developing countries lack capacity to undertake adaptation or provide essential resources.

The last substantive chapter puts the arguments of the thesis in action. Chapter 5 uses several developing country and regional contexts to provide concrete examples where the interpretive process of the thesis gives rise to duties on adaptive mobility. These contexts—Bangladesh, the Pacific Island States, and the Sahel region—are demonstrative of vulnerable developing countries expected to face significant and foreseeable climate impacts, and thus require support from developed countries. Each of the examples shows the importance of local conditions, and the varying threats posed by climate impacts. They illustrate different perspectives on mobility and the need for different forms of adaptive mobility, including facilitated migration and planned relocation within and across borders. Together they serve several purposes. First, they seek to operationalize the legal arguments of the thesis to demonstrate how integration of rights, knowledge about climate impacts, and precaution can compel and shape adaptation. They further illustrate that the cumulative effect of the risks to rights prompts the need for adaptive action. Second, they provide a means to establish how mobility might unfold in the event that the obligatory State action outlined in the thesis is not forthcoming, in other words, without rights-based adaptive mobility. This is contrasted with potential adaptive mobility measures that enable anticipatory, proactive movement that ensures human rights. Third, they provide insight into the ambitions and limitations of

adaptive mobility. Indeed, while not dictating action, the chapter provides measures that could satisfy adaptation obligations, including specific forms of support. Overall, the chapter argues that the integration of human rights throughout the process of adaptation leads to improved outcomes for those most vulnerable to climate change. It makes the case for adaptive mobility specifically, in order to avoid forced movement or displacement.

The final chapter underscores the importance of adaptive mobility and offers conclusions. Chapter 6 summarizes the progression of arguments and the key contributions the thesis seeks to make. Foremost, adaptive mobility, with its inclusion of longer-term planning, anticipatory action, and human rights, can better account for and assist those vulnerable to climate impacts to ensure safer journeys and conditions upon arrival. The obligation of developed countries to support developing countries is critical to the implementation of adaptive mobility measures and success of adaptive mobility. Clarifying these obligations is a key addition of the arguments. More broadly, the thesis aims to add to discourse on how to address the harm to humanity from climate impacts. Climate change poses a massive and foreseeable global challenge and puts at risk the survival of people and the planet. Creative and innovative solutions—across disciplines—are urgently needed. This thesis looks to the existing tools of international law and the ongoing evolution of the climate change regime to propose such a solution for the human mobility that can and will ensue in the face of climate impacts.

III. Analytical focus: adaptive mobility and integrating human rights

As established above, the analytical focus of the thesis is on the principles and adaptation obligations of the climate change regime, human mobility, and human rights law. This focus is based on several foundational assumptions and arguments upon which the thesis rests. These include the meaning of adaptive mobility and its general relationship to human rights, the way vulnerability is understood, and the reasons for integrating human rights law into

adaptation obligations. The framing of these issues, as set out below, is important as it shapes the parameters of the analysis and consequently, the arguments that are excluded.[14] The latter includes issues that may be relevant, but that are beyond the scope of the thesis.

A. Terminology and the framing of mobility

Human mobility in the context of climate change—as well as mobility more broadly—is defined and framed in a variety of ways. To avoid confusion, this thesis adopts the language of the climate change regime, which has referred to three forms of 'climate change induced' movement: displacement, migration and planned relocation.[15] While recognising that some degree of agency and compulsion is involved in most movement,[16] this thesis contrasts displacement with anticipatory, proactive movement to emphasize the latter's adaptive potential.[17] Hereinafter, displacement encompasses movement that is predominately forced, and something adaptation can help reduce or avoid.[18] When movement is broadly described

[14] As Harro van Asselt notes, no simple or single solution for climate change exists and solving climate related problems 'will depend on how one defines the problem in the first place.' Harro van Asselt, *The Fragmentation of Global Climate Governance: Consequences and Management of Regime Interactions* (EEP 2014) 3–4.

[15] Decision 1/CP.16, 'The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention' (15 March 2011) FCCC/CP/2010/7/Add1 (Cancun Agreements) para 14(f). See The Nansen Initiative, 'Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change' (2015) Vol 1 (Protection Agenda) paras 8, 16-22 (echoing regime's language).

[16] See Graeme Hugo, 'Environmental Concerns and International Migration' (1996) 30 Intl Migration Rev 105, 107; Walter Kälin and Nina Schrepfer, 'Protecting People Crossing Borders in the Context of Climate Change Normative Gaps and Possible Approaches' (UNHCR 2012) 22.

[17] As discussed in chapters 4 and 5, planned relocation in this thesis involves State action/facilitation and the participation of affected communities for resettlement elsewhere in conditions that ensure human rights. For general guidance, see The Brookings Institution, Georgetown University and UNHCR, 'Guidance on Protecting People from Disasters and Environmental Change through Planned Relocation' (2015); Protection Agenda (n 15) paras 94-95, 121-22.

[18] See United Nations Human Rights Council (UNHRC), 'The Slow onset effects of climate change and human rights protection for cross-border migrants' OHCHR (22 March 2018) UN Doc A/HRC/37/CRP.4 (Slow Onset Study) para 16 (this study was undertaken by the author on behalf of OHCHR).

the term 'human mobility' or 'mobility' is used.[19] However, as discussed below, the primary form of mobility advocated for in the thesis is 'adaptive mobility', which includes anticipatory, proactive migration and planned relocation. The term 'migrant' or 'migrants' refers to people on the move generally, both within and across borders; they are descriptive and do not denote a legal category.[20] Reference to individuals with specific legal entitlements under international law—such as refugees or stateless persons—will be made in the text as appropriate.

Furthermore, the narratives constructed around the different framings of mobility have consequences for the types of responses considered appropriate and the agendas they may serve. For example, the perception that climate-related mobility is or will become primarily a national security threat allows for militarized responses to migrants. Such a narrative can undermine human rights-based approaches and deflect the blame for movement from those causing climate change to those suffering its consequences.[21] It can foment fear

[19] See SBSTA and SBI, 'Report of the Executive Committee of the Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts' (14 November 2017) FCCC/SB/2017/L.5 para 13(c) (using 'human mobility' to refer to these three forms of movement). The term 'retreat' has also been used. For example, one of the IPCC's special reports describes 'retreat' as moving exposed people via migration, displacement, or relocation. IPCC, *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (HO Pörtner and others (eds), IPCC 2019) 4–86. This thesis does not adopt the language of retreat, as it implies a militaristic form of response that makes climate impacts the enemy—rather than their human causes—and could enable a shift in focus away from the rights of migrants.

[20] The UN International Organization on Migration (IOM) also uses migrant as an umbrella term that refers to 'a person who moves away from his or her place of usual residence, whether within a country or across an international border, temporarily or permanently, and for a variety of reasons.' IOM, 'Glossary on Migration' (2019) IML Series No 34 130. Within the climate change regime, the Paris Agreement preamble recognises the rights of 'migrants.' Paris Agreement preamble; analysed further in Maria Pia Carazo, 'Contextual Provisions (Preamble and Article 1)' in Daniel Klein and others (eds), *The Paris Agreement on Climate Change: Analysis and Commentary* (OUP 2017) 114–16.

[21] For more, see e.g., Betsy Hartmann, 'Rethinking Climate Refugees and Climate Conflict: Rhetoric, Reality and the Politics of Policy Discourse' (2010) 22 J of Intl Development 233, 234–35; Lauren Nishimura, '"Climate Change Migrants": Impediments to a Protection Framework and the Need to Incorporate Migration into Climate Change Adaptation Strategies' (2015) 27 Intl J of Refugee L 107, 120–21. See also OHCHR, 'Situation of Migrants in Transit' (2016) para 64 (noting increasingly militarized and security-centred response to migrants). Severe climate impacts may also give rise to

and justify restrictions by developed countries, many of which are already imposing barriers to international mobility.[22] The national security narrative is in part premised on sweeping projections about the scale of climate displacement,[23] which is both not necessarily reflective of what is expected to occur or what *must* occur[24], as measures can be taken to help ensure that such displacement is not an inevitability.[25] Most climate-related mobility is likely to

emergency situations, allowing derogation from certain human rights. See International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 (ICCPR) art 4; 'Climate Change and Human Rights: A Rough Guide' (International Council on Human Rights Policy 2008) 5; Emanuele Sommario, 'Limitation and Derogation Provisions in International Human Rights Law Treaties and Their Use in Disaster Settings' in Flavia Zorzi Giustiniani and others (eds), *Routledge Handbook of Human Rights and Disasters* (Routledge 2018) 105–6, 111–12. But see Walter Kälin, 'The Human Rights Dimension of Natural or Human-Made Disasters Focus: Disaster Preparedness and Response' (2012) 55 German YB of Intl L 119, 128–31 (derogations likely impermissible but limitations to specific rights are possible in disaster settings); Bruce Burson, Walter Kälin, Jane McAdam and Sanjula Weerasinghe, 'The Duty to Move People Out of Harm's Way in the Context of Climate Change and Disasters' (2018) 37 Refugee Survey Q 379, 396 (high threshold for emergency unlikely reached by disasters currently). However, as chapter 4 argues, many of the rights obligations and duties analysed in the thesis are non-derogable or must continue to be met even in times of disaster.

[22] These include policies and practices that criminalise entry or stay, erect fences, close borders, and have resulted in the use of violence, pushbacks and interceptions, and administrative detention. See OHCHR, 'Migrants in Transit' (n 21) paras 19-27, 39-45, 49-54. Policies like these may do little to control mobility, while limiting the benefits of migration for all involved. Jon Barnett and Michael Webber, 'Accommodating Migration to Promote Adaptation to Climate Change' (World Bank 2010) Policy Research Working Papers No 5270 19 (citing various studies to prove this point).

[23] See, e.g., Norman Meyers, 'Environmental Refugees' (1997) Population and Environment 19 (estimating 150 to 200 million could be displaced); Nicholas Stern, *The Economics of Climate Change: The Stern Review* (CUP 2007) ch 3 (replicating Meyer's estimate); Bodansky, Brunnée and Rajamani (n 1) 313 (noting 'guestimates' about scale of displacement vary from 25 million to 2 billion); Kanta Kumari Rigaud and others, 'Groundswell: Preparing for Internal Climate Migration' (World Bank 2018) (combined 143 million may be internally displaced in the three regions analysed).

[24] See, e.g., François Gemenne, 'Why the Numbers Don't Add up: A Review of Estimates and Predictions of People Displaced by Environmental Changes' (2011) 21 Global Environmental Change S41 (laying out criticisms of various estimates and the use of predictions); Giovanni Bettini and Giovanna Gioli, 'Waltz with Development: Insights on the Developmentalization of Climate-Induced Migration' (2016) 5 Migration and Development 171, 177 (inaccurate projections justify national security framing that fails to account for adaptive capacity); Ilan Kelman, 'Imaginary Numbers of Climate Change Migrants?' (2019) 8 Social Sciences 1.

[25] Adaptive mobility, for example, is one means to reduce displacement.

occur within countries—at least initially—or cross borders to nearby States.[26] The connection between climate change, conflict, and mobility has also been portrayed as a national security threat, particularly to developed States.[27] The UN Environment Programme (UNEP) estimates that 40 per cent of intrastate conflict over the last six decades is linked to natural resources or environmental degradation.[28] Yet little evidence draws a *direct* connection between climate change and conflict.[29] The interaction between the two is not the focus of the thesis,[30] but it does affect the context in which adaptation and adaptive mobility are undertaken and thus, must be considered in adaptation planning and implementation.[31]

In contrast to a national security narrative, mobility in the thesis focuses on the risks to people and their rights to enable movement that is proactive, precautionary, and in advance of foreseeable harm. Such movement can help ensure continued access to rights, including those related to mobility. When affected persons' rights and needs are central, it affords discussion of solutions focused on the risks to people. These solutions—which may consider *inter alia* access to food, water, health, housing, livelihoods and the conditions in transit and

[26] See nn 91-92 and accompanying text.

[27] For example, the uprisings in Syria or violence in Darfur have been used to argue that climate impacts, in part, trigger conflict that leads to international mobility. See Colin P Kelley and others, 'Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought' (2015) 112 Proceedings of the National Academy of Sciences 3241; Hartmann (n 21). But see WN Adger and others, 'Human Security', in CB Field and others (eds), *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP 2014) 773 (describing research that disputes this idea).

[28] UNEP, 'From Conflict to Peacebuilding: The Role of Natural Resources and the Environment' (2009) 30.

[29] See Adger and others (n 27) 758.

[30] For more on this connection and cross-border movement, see Sanjula Weerasinghe, 'In Harm's Way: International Protection in the Context of Nexus Dynamics Between Conflict or Violence and Disaster or Climate Change' (UNHCR 2018).

[31] See ch 5, II.C discussing the Sahel.

at destination—contribute to better outcomes for people and help avoid the kind of displacement security narratives are built upon. This is particularly the case when impacts to host communities are also taken into account, and when mobility involves more choice than compulsion.[32] Moreover, the focus on people and their rights—as argued for in the thesis—translates into State action at different points in the process of adaptation. Such a process, as discussed further in chapter 2, may include measures to adapt *in situ*, plans for adaptive mobility, implementing adaptive mobility measures, and ensuring the continued rights of people in transit and at destination. Chapter 5 provides examples where the limits to *in situ* adaptation are illustrated: at some point such adaptation, whether it is the building of more infrastructure or shifts in land use or agriculture, may become inefficient, too costly, or simply will no longer suffice to sustain a dignified life. Mobility will follow, and how it is undertaken affects the experience of those affected throughout the process and at places of destination.

B. Adaptive mobility

Mobility has long been a form of adaptation, one which people undertake with or without State involvement. People have moved to avoid harm from disaster and environmental change throughout human history.[33] Similarly, when livelihood opportunities are constrained, a variety of adaptation strategies are employed, including temporary or permanent

[32] Discussed further in ch 5, II.B. When mobility is forced, more stress and greater disruptions ensue. See, e.g., IPCC, '*Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, A Special Report of Working Groups I and II of the IPCC (CB Field and others (eds), CUP 2012) 300; Protection Agenda (n 15) paras 94-98.

[33] See ch 4, II for examples of past mobility patterns associated with environmental change; François Gemenne, 'The Refugees of the Anthropocene' in Benoît Mayer and Francois Crepeau (eds), *Research Handbook on Climate Change, Migration and the Law* (EEP 2017) 398 (environmental changes are now a major—if not the main—driver in mobility).

migration.[34] Mobility is used as a means to build resilience, to reduce pressure on households with limited resources, and to provide remittances to those left in places of origin. In the aggregate, migration as adaptation often contributes to increasing the adaptive capacity of those left behind (although not always[35]) and can lead to benefits for receiving communities.[36] Without protection of rights or safe pathways to travel, however, people are often forced into irregular migration that entails serious risks of human rights violations.[37]

Adaptive mobility offers a means to better ensure human rights. Adaptive mobility measures can provide access to move safely within a country, and offer legal pathways to migrate abroad, while taking advantage of the established obligations and mechanisms of the climate change regime. The idea that mobility is a means to adapt to climate change is not new.[38] Yet an anticipatory, proactive approach grounded in States' legal obligations and precaution provides a novel way to conceive of climate-related mobility. It roots rights in the climate change regime, and as argued in chapter 4, centres action on addressing the potential and continued risks to life, livelihoods, and other human rights as an aspect of fulfilling legal obligations on adaptation. Indeed, the direct integration of rights into adaptive mobility is a central benefit—and opportunity—of anchoring mobility within the obligations of the

[34] See Stephen Castles, Hein de Haas and Mark J Miller, *The Age of Migration: International Population Movements in the Modern World* (5th edn, Palgrave Macmillan 2013) 212.

[35] See n 1101.

[36] See Barnett and Webber (n 22) 22.

[37] See OHCHR, 'Migrants in Transit' (n 21); 'Slow Onset Study' (n 18) paras 50-52.

[38] See, e.g., Foresight, 'Migration and Global Environmental Change' (UK Government Office for Science 2011) Final Project Report 173–88; Jon Barnett and Michael Webber, 'Migration as Adaptation: Opportunities and Limits' in Jane McAdam (ed), *Climate Change and Displacement: Multidisciplinary Perspectives* (Hart Publishing 2010); Koko Warner and Tamer Afifi, 'Enhancing Adaptation Options and Managing Human Mobility: The United Nations Framework Convention on Climate Change' (2014) 81 Social Research 299; IPCC, 'Summary for Policymakers', in *Climate Change 2014, Part A* (n 27) 20; IPCC, 'Ocean and Cyrosphere Report' (n 19) CCB9-9 (citations omitted).

regime. Adaptive mobility is thus part of a State's process of adaptation. As a result, planning, an account for the potential and actual impacts to resources, implications for livelihoods and rights, and a suite of options for action are among the considerations possible for adaptive mobility measures.[39] Precaution in the regime shapes these measures to avoid significant harm despite uncertainty, and to prompt action sooner rather than after the such damage has occurred. Moreover, while this thesis focuses on legal analysis, others have argued that addressing mobility within the regime is politically feasible, and more so than the creation of a new legal agreement or regime.[40]

There are, however, obstacles and limitations to arguments founded upon adaptation and international obligations. In general, the Intergovernmental Panel on Climate Change (IPCC) has called the acceptance of migration as adaptation a 'particularly sensitive issue'; however, it recognises that such movement can reduce or avoid future humanitarian crises.[41] Migration as a form of adaptation has also been criticised as shifting the responsibility for adapting to climate change onto the vulnerable or reducing migrants to their economic function in a society.[42] Yet these conclusions do not recognise the role States can play in

[39] As illustrated in ch 5, II and III.

[40] See, e.g., Mariya Gromilova, 'Finding Opportunities to Combat the Climate Change Migration Crisis: The Potential of the "Adaptation Approach"' (2016) 33 Pace Environmental L Rev 105, 146; Benoît Mayer, *The Concept of Climate Migration: Advocacy and Its Prospects* (EEP 2016) 37, 89, 147 (notes social and political demand for reform related to climate migration). See also Margaux J Hall and David C Weiss, 'Avoiding Adaptation Apartheid: Climate Change Adaptation and Human Rights Law' (2012) 37 Yale J of Intl L 309, 330, 356, 362–63 (political support is more likely for the application of human rights to adaptation versus mitigation). For criticisms of a new agreement or mechanism, see Jane McAdam, 'Swimming against the Tide: Why a Climate Change Displacement Treaty Is Not the Answer' (2011) 23 Intl J of Refugee L 2; Kälin and Schrepfer (n 16); Jane McAdam, *Climate Change, Forced Migration, and International Law* (OUP 2012) ch 7; Bodansky, Brunnée and Rajamani (n 1) 323.

[41] IPCC, *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* (PR Shukla and others (eds), IPCC 2019) 4–69.

[42] See Bettini and Gioli (n 24) 183; Mayer (n 40) 135; Silja Klepp and Libertad Chavez-Rodriguez, 'Governing Climate Change: The Power of Adaptation Discourses, Policies, and Practices' in Silja

shaping positive outcomes, and the potential for collective action to reframe and help realize new forms of mobility. More broadly, while this thesis is premised on the importance of international law, adaptation requires multiple levels of governance and actors due to the polycentric nature of institutional authority and the issues it creates.[43] The analysis further bears in mind Jane McAdam's call to return to first principles, and warning that the use of existing legal tools might constrain thinking, but it takes seriously requests by some States and international actors to find solutions using existing law.[44] Thus, international law alone does not offer a complete solution to mobility in the context of climate change. And while mobility provides 'transformative opportunities for communities, households, and individuals in a changing climate' it is not 'the panacea for human development challenges and/or climate change adaptation'.[45]

Additionally, adaptive mobility is not without the potential for negative consequences. All movement can entail rights issues and unavoidable losses. Leaving one's home is often a significant physical, economic and emotional challenge, requiring a shift in

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Klepp and Libertad Chavez-Rodriguez (eds), *A Critical Approach to Climate Change Adaptation: Discourses, Policies, and Practices* (Routledge 2018) 18.

[43] For emphasis on other international and regional institutions, see, e.g., Cinnamon P Carlarne, 'International Treaty Fragmentation and Climate Change' in Daniel A Farber and Marjan Peeters (eds), *Climate Change Law*, Elgar Encyclopedia of Environmental Law Series, vol I (EEP 2016) 270. See also Elizabeth Fisher, Eloise Scotford and Emily Barritt, 'The Legally Disruptive Nature of Climate Change' (2017) 80 MLR 173, 174–75, 178–79 (range of actors involved in addressing climate change can lead to legal disruption).

[44] See Jane McAdam, 'From the Nansen Initiative to the Platform on Disaster Displacement (PDD): Shaping International Approaches to Climate Change, Disasters and Displacement' (2016) 39 University of New South Wales L J 1518, 1539; The Nansen Initiative, 'Global Consultation Conference Report: Geneva, 12–13 October 2015' (2015) 110–11, 140 (statements made by EU and Lesotho delegation representatives); IOM, 'No 18 International Dialogue on Migration: Climate Change, Environmental Degradation, and Migration' (2012) 30. See also James C Hathaway, 'Afterword' in *Research Handbook on Climate Change, Migration and the Law* (n 33) 468 (addressing climate mobility should be anchored in binding international law but go beyond its 'extant structures' to incorporate the 'creative re-imagining of legal norms').

[45] Carol Farbotko and others, 'Transformative Mobilities in the Pacific: Promoting Adaptation and Development in a Changing Climate' (2018) 5 Asia & The Pacific Policy Studies 393, 394.

how home and life are conceived. This thesis does not attempt to downplay these challenges, many of which are simply beyond the scope of a legal analysis. Some implications of these challenges are provided in the examples in chapter 5, which also contribute to differing views of mobility as a form of adaptation, an end of adaptation, or the result of a failure to adapt. For example, planned relocation can be seen as a means to eliminate all risks *in situ* or adapt, and/or a measure of last resort.[46] Yet when undertaken in the manner argued for in the thesis—with proactive planning, implementation of a human rights-based approach, and the participation of affected communities—losses or harm can be reduced or prevented.[47] Anticipatory action can also avoid more costly emergency measures or assistance needed when people are forcibly displaced.[48]

Furthermore, by incorporating positive duties to address the socio-economic conditions that contribute to risks to rights—as chapter 4 argues—adaptive action need not be premised on climate impacts being the *only* or even primary driver of mobility. Instead, adaptive mobility recognises that climate impacts—and foreseeable risks from them—play a key but not exclusive role in whether an individual moves. This accords with the multi-causality of most movement. Environmental conditions interact with a range of other societal factors and individual vulnerabilities to influence decisions about whether to stay or move.[49] Recognition of the multiple and varied ways climate impacts affect mobility helps avoid the need to prove that climate change causes mobility,[50] a barrier that has been identified to

[46] See IPCC, 'Ocean and Cyrosphere Report' (n 22) 4.85. See also n 735, 929, 930, 1019 and accompanying text.

[47] See n 32; Karen E McNamara and others, 'The Complex Decision-Making of Climate-Induced Relocation: Adaptation and Loss and Damage' (2016) 18 Climate Policy 111.

[48] See IPCC, 'Managing Risks' (n 32) 415.

[49] See 'Slow Onset Study' (n 18) para 12; Foresight (n 38) 11–12.

[50] See Andrew Baldwin and Elisa Fornalé, 'Adaptive Migration: Pluralising the Debate on Climate Change and Migration' (2017) 183 The Geographical Journal 322, 323 (discourse about adaptive

climate litigation or protection based on a category of migrant (the so-called 'climate refugee' or 'climate migrant').[51] Instead, adaptive mobility incorporates a precautionary approach, as well as the scientific community's unequivocal conclusion that anthropogenic emissions are responsible for the intensification, increased frequency, and acceleration of the impacts of climate change. Predictions of impacts to certain regions or areas are improving, and the increasing foreseeability of risks is a premise that adaptive mobility and the arguments in chapters 4 and 5 are founded upon. Although not trying to address all mobility, in its effort to ensure that people can move as a form of adaptation generally, adaptive mobility better aligns with scholarship that highlights the consideration of the rights and needs of migrants broadly, or that questions the benefit and logic of singling out specific drivers of mobility.[52] It also uses the features of the climate change regime—precaution and differentiation, adaptation obligations, and a cooperative framework—to address predictable impacts, the likelihood that some migrants may not be able to return, and the collective efforts required to provide protection for the most vulnerable.

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migration avoids questions of causation and aims instead to facilitate migration as a more widely available option).

[51] See, e.g., McAdam, 'Swimming against the Tide' (n 40) 14–15; Kälin and Schrepfer (n 16) 28–29; McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 196–97; on causation in climate litigation see generally David A Grossman, 'Tort-Based Climate Litigation' in William CG Burns and Hari M Osofsky (eds), *Adjudicating Climate Change: State, National, and International Approaches* (CUP 2011) 215–22; Jutta Brunnée and others, 'Overview of Legal Issues Relevant to Climate Change' in Richard Lord and others (eds), *Climate Change Liability: Transnational Law and Practice* (CUP 2012) 33–34 (discussion of causation issues in national jurisdictions follow throughout the volume); Michael Faure and Marjan Peeters, 'Concluding Remarks' in Michael Faure and Marjan Peeters (eds), *Climate Change Liability* (EEP 2011) 264–65. But see Kim Bouwer, 'The Unsexy Future of Climate Change Litigation' (2018) 30 J of Environmental L 483.

[52] See, e.g., Mayer (n 40); Alexander Betts, *Survival Migration: Failed Governance and the Crisis of Displacement* (Cornell University Press 2013); Jane McAdam, *Climate Change, Forced Migration, and International Law* (OUP 2012) 22–23; Rosemary Lyster, 'Protecting the Human Rights of Climate Displaced Persons: The Promise and Limits of the United Nations Framework Convention on Climate Change' in Anna Grear and Louis J Kotzé (eds), *Research Handbook on Human Rights and the Environment* (EEP 2015) 428–29 (laying out the arguments for and against identification of environmental migrants).

C. The scope of vulnerability

As introduced above, the arguments of the thesis draw on the concepts of vulnerability from the climate change regime and international human rights law. Together, they require a focus on certain developing countries and those individuals who are most vulnerable to climate impacts within them. Such an understanding of vulnerability also helps prioritize adaptive mobility measures, and assistance required by the climate change regime, to specific individuals or groups in particularly vulnerable locations.

The concern for vulnerable developing countries within the climate change regime is analysed in chapter 2. It stems, in general, from differentiation and differentiated obligations within the regime. Developing country Parties are owed assistance from developed countries in their activities and efforts to meet various obligations.[53] Developing country Parties that are vulnerable or particularly vulnerable to the impacts of climate change are further prioritized. For example, developed countries are obliged to assist particularly vulnerable developing countries in meeting the costs of adaptation.[54] While there is no set list or definition of vulnerable or particularly vulnerable countries, as discussed in chapter 2, the UNFCCC points to geographic and economic vulnerabilities as particular concerns. These include *inter alia* developing countries with low-lying coastal areas and small island countries; arid and semi-arid areas prone to flooding, drought, and desertification; and those

[53] For assistance in adaptation, developed countries required to assist under the UNFCCC are those listed in Annex II. Annex II is made up of Organisation for Economic Co-operation and Development (OECD) countries; Annex I is comprised of OECD countries plus countries with economies in transition. Most other countries not named in these annexes are developing countries. See UNFCCC, 'Parties & Observers' <http://unfccc.int/parties_and_observers/items/2704.php> accessed 1 September 2020. OECD is an international economic organization comprised of developed countries, most with high-income market economies. For more, see OECD, 'About the OECD' <https://www.oecd.org/about/> accessed 1 September 2020. The Paris Agreement references developed country Parties in its financial obligation, as discussed in ch 2, III.B. See Paris Agreement art 9.1.

[54] UNFCCC art 4(4). See also Paris Agreement art 7.2.

with fragile mountainous ecosystems.[55] Least developed countries (LDCs) are also singled out for special consideration.[56] Based on these criteria, each of the developing country examples explored in chapter 5 would qualify as vulnerable or particularly vulnerable.

The concept of vulnerability developed under human rights law is concerned, in part, with those who face obstacles in accessing their rights and the positive duties to address the causes of these obstacles.[57] For climate change, this concern introduces a focus on the risks posed to people and their rights.

D. Reasons to integrate human rights

The central methodology of the thesis relies on tools of treaty interpretation to integrate relevant rules of international law, and human rights in particular. The integration of international human rights law is necessary for several reasons. First, as chapter 3 explains, treaty interpretation requires human rights to be taken account of in the climate change regime. This move is also desirable for other ethical and practical reasons. It foregrounds the rights of individuals throughout the process of adaptation and adaptive mobility, which provides for their proactive and pre-emptive use. Human rights are universal, and apply to a person regardless of whether they are a migrant or their migration status. However, in practice—and as section V highlights—the rights of migrants are often contemplated after movement. In contrast, adaptive mobility shaped by positive human rights duties seeks to address foreseeable risks, ideally before risks become harm or violate rights.

There is also no general human right to enter a country not one's own, which can impede legal pathways abroad. The integration of human rights, and the adaptive mobility

[55] See UNFCCC preamble, art 4(8).

[56] ibid art 4(9).

[57] Discussed further in ch 4, II.A.

that can ensue, aims to prompt action sooner and to facilitate cross-border movement should the need arise. Planning for such mobility and implementing adaptive mobility measures accords with the precaution underpinning the climate change regime, which bolsters the *ex ante* use of human rights. Finally, the protection of human rights can be hampered by a lack of resources, particularly in developing countries. Climate impacts and events can further erode a State's ability to protect its people. The integration of human rights duties, into the cooperative framework of climate change regime and with its obligations to assist, can help address capacity issues. It necessitates certain forms of support from developed countries, to enable the adaptation efforts of developing countries.[58]

IV. Setting the stage: climate impacts and developing countries

Establishing the existence of the adverse effects of climate change is a necessary antecedent to a legal analysis premised on existing and foreseeable impacts and the risks that they create. Thus, this section discusses the current understanding of climate impacts, based on scientific consensus. In addition, it introduces the potential variation of impacts on developing countries, including those illustrated in chapter 5, which are expected to face some of the worst harm from climate change while contributing least to its causes. This inequity motivates differentiation—within the regime and the thesis—and greater concern for developing countries and mobility within them.

A. Global impacts

Global impacts from climate change are occurring and expected to increase significantly without greater efforts to mitigate—or address the causes of climate change.[59] However, even

[58] See ch 5, III.

[59] See IPCC, 'Annex II: Glossary' (n 2) 125.

considerably more mitigation cannot stop all of the changes currently underway. Human activities have already caused approximately 1.0°C of global warming.[60] The last decade was the hottest on record, with the last five years being the warmest since tracking began in 1880.[61] The IPCC's Fifth Assessment Report predicts that global surface temperatures will rise, even under stringent mitigation scenarios. It also anticipates that without significant mitigation efforts—more than currently underway—global temperatures will increase more than 1.5°C by the end of the century. Absent any intervention this increase is likely to be more than 2°C.[62]

Increasing temperatures will further result in changes to oceans. Ocean temperatures have risen unabated since 1970, with the pace accelerating. The warmest ocean temperatures ever recorded have occurred in the last five years, with 2019 as the warmest on record.[63] This contributes to projected 'unprecedented conditions' of surface acidification, oxygen decline, and marine heatwaves.[64] Warming oceans further lead to ice melt and cause sea levels to rise. Global mean sea level is rising and will continue, with estimates of between 0.26 to 0.82

[60] IPCC, *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (Masson-Delmotte V and others (eds), IPCC 2018) 4.

[61] See National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information, 'State of the Climate: Global Climate Report for Annual 2019' (2020) <https://www.ncdc.noaa.gov/sotc/global/201913> accessed 22 January 2020; National Aeornautics and Space Administration (NASA), 'NASA, NOAA Analyses Reveal 2019 Second Warmest Year on Record' (*Climate Change: Vital Signs of the Planet*) <https://climate.nasa.gov/news/2945/nasa-noaa-analyses-reveal-2019-second-warmest-year-on-record> accessed 22 January 2020.

[62] IPCC, *Synthesis Report* (n 2) 10.

[63] See Lijing Cheng and others, 'Record-Setting Ocean Warmth Continued in 2019' (2020) 37 Advances in Atmospheric Sciences 137.

[64] IPCC, 'Ocean and Cyrosphere Report' (n 19) SPM 8, 20.

metres increase above 1986 to 2005 levels by the end of the century.[65] More recently, the IPCC noted that predictions could be underestimating sea level rise given larger than expected ice loss from the Antarctic Ice Sheet.[66] Another study suggests that a 2°C warming would yield nonlinear sea level rise reaching several meters over 50 to 150 years.[67] Sea level rise can lead to the erosion and loss of land. Globally, coastal wetlands will lose between 20 to 90 per cent of their area depending on the extent of emission reductions or sequestration.[68]

Climate impacts do not operate in isolation, but often interact with conditions in a given context to affect people, their rights, and the ability to stay or move. Impacts are not incremental, but rather are and will continue to accelerate and intensify.[69] They are also generally differentiated by the time scale over which their adverse effects occur. Thus, a distinction is made between sudden onset and slow onset events and impacts. The former are discrete, last a matter of hours or days and have immediate effects; they include storms, hurricanes, and flooding.[70] The latter occur gradually, transforming the environment over a period of months or years.[71] Slow onset impacts include sea level rise, land and forest

[65] IPCC, 'Synthesis Report' (n 62) 11–13.

[66] IPCC, 'Ocean and Cyrosphere Report' (n 19) SPM 23.

[67] The study authors conclude that 'we have a global emergency' arising from climate change. James Hansen and others, 'Ice Melt, Sea Level Rise and Superstorms: Evidence from Paleoclimate Data, Climate Modeling, and Modern Observations That 2 °C Global Warming Could Be Dangerous' (2016) 16 Atmospheric Chemistry and Physics 3761.

[68] IPCC, 'Ocean and Cyrosphere Report' (n 19) TS 30.

[69] Hansen and others (n 67) 3801 (noting feedback processes that amplify changes); United States Global Change Research Program, 'Climate Science Special Report: Fourth National Climate Assessment, Volume I' (2017) 33 (positive feedback cycles can accelerate climate change).

[70] Climate impacts or events are also referred to as disasters. Other geophysical hazards like earthquakes and volcanic activity unrelated to climate activity also fall under this category. Any impacts not linked to climate change are outside the scope of this thesis. See Internal Displacment Monitoring Center (IDMC), 'Global Report on Internal Displacement' (IDMC 2017) 106.

[71] UNFCCC, 'Slow Onset Events: Technical Paper' (26 November 2012) FCCC/TP/2012/7 para 20.

degradation, desertification, ocean acidification, rising temperatures, and loss of biodiversity.[72] Climate change is increasing the frequency and intensity of both kinds of events.[73] This knowledge and the ability to plan for climate impacts underlie the arguments in this thesis, which relies on the foreseeability of the risks they pose to trigger anticipatory, proactive adaptation. Accordingly, it is not the type of impact that is the focus of analysis but the ability to plan for and respond to their risks and potential damage. While slow onset events tend to provide more time to prepare and undertake responses, plans and measures can be put in place to avoid or facilitate the mobility that ensues following single or recurrent sudden onset events.[74] Moreover, climate impacts are not always categorically distinct drivers of movement but can interact, overlap, or accumulate to influence vulnerability and risks, which in turn affect whether mobility can and should be undertaken. For example, sea level rise is gradually eroding land in coastal areas, but it is its combination with storm surges, flooding, and other impacts that may ultimately render an area uninhabitable.[75]

B. Developing country impacts and mobility

The harm developing countries face is now well-established through climate science. While the impacts of climate change will be felt globally, they will not be experienced uniformly.

[72] See 'Cancun Agreements' (n 15) para 25.

[73] See IPCC, '1.5°C Report' (n 60).

[74] For example, some areas will experience repeated and more intense flooding. Movement before these areas become uninhabitable falls within the scope of the thesis. The distinction between the types of events for responding to *displacement* is often drawn, with States like Bangladesh emphasizing recovery after sudden onset events and preparation and adaptation for slow onset events. See Tasneem Siddiqui, Mohammad Towheedul Islam and Zohra Akhter, 'National Strategy on the Management of Disaster and Climate Induced Internal Displacement (NSMDCIID)' (Bangladesh Ministry of Disaster Management and Relief 2015) 8.

[75] See Jane McAdam, Bruce Burson, Walter Kälin, and Sanjula Weerasinghe, 'International Law and Sea-Level Rise: Forced Migration and Human Rights' (Fridtjof Nansen Institute 2016) para 13 (noting Bangladesh as an example of this confluence of hazards).

Certain regions—many of which are comprised mainly of developing countries—are and will continue to suffer some of the greatest harm. As the examples in chapter 5 discuss in greater detail, developing countries face a variety of different climate impacts that will combine with societal conditions to render certain areas and people within them particularly vulnerable to climate change. These examples—Bangladesh, the Pacific Islands, and the Sahel—were selected because they will experience significant and foreseeable adverse impacts.[76] For example, sea level rise combined with storm surges are expected to cause a variety of adverse effects to low-lying coastal areas, including submergence, flooding, salinisation, and erosion.[77] These impacts threaten the habitability and territorial integrity of small-island developing States like those in the Pacific Islands.[78] They are also predicted for the countries in the Western Sahel and for Bangladesh.[79] Rising temperatures from climate change are further contributing to desertification and land degradation.[80] Droughts are expected to intensify and expand impacts in arid areas—or drylands—that cover 41 per cent of the world's landmass containing one third of the global population.[81] Many live in the developing world, including a significant portion of the Sahel.

[76] These, and other examples, are discussed in author's study for OHCHR, 'Slow Onset Study' (n 18).

[77] IPCC, 'Summary for Policymakers' (n 38) 17.

[78] Discussed further in ch 5, II.B.

[79] See ch 5, II.A, II.C.

[80] IPCC, 'Climate Change and Land' (n 41) 5. Desertification in this thesis follows the IPCC definition of land degradation resulting from many factors, including climactic variation and human activities. Land degradation refers to a long-term reduction and loss of at least one of the following: biological productivity, ecological integrity, or value to humans. See ibid 1.

[81] See ibid 16; Stefanie M Herrmann and Charles F Hutchinson, 'The Scientific Basis: Links between Land Degradation, Drought and Desertification' in Pierre Marc Johnson, Karel Mayrand and Marc Paquin (eds), *Governing Global Desertification: Linking Environmental Degradation, Poverty and Participation* (Routledge 2006) 14.

The severity and risks to people in developing countries is one of the reasons that much of the analysis in the thesis is grounded in concern for these countries and those most vulnerable within them. Likewise, differentiation in the climate change regime, discussed further in chapter 2, arises in part from the recognition that developing countries have contributed little to the causes of climate change but carry a significant burden of its adverse impacts.[82] More generally, such a focus is justified by arguments based in climate justice, which provides a platform to contend with larger societal issues.[83] Climate change, adaptation efforts, and mobility bring to the fore other pre-existing inequities and contributing factors: colonial histories, discrimination, structural causes of wealth disparities and inequality, and the forces that drive current forms of mobility.[84] Tackling these issues is beyond the scope of this thesis, but they are part of the bigger picture in which its arguments operate. Indeed, analysis of climate change rather than all disasters both incorporates differentiated obligations—and assistance from developed States in particular[85]—and reflects the fact that climate impacts are neither equal nor ethically neutral.

[82] As acknowledged in UNFCCC preamble; see also arts 3(1), 3(2); Glenn Althor, James EM Watson and Richard A Fuller, 'Global Mismatch between Greenhouse Gas Emissions and the Burden of Climate Change' (2016) 6 Scientific Reports.

[83] Arguments about the need to assist those least responsible for climate change, often by those who have benefitted most, feature in discussions of climate justice and international law. See, e.g., Henry Shue, *Climate Justice: Vulnerability and Protection* (OUP 2014); Simon Caney, 'Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens' (2014) 22 J of Political Philosophy 125; Tim Stephens, 'Wishful Thinking? The Governance of Climate Change-Related Disasters in the Anthropocene' in Rosemary Lyster and Robert RM Verchick (eds), *Research Handbook on Climate Disaster Law: Barriers and Opportunities* (EEP 2018) 32–35; Maxine Burkett, 'Behind the Veil: Climate Migration, Regime Shift, and a New Theory of Justice' (2018) 53 Harvard Civil Rights-Civil Liberties L Rev 445, 447–49.

[84] For more see Burkett, 'Behind the Veil' (n 83); Bettini and Gioli (n 24); Klepp and Chavez-Rodriguez (n 42) 18–19.

[85] Discussed in ch 2, III.B.

Furthermore, these impacts interact with different local factors to produce complex effects, which in turn affect the enjoyment of human rights and contribute to mobility.[86] Salinization and saltwater intrusion can lead to mixing with freshwater in deltas and estuaries that create risks for drinking water, agriculture and food security; drought and desertification cause reductions in crop and livestock productivity.[87] Without intervention, interactions like these create a high risk of displacement in developing countries that lack the resources to put disaster risk or adaptive measures in place.[88] Already, almost all displacement following sudden onset disasters occurs in developing countries, and correlations are often made between capacity, poverty, and displacement.[89] The risks from urban growth also threatens to exacerbate conditions for migrants, as chapter 5 highlights. Most internal migration—or movement within countries—is to urban centres, and nearly 95 per cent of urban growth in the next two decades will take place in developing countries.[90] Likewise, most mobility associated with environmental change occurs internally.[91] Absent concerted climate action, the same is expected in the context of climate change, although international mobility will be

[86] As further illustrated in the examples in ch 5, II.

[87] See IPCC, '1.5°C Report' (n 60) 231–33; IPCC, 'Climate Change and Land' (n 41) 16.

[88] See Adger and others (n 27) 20.

[89] IDMC, 'Global Estimates 2015: People Displaced by Disasters' (2015) 9 (since 2008, 95 per cent of displacement by disasters occurred in developing countries); Margaretha Wewerinke-Singh and Tess Van Geelen, 'Protection of Climate Displaced Persons under International Law: A Case Study from Mataso Island, Vanuatu' (2018) 19 Melbourne J of Intl L 666, 691 (strong correlation between poverty, exposure to hazards, and displacement).

[90] Adger and others (n 27) 767; IDMC, 'Global Report on Internal Displacement' (2019) 67.

[91] See, e.g., François Gemenne, 'Migration Doesn't Have to Be a Failure to Adapt' in Jean Palutikof and others (eds), *Climate Adaptation Futures* (John Wiley & Sons 2013) 238; Warner and Afifi (n 38) 307; Adger and others (n 27) 767; Jane McAdam and Sanjula Weerasinghe, 'Climate Change and Human Movement' in David Ismangil, Karen van der Schaaf and Lars van Troost (eds), *Changing Perspectives on Human Rights: Climate Change, Justice and Human Rights* (Strategic Studies Report 2020) 27.

needed as climate impacts render more of a country uninhabitable or incapable of consistent agricultural outputs, and as internal mobility pushes those who can move abroad out of the country.[92] Yet wide-scale displacement is not an inevitability.[93] As argued in the rest of the thesis, the foreseeability of certain risks and the precaution driving responses to climate change in the regime requires action before the worst impacts are fully realized. The illustrations in chapter 5 demonstrate that this leads to a range of anticipatory adaption measures and in some situations, necessitates different forms of adaptive mobility. The adaptive mobility measures that enable such mobility also aim to avoid or address some of the obstacles to protection in current international law, which are discussed next.

V. Gaps in international legal protection

A number of different international legal regimes or treaties have been raised in analysis of climate-related mobility and potential ways to offer legal protection to migrants. Although some proposals have sought to build on these regimes or create a new treaty,[94] much of this analysis has identified the limits to or gaps in protection under current international law. The discussion below will not replicate this analysis, which examines these areas of international

[92] See UNHRC 'Protection of and assistance to internally displaced persons', Report of the Special Rapporteur on the human rights of internally displaced persons, Chaloka Beyani (9 August 2011) UN Doc A/66/285 para 19; McAdam, *Climate Change, Forced Migration, and International Law* (n 52) 5, 171–72 (while climate-related migration will mainly be internal, this might have a 'domino' effect that will push those with means to migrate abroad); Rigaud and others (n 23); IPCC, 'Climate Change and Land' (n 41) SPM-17.

[93] See n 24; Rigaud and others (n 23) 182-87.

[94] See, e.g., Bonnie Docherty and Tyler Giannini, 'Confronting a Rising Tide: A Proposal for A Convention on Climate Change Refugees' (2009) 33 Harvard Environmental L Rev 349; David Hodgkinson and others, '"The Hour When the Ship Comes In": A Convention for Persons Displaced by Climate Change' (2010) 36 Monash University L Rev; Frank Biermann and Ingrid Boas, 'Towards a Global Governance System to Protect Climate Migrants: Taking Stock' in *Research Handbook on Climate Change, Migration and the Law* (n 33). See also n 40.

law at length.[95] Instead, it will summarize the gaps identified to contrast them with an approach built on adaptive mobility. These gaps primarily result from the tendency to provide protection based on a legal category of people—generally after they have moved or crossed borders—and the focus on displacement or forced migration. Likewise, the perception that current mobility is creating unpredictable emergencies or crises discounts the fact that law makes it such; as discussed below, protection via refugee law or *non-refoulement* is backward-looking. However, approaches like this thesis are possible, ones which anticipate, facilitate, and address mobility to ensure safe rights-respecting journeys for migrants.[96] Finally, the discussion below is not meant to be exhaustive. Nor does it conclude that international law does not provide any recourse for mobility in the context of climate change. Indeed, the thesis is built on the premise that international law can play a key role in providing legal pathways and protection of rights for those who will move in the face of climate impacts.

A. Refugee law

A refugee is a person who meets the definition or criteria set out in relevant international or regional legal instruments or national legislation. Most of those who will cross borders in the context of climate change will not qualify as a refugee under international law,[97] and thus will

[95] See, e.g., Jane McAdam, '"Disappearing States", Statelessness and the Boundaries of International Law' in *Climate Change and Displacement* (n 38); McAdam, *Climate Change, Forced Migration, and International Law* (n 40) chs 2, 3, 5; Kälin and Schrepfer (n 16) 28–42; Nishimura, '"Climate Change Migrants"' (n 21); 'Slow Onset Study' (n 18) paras 64-76.

[96] See Jaya Ramji-Nogales, 'Migration Emergencies' (2017) 68 Hastings L J 609, 611–15. There will be scenarios where climate impacts contribute to 'crisis migration' or other forms of forced migration. For more on these, Susan F Martin, Sanjula Weerasinghe and Abbie Taylor (eds), *Humanitarian Crises and Migration: Causes, Consequences and Responses* (Routledge 2014); Jane McAdam, 'Conceptualizing "Crisis Migration"' in ibid.

[97] International refugee law refers to the Refugee Convention. Convention Relating to the Status of Refugees (adopted 28 July 1951, entered into force 22 April 1954) 189 UNTS 137; Protocol Relating to the Status of Refugees (adopted 31 January 1967, entered into force 4 October 1967) 606 UNTS 267 (together the 'Refugee Convention').

not have access to the legal protections such a status provides. Under the Refugee Convention, a refugee is a person who is outside their country of nationality or habitual residence and who cannot return owing to a well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group or political opinion.[98] Several aspects of this definition limit the application of international refugee law to climate-related mobility.

For example, a refugee must be outside their county, which will not cover the significant internal mobility expected in the context of climate change.[99] For those who cross borders, they must also satisfy the rest of the definition: a well-founded fear of persecution and a connection to one of five Refugee Convention grounds. Many who move in the context of climate change will not meet this criteria.[100] Indeed, even a liberal understanding of persecution—and a more expansive link to denial of human rights—must be accompanied by some form of discrimination based on Convention grounds.[101] And while there will be

[98] 1951 Refugee Convention art 1(A)(2); Refugee Protocol art 1.2.

[99] See n 92.

[100] For more on the relevance of refugee law and climate change, see McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 39–51; Kälin and Schrepfer (n 16) 31–32; Christel Cournil, 'The Inadequacy of International Refugee Law in Response to Environmental Migration' in *Research Handbook on Climate Change, Migration and the Law* (n 33); Matthew Scott, *Climate Change, Disasters, and the Refugee Convention* (CUP 2020). For more detail about climate change and each of the elements of the refugee definition, see Lauren Nishimura, 'Climate Change and International Refugee Law: A Predicament Approach' (*RefLaw*, 18 October 2018) <http://www.reflaw.org/climate-change-and-international-refugee-law/> accessed 3 September 2019; UNHCR, 'Legal Considerations Regarding Claims for International Protection Made in the Context of the Adverse Effects of Climate Change and Disasters' (2020).

[101] On persecution in refugee law, see generally McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 43; Michelle Foster, *International Refugee Law and Socio-Economic Rights: Refuge from Deprivation* (CUP 2009) ch 2-3; James C Hathaway and Michelle Foster, *The Law of Refugee Status* (CUP 2014) 182–211, 288–319. Discrimination can amount to persecution, as discussed in UNHCR, 'Handbook on Procedures and Criteria for Determining Refugee Status and Guidelines on International Protection Under the 1951 Convention and the 1967 Protocol Relating to the Status of Refugees' (2019) HCR/1P/4/ENG/REV. 4 paras 54-55.

exceptions where it could apply,[102] as well as arguments that could extend the scope of its application,[103] refugee law is also limited by the timing of its application.[104] Refugee law is generally triggered *after* serious harm is imminent or has occurred and following movement.

Regional law expands on the definition of a refugee, and could apply to those displaced in the context of climate change.[105] However, like international refugee law, it is

[102] Scenarios that could give rise to refugee status in the context of climate change include *inter alia* withholding assistance to certain groups; politicization of aid; gender-based discrimination; or from the interaction of climate impacts and conflict. See, e.g., *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2013] NZHC 3125 [27]; Bruce Burson, 'Environmentally Induced Displacement and the 1951 Refugee Convention: Pathways to Recognition' in Tamer Afifi and Jill Jäger (eds), *Environment, Forced Migration and Social Vulnerability* (Springer 2010); McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 47–8; 'Elizabeth Ferris, 'Disasters and Displacement: What We Know, What We Don't Know' (Brookings Institute 2014) <https://www.brookings.edu/blog/planetpolicy/2014/06/09/disasters-and-displacement-what-we-know-what-we-dont-know/> accessed 12 September 2020; UNHCR, 'Legal Considerations on Refugee Protection for People Fleeing Conflict and Famine Affected Countries' (2017); Weerasinghe (n 30); UNHCR, 'Legal Considerations, Climate Change' (n 100) paras 10-11.

[103] See, e.g., Scott (n 100) (arguing for consideration of the wider social context and predicament of people in interpreting refugee definition); Nishimura, 'Climate Change and International Refugee Law' (n 100) (using the 'predicament approach' to argue for a broader understanding of persecution). See also Hathaway and Foster (n 101) 376–82 (on the predicament approach generally); Jason M Pobjoy, *The Child in International Refugee Law* (CUP 2017) 162–64 (for cases involving children).

[104] See Jane McAdam, 'Climate Change Displacement and International Law: Complementary Protection Standards' (UNHCR 2011) 50, 56 (refugee law does not adequately address pre-emptive movement or longer-term processes of climate change). See also Adrienne Anderson, Michelle Foster, Hélène Lambert and Jane McAdam, 'Imminence in Refugee and Human Rights Law: A Misplaced Notion for International Protection' (2019) 68 ICLQ 111, 119 (longer-frame assessment of risks could potentially be accommodated in refugee status determinations).

[105] Regional refugee definitions include *inter alia* individuals compelled to leave or fleeing events or circumstances seriously disturbing public order or massive human rights violations. See Cartagena Declaration on Refugees (adopted by the Colloquium on the International Protection of Refugees in Central America, Mexico, and Panama, 22 November 1984) Annual Report of the Inter-American Commission on Human Rights (1984-85) OAS Doc OEA/Ser.L/V/II.66/dco.10, rev 1, 190-93 (Cartagena Declaration); Convention Governing the Specific Aspects of Refugee Problems in Africa (adopted 10 December 1969, entered into force 10 September 1969) 1001 UNTS 45 (OAU Convention) art 1.2; discussed further in David James Cantor, 'Law, Policy and Practice Concerning the Humanitarian Protection of Aliens on a Temporary Basis in the Context of Disasters' (The Nansen Initiative 2015) Background Paper 18 (noting the 'prevailing view among States…that disasters do not as such engage the expanded Cartagena refugee definition', but that it remains an open question if man-made disasters could trigger protection); UNHCR, 'Climate Change, Disaster and Displacement in the Global Compacts: UNHCR's Perspectives' (2017) 2 (people fleeing 'adverse effects of climate change' may meet regional definitions); Weerasinghe (n 30) 3–4, 28, 43, 57; UNHCR, 'Legal Considerations, Climate Change' (n 100) paras 13-18.

limited by the same timing constraints. Additionally, regional agreements consider a refugee a person forced or compelled to move, which does not encompass more voluntary or pre-emptive movement.[106] Thus, both international and regional refugee law does not apply to or contemplate the kind of adaptive mobility advanced by the thesis, which both seeks to avoid risks or harm that would reach the threshold required under refugee law and aims to ensure rights before, during, and after movement.[107]

B. Law on statelessness

The possibility of statelessness has been raised for those living in certain low-lying small island States. Although not currently imminent, the loss of habitable land and potential submergence of States presents unprecedented challenges.[108] Yet populations in these States are likely to move before a territory disappears, or a State ceases to exist. A stateless person is an individual who is 'not considered as a national by any State under the operation of its law'.[109] At least for the near future, most of those who move in the context of climate change

[106] Cartagena Declaration (n 105) para III.3; OAU Convention (n 105) art 1.2. See UNHCR, 'Guidelines on International Protection No 12: Claims for Refugee Status Related to Situations of Armed Conflict and Violence' para 50 (compulsion understood to mean forced or obliged).

[107] To date, there are no recorded or known successful adjudicated refugee cases based on climate impacts. See, e.g., *AF (Kiribati)* [2013] NZIPT 800413 [74] (no evidence that environmental conditions amount to serious harm for purposes of Refugee Convention); upheld by *Teitiota* (NZHC) (n 102); *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2015] NZSC 107 [12]. See also McAdam, 'Nansen Initiative to the PDD' (n 46) 1539–40 (recognising legal categories like refugee are ill-fitting when considering 'drivers of movement, human needs, and how movement is playing out in different contexts').

[108] Several proposals seek to address the loss of territory. See, e.g., Rosemary Rayfuse, 'International Law and Disappearing States: Utilising Maritime Entitlements to Overcome the Statehood Dilemma' [2010] UNSW Law Research Paper No 2010-52 (suggesting recognition of a category of 'deterritorialised state'); Maxine Burkett, 'The Nation Ex-Situ: On Climate Change, Deterritorialized Nationhood and the Post-Climate Era' (2011) 2 Climate L 345; Hathaway, 'Afterword' (n 44) 468 (suggesting a protocol to the statelessness regime).

[109] Convention Relating to the Status of Stateless Persons (adopted 28 September 1954, entered into force 6 June 1960) 360 UNTS 117 art 1.1.

will not fit the legal or *de jure* definition of a stateless person.[110] A shift in government for island States is not contemplated or wanted, nor does a State necessarily disappear with the loss of land.[111] International law presumes the continuity of States, even when criteria of statehood are not met.[112] Many residents of these States do not want to leave or view mobility as a last resort, and those who do will likely wish to continue to be recognised as nationals of their States.[113] The protections for stateless persons are also considered modest; there is no right of entry into a new State, and the relevant international conventions are not widely ratified.[114] Furthermore, like refugee law, the provisions of status and rights is retroactive and thus do not address risks before movement or provide for anticipatory mobility.[115]

C. Human rights law

International human rights law is key to the thesis, which integrates positive duties from human rights to address risks to foreseeable harm from climate impacts. Human rights-based

[110] People may be at risk of *de facto* statelessness even if they do not qualify for legal protection. However, current efforts are focused on preventing the conditions that give rise to statelessness. See Susin Park, 'Climate Change and the Risk of Statelessness: The Situation of Low-Lying Island States' (UNHCR 2011).

[111] See James Crawford, *Brownlie's Principles of Public International Law* (8th edn, OUP 2012) 142, 427, ch 19; Crawford (n 3) 667–99.

[112] For more on statelessness and climate change, see McAdam, '"Disappearing States"' (n 95); Kälin and Schrepfer (n 16) 39; McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 138–43; Benoît Mayer and Christel Cournil, 'Climate Change, Migration and Human Rights: Towards Group-Specific Protection?' in Ottavio Quirico and Mouloud Boumghar (eds), *Climate Change and Human Rights: An International and Comparative Law Perspective* (Routledge 2015) 180–81.

[113] See ch 5, II.B; 'Slow Onset Study' (n 18) para 73. For discussion of the protection of stateless refugees see Michelle Foster and Hélène Lambert, *International Refugee Law and the Protection of Stateless Persons* (OUP 2019).

[114] See Convention on the Reduction of Statelessness (adopted 30 August 1961, entered into force 13 December 1975) 989 UNTS 175; Burkett, 'Behind the Veil' (n 83) 467. To date, there are 89 parties to the 1954 Convention (n 109) and 68 parties to the 1961 Convention.

[115] See UNHCR, 'Statelessness Determination Process: Identifying and Protecting Stateless Persons' (2014).

protections after movement have also been proposed for climate-related mobility. For cross border mobility, this has come in the potential for recourse under the principle of *non-refoulement*. The principle protects against the expulsion or forced return of refugees or individuals to life-threatening situations; serious violations of human rights; or cruel, inhuman or degrading treatment.[116] *Non-refoulement* is a cornerstone of complementary protection—a reference to relief from removal and human rights-based protections that fall outside those provided by the Refugee Convention.[117] Complementary protection has been analysed for climate change-related displacement;[118] it has also been the basis of claims for relief. However, as with refugee law, no reported or known adjudicated case to date has found that the impacts of climate change create risks that meet the requisite threshold of harm.[119] The possibility that this could occur in the future has recently been confirmed by the

[116] Outside the Refugee Convention, the principle can be derived from the language of the ICCPR, the Convention Against Torture, and customary international law. See 1951 Refugee Convention art 33; ICCPR art 7; Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (adopted 10 December 1984, entered into force 26 June 1987) 1465 UNTS 85 art 3. See also Elihu Lauterpacht and Daniel Bethlehem, 'The Scope and Content of the Principle of Non-Refoulement (Opinion)' in Erika Feller, Volker Türk and Frances Nicholson (eds), *Refugee Protection in International Law: UNHCR's Global Consultations on International Protection* (CUP 2003) 151–58; Cathryn Costello and Michelle Foster, 'Non-Refoulement as Custom and *Jus Cogens*? Putting the Prohibition to the Test', *Netherlands Yearbook of International Law 2015* (TMC Asser Press, The Hague 2016) 282–83, 285 (citing the 'overwhelming majority of scholarly opinion' that views *non-refoulement* as a customary norm). But see James C Hathaway, 'Leveraging Asylum' (2010) 45 Texas Intl L J 503 (arguing against its status as customary law).

[117] Complementary protection is not defined in any international instrument. See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 53.

[118] See McAdam, 'Complementary Protection Standards' (n 104). For more on the rights that trigger *non-refoulement*, see ibid 16–17 (could in theory be triggered by any human rights violation); cf Cathryn Costello, 'The Search for the Outer Edges of Non-Refoulement in Europe: Exceptionality and Flagrant Breaches' in David James Cantor and Bruce Burson (eds), *Human Rights and the Refugee Definition* (Brill 2016) 207–9 (under European system, violations other than prohibition on torture and inhuman or degrading treatment must be extremely egregious).

[119] See, e.g., *Teitiota* (NZHC) (n 102) [55]; Human Rights Committee (HRC), *Ioane Teitiota v New Zealand*, 'Views Adopted by the Committee under Article 5(4) of the Optional Protocol, Concerning Communication No 2728/2016' (23 September 2020) UN Doc CCPR/C/127/D/2728/2016.

Human Rights Committee (HRC), in a decision discussed further in chapter 4.[120] Even if possible, however, the limitations of an approach grounded in *non-refoulment* are similar to those of refugee law. Relief is granted when individuals are at risk of serious harm that forces or compels movement, and generally only after a person has moved and crossed a State border.[121] This would not cover scenarios where people move in advance of the worst impacts, which is often the case with slow onset events.[122] And again, with its focus on cases of acute risk to human rights, it does not apply to the kind of anticipatory rights-protective adaptive mobility advanced in the thesis. States' willingness to adapt and efforts to reduce vulnerabilities also weigh against claims for relief.[123]

For internal mobility, the Guiding Principles on Internal Displacement (Guiding Principles) are often cited as applicable to climate mobility, as the definition of internally displaced persons (IDPs) includes those forced to flee natural or human-made disasters.[124] This definition is descriptive and does not create a legal category or status of displaced person.[125] Likewise, the Guiding Principles are not legally binding, but 'they reflect and are

[120] *Teitiota* (HRC) (n 119) [9.11]. As noted in chapter 4, HRC decisions are influential but not legally binding. See n 622. New Zealand cases also recognize this possibility. *AC (Tuvalu)* [2014] NZIPT 800517-520 [70]; *Teitiota* (NZSC) (n 107) [13].

[121] For arguments that *non-refoulement* extends to internal displacement, see Caelin Briggs, 'Non-Refoulement in the Context of Internal Displacement: The Case of IDPs in South Sudan's Protection of Civilians Sites' (NRC 2017).

[122] See generally 'Slow Onset Study' (n 18).

[123] For example, the HRC noted that the Republic of Kiribati had time to 'relocate its population' if necessary and 'was taking adaptive measures' in rejecting a claim that New Zealand erred in removal. *Teitiota* (HRC) (n 119) [9.12].

[124] UNCHR, 'Guiding Principles on Internal Displacement' (11 February 1998) UN Doc E/CN.4/1998/53/Add.2 introduction, para 2.

[125] See Walter Kälin, 'Guiding Principles on Internal Displacement: Annotations' (The American Society of International Law 2008) 3–5.

consistent with international human rights and international humanitarian law' (IHL).[126] They have also led to the development of binding regional law instruments, including the 2006 Great Lakes Protocol on the Protection and Assistance to Internally Displaced Persons and the 2009 African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (Kampala Convention).[127] The latter explicitly includes climate change, obligating State Parties to 'take measures to protect and assist persons who have been internally displaced due to natural or human made disasters, including climate change.'[128] It has also been ratified by a number of countries in the Sahel, creating binding obligations for these States.[129]

Some argue that the Guiding Principles can provide protection for those internally displaced by climate change due to their broader focus on disasters,[130] or could serve as a model to develop measures to fill gaps in international law.[131] However, an IDP under the

[126] See 'Guiding Principles' (n 124) introduction, para 3. IHL applies to armed conflict, but it is not analysed as conflict is not a focus of the thesis. See n 30 and accompanying text.

[127] See, e.g., Protocol on the Protection and Assistance to Internally Displaced Persons of the International Conference on the Great Lakes Region (adopted 30 November 2006, entered into force June 2008); African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (adopted 23 October 2009, entered into force 6 December 2012) (Kampala Convention).

[128] Kampala Convention art 5.4.

[129] This includes Burkina Faso, Chad, Mauritania, Niger, Nigeria, Gambia, and Guinea-Bissau. See ch 4, II.C.

[130] See Elizabeth Ferris, 'The Relevance of the Guiding Principles on Internal Displacement for the Climate-Migration Nexus' in *Research Handbook on Climate Change, Migration and the Law* (n 33) (Guiding Principles are the primary framework to uphold the rights of those internally displaced by climate change); McAdam and Weerasinghe (n 91) 30 (Guiding Principles are the most authoritative framework on the protection of IDPs). A broader focus avoids difficulties establishing a link between climate change, mobility, and/or its interaction with other drivers. See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 247; Protection Agenda (n 15) (adopting such a focus).

[131] See Susan F Martin, 'Toward an Extension of Complementary Protection?' in *Research Handbook on Climate Change, Migration and the Law* (n 33) 452; McAdam, 'Complementary Protection Standards' (n 104) 49.

Guiding Principles is a person who is 'forced or obliged to flee', limiting their general applicability to movement that is forced or compelled.[132] They encompass movement 'as a result of *or in order to avoid*' disasters, the latter a form of 'anticipatory displacement', yet such movement is still considered forced.[133] Accordingly, displacement before or after the occurrence of a sudden onset event, like a tropical storm or flood, are considered easy cases where IDP protections apply.[134] The Guiding Principles also include a duty to prevent the conditions that lead to displacement, which could be accomplished through measures that allow people to stay in place or that enable adaptive mobility.[135] Yet they have been criticised as not going far enough in their guidance on preventing the risks from disasters.[136] In addition, they provide some protections that are applicable to planned relocations, including the need to minimize the adverse effects of movement, guarantees of information and seeking consent of affected persons, and their participation in the planning and management of relocation.[137] Thus, they are instructive and cited to support arguments made in the thesis. On the whole, however, the Guiding Principles are not relied on to shape and inform anticipatory

[132] See 'Guiding Principles' (n 124) introduction, para 2; Brookings Institution and University of Bern, 'Protecting Internally Displaced Persons: A Manual for Law and Policymakers' (2008) 12 (IDP identified by the coercive or involuntary nature of movement); Ferris, 'Relevance of the Guiding Principles' (n 130) 124 (Guiding Principles are 'based on the fundamental distinction between voluntary and involuntary movement'); Walter Kälin and Jörg Künzli, *The Law of International Human Rights Protection* (2nd edn, OUP 2019) 539 (core component of IDP definition is coercive character of flight).

[133] See 'Guiding Principles' (n 124) introduction, para 2; see Ferris, 'Relevance of the Guiding Principles' (n 130) 123.

[134] See Ferris, 'Relevance of the Guiding Principles' (n 130) 116–17; Bodansky, Brunnée and Rajamani (n 1) 316.

[135] See 'Guiding Principles' (n 124) principles 5, 6. Adaptive mobility measures are not yet incorporated into interpretations of the Guiding Principles but could be an area where future research is warranted. See ch 6, I.B.

[136] Ferris, 'Relevance of the Guiding Principles' (n 130) 119.

[137] See 'Guiding Principles' (n 124) principle 7.

or pre-emptive movement, as their focus on displacement is not generally applicable to voluntary or anticipatory movement—often associated with slow onset events[138]—and the adaptive mobility advocated in the thesis.

D. Environmental or disaster law

As the focus of this thesis demonstrates, environmental law—particularly climate change law—is applicable to mobility in the context of climate change. Outside the climate change regime, human mobility is gaining attention as part of discussions under the United Nations Convention to Combat Desertification (UNCCD). The preamble of the UNCCD includes explicit recognition that 'desertification and drought affect sustainable development through their interrelationships with important social problems' including 'those arising from migration [and] displacement of persons'.[139] More recently, parties to the UNCCD adopted decisions on the role measures taken under the UNCCD can play in addressing degradation related drivers of migration.[140] However,

[138] See Sumudu Atapattu, 'Climate Change, Human Rights, and Forced Migration: Implications for International Law' (2009) 27 Wisconsin Intl L J 607, 618 ('creeping' environmental degradation not covered by Guiding Principles); Bodansky, Brunnée and Rajamani (n 1) 316; Alice Thomas, 'Protecting People Displaced by Weather-Related Disasters and Climate Change: Experience from the Field' (2013) 15 Vermont J of Environmental L 803, 813–14. But see Ferris, 'Relevance of the Guiding Principles' (n 130) 123–25 (distinction between voluntary and involuntary movement for slow-onset effects is not clear).

[139] United Nations Convention to Combat Desertification in in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (adopted 14 October 1994, entered into force 26 December 1996) 1954 UNTS 3 (UNCCD) preamble.

[140] Decision 28/COP.13, 'The positive role that measures taken under the Convention can play to address desertification/land degradation and drought as one of the drivers that causes migration' (UNCCD 23 October 2017) UN Doc ICCD/COP(13)/21/Add.1; UNCCD, 'The positive role that measures taken under the Convention can play to address desertification/land degradation and drought as one of the drivers that causes migration, Note by Secretariat' (24 June 2019) UN Doc ICCD/COP(14)/19.

mobility within the UNCCCD is framed as a negative consequence of desertification and drought, with efforts aimed at reducing forced migration.[141]

Laws on natural disasters and humanitarian assistance may also govern aspects of climate mobility. International law on disasters primarily focuses efforts on post-disaster responses and recovery, with protection for the disaster displaced. Importing other aspects of international environmental law, including the precautionary principle, procedural rights, and efforts to prevent harm—key to the climate regime and arguments for adaptation—has been suggested as a means to modify disaster management to better address the risks posed by climate change.[142] Currently, however, applicable disaster-related solutions tend to offer temporary protection. For migrants, this comes in the form of humanitarian aid and, for those who cross borders, legal status or protection from deportation. In general, these do not offer a consistent and predictable means of admittance or establish clear rights or responsibilities for migrants.[143] These temporary protections are, like the other areas of international law above, primarily focused on forced movement, with protection granted only after movement occurs.

VI. Summary of research claims and structure

The focus of the thesis is on adaptation obligations in the climate change regime and how they can be interpreted and applied to compel and shape State planning for and facilitation of proactive, anticipatory mobility. To accomplish this, the thesis relies on treaty interpretation

[141] See 'The UNCCD 2018–2030 Strategic Framework', Annex (14 September 2017) ICCD/COP(13)/L.18; IOM and UNCCD, 'Addressing the Land Degradation - Migration Nexus: The Role of the United Nations Convention to Combat Desertification' (IOM 2019) paras 1, 5.

[142] See Jacqueline Peel, 'International Environmental Law and Climate Disasters' in *Research Handbook on Climate Disaster Law* (n 83) 77, 96; UN 'Sendai Framework for Disaster Risk Reduction 2015-2030' (United Nations Office for Disaster Risk Reduction (UNISDR) 2015) (soft law framework that combines prevention and post-disaster response).

[143] See Protection Agenda (n 15) 26–30.

to integrate relevant positive duties of human rights and incorporate the regime's principle of precaution. An interpretation that combines these elements bolsters arguments for adaptation that occurs in advance of rights violations, when climate impacts pose a foreseeable risk to rights and access to minimum essential resources are under threat. In certain circumstances, as the examples in chapter 5 aim to illustrate, this will lead to the need to incorporate adaptive mobility into adaptation efforts. More concretely, such an interpretation can translate into measures that reduce vulnerability, prevent displacement, and enable people to stay while planning for mobility; anticipate and address the needs of communities of departure and those receiving migrants; and facilitate migration and planned relocation as adaptation.

Adaptation obligations within the climate change regime further require that developed countries assist developing countries. The interpretive process set out in the thesis can also help clarify these obligations, to ensure that developing countries undertaking adaptation measures are provided *inter alia* financial and technical support from developed countries, in particular when they may lack the capacity to adapt or meet certain core rights obligations necessary to ensure subsistence and survival. This stems from both the differentiation within the regime and duties in human rights law. The thesis also argues that developed States—and other States with the ability to do so—can and should satisfy cooperation and assistance obligations by working with developing States to facilitate legal entry into other States when needed. While this stretches the legal arguments for integration, it can benefit both the migrants and the States involved by preventing displacement and avoiding the migration crises that sweeping predictions and national security narratives are based upon.

More generally, the thesis seeks to contribute to the broader discourse on climate-related movement in its argument for adaptive mobility, which aims to avoid the obstacles to

protection from other legal regimes. The analysis focuses on collective action and support for adaptation—and mobility specifically—both so that individuals do not carry the burden alone and responsibility is shared amongst States. While recognizing that leaving one's home is rarely an easy prospect, the search for better outcomes for those most vulnerable to climate impacts motivates these arguments. Adaptive mobility offers an approach grounded in legal obligations to ensure anticipatory, planned, more rights-protective pathways elsewhere.

The thesis will proceed as follows. This introductory chapter laid the foundation for the rest of the thesis and explained the reasons for its focus on adaptation obligations, adaptive mobility, and human rights. Chapter 2 analyses adaptation, adaptation obligations, and their evolution within the climate change regime. It provides the broad contours of adaptation obligations, operative principles, and other textual provisions contained in the UNFCCC and Paris Agreement, which are necessary for an interpretation that leads to adaptive mobility. Chapter 3 provides the central methodology, which relies on treaty interpretation and its tools to integrate human rights and incorporate the regime's operative principles. Chapter 4 takes the general argument for the integration of human rights and applies it to two specific rights: the rights to life and to an adequate standard of living. Integrating these rights into adaptation obligations triggers certain positive duties—including planning for adaptive mobility and implementing adaptive mobility measures—in the face of foreseeable risks from climate impacts. The obligations of developed States to support adaptive mobility measures are also analysed in this chapter. Chapter 5 looks to three developing country and regional contexts to illustrate how integration can work in action, what this can add to adaptation efforts, and the kinds of support needed and required of developed countries and other States. Chapter 6 concludes by underscoring the potential for adaptive mobility and identifies other areas of research and normative development that could further support arguments in the thesis.

Chapter 2: Adaptation and the Climate Change Regime

I. Introduction

To provide a foundation for arguments based on adaptation obligations, this chapter analyses adaptation; its evolution outside and within the climate change regime; and the obligations, principles, and textual provisions that are central to the treaty interpretation relied upon in this thesis. It begins with a discussion of adaptation as a general concept, followed by a focus on climate change adaptation and its evolution within the climate change regime. The chapter focuses next on the regime's provisions on adaptation, which are the primary source of obligations for adaptive mobility throughout the thesis.[144] These include three types of obligations: to act on adaptation, including by planning for and implementing measures; for certain developed States to assist in adaptation, primarily through financial support; and to cooperate in adaptation efforts. Obligations to assist are also informed by provisions to account for the needs and vulnerability of developing countries, which motivates concern in later chapters for developing countries and vulnerable populations within them.

The chapter then turns to the operative principles of the UNFCCC, which guide action under the regime. In particular, the principles of precaution, equity, and CBDRRC are critical to the interpretation of adaptation obligations. Equity, and CBDRRC as an expression of it, underlie differentiated obligations: developing countries are owed assistance in adaptation and developed countries must provide it. The precautionary principle bolsters arguments that proactive, anticipatory movement is both prudent and required as a form of adaptation. More generally, adaptation is both a form of precaution in action and a reaction to conditions and context. Such an understanding of adaptation underscores a conclusion of the chapter that adaptation is not a fixed or one-time measure, but rather a process that evolves as

[144] See UNFCCC arts 4(1)(b), 4(1)(e), 4(3), 4(4); Paris Agreement arts 7, 9.1.

circumstances change. This conclusion is key to the application of adaptation obligations—and adaptive mobility—on the ground, to tailor measures to the situation and changes overtime.

Finally, there are other textual provisions that are relied on in the process of interpretation in the next chapter. The chapter will close with a brief discussion of these provisions, which include the preamble of the Paris Agreement and provisions on information sharing and participation. Together, they strengthen arguments for the integration of both substantive and procedural human rights into the interpretation and application of adaptation obligations.

II. Climate change adaptation

This thesis focuses on mobility as adaptation and not adaptation in all its forms. However, an understanding of the general concept of adaptation informs its evolution within the climate change regime and consequently, interpretations that lead to the need to undertake adaptive mobility. Section II.A explores adaptation generally, and nuances that can affect its interpretation in the climate change regime. It is a multi-dimensional concept applicable across disciplines. For the purposes of the thesis, however, several consistent features arise: adaptation is shaped by and embodies change; it is a process that necessarily evolves with changing conditions; and it can lead to actions in anticipation or reaction to these conditions. Section II.B explores how these features carry over to its understanding within the regime and raises aspects of climate change adaptation that must be considered in its implementation.

A. The general concept of adaptation

There is no single agreed upon definition of adaptation, and its meaning remains subject to debate.[145] Emphasis on different elements of timing, source of conditions that require response, and outcomes produces various definitions and categories. Thus, in general there are multiple, potentially competing conceptions of adaptation. In the natural sciences, for example, biological adaptation refers to genetic change or adjustments brought on by new challenges from environmental conditions. It is a reactive process that is central to evolution.[146] The social sciences imported ideas from the natural sciences to describe interactions between people and their environment. Developed initially within anthropology and geography, the concept of adaptation was further influenced by work on natural hazards and how they affected social vulnerabilities.[147] However, unlike natural systems, human adaptation is not exclusively reactive or automatic. There can be an element of choice and planning, which makes some forms of human adaptation unique. Adjustment is not only a matter of efficiency or survival; it can also be used to improve quality of life or maximize perceived benefits.[148] The natural sciences also do not account for the need for people to adapt to changes in social, economic, political, and cultural conditions.[149] For people, adaptation is often a social process, with the confluence of environmental and other societal conditions giving rise to the need to adapt. As chapter 4 argues, these conditions affect an individual's vulnerability to climate impacts and the kinds of adaptive measures needed to ensure survival, subsistence, and related human rights.

The multifaceted nature of the concept, however, can hamper its application in law and policy settings. Some obstacles stem from the natural sciences and the assumption that

[145] For more on this debate, see *A Critical Approach to Climate Change Adaptation* (n 42).

[146] Guillaume Simonet, 'The concept of adaptation: interdisciplinary scope and involvement in climate change' (2010) 3 S.A.P.I.EN.S. Surveys and Perspectives Integrating Environment and Society 1, 2. See also Gemenne, 'The Refugees of the Anthropocene' (n 33) 397.

adaptation will occur naturally or by addressing environmental conditions alone, obviating the need for broader intervention.[150] At the outset of international negotiations on climate change, this belief justified an argument that policies or specific obligations were unnecessary because adaptation would happen without planning, or mitigation would eliminate the need.[151] The preference for 'neutral' solutions grounded in the natural sciences persists, seen in climate change adaptation efforts that focus on engineering, infrastructure, or geography rather than those living in vulnerable places.[152] This thesis looks to both and brings together consideration of geographic vulnerability with solutions for those put at risk in these locations. It incorporates increasing knowledge about climate impacts and the foreseeable risks they pose to both human and natural systems.[153] Waiting for ecosystems to adapt on their own or reacting in response to impacts does not take advantage of the foresight such knowledge affords or the need to take precautionary measures to address risks.[154] Impacts are already occurring, and time will exacerbate their severity and effect. For climate change,

[147] See Klepp and Chavez-Rodriguez (n 42) 6–8.

[148] See Barry Smit and John Smithers, 'Human Adaptation to Climatic Variability and Change' in E Lisa F Schipper and Ian Burton (eds), *The Earthscan Reader on Adaptation to Climate Change* (Earthscan 2009) 19; IPCC, 'Annex II: Glossary' (n 2) 118.

[149] See, e.g., E Lisa F Schipper, 'Climate Change Adaptation and Development: Exploring the Linkages' [2007] Tyndall Centre for Climate Change Research 4.

[150] See, e.g., Terry Cannon and Detlef Müller-Mahn, 'Vulnerability, Resilience and Development Discourses in Context of Climate Change' (2010) 55 Natural Hazards: J of the Intl Society for the Prevention and Mitigation of Natural Hazards 621, 627; Klepp and Chavez-Rodriguez (n 42) 7–23.

[151] See E Lisa F Schipper, 'Conceptual History of Adaptation in the UNFCCC Process' (2006) 15 RECIEL 82, 83. See also Ian Burton, 'Deconstructing Adaptation...and Reconstructing' in *Earthscan Reader* (n 148) 11 (describing the "intellectual baggage" brought from evolutionary biology into discussions of climate change).

[152] See Klepp and Chavez-Rodriguez (n 42) 16; Jon Barnett and John Campbell, *Climate Change and Small Island States: Power, Knowledge and the South Pacific* (Earthscan 2010) 2.

[153] See ch 1, IV; IPCC, 'Synthesis Report' (n 62); Ove Hoegh-Guldberg and others, 'Impacts of 1.5°C Global Warming on Natural and Human Systems' (2018).

[154] See IV.A, below.

hindsight may only tell us that actions were too late or not enough. In general, a process of planned adaptation is needed, which includes a range of anticipatory and responsive measures to build resilience and address the risks from climate impacts over time.[155]

B. Implementing climate change adaptation

Like adaptation generally, climate change adaptation is a broad concept. The dominant definition, put forth by the IPCC, characterizes adaptation as 'the process of adjustment to actual or expected climate and its effects.' The IPCC further differentiates between adaptation in human systems, which aims 'to moderate or avoid harm or exploit beneficial opportunities' and natural systems, where 'human intervention may facilitate adjustment to expected climate.'[156] Three different factors emerge from this definition that affect the process of adaptation: the source and timing of climate impacts; the target of adaptation; and whether the goal is to benefit or to avoid or mitigate harm. Emphasis on varying factors affects the breadth of adaptation, type of activities under its ambit, and the resulting actions policymakers and governments must undertake. A shared understanding on these factors can establish the scope, goals, and means to monitor adaptation, which generally fosters better implementation.[157]

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[155] Concrete examples are discussed in chapter 5. While this thesis focuses on adaptation measures that protect human rights and interests, other efforts seek to address the impacts of climate change on ecosystems, wildlife, and the environment. These efforts, and relevant areas of international law, are discussed in *inter alia* Catherine Redgwell, 'Climate Change and International Environmental Law' in Rosemary Rayfuse and Shirley V Scott (eds), *International Law in the Era of Climate Change* (EEP 2012); Josh Eagle and U Rashid Sumaila, 'Climate, Oceans, and the Law of Special and General Application' in Cinnamon P Carlarne, Kevin R Gray and Richard Tarasofsky (eds), *The Oxford Handbook of International Climate Change Law* (OUP 2016); Charlotte Streck and Darragh Conway, 'Forestry and Agriculture under the UNFCCC: A Jigsaw Waiting to Be Assembled?' in *Oxford Handbook*, ibid.

[156] IPCC, 'Glossary of Terms', in *Managing the Risks* (n 32) 556.

[157] The IPCC notes that 'the closer we agree as to what constitutes adaptation, the easier it will be to come to workable agreements.' IR Noble and others, 'Adaptation Needs and Options', in *Climate Change 2014, Part A* (n 27) 853.

The timing of adaptive responses is one of the most crucial elements to how climate change adaptation is implemented. Reactive adaptation occurs in response to impacts that have already happened—whether through autonomous or intentional means[158]—while anticipatory adaptation is action taken to address predicted impacts. Climate change presents the unique opportunity to incorporate both forms of adaptation, and to take planned and thus deliberate,[159] proactive measures before the worst impacts occur. Furthermore, for climate change adaptation the distinction between types of responses need not be dichotomous. Adaptation measures can be both planned and reactive: implementing disaster response mechanisms in the aftermath of a climate event is one such example. Responses occur in reaction to the disaster but were planned for in advance, and may have included anticipatory efforts to increase adaptive capacity or reduce vulnerability. Who takes action can also vary, and involve both public and private actors.[160] However, the focus of the thesis is on the proactive, precautionary action that public or governmental actors can take, with a goal to facilitate adaptive mobility before displacement occurs or becomes the only available response.

The lived experience of adaptation will also vary between different individuals and communities. However, certain aspects of adaptation arise across contexts. Several of these are important to consider at the outset, in order to implement the adaptation obligations as argued in the chapters that follow. Foremost, and as highlighted above, to enable people-

[158] See Barry Smit and Olga Pilifosova, 'From Adaptation to Adaptive Capacity and Vulnerability Reduction' in Joel B Smith, Richard JT Klein and Saleemul Huq (eds), *Climate Change, Adaptive Capacity and Development* (Imperial College Press 2003) 9–10 (IPCC's research indicates that autonomous adaptation tends to be reactive and costly).

[159] Planned translates into deliberate policy or measures; anticipatory or proactive emphasizes the timing of such action. For more on this distinction see Dug Cubie, 'In-Situ Adaptation: Non-Migration as a Coping Strategy for Vulnerable Persons' in Dimitra Manou and others (eds), *Climate Change, Migration and Human Rights: Law and Policy Perspectives* (Routledge 2017).

[160] See Roda Verheyen, *Climate Change Damage And International Law: Prevention Duties And State Responsibility* (Martinus Nijhoff Publishers 2005) 35.

centred adaptation, solutions must move beyond addressing environmental threats to also incorporate social and economic conditions. The IPCC's evolving analysis of adaptation reflects this conceptual expansion of adaptation: in its most recent comprehensive report, it acknowledged that the 'framing of adaptation' has shifted from focusing on biophysical risk to include 'wider social and economic drivers of vulnerability and people's ability to respond.'[161] This point will be raised again in other ways, which implicate legal commitments to ensure human rights in satisfying adaptation obligations.[162] Here, such a framing assists in recognizing that adaptation measures have distributional effects. It necessarily produces trade-offs, and in some cases so-called 'winners and losers'.[163] This risk can be incorporated when weighing the relative costs and benefits of adaptation options to select the appropriate outcome given timing and available information.[164] Inaction is itself an adaptive option, which may transfer the responsibility and costs of action down from broader governmental to more local-level actors and individuals.[165] Deciding who and what to prioritize requires a means to assess these effects and guide decision-making. As this thesis argues, human rights law, and the focus on vulnerable people in vulnerable developing countries, assist decision-makers in establishing priorities.

Furthermore, uncertainty plays a central role in adaptation: all anticipatory adaptation will by definition incorporate some degree of uncertainty. The scientific community, however, has identified climate impact hotspots and likely scenarios, while clearly

[161] Noble and others (n 157) 836.

[162] See ch 4, II.C-D, which argues certain socio-economic conditions must be addressed.

[163] See Klepp and Chavez-Rodriguez (n 42) 19.

[164] Examples of such a risk calculus, and factors for screening maladaptation, are discussed in Noble and others (n 157) 857–59.

[165] W Neil Adger, Jouni Paavola and Saleemul Huq, 'Toward Justice in Adaptation to Climate Change' in W Neil Adger and others (eds), *Fairness in Adaptation to Climate Change* (MIT Press 2006) 7.

articulating the need for adaptation now and in the near future.[166] When combined with the precautionary principle—a central feature of the climate change regime—proactive adaptation becomes necessary, and this necessity is a driving force obliging public action.[167] This leads to an additional consideration. New information about climate impacts also leads to the need for flexible measures and underscores that adaptation should be a continual process. In order to achieve the goals of adaptation, a variety of adaptation measures will be needed to address different and changing risks. As later chapters illustrate, to comply with legal obligations also requires that certain adaptive measures be taken at different times, depending on the context and risks posed by climate impacts. Not all adaptation options will be discussed, as adaptive mobility is the focus, but other measures can affect mobility in how they reduce risks and vulnerability. For example, choices in agricultural policy, efforts to enhance infrastructure—via *inter alia* sea walls, irrigation and drainage systems—and measures to diversify livelihood opportunities can influence how long and under what conditions a person can stay in a place, or how able an area is to take on new migrants. Under certain conditions, these measures may be required to ensure human rights. Thus, there will be few one-off solutions, and attempts to come up with a single adaptive solution may increase vulnerability and result in undesirable or harmful outcomes—or maladaptation.[168]

Maladaptation is antithetical to the overall purpose of adaptation, and can worsen conditions in an area or for a population. It can result from the failure of adaptation to meet legal obligations and/or because it has detrimental rather than adaptive effects. For the former, maladaptation arises in this thesis if adaptation measures fail to respond to the

[166] See, e.g., Lenny Bernstein and et al, 'Climate Change 2007: Synthesis Report' (IPCC 2007) 65; IPCC, 'Synthesis Report' (n 62) 17–20; IPCC, '1.5°C Report' (n 60) 5–7.

[167] See IV.A, below.

[168] See LDC Expert Group (LEG), 'National Adaptation Plans: Technical Guidelines for the National Adaptation Plan Process' (2012) 13; AK Magnan and others, 'Addressing the Risk of Maladaptation to Climate Change' (2016) 7 Wiley Interdisciplinary Reviews: Climate Change 646, 647.

foreseeable risks to people and their rights from climate impacts. The latter can result from *inter alia* inaction, a failure to account for vulnerabilities, poorly planned or executed activities, consideration of short-term over longer-term risks, or if action precludes other necessary adaptation options.[169] These missteps will often coincide with greater risks to individuals and their rights, which could also run afoul of legal obligations. Thus, maladaptation and increased risks to people often overlap. Maladaptation, or the outcome of adaptation in general, also raises questions about whether adaptation as an obligation within the climate change regime is one of conduct or result. As discussed in greater detail in section III.A below, the fact that certain measures will be needed to satisfy legal commitments, and that maladaptation in some forms violates these obligations, makes a strong case that States must do more than simply take *any* action it chooses.

Finally, implementation of adaptation—particularly via international obligations—should consider the tension between global action and local effects. Climate governance is polycentric.[170] The Paris Agreement recognizes 'that adaptation is a global challenge faced by all with local, subnational, national, regional and international dimensions'.[171] Adaptation will take place at both 'macro' and 'micro' levels.[172] Yet most adaptation measures will be aimed at local benefits or protections.[173] Moreover, as argued in chapter 5, even broad international adaptation obligations will need tailored to the specific needs and vulnerabilities of individuals and communities.[174] To do so, international collective action must overcome

[169] Noble and others (n 157) 849, 857–58; Magnan and others (n 168) 650–52.

[170] See n 43 and accompanying text.

[171] Paris Agreement art 7.2.

[172] Verheyen (n 160) 35.

[173] MJ Mace, 'Adaptation under the UN Framework Convention on Climate Change: The International Legal Framework' in *Fairness in Adaptation to Climate Change* (n 165) 64.

[174] International governance also raises issues of how to balance adaptation with domestic development and poverty alleviation goals, which are beyond the scope of this thesis. For more, see,

obstacles to support and avoid placing conditions on developing countries in accessing assistance.[175]

III. Adaptation in the climate change regime

Adaptation was not always the focus of climate action, and its increasing importance reflects growing knowledge about climate impacts and the need for appropriate adaptive responses. Section III.A traces the evolution of adaptation in the climate change regime. Section III.B then turns to the bulk of the chapter's analysis: adaptation obligations. These obligations reflect the evolution of adaptation within the regime, with an initial focus on planning and preparation followed by a more recent emphasis on implementation.

A. Evolution of adaptation in the climate change regime

In the negotiations leading up to the UNFCCC, efforts focused on solutions to reduce the primary source of human-induced climate change: the emissions of greenhouse gases.[176] Adaptation was a secondary response, something expected to occur naturally or to be undertaken if mitigation efforts failed.[177] Indeed, the UNFCCC's 'ultimate objective' focuses on stabilising greenhouse gas concentrations to a level that prevents 'dangerous anthropogenic interference with the climate system' and to do so 'within a time-frame sufficient to allow ecosystems *to adapt naturally* to climate change…'.[178] Concerns about

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e.g., Ian Burton, 'Do We Have the Adaptive Capacity to Develop and Use the Adaptive Capacity to Adapt?' in *Climate Change, Adaptive Capacity and Development* (n 158) 140–141; Schipper (n 149) 6–9; Robin Leichenko and Julie A Silva, 'Climate Change and Poverty: Vulnerability, Impacts, and Alleviation Strategies' (2014) 5 Wiley Interdisciplinary Reviews: Climate Change 539.

[175] See ch 5, III.B.

[176] See Daniel Bodansky, 'The United Nations Framework Convention on Climate Change: A Commentary' (1993) 18 Yale J Intl L 451, 478–92.

[177] See n 151.

[178] UNFCCC art 2 (emphasis added).

adaptation included fear that it could shift attention away from mitigation efforts or that funding measures might be tantamount to accepting responsibility for climate change, which developed countries sought to avoid.[179] In contrast, many developing countries did not want the UNFCCC to impede their ability to develop by limiting their emissions and were concerned about potential adverse impacts.[180] This tension set the stage for an agreement that avoided attribution of responsibility for climate change, provided funding without links to historical emissions, and limited attention to adaptation.

The UNFCCC, however, was not intended to mark a definitive end to international action on climate change. Instead it established a process, one that combines substantive commitments with procedural requirements and bodies, while contemplating additional developments and later agreements on climate change.[181] The UNFCCC enjoys near universal participation, further evincing broad support for an evolving global legal framework to address climate change.[182] Such wide engagement also means that it is legally binding on almost every State,[183] although its commitments are differentiated amongst Parties.[184] Furthermore, its structure and dynamic nature serves as the foundation for the climate change

[179] Schipper (n 151) 84.

[180] Bodansky (n 176) 477–79.

[181] ibid 495–96; Catherine Redgwell, 'Multilateral Environmental Treaty-Making' in Vera Gowland-Debbas (ed), *Multilateral Treaty-Making* (Springer Netherlands 2000) 93 (Convention was the first stage in an ongoing process).

[182] Jutta Brunnée and Stephen J Toope, *Legitimacy and Legality in International Law: An Interactional Account* (CUP 2010) 142.

[183] The UNFCCC has 197 Parties (196 States and the European Union). UN Treaty Collection, 'Status of UNFCCC' ch XXVII: Environment <https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXVII-7&chapter=27&Temp=mtdsg3&clang=_en> accessed 8 August 2020.

[184] See IV.B, below, discussing differentiation in the regime. On differential treatment in international environmental law generally, see Lavanya Rajamani, *Differential Treatment in International Environmental Law* (OUP 2006); Philippe Cullet, 'Differential Treatment in Environmental Law: Addressing Critiques and Conceptualizing the Next Steps' (2016) 5 Transnational Environmental L 305.

regime, which has come to include subsequent agreements, outputs of its institutional bodies, and decisions of the Conference of the Parties (COP).[185] This foundation remains central to the regime, and to interpretive arguments that rely on its changing nature. As detailed below and in the next chapter, the UNFCCC contains concepts and principles—including adaptation—that require anticipatory and future action. Consideration of future generations, commitments that require Parties to gather information and provide updates on their actions, and the call for developed countries to take immediate action as a 'first step' implies that subsequent steps are necessary.[186]

Additionally, the UNFCCC *did* create commitments on adaptation, despite it not being the priority at the time.[187] These are discussed in the next section, and show that Parties recognised that adverse impacts will occur and mitigation alone is an insufficient response.[188] Adaptation is also indirectly referenced elsewhere in the text, through the concession that adverse effects must be addressed, and in the operative principles.[189] However, how climate change is defined within the UNFCCC could be viewed as limiting adaptation, at least initially. The definition describes climate change as directly or indirectly attributable to human activity—change that is additional to natural climactic variability. It then circumscribes the meaning of adverse effects to those associated with human activity.[190] This

[185] See n 1.

[186] UNFCCC preamble, art 3, 4 .

[187] See Bodansky (n 176) 500 (text of article 2 neutral on adaptation); Jonathan Verschuuren, 'Legal Aspects of Climate Change Adaptation' in Erkki J Hollo, Kati Kulovesi and Michael Mehling (eds), *Climate Change and the Law* (Springer Netherlands 2013) 258 (drafters of UNFCCC treated mitigation and adaptation as equally important). Verschuuren acknowledges that less attention was paid to adaptation in the two decades following the UNFCCC's adoption. ibid 258.

[188] See Yamin and Depledge (n 1) 213–16.

[189] UNFCCC arts 3(1)-3(3), 4(4), 4(8).

[190] ibid arts 1(1)-1(2).

could create additional barriers to adaptation efforts, as parsing out human-induced impacts from natural ones is difficult at best. Rigid adherence to such a separation of impacts would create practical difficulties. However, this distinction may no longer be as important as it seems; the current robust workstream on adaptation in the climate change regime implies as much. Furthermore, scientific knowledge and understanding continues to strengthen the link between human activity and climate change, clarify expected impacts, and warn of imminent damage.[191] Developing scientific certainty may also help explain the regime's later turn towards adaptation.

Since the adoption of the UNFCCC, the climate change regime has evolved significantly. It has increasingly focused on adaptation. For example, the Paris Agreement seeks to enhance 'the implementation of the Convention, including its objective' and 'aims to strengthen the global response to the threat of climate change'.[192] Like the UNFCCC, the Agreement is widely accepted and has garnered broad participation.[193] Unlike the UNFCCC, the Agreement explicitly includes adaptation in its objective, through efforts to strengthen the global response, in part, by '[i]ncreasing the ability to adapt to the adverse impacts of climate change'.[194] In a further development, it also includes an article dedicated to adaptation that establishes its central role in responding to climate change.[195] The evolution of adaptation reflects growing understanding of climate impacts and risks, as well as continued changes to

[191] For example, the IPCC is now 95 per cent certain humans are the main cause of climate change. IPCC, 'Synthesis Report' (n 62) v, 4.

[192] Paris Agreement art 2.

[193] See n 183; UN Treaty Collection, 'Status of Paris Agreement' <https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-7-d&chapter=27&clang=_en> accessed 25 October 2020. The United States, however, has indicated it will withdraw from the Paris Agreement in November 2020.

[194] Paris Agreement art 2.1(b).

[195] ibid art 7.

the environment. With each of its subsequent reports, the IPCC's warnings have become more concrete and the need to act on climate change more urgent. It has concluded that certain impacts are occurring or no longer avoidable, making adaptation the only option in some cases.[196] Reliance on the IPCC's predictions underscores the importance of science in international law-making, which will continue to be deeply connected as adaptation further evolves in the regime.[197]

The development of adaptation in the regime is also evidenced in the work done by its institutions and the COP. Early on, and in alignment with the UNFCCC's provisions, the focus was on adaptation planning. For example, the first guidance on the UNFCCC's financial mechanism from the COP included three proposed stages of adaptation. The first stage revolved around formulating plans, which included studies to identify potential impacts and 'particularly vulnerable countries or regions'.[198] Stages two and three took a medium to longer-term view, progressing from measures to prepare for adaptation to measures to 'facilitate adequate adaptation'. These stages were to be implemented if the COP found them necessary based on the outcome of stage one and emerging evidence of adverse effects.[199] In addition to planning, initial efforts in the regime sought to provide more clarity on the

[196] See, e.g., Bernstein and et al (n 166); IPCC, 'Synthesis Report' (n 62); IPCC, '1.5°C Report' (n 60).

[197] See, e.g., Jacqueline Peel, *Science and Risk Regulation in International Law* (CUP 2013). In a recent case, the Supreme Court of Netherlands looked to IPCC reports and thresholds set for emissions, along with the COP use of these reports, to set a justiciable level of ambition for domestic mitigation efforts. See *The State of the Netherlands v Urgenda Foundation* [2019] Case no 19/00135 (Supreme Court of the Netherlands).

[198] The latter is discussed below, III.B.

[199] See Decision 11/CP.1, 'Initial guidance on policies, programme priorities and eligibility criteria to the operating entity or entities of the financial mechanism' (6 June 1995) FCCC/CP/1995/7/Add.1. COP decisions are not usually legally binding. However, the COP can adopt legal instruments, which Parties must then ratify. COP decisions may also serve as subsequent practice or agreements of Parties on treaty interpretation. See Yamin and Depledge (n 1) 5, 9; Bodansky, Brunnée and Rajamani (n 1) 19–20; Jutta Brunnée, 'COPing with Consent: Law-Making Under Multilateral Environmental Agreements' (2002) 15 Leiden J of Intl L 1.

meaning of adaptation. There was a call for an agreement on a definition, which was not included in the UNFCCC.[200] The Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC), established by the UN to prepare the UNFCCC, continued to meet after it was adopted. In the INC's synthesis report on the topic, adaptation was referred to as 'responses by humans' that 'include all purposeful and deliberate activity taken in response to or in anticipation of the adverse impacts of rapid climate change.'[201] Despite the INC's articulation of adaptation, no definition appears in important subsequent agreements or COP outputs, including the Cancun Adaptation Framework (CAF) and the Paris Agreement.[202] Yet this oversight appears to be intentional; given the lack of scientific certainty about impacts and the dynamic nature of the regime, the term as it first appeared was likely not meant to limit its continued development or subsequent application. And, as discussed above, adaptation can encompass a wide range of activities, with different timescales and scopes that can lead to different understandings. While this can impede implementation of adaptation obligations,[203] it allows for necessary tailoring of adaptation to the context and makes clarity on interpretation of obligations key to their application.

Progress from planning to other stages of adaptation took time.[204] The focus on developing mitigation commitments left adaptation issues relatively neglected for years.[205]

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[200] This request was made by Australia and New Zealand. See INC, 'Matters Relating to Arrangements for the Financial Mechanism and for Technical and Financial Support to Developing Country Parties: Implementation of Article 11 (Financial Mechanism), Paras. 1-4, Synthesis Report on Adaptation' (1994) UN Doc A/AC.237/68 para 28(a).

[201] ibid para 11. The INC also recognized the need for more analysis on the meaning of adaptation. ibid para 1.

[202] 'Cancun Agreements' (n 15) paras 11–35.

[203] See Yamin and Depledge (n 1) 213.

[204] See Irene Suárez Pérez and Angela Churie Kallhauge, 'Adaptation (Article 7)' in *The Paris Agreement on Climate Change* (n 20) 199.

[205] Daniel Bodansky and Lavanya Rajamani, 'The Evolution and Governance Architecture of the Climate Change Regime' in Detlef F Sprinz and Urs Luterbacher (eds), *International Relations and*

Development was constrained by a lack of a single COP agenda item to address the issue during this time; adaptation was discussed across topics that included finance, technology, and least developed countries (LDCs). This meant that progress on adaptation was conditional on progress in other areas.[206] For example, work initially focused on adaptation planning for LDCs, with the creation in 2001 of the LDC Expert Group (LEG) and National Adaptation Programmes of Action (NAPA).[207] It wasn't until the 2005 Nairobi Work Programme (NWP) that adaptation evolved from an aspect of planning, or support for LDCs and their planning, to an area of focus that independently required further information to be better understood.[208] The NWP was also the first stakeholder engagement mechanism under the UNFCCC that allowed for a partnership with civil society, academic institutions, and private sector and non-governmental actors. Its work continues, serving as a bridge between Parties and other stakeholders to increase knowledge on 'all aspects of vulnerability and adaptation' and to prompt action to address Parties' needs.[209] It could, therefore, provide a forum to assist in assessing impacts and needs for developing country Parties, as the thesis argues will be required to implement adaptation obligations.

Global Climate Change (2nd edn, MIT Press 2018) 48. For legal analysis that traces climate negotiations, and their focus on an agreement on mitigation, see Lavanya Rajamani, 'The Making and Unmaking of the Copenhagen Accord' (2010) 59 ICLQ 824; Lavanya Rajamani, 'The Cancun Climate Agreements: Reading the Text, Subtext and Tea Leaves' (2011) 60 ICLQ 499; Lavanya Rajamani, 'The Durban Platform for Enhanced Action and the Future of the Climate Regime' (2012) 61 ICLQ 501, 511–12; Lavanya Rajamani, 'The Warsaw Climate Negotiations: Emerging Understandings and Battle Lines on the Road to the 2015 Climate Agreement' (2014) 63 ICLQ 721.

[206] See Yamin and Depledge (n 1) 213, 230–31.

[207] See Decision 2—24/CP.7, 'The Marrakesh Accords' (21 January 2002) FCCC/CP/2001/13/Add.1. NAPAs are discussed further in III.B.2, below.

[208] See Decision 2/CP.11, 'Five-Year programme of work of the Subsidiary Body for Scientific and Technological Advice on impacts, vulnerability and adaptation to climate change' (30 March 2006) FCCC/CP/2005/5/Add.1. See also Adaptation Committee, '25 Years of Adaptation under the UNFCCC: Report of the Adaptation Committee' (UNFCCC Secretariat 2019) 13–14.

[209] Adaptation Committee, '25 Years of Adaptation' (n 208) 14.

The NWP was followed by the 2007 Bali Action Plan, which sought 'enhanced action on adaptation'. It identified adaptation as one of the five main categories of future activity for the regime and a core component in efforts to establish a new climate agreement.[210] The 2010 Cancun Agreements took the Bali Action Plan a step further; they denote a milestone where Parties agreed to prioritize adaptation to the same degree as mitigation.[211] The Cancun Agreements included the CAF. The latter provided clarity on the meaning of adaptation and detail on enhanced action, which included the first explicit language on mobility in the regime, inviting Parties to take '[m]easures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation'.[212] The CAF also highlighted the urgent need for international cooperation on adaptation and established the Adaptation Committee.[213] The Adaptation Committee is the primary body within the regime tasked with promoting implementation of adaptation actions through *inter alia* financial and technical support; information sharing; guidance; and engagement across various national, regional, and international organizations.

The evolution of adaptation in the regime is next marked by the 2015 Paris Agreement, which scales up action and obligations on adaptation. As noted above, adaptation has its own provision, is recognised in the objectives, and is now set out in a global goal that requires long-term action.[214] The latter underscores the global implications of adaptation, in

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[210] Decision 1/CP.13, 'Bali Action Plan' FCCC/CP/2007/6/Add1 (14 March 2008) 2; Adaptation Committee (n 208) 15. For more on the Plan generally, see Lavanya Rajamani, 'From Berlin to Bali and beyond: Killing Kyoto Softly?' (2008) 57 ICLQ 909. Other areas of activity include shared vision, mitigation, technology, and finance.

[211] See Adaptation Committee, '25 Years of Adaptation' (n 208) 15.

[212] 'Cancun Agreements' (n 15) para 14(f).

[213] ibid para 2(b), 11-35. See Pérez and Kallhauge (n 204) 201.

[214] Paris Agreement art 7; Lavanya Rajamani and Emmanuel Guérin, 'Central Concepts in the Paris Agreement and How They Evolved' in *The Paris Agreement on Climate Change* (n 20) 77; Pérez and Kallhauge (n 204).

addition to its local components, with the link between these two drawn upon to argue for ways to implement adaptation obligations in chapter 5.[215] The Agreement was also the first to highlight the connection between adaptation and impacts to people and their livelihoods—implicitly drawing on human rights.[216] Indeed, the IPCC's most recent report confirmed that adaptation is now a societal challenge, and not simply a question of technological solutions.[217] Thus adaptation cannot be pursued separately from consideration of the risks and impacts to people, particularly those most vulnerable.[218]

Since the adoption of the Paris Agreement, the climate regime has continued to evolve. Subsequent COPs have sought, in part, to create guidance on the implementation of the Agreement.[219] The Adaptation Committee's work continues. In addition to efforts to promote implementation of enhanced action on adaptation, it is assisting developing country Parties in integrating approaches to 'avert, minimize and address displacement' into adaptation planning.[220] This comes by virtue of their membership in the regime's Task Force on Displacement, created alongside the adoption of the Paris Agreement under the umbrella of loss and damage; the latter evinces the overlap of adaptation with other areas of focus in the regime.[221] Indeed, the CAF—an adaptation framework—established the regime's work

[215] See Adaptation Committee, '25 Years of Adaptation' (n 208) 17.

[216] Paris Agreement art 7.2.

[217] IPCC, 'Ocean and Cyrosphere Report' (n 19) CCB 9-9.

[218] See Paris Agreement art 7.9(c); ch 4, II.A.

[219] The inclusion—or not—of human rights issues in this guidance is analysed in chapter 4, II.E.

[220] See Adaptation Committee, 'Flexible Workplan of the Adaptation Committee for 2019-2021' (2020) Version 3, Update following COP 25/CMA 2.

[221] Paris Agreement para 50. The Agreement is also the first time that loss and damage is explicitly included in treaty text, with its own dedicated article. See ibid art 8; analysed in Linda Siegele, 'Loss and Damage (Article 8)' in *The Paris Agreement on Climate Change* (n 20).

programme on loss and damage.[222] This evolved into the Warsaw International Mechanism for Loss and Damage (WIM). Its mandate following the Agreement includes *inter alia* slow onset events, the Task Force and its work in relation to human mobility, and measures to reduce loss and damage, issues that affect adaptation and mobility.[223] Furthermore, the Task Force does not focus on damages from displacement alone, it also analyses approaches that include migration as an adaptation strategy.[224]

In addition, financial mechanisms will be central to support adaptation measures, including the adaptive mobility advocated by the thesis, and have steadily evolved within the regime. The Global Environment Facility (GEF) was the first entity under the UNFCCC to finance adaptation efforts. This was followed by the introduction of three adaptation funds by the Marrakesh Accords in 2001: the Special Climate Change Fund (SCCF) and the Least Developed Country Fund (LDCF) under the UNFCCC, and the Adaptation Fund under the Kyoto Protocol.[225] The latter was formally launched in Bali in 2007.[226] The Cancun Agreements then created an additional fund: the Green Climate Fund (GCF).[227] The GCF became the first fund to be asked to balance allocation of resources between adaptation and

[222] 'Cancun Agreements' (n 15) para 25.

[223] See Paris Agreement art 8; Executive Committee of WIM, 'Five-Year Rolling Workplan of the Executive Committee of the Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts' (2019).

[224] See Task Force on Displacement, 'Report of the Task Force on Displacement, Recommendations' (2018) 9.

[225] The decisions of these Accords were meant to help facilitate the entry into force of the Kyoto Protocol. See 'The Marrakesh Accords' (n 207). Decisions 7/CP.7 and 10/CP.7 under these Accords establish these funds, respectively.

[226] Decision 1/CMP.3, 'Adaptation Fund' (14 March 2008) FCCC/KP/CMP/2007/9/Add.1.

[227] 'Cancun Agreements' (n 15) (Decision 3/CP.17 establishing the fund). See Laurence Boisson de Chazournes, 'Climate Change and Financial Assistance: A Fragmented, Unified or Coordinated Approach?' in Bhuiyan S, Sands P and Schrijver NJ (eds), *International Law and Developing Countries* (Brill-Nijhoff 2014) 130–38,148–50.

mitigation; it has also mobilised more initial resources than any other climate-dedicated fund.[228] The Paris Agreement followed, with financial assistance aiming to seek a balance between mitigation and adaptation.[229] This goal is viewed as a 'welcoming enhancement' on what was initially agreed upon for adaptation support in the UNFCCC.[230] Recently, some of these funds have updated their policies, to allocate greater portions of money towards adaptation and to screen for impacts to the environment and people and their human rights.[231]

Attention paid to adaptation is on the rise; the climate change regime and the concepts and principles that guide it are dynamic, with adaptation a reflection of the regime. Adaptation is an inherently evolutive concept and its evolution has occurred alongside increasing knowledge of the threats climate impacts pose and the need for urgent action. Current understanding of adaptation will also evolve and shape new understandings in the future. The expansion of adaptation obligations within the regime reflects this evolution, which is discussed next. While such evolution has its limits, as will be argued in detail in the next chapter, it can lead to the integration of other norms and rules of international law.

B. Adaptation Obligations

The obligations on adaptation within the climate change regime are the focus of the thesis, providing the basis to compel and shape action on adaptive mobility. These obligations have evolved, alongside the regime's institutions and understanding of adaptation and its necessity. This section analyses what adaptation legally entails within the regime. It identifies the

[228] See Decision 6/CP.19, 'Report of the Green Climate Fund to the Conference of the Parties and Guidance to the Green Climate Fund' (31 January 2014) Decision 4/CP.19, FCCC/CP/2013/10/Add.1; Jorge Gastelumendi and Inka Gnittke, 'Climate Finance (Article 9)' in *The Paris Agreement on Climate Change* (n 20) 242.

[229] Paris Agreement art 9.4.

[230] Gastelumendi and Gnittke (n 228) 245.

[231] Funds are discussed further in ch 5, III.B.

source of adaptation obligations and traces their development from the UNFCCC to the Paris Agreement. It sets the foundation for how they should be interpreted and applied, with more concrete and detailed arguments in the chapters that follow.

Interpretation of adaptation obligations, here and in the remainder of the thesis, is premised on the dynamic and evolving nature of climate change regime and the agreements upon which it is built and continues. Thus, as the regime evolves, so too does an interpretation of its legal commitments. Interpreting concepts or obligations is an open-ended task that can change over time.[232] Indeed, treaty interpretation is not static, and the rules that govern the understanding of obligations show an appreciation of the need for law to evolve with changing conditions.[233] This is especially true for any regime tasked with addressing climate change.[234] An evolutionary interpretation allows for changing knowledge about impacts and social conditions to be taken into account in the interpretation of treaty concepts and obligations.[235] Such an approach is reflective of the way that scientific uncertainty is handled in international environmental law more generally, with treaties characterized as institutionalizing change rather than stability.[236] A precautionary approach, embodied in a cornerstone principle of the regime discussed below, also enables continued action in the face

[232] See Richard Gardiner, 'The Vienna Convention Rules on Treaty Interpretation' in Duncan B Hollis (ed), *The Oxford Guide to Treaties* (OUP 2012) 495–96.

[233] This conclusion is supported by the VCLT's consideration of subsequent practice and agreement, and other rules of law. VCLT art 31(3)(a)-(c). Discussed further in ch 3, II.B.2.

[234] See Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law and the Environment* (3rd edn, OUP 2009) 359; Catherine Redgwell, 'International Environmental Law' in *International Law* (n 3) 682–84; Redgwell, 'Multilateral Environmental Treaty-Making' (n 181) 92 (flexibility and dynamic force of environmental treaties necessary to account for new developments in science, politics, and economics).

[235] Evolutionary treaty interpretation and the role of the VCLT will be discussed further in chapter 3. See generally Eirik Bjorge, *The Evolutionary Interpretation of Treaties* (OUP 2014).

[236] Redgwell, 'Multilateral Environmental Treaty-Making' (n 181) 91–92. See generally Peel, *Science and Risk Regulation in International Law* (n 197).

of such uncertainty.[237] The interpretive arguments further align with the principle of effectiveness, which promotes interpretation that allows for the continued applicability of a treaty.[238]

Adaptation obligations take three forms in the regime: to act, to assist, and to cooperate. These are set out in the UNFCCC and Paris Agreement.[239] On their own, the commitments in UNFCCC have been characterised as 'obligations of effort',[240] with language that provides discretion in how they are met.[241] Likewise, the Paris Agreement incorporates language that softens its obligations.[242] This creates a mix of hard and soft obligations, as well as provisions that are hortatory or are only meant to provide insight into context or shared understanding on issues, including adaptation.[243] Accordingly, on the whole these instruments

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[237] See IV.A; Philippe Sands and others, *Principles of International Environmental Law* (4th edn, CUP 2018) 6–7, 229–40.

[238] The principle is considered inherent in the VCLT rule. See *Mamatkulov and Askarov v Turkey* App nos 46827/99 and 46951/99 (European Court of Human Rights (ECtHR), 4 February 2005) [123]; Richard K Gardiner, *Treaty Interpretation* (2nd edn, OUP 2015) 329. For more on the principle, see *Award in the Arbitration regarding the Iron Rhine ("Ijzeren Rijn") Railway between the Kingdom of Belgium and the Kingdom of the Netherlands* (2005) 27 RIAA 35 [79]–[80] ('an evolutive interpretation...would ensure an application of the treaty that would be effective'); *Territorial Dispute (Libyan Arab Jamahiriya/Chad)* (Judgment) [1994] ICJ Rep 6 [51]; Bjorge (n 235) 8–9, 159, 190, ch 3; Hugh Thirlway, 'The Law and Procedure of the International Court of Justice 1960–1989 Supplement, 2011: Parts Eleven, Twelve and Thirteen' (2012) 82 British YB of Intl L 1, 44; Gardiner 179–81, 221–22; Birnie, Boyle and Redgwell (n 234) 18–19.

[239] See n 6.

[240] See Lavanya Rajamani, 'The United Nations Framework Convention on Climate Change: A Framework Approach to Climate Change' in *Climate Change Law* (n 43) 208–9.

[241] For example, obligations include 'where appropriate' or 'to the extent feasible'. However, such discretion does not extend to performance or non-performance. ibid 209.

[242] Like the UNFCCC, this includes 'as appropriate'. See, e.g., Paris Agreement art 7.5, 7.7(a), 7.9, 7.10; discussed in Bodansky, Brunnée and Rajamani (n 1) 237.

[243] See Lavanya Rajamani, 'The 2015 Paris Agreement: Interplay Between Hard, Soft and Non-Obligations' (2016) 28 J of Environmental L 337; see generally Dinah Shelton, 'Law, Non-Law, and the Problem of "Soft Law"' in Dinah Shelton (ed), *Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System* (OUP 2003) (introducing issues of compliance with 'soft law', the blurring of soft and hard international law, and the role of non-binding instruments and provisions in developing the content of legal norms); Dinah Shelton, 'International Law and "Relative

do not mandate specific outcomes or actions, and are 'facilitative rather than…prescriptive'.[244] Yet as analysed below, while adaptation obligations allow for a wide-range of activities in their performance, what is adequate or appropriate adaptation can be determined through interpretation and context. Further specificity is accomplished through the integration of human rights, as argued in the next chapter. There are also other relevant and general obligations to assist and cooperate in international law, and human rights in particular, which exist in parallel to climate obligations or that may affect interpretation. The focus of this chapter is on the climate regime; chapter 4 will discuss these other international obligations.

1. Obligations to act on adaptation

The first adaptation obligation contained in the UNFCCC requires:

> All Parties taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances shall…(f)ormulate, implement, publish and regularly update national and, where appropriate, regional programmes containing…measures to facilitate adequate adaptation to climate change…. [245]

This is a positive duty that creates commitments related to adaptation planning and preparation. Parties must also regularly communicate about the status and implementation of such measures.[246]

Two key points about this obligation underscore its importance and operation. First, it is a general commitment that applies broadly. Because there are no reservations allowed

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Normativity"' in Malcolm D Evans (ed), *International Law* (3rd edn, OUP 2010) 159–61 (further on the interplay between hard and soft law).

[244] Lavanya Rajamani, 'Ambition and Differentiation in the 2015 Paris Agreement: Interpretative Possibilities and Underlying Politics' (2016) 65 ICLQ 493, 504; see Pérez and Kallhauge (n 204) 196.

[245] UNFCCC art 4(1)(b).

[246] ibid art 12.

under the UNFCCC, or in subsequent agreements, this obligation applies to all Parties.[247] And, as noted above, the UNFCCC enjoys near universal participation.[248] Second, this obligation is qualitative in nature and on its face allows Parties to determine what constitutes 'adequate adaptation'.[249] Additionally, it—along with the other commitments in article 4(1)—is couched in terms of CBDRRC. The role of the CBDRRC principle in guiding and shaping commitments is discussed in section IV. Generally, the principle introduces differentiation in how obligations are met, to account for *inter alia* varying ability to undertake climate action and responsibility of developed countries in supporting developing countries in their adaptation efforts.[250] These features have led to the characterisation of the obligation as a procedural one, which remains 'highly significant' because it leads to processes tasked with the identification, assessment, and implementation of adaptation options.[251]

The language of the obligation leaves several areas open to interpretation.[252] This includes the meaning of 'facilitate' and 'adequate adaptation'. The term 'facilitate' within the

[247] See ibid art 24; Kyoto Protocol art 26; Paris Agreement art 27.

[248] See n 183.

[249] See Bodansky (n 176) 505–6; Yamin and Depledge (n 1) 218.

[250] See IV.B., below and n 184; Lavanya Rajamani, 'The Principle of Common but Differentiated Responsibility and the Balance of Commitments under the Climate Regime' (2000) 9 RECIEL 120; Philippe Cullet, 'Principle 7' in Jorge E Viñuales (ed), *The Rio Declaration on Environment and Development: A Commentary* (OUP 2015); Sands and others (n 237) 244–48; Alan Boyle and Catherine Redgwell, *International Law and the Environment* (4th edn, OUP forthcoming 2021) 275–85; Harald Winkler and Lavanya Rajamani, 'CBDR&RC in a Regime Applicable to All' (2014) 14 Climate Policy 102, 115–16 (common responsibility for adaptation, and differentiation as to funding); Lavanya Rajamani, 'Common but Differentiated Responsibilities' in Emanuela Orlando and Ludwig Krämer (eds), *Principles of Environmental Law*, Elgar Encyclopedia of Environmental Law Series, vol VI (EEP 2018).

[251] Yamin and Depledge (n 1) 218.

[252] See n 235; VCLT art 31(1) (treaty terms interpreted in accordance with the ordinary meaning in context of treaty and in light of its object and purpose). There is rarely a single ordinary meaning, making the latter part of the analysis critical. See Gardiner (n 232) 480–81, 495.

context of the UNFCCC has been associated with planning and enabling activities.[253] Preparatory activities are a logical starting point for adaptation efforts; to anticipate impacts and create appropriate responses, a baseline understanding of existing vulnerabilities and potential risks is necessary.[254] However, while preparatory activities may be emphasised, nothing in the language of the obligation limits it to planning and enabling. As argued above, adaptation is a process, one that was envisaged by the COP in stages.[255] It has and will evolve, as knowledge and work on the issue increases. This accords with the UNFCCC more generally, which establishes broad obligations meant to evolve and provides for continued work to increase clarity and ambition on efforts to address climate change.[256] Adaptation will also depend on the context, as illustrated by the specific developing country examples in chapter 5.

Likewise, the 'adequate adaptation' language of the obligation raises questions about the meaning of the obligation and how it can be satisfied. Adequacy is a subjective term that implies that some threshold must be met. It introduces flexibility in interpretation and can incorporate elements of cost efficiency, feasibility, and other practical considerations.[257] These elements are important when considering the nature of adaptation, which will often involve context-specific endeavours to address local impacts and vulnerabilities. Here, the climate regime's guidance is instructive. COP decisions and guidance from institutions within the regime provide insight into how to facilitate adequate adaptation. The COP is the

[253] See Verheyen (n 160) 86.

[254] This is also supported by the complementary obligation to 'cooperate in preparing for adaptation', discussed in III.B.3, below.

[255] See 'Decision 11/CP.1' (n 199).

[256] See Bodansky (n 176) 494–95; Bodansky and Rajamani (n 205) 21–22.

[257] See Marco Grasso, *Justice in Funding Adaptation under the International Climate Change Regime* (Springer Science & Business Media 2009) 24.

'supreme body' of the regime tasked with promoting implementation of the UNFCCC.[258] COP decisions have 'tremendous operational and legal significance'; they and other guidance of the regime can *inter alia* offer instructions to Parties, explain treaty provisions, and provide a means to achieve greater consistency and coherence across Parties and strategies.[259] COP Guidelines for the preparation of National Communications (NCs) for non-Annex I Parties, which includes LDCs and developing countries, describes steps it considers as implementing the UNFCCC. For measures that 'facilitate adequate adaptation', this includes a range of activities from assessing vulnerability to climate impacts, adaptation needs, and strategies to undertaking measures to adapt climate change.[260] State Parties' initial NCs include this range: most incorporate vulnerability assessments and plans for adaptation activities and policies, and a few include physical, regulatory, and other non-structural adaptation measures already being pursued.[261] Likewise, guidance offered by the climate change regime's secretariat staff supports a breath of activities encompassed by UNFCCC's adaptation obligations: while emphasis is on reporting vulnerabilities and the steps needed to adapt, concrete actions can also help facilitate adequate adaptation. Examples include strengthening coping strategies and coordination of legal policies to address resources at national and regional levels.[262] Thus, the obligation to take action in the UNFCCC is one that

[258] See UNFCCC art 7.

[259] See n 199; Yamin and Depledge (n 1) 219–20.

[260] See Decision 17/CP.8, 'Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention' (28 March 2003) FCCC/CP/2002/7/Add.2.

[261] See, e.g., Bangladesh's Initial National Communication (NC) (2002) (full range of measures, from assessment to adaptation underway); Fiji's First NC (2005) (assessment, adaptation options, and policies and programmes underway); Kiribati's Initial NC (1999) (assessment and plans for implementing programmes); Sudan's First NC (2003) (assessment and what adaptation should include); Marshall Islands' Initial NC (2000) (assessment and adaptation options); Nigeria's First NC (2003) (same); Vanuatu's NC (1999) (same); Eritrea's Initial NC (2001) (assessment, adaptation options, and linking climate action to existing policies).

[262] See, e.g., UNFCCC Secretariat, 'Climate Change: Impacts, Vulnerabilities and Adaptation in Developing Countries' (2007) 44. See also Graham Sem, 'UNFCCC Workshop on the Preparation of

emphasises preparatory measures, but incorporates both planning for and carrying out adaptation programmes.[263]

Furthermore, any doubt the about whether adaptation includes the implementation of measures was eliminated by the Paris Agreement. The increased focus on adaptation in the Agreement, and its building upon the obligations of the UNFCCC, [264] reflects the evolution of adaptation within the regime more generally. For example, the Agreement's global goal on adaptation aims to enhance adaptive capacity, strengthen resilience, reduce vulnerability, while contributing to sustainable development and 'adequate adaptation response…'.[265] While this is not a hard or quantifiable legal obligation, it is the first articulation of an adaptation goal.[266] It also recognizes that adaptation is key to responses that 'protect people, livelihoods and ecosystems'; this, as noted above, implicitly links adaptation to the protection

National Communications from Non-Annex I Parties: General Description of Steps Taken or Envisaged by Non-Annex I Parties to Implement the Convention' (Manila, The Philippines, 26 April 2004) <https://unfccc.int/files/meetings/workshops/other_meetings/application/vnd.ms-powerpoint/gs_va.ppt> accessed 25 October 2020; TR Carter and others, 'IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptations' in *Climate Change 1994: Radiative Forcing of Climate Change and An Evaluation of the IPCC IS92 Emission Scenarios* (1994).

[263] See also Roda Verheyen, 'The Legal Framework of Adaptation and Adaptive Capacity' in *Climate Change, Adaptive Capacity and Development* (n 158) 170–71 (the 'Convention clearly contains a legal obligation for Parties to address adaptation in a strategic way through programs and, importantly, also obliges them to implement them').

[264] The Paris Agreement is an agreement under the UNFCCC. Paris Agreement preamble, art 2.1. See Decision 1/CP.17, 'Establishment of an Ad Hoc Working Group on a Durban Platform for Enhanced Action, 2011' (15 March 2012) FCCC/CP/2011/9/Add.1; Rajamani, 'Ambition and Differentiation in the 2015 Paris Agreement' (n 244) 507.

[265] See n 214; Paris Agreement art 7.1.

[266] See Pérez and Kallhauge (n 204) 203. The adaptation goal is not quantifiable—as proposed by the African Group of negotiators—but unlike the UNFCCC, it discusses the connection between its goals, mitigation, and adaptation. See 'Submission by Swaziland on Behalf of the African Group on Adaptation in the 2015 Agreement' (2013) <https://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_african_group_workstream_1_adaptation_20131008.pdf> accessed 31 August 2020 (proposing methodology and steps for a goal based on the cost of adaptation); Rajamani, 'Ambition and Differentiation in the 2015 Paris Agreement' (n 244) 497.

of human rights.[267] The Agreement also marks an evolution from the UNFCCC in its dedicated article on adaptation. Importantly, the adaptation article both underscores the obligations in the UNFCCC and expands upon them. In addition to an obligation to undertake adaptation planning, it includes the requirement that Parties engage in 'the implementation of actions'; these actions could include 'implementation of adaptation actions, undertakings and/or efforts;' national adaptation plans; assessment of impacts and vulnerabilities; and monitoring and evaluating of plans and actions.[268] Accordingly, obligations to act on adaptation now explicitly incorporate implementation of adaptation measures, which includes an array of actions. However, the Agreement's obligation is qualified by the language of 'as appropriate'. Similar to the UNFCCC, this softens the obligation and introduces an element of State discretion.[269] Yet discretion need not be negative or limiting. Instead, as argued in chapters 4 and 5, it provides the space for States to adopt a range of adaptation measures, including those to enable adaptive mobility, that respond to the contextual risks posed by climate impacts. The breadth and nature of the obligation can also foster greater participation or compliance, to act with urgency as risks increase.[270]

Following the Paris Agreement, further work within the COP and by the Parties on adaptation continues. Efforts have shifted towards implementation of the Agreement, which includes continued support to assist developing countries in their adaptation measures, support for and submission of adaptation planning documents—discussed below in the next section—and guidance on adaptation communications.[271] The Paris Agreement's

[267] Paris Agreement art 7.1-7.2.

[268] ibid art 7.9.

[269] See Bodansky, Brunnée and Rajamani (n 1) 237.

[270] See Shelton, 'Law, Non-Law, and the Problem of "Soft Law"' (n 243) 10–16.

[271] See UNFCCC Secretariat, 'Progress Tracker: Work Programme Resulting from the Relevant Requests Contained in Decision 1/CP.21' (2018) <https://unfccc.int/sites/default/files/resource/Progress%20Tracker%20PAWP.pdf> accessed 31

incorporation of an 'adaptation communication' is a further development from the UNFCCC; it encourages each Party to convey their 'priorities, implementation and support needs, plans and action', while aiming overall to increase the profile and action on adaptation, support for developing countries, and provide input for the global stocktake.[272] The latter is a collective obligation of the COP, which must periodically undertake a 'global stocktake' to consider 'mitigation, adaptation and the means of implementation and support'.[273] For adaptation, the stocktake 'shall' *inter alia* recognise adaptation efforts; enhance implementation of adaptation action; and review the adequacy and effectiveness of adaptation, support for adaptation, and progress on the global goal on adaptation.[274] The first global stocktake will take place in 2023, with the Ad Hoc Working on the Paris Agreement (APA) currently proposing that the secretariat, Adaptation Committee, and LEG prepare a synthesis report on the state of adaptation efforts, support, and needs from adaptation communications and other relevant reports.[275] Alongside the rest of the article on adaptation, it indicates that adaptation has been incorporated across the 'implementation-related' aspects of the Agreement.[276]

August 2020; Decision 9/CMA.1, 'Further guidance in relation to the adaptation communication, including, inter alia, as a component of nationally determined contributions, referred to in Article 7, paragraphs 10 and 11, of the Paris Agreement' (19 March 2019) FCCC/PA/CMA/2018/3/Add.1.

[272] See Paris Agreement art 7.10-7.12; 'Decision 19/CMA.1' (n 271); discussed further in Pérez and Kallhauge (n 204) 211–13.

[273] Paris Agreement art 14.1. See Pérez and Kallhauge (n 204) 217–19; Jürgen Friedrich, 'Global Stocktake (Article 14)' in *The Paris Agreement on Climate Change* (n 20) 325–27.

[274] Paris Agreement art 7.14.

[275] See APA, SBSTA, SBI, 'Joint reflections note by the presiding officers of the Ad Hoc Working Group on the Paris Agreement, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation: Matters Relating to Article 14 of the Paris Agreement and paragraphs 99–101 of decision 1/CP.21' (15 October 2018) APA-SBSTA-SBI.2018.Informal.2.Add.7. The APA was established by Decision 1/CP.21, 'Adoption of the Paris Agreement' (29 January 2016) FCCC/CP/ 2015/10/Add.1 paras 7-11.

[276] Margaretha Wewerinke-Singh and Curtis Doebbler, 'The Paris Agreement: Some Critical Reflections on Process and Substance' (2016) 39 University of New South Wales L J 1486, 1504.

These developments underscore that adaptation is an ongoing process. Furthermore, based on an interpretation that accounts for such a process and the evolutive nature of obligations, adequate adaptation can be understood as a progression, with appropriate measures affected by knowledge about adverse effects, changing circumstances, and the context that measures are undertaken. Such an interpretation is also necessary to ensure the effectiveness of adaptation obligations.[277] An obligation to adapt can thus be satisfied through adaptation programmes that incorporate a variety of actions on behalf of the State—from concrete plans to implementation of actions that require review and support.[278]

Finally, assessing the adequacy of adaptation also leads to questions about whether adaptation is measured by the process put in place or its results, and if a State doing its 'due diligence' is enough. As noted above, maladaptation can raise the related issue of whether the obligation to act on adaptation is one of conduct or result. The variety of ways the obligation can be satisfied, as well as its planning and procedural aspects, appear to support an argument for conduct. Moreover, the implementation of adaptation need not result in a specific activity in every case. As this thesis argues, action hinges on the context and whether States are meeting their positive duties to adapt and ensure human rights. However, these positive duties *can* lead to the need to undertake certain forms of adaptation, including mobility, in order to satisfy legal commitments. By integrating relevant rights obligations, adaptation obligations can take on elements of both obligations of conduct and result.[279] The emphasis, however, is on the former and taking steps to allow individuals at risk to realize their rights

[277] See n 238.

[278] See generally Catherine Redgwell, 'National Implementation' in Daniel Bodansky, Jutta Brunnée and Ellen Hey (eds), *The Oxford Handbook of International Environmental Law* (OUP 2008) (discussing limits of national implementation and incorporation of international environmental law).

[279] See OHCHR, 'Human Rights and Indicators: A Guide to Measurement and Implementation' (2012) HR/PUB/12/5 13.

rather than reaching a specific target or outcome. Chapters 4 and 5 argue that a wide range of actions can prevent foreseeable risks to human rights, but that some circumstances require States to plan for and implement adaptive mobility measures.

On the question of due diligence satisfying adaptation obligations, it is worth noting that within environmental law due diligence is typically an obligation of conduct that involves the prevention of harm rather than a duty to ensure such harm does not occur.[280] As chapter 4 highlights, due diligence often accompanies or is an expression of the precautionary principle.[281] As risks become more certain, efforts focused on prevention require less likelihood of harm to trigger adaptive action.[282] The procedural aspects of due diligence aimed at preventing harm, akin to the procedural rights brought in by the integration of human rights law, will be one way to meet obligations. However, integration will take adaptation obligations beyond this to require action to ensure substantive human rights.[283]

2. Obligations to assist

Obligations to assist are the second form of adaptation obligation in the climate change regime. There are several relevant provisions in the UNFCCC and Paris Agreement, most of

[280] See *Pulp Mills on the River Uruguay (Argentina v Uruguay)* (Judgment) [2010] ICJ Rep 14 [101], [197]; *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua)* and *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v Costa Rica)* (Judgment) [2015] ICJ Rep 665 [104]; Boyle and Redgwell (n 250) 308–12; Tim Stephens and Duncan French, 'ILA Study Group on Due Diligence in International Law: Second Report' (ILA 2016) 23; cf 'The Rise of Due Diligence as a Structural Change of the International Legal Order' (Ninth Annual Cambridge International Law Conference, 6 May 2020) <https://www.youtube.com/watch?v=hjWg1-2VYd4> accessed 26 August 2020 (due diligence can be both an obligation of conduct and result).

[281] See Boyle and Redgwell (n 250) 309.

[282] See Stephens and French (n 280) 21.

[283] See n 814 and accompanying text. See also Tim Stephens and Duncan French, 'ILA Study Group on Due Diligence in International Law: First Report' (ILA 2014) 16–17 (concluding minimum core duties discussed in chapter 4 are more akin to obligations of conduct than result); Stephens and French (n 280) 18 (these duties are obligations of due diligence).

which focus on providing financial assistance to developing countries.[284] Article 4(4) of the UNFCCC obliges 'developed country Parties and other developed Parties included in Annex II'[285] to 'assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.'[286] Article 4(3) requires the same Parties to provide the financial resources 'needed by the developing country Parties to meet the agreed full incremental costs' of implementing measures that include those required to facilitate adequate adaptation. These incremental costs must be agreed upon between the developing country Party and the financial mechanisms for the regime.[287] This article also mandates that developed country Parties 'shall provide new and additional financial resources to meet the agreed full costs' required of developing countries in satisfying their obligation to provide communication about their implementation of commitments.[288] In addition to financial support, the UNFCCC obliges the same developed country Parties to provide assistance to developing countries through access to and transfer of technology and knowledge.[289]

[284] See generally Laurence Boisson de Chazournes, 'Technical and Financial Assistance' in *The Oxford Handbook of International Environmental Law* (n 278); Cullet, 'Principle 7' (n 250); Philippe Cullet, 'Common but Differentiated Responsibilities' in Malgosia Fitzmaurice, David Ong and Panos Merkouris (eds), *Research Handbook on International Environmental Law* (EEP 2010).

[285] See n 53. Annex II is meant to cover all developed countries at the time of adoption, and to place the financial obligation on those Parties historically responsible for climate change. See Gastelumendi and Gnittke (n 228) 244.

[286] UNFCCC art 4(4).

[287] ibid art 4(3). The implications of 'incremental costs' are discussed further, ch 5, III.B. However, this thesis focuses on particularly vulnerable countries rendering this qualification less important for its arguments.

[288] ibid art 4(3).

[289] See ibid art 4(3), 4(5). For further on early issues and obstacles to developing and implementing these commitments, see Yamin and Depledge (n 1) 309–14. The Marrakesh Accords created a technology framework and expert group, which have since been superseded. Decision 4/CP.7, 'Development and Transfer of Technologies (Decisions 4/CP.4 and 9/CP.5)' (2001) FCCC/CP/2001/13/Add.1 (21 January 2002). See also Heleen de Coninck and Ambuj Sagar,

The assistance of developed countries is critical to the success of the UNFCCC; in fact, developing country Parties' participation and performance of obligations is conditional, dependent on 'the effective implementation by developed country Parties of their commitments… related to financial resources and transfer of technology'.[290] Such conditionality underscores differentiation in the UNFCCC.[291] This creates and reinforces what Lavanya Rajamani sees as a 'compact between developing and developed countries', although she recognises the contours of this compact are not entirely clear.[292] As will be discussed in chapter 5, it is through contextualization that some of the ambiguity about adaptation and assistance can be resolved. Moreover, while there is room for States to interpret what assistance entails, as Rajamani argues, discretion extends only to the manner of performance and not whether non-performance is possible.[293] Developed States *must* provide financial assistance for adaptation costs. How this is accomplished, and the role of the regime's financial mechanisms, continues to evolve. There are several mechanisms that are either dedicated to adaptation or that have recently committed to greater funding of adaptation. These funds, their potential to provide support for developing countries in measures related to adaptive mobility, and obstacles to accessing them are discussed in chapter 5.[294] Here, however, it is important to outline that financial assistance obligations for developing countries exist and that there are mechanisms in place to facilitate the implementation of such support.

'Technology Development and Transfer (Article 10)' in *The Paris Agreement on Climate Change* (n 20) 260 (expert group was considered a 'weak body').

[290] UNFCCC art 4(7).

[291] See IV.B, below. See also Cullet, 'Common but Differentiated Responsibilities' (n 284) 161.

[292] Rajamani, 'A Framework Approach' (n 240) 209.

[293] ibid.

[294] Ch 5, III.B.

The UNFCCC also singles out categories of developing countries for special consideration in the implementation of commitments. The vulnerability of these States, paired with their status as developing countries or LDCs, is what in part motivates and justifies the differentiated assistance owed under the regime. Article 4(8) instructs all Parties 'shall give full consideration to what actions are necessary' to meet the needs of developing countries identified by specific geographical and ecological vulnerabilities.[295] This includes small island countries, countries with low-lying coastal areas or that are liable to drought and desertification, and those prone to disasters, amongst others. Article 4(9) provides a similar duty of all Parties to consider LDCs in funding and technology transfer, due to limitations in their capacity to adapt and respond to climate impacts.[296] These articles supplement adaptation assistance obligations; they require all Parties to consider actions, which include funding and technology transfer.[297] Yet they do not mandate that these actions be undertaken. Instead, these are areas for future consideration by the COP,[298] which again evinces the dynamic nature of obligations in the regime. Indeed, COP decisions that followed took up the question of adaptation and how to meet the needs of LDCs and developing countries.[299]

[295] See UNFCCC art 4(8).

[296] ibid art 4(9); UNFCCC, 'Parties & Observers' (n 53) (LDCs are singled out due to their 'limited capacity to respond to climate change and adapt to its adverse effects').

[297] Article 4(8) also obliges Parties to consider insurance. It notes that the COP may take action on the article as appropriate. For such further action, see n 299.

[298] Yamin and Depledge (n 1) 227.

[299] See, e.g., Decision 3/CP.3, 'Implementation of Article 4, Paragraphs 8 and 9, of the Convention' (5 March 1998) FCCC/CP/1997/7/Add.1 (requesting SBI to undertake a process to identify the needs of developing countries); Decision 5/CP.7, 'Implementation of Article 4, paragraphs 8 and 9, of the Convention' (21 January 2001) FCCC/CP/2001/13/Add.1 (implementing support for adaptation activities under the GEF, Adaptation Fund, and SCCF and establishing a work programme on LDCs). Preparation for a report on the needs of developing country Parties is ongoing as of October 2020. See Standing Committee on Finance, 'Call for Evidence: Information and Data for the Preparation of the 2020 Report on the Determination of the Needs of Developing Country Parties Related to Implementing the Convention and the Paris Agreement'

Like the obligation to act on adaptation, assistance obligations include broad undefined terms that have been criticized as being too imprecise.[300] For example, the reference to 'particularly vulnerable' developing Parties is not explicitly defined in the UNFCCC. These countries are important to identify, as assistance in their adaptation costs is unqualified by the terms of the UNFCCC. The preamble of the UNFCCC recognises 'low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems are particularly vulnerable'.[301] Subsequent COP decisions further indicate that in addition to these States 'particularly vulnerable' Parties includes LDCs and climate affected African States, although this does not exclude the possibility of other States qualifying.[302] Those developing States that fit the criteria of article 4(8) can also be considered particularly vulnerable. [303] This criteria provides a useful starting point in determining which developing countries should be prioritized for assistance.[304] In practice, financial and technical assistance has been provided broadly to developing countries and LDCs in planning for adaptation and preparation of NCs and other reports to the COP.

<https://unfccc.int/sites/default/files/resource/NeedsReport_CallforEvidence_Oct30_1.pdf> accessed 1 September 2020.

[300] See Haroldo Machado-Filho, 'Financial Mechanisms under the Climate Regime' in Jutta Brunnée, Meinhard Doelle and Lavanya Rajamani (eds), *Promoting Compliance in an Evolving Climate Regime* (CUP 2012) 221; Verheyen (n 160) 97, 107 (language of assistance obligations are ambiguous and financial commitments 'riddled with unclear terms').

[301] UNFCCC preamble.

[302] See 'Bali Action Plan' (n 210) para 1(c)(i); Decision 2/CP.15, 'Copenhagen Accord' (20 March 2010) FCCC/CP/2009/11/Add.1 para 3; 'Cancun Agreements' (n 15) para 95. See also Rajamani, 'The Durban Platform' (n 205) 517.

[303] See Pérez and Kallhauge (n 204) 197. But see Verheyen (n 160) 101–02 (article 4(8) is helpful but may blur the difference between articles 4(3) and 4(4)).

[304] See Yamin and Depledge (n 1) 227. See also 'Cancun Agreements' (n 15) para 95; ch 5, II illustrations.

However, as such support tends to be dispersed through the mechanisms of the regime,[305] it is difficult to make an argument that there is a definitive interpretation of particularly vulnerable based on subsequent practice, as such practice must be attributable to the Parties.[306]

As with obligations to act on adaptation, the Paris Agreement reaffirms and builds on the assistance obligations of the UNFCCC, while also clarifying some of the activities support should be directed towards.[307] Leading up to the Agreement, the provision of support for both planning and implementing adaptation was a key demand of LDCs and the alliance of small island States.[308] This is manifested in the obligation that '[c]ontinuous and enhanced international support shall be provided to developing country Parties for the implementation' of their adaptation obligations, which as described above encompasses a range of activities from planning for to implementing adaptation actions.[309] This provision of support is

[305] See, e.g., Adaptation Committee, 'Navigating the landscape of support for the process to formulate and implement national adaptation plans: 2015 Overview for developing countries' (UNFCCC Secretariat 2015).

[306] See VCLT art 31(3)(b); Gardiner (n 238) 266. For more on subsequent practice, and what constitutes sufficient practice to show agreement amongst parties see ibid 254–62; International Law Commission (ILC), 'First report on subsequent agreements and subsequent practice in relation to the interpretation of treaties, by Mr Georg Nolte, Special Rapporteur' (9 March 2013) UN Doc A/CN.4/660 36–44; ILC, 'Second report on subsequent agreements and subsequent practice in relation to the interpretation of treaties, by Mr Georg Nolte, Special Rapporteur' (26 March 2014) UN Doc A/CN.4/671 20–24.

[307] For further analysis of financial support, see Gastelumendi and Gnittke (n 228) 242.

[308] See Wewerinke-Singh and Doebbler (n 276) 1504; Achala Abeysinghe, Brianna Craft and Janna Tenzing, 'The Paris Agreement and the LDCs: Analysing COP21 Outcomes from LDC Positions' (IIED 2016) Issue Paper 14. See also Earth Negotiations Bulletin, 'Summary of the Paris Climate Change Conference: 29 November - 13 December 2015' (2015) 12 International Institute for Sustainable Development 7 (some Parties highlighted need for assessment of the adequacy of support from developed countries).

[309] Paris Agreement art 7.13.

considered the 'centerpiece of the adaptation article'.[310] The continuous nature of support highlights that assistance is not one-off, but can be accessed as adaptation needs and efforts evolve.

While obligatory in nature, this provision does not specify who holds the duty to provide support. However, article 9.1 clarifies that financial obligations fall on developed country Parties, using the imperative language 'shall' to set out their duty to 'provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention.'[311] Whether article 9.1 merely restates the UNFCCC's financial obligation or can be understood to build or expand upon it is open to interpretation. The language provides an argument that it does not create a new obligation.[312] It does, however, highlight that the Agreement continues the commitments made under the UNFCCC, including financial support owed to developing countries. It also definitively answers any questions that may arise about whether the Agreement supersedes the UNFCCC, particularly as applied to adaption assistance.[313] It does not. Developed countries remain obligated to assist developing country Parties in meeting the

[310] Lavanya Rajamani, 'The Principle of Common but Differentiated Responsibilities and Respective Capabilities in the International Climate Change Regime' in *Research Handbook on Climate Disaster Law* (n 83) 56.

[311] Paris Agreement art 9.1; see Pérez and Kallhauge (n 204) 217; Wewerinke-Singh and Doebbler (n 276) 1509.

[312] Gastelumendi and Gnittke (n 228) 243.

[313] See Wewerinke-Singh and Doebbler (n 276) 1516 (concluding the Agreement, as its subsidiary, cannot override the UNFCCC).

costs of adaptation.[314] However, other State Parties 'are encouraged to provide or continue to provide such support voluntarily.'[315]

Which developed country Parties are obliged to provide resources is not specified. Since the adoption of the UNFCCC, 13 other countries have joined the OECD, the basis for Annex II in the UNFCCC.[316] Article 9.3 of the Paris Agreement continues to place the onus on developed countries to mobilize climate finance from a variety of sources, while accounting for 'the needs and priorities of developing country Parties.'[317] Likewise, the distinction between developed and developing countries in the Paris Agreement is the only clear differentiation for obligations, guidance, and support for adaptation. Thus, it appears that the obligation for support falls to some extent on developed countries more broadly.[318] The encouragement of support from other Parties also supports a broader reading, and has been characterised as signalling the intent to expand the base of financial support as well as the role emerging developing countries will play going forward.[319]

The Paris Agreement further expands on the UNFCCC's technology transfer commitments with a standalone article on technology development and transfer. It includes several noteworthy features. First, it creates an obligation that Parties 'shall strengthen

[314] See UNHRC, 'Human Rights and Climate Change' (23 June 2014) UN Doc A/HRC/26/L.33 (developing countries 'should be provided with predictable, sustainable and adequate support to meet the costs of adaptation'); cf Mayer (n 40) 54 (arguing international law does not create any legal duty for a specific State to provide a specific form of assistance at a specific time).

[315] Paris Agreement art 9.2.

[316] See n 53; OECD, 'List of OECD Member Countries' <https://www.oecd.org/about/document/list-oecd-member-countries.htm> accessed 28 September 2020.

[317] Paris Agreement art 9.3.

[318] The ambiguity of who provides support under article 7.13 is characterised as intentional. Rajamani 'Principle of CBDRRC'(n 310) 57. The responsibility for adaptation costs, at least initially, was arguably linked to historical responsibility. See n 285. Countries considered developed recently do not share this responsibility, raising questions about allocation of costs beyond the scope of the thesis.

[319] Gastelumendi and Gnittke (n 228) 244.

cooperative action on technology development and transfer.'[320] Second, as with other areas in the Agreement, it underscores the application of commitments to mitigation and adaptation. The article notes the 'importance' of technology for both, as well as the goal to balance financial support between the two in the implementation of the article.[321] It also requires that such support 'shall be provided to developing country Parties' and that the global stocktake is required to take into account efforts to do so.[322] In addition, the article highlights the 'long-term vision' and role of technology in improving resilience.[323] Finally, it reaffirms the Technology Mechanism of the climate change regime, while creating a new 'technology framework'.[324] The former established policy and implementation bodies, but has struggled with funding. The latter is meant to support implementation, connect work on technology with finance in the climate change regime, and facilitate cooperation in order for developing countries to receive financial support.[325] While the prescriptive language of the article suggests collective action, it leaves open questions about how mechanisms will be funded, the adequacy of financial support, and which Parties must provide such support to developing countries.[326]

Additionally, the Agreement builds on the UNFCCC in its consideration of the needs of developing countries. It emphasises the more acute threat of climate change with a call to

[320] Paris Agreement art 10.2.

[321] ibid art 10.2, 10.6.

[322] ibid art 10.6.

[323] ibid art 10.1.

[324] ibid art 10.3, 10.4.

[325] See 'Decision 1/CP.21' (n 275) para 67; Decision 15/CMA.1, 'Technology Framework under Article 10, Paragraph 4, of the Paris Agreement' (19 March 2019) FCCC/PA/CMA/2018/3/Add.2; de Coninck and Sagar (n 289) 264.

[326] See de Coninck and Sagar (n 289) 263–66.

account for the now 'urgent and immediate needs of those developing country Parties that are particularly vulnerable' to its adverse effects, as well as the fact 'that the current need for adaptation is significant'.[327] Adaptation is linked to mitigation, with recognition that greater levels of mitigation reduce the need for additional adaptation. Developing country needs are repeatedly recognized as important, as is support for adaptation efforts.[328] To inform such support, the decision adopting the Agreement requests the Adaptation Committee consider means to assess adaptation needs, 'with a view to assisting developing countries.' It also calls upon the LEG, along with other relevant institutions of the regime, to develop recommendations on steps needed to mobilize adaptation support for developing countries.[329] These recommendations are linked to the global stocktake, which requires an analysis of the support for adaptation and its effectiveness.[330]

Finally, adaptation planning has developed out of the assistance and financial mechanisms of the regime. One of the first forms of concrete assistance was manifested in the promotion of and support for NAPAs. NAPAs arose from the LDC work programme and implementation of UNFCCC article 4(9) as a means to support LDCs. To accomplish this, the COP established the LDCF and LEG.[331] They were viewed as part of the first stage of the adaptation process contemplated by the regime.[332] NAPAs are country-driven processes aimed at identifying and prioritizing adaptation activities that respond to LDCs' most urgent

[327] Paris Agreement arts 7.2, 7.4.

[328] ibid art 7.6.

[329] 'Decision 1/CP.21' (n 275) paras 43(b), 46.

[330] See ibid para 46; Paris Agreement arts 7.14(c), 14.1.

[331] See 'The Marrakesh Accords' (n 207).

[332] See 'Decision 11/CP.1' (n 199).

and immediate adaptation needs.[333] Urgent and immediate needs are those that if delayed, would prove costly and increase vulnerability.[334] Nearly a decade later, the CAF further committed Parties to adaptation planning support for LDCs through the creation of National Adaptation Plans (NAPs). While the focus remains on LDCs, unlike NAPAs, all Parties are encouraged to develop a NAP. These plans target medium- and long-term adaptation needs and the implementation of programmes to meet these needs.[335] The NAP process is intended to be a continuous, iterative process rather than a fixed, one-time output. Such a process tracks the need for adaptation efforts to be ongoing and flexible as new challenges posed by climate change are identified.[336] It also confirms the importance of context specific planning for the climate change regime.

3. Obligation to cooperate

The UNFCCC also includes an obligation for Parties to '[c]ooperate in preparing for adaptation to the impacts of climate change'.[337] The focus is again on preparation, which can be seen in further obligations to cooperate in research and exchange of information on understanding climate change and the economic and social consequences of response

[333] See 'Decision 5/CP.7' (n 299); Decision 28/CP.7, 'Guidelines for the preparation of national adaptation programmes of action' FCCC/CP/2001/13/Add.4 (21 January 2002) (NAPA Guidelines).

[334] See NAPA Guidelines (n 333). The most recent NAPA was submitted in 2017. NAPAs tend to identify vulnerable groups or sectors, key adaptation needs, priority projects, and criteria for selecting priority projects. See, e.g., Sudan's NAPA (2007); Tuvalu's NAPA (2007); Bangladesh's NAPA: Updated Version (2009); Eritrea's NAPA (2007); Kiribati's NAPA (2007); Mauritania's NAPA (2004); Niger's NAPA (2006); Solomon Islands' NAPA (2008).

[335] See 'Cancun Agreements' (n 15); Decision 5/CP.17, 'National adaptation plans' (15 March 2012) FCCC/CP/2011/9/Add.1 (guidelines and objectives of NAP process); LEG (n 168).

[336] For example, a number of NAPs submitted to date seek to incorporate adaptation into long-term policy frameworks, contemplate adaptation over a period of years, include monitoring of adaptation, and/or set out work after the initial NAP years. See, e.g., Burkina Faso's NAP (2015); Fiji NAP's (2018); Sudan's NAP (2016); Kiribati, 'Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP): 2019-2028' (2019) (undertaken through NAP Global Network).

[337] UNFCCC art 4.1(e).

strategies.[338] Assistance is a form of cooperation. Support for adaptation can operationalise cooperation, and together evince an agreement by the Parties that adaptation is not an undertaking for each State on its own.[339]

The nexus between the two is seen in the language of the Paris Agreement and in linking cooperation with specific action on adaptation in decisions of the COP. To implement the UNFCCC, the Bali Action Plan launched 'long-term cooperative action' (LCA), in part to reach an agreement that addressed 'enhanced action on adaptation'.[340] Such action included international cooperation 'to support urgent implementation of adaptation actions'. The CAF is a continuation of the LCA, which called for cooperation on enhanced adaptation action and to increase understanding and coordination, including on mobility.[341] The Paris Agreement builds on the CAF, as well as the UNFCCC. It encourages Parties to 'strengthen their cooperation on enhancing action on adaptation' for five different areas; one of these areas includes 'assisting developing country Parties in identifying effective adaptation practices, adaptation needs, priorities, support provided and received for adaptation actions and efforts, and challenges and gaps, in a manner consistent with encouraging good practices'.[342] Similarly, in a separate provision, the Agreement recognizes the importance of international cooperation on—and support for—adaptation.[343]

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[338] ibid arts 4.1(g), 4.1(h). Response strategies are conceptually distinct from adaptation and refer to State mitigation actions, with concern for their impact on other States. See Yamin and Depledge (n 1) 5, 213; Decision 5/CP.4, 'Implementation of Article 4.8 and 4.9 of the Convention (decision 3/CP.3 and Articles 2.3 and 3.14 of the Kyoto Protocol)' (25 January 1999) FCCC/CP/1998/16/Add.1.

[339] See Yamin and Depledge (n 1) 222.

[340] See 'Bali Action Plan' (n 210) para 1(c).

[341] See 'Cancun Agreements' (n 15) paras 11, 14(f).

[342] Paris Agreement art 7.7(d). The other four other areas are: sharing information; strengthening institutional arrangements; improving scientific knowledge; and improving the effectiveness and durability of adaptation actions. ibid art 7.7; discussed in Pérez and Kallhauge (n 204) 208–9.

[343] Paris Agreement art 7.6.

These provisions, however, use the language 'should' or 'recognize' rather than 'shall'. Thus, unlike the UNFCCC, they do not create hard legal obligations. Instead, they either recommend or encourage action, or provide context or shared agreement on adaptation without suggesting specific action.[344] These provisions can still 'create good faith expectations of Parties.'[345] Furthermore, because a provision is couched in soft or non-law terms does not mean that States will not strive to comply or meet its purposes.[346] As the different adaptation action areas in the Agreement are laid out in greater detail and breadth than their counterpart in the UNFCCC, their discretionary nature could foster more action or allow Parties to select areas that they are able cooperate and assist on at different times or that apply in different contexts. This allows for the possibility of broader participation or further development. For adaptation, development of adaptive actions is also shaped by the operative principles, which are discussed next.

IV. Operative principles and other textual provisions

The UNFCCC sets out a variety of operative principles in its text. Sections IV.A and B analyse those most pertinent to the thesis: the principles of precaution, equity, and CBDRRC.[347] The principles form the 'conceptual architecture of the climate change

[344] See Rajamani, 'The 2015 Paris Agreement' (n 243) 356.

[345] ibid 358.

[346] See Shelton, 'Law, Non-Law, and the Problem of "Soft Law"' (n 243) 17.

[347] Other principles are relevant to adaptation and mobility, but are outside the scope of the thesis. For example, the no-harm principle can be used to argue for assistance in mobility as a remedial or secondary obligation. For more on this, see Gromilova (n 40) 129; Benoît Mayer, 'Climate Change, Migration and the Law of State Responsibility' in *Research Handbook on Climate Change, Migration and the Law* (n 33) 240–41; Siobhan McInerney-Lankford, 'Climate Change, Human Rights and Migration: A Legal Analysis of Challenges and Opportunities' in ibid (n 33) 157. For more on the principle in general, see *Trail Smelter Arbitration, United States v Canada* (1938) 3 RIAA 1905; *Pulp Mills* (n 280) [101]. Sustainable development and mobility are also connected. See, e.g., Farbotko and others (n 45); Rigaud and others (n 23) (climate migration should be embedded in development

regime.'[348] They are required guidance in the interpretation and application of the obligations contained in the UNFCCC and Paris Agreement.[349] On their own, they do not mandate specific action or create hard legal obligations, but instead are part of the interpretive process that must be taken into account.[350] They also reflect and develop principles that have been widely accepted by States in international law, and are critical to the continued understanding and evolution of the climate regime and its obligations.[351] Section IV.C introduces several other textual provisions in the UNFCCC and Paris Agreement that further affect the interpretation of obligations and the integration of human rights.

A. Principle of precaution

The UNFCCC requires that:

> 'Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures…'

These measures must also be 'cost-effective' and should 'take into account different socio-economic contexts', 'cover all relevant …adaptation', and may also be carried out

planning). But see Mayer (n 40) 282 (criticising use of sustainable development to shape State conduct); Bettini and Gioli (n 24) 183 (sustainable development may reinforce marginalization).

[348] Rajamani, 'A Framework Approach' (n 240) 210.

[349] UNFCCC art 3 ('Parties shall be guided' by the principles); see Alan Boyle, 'Soft Law in International Law-Making' in *International Law* (n 3) 132 (use of 'should' in principles qualifies application). See also n 264 (Paris Agreement adopted under UNFCCC); Rajamani and Guérin (n 214) 82 (Agreement's adoption under the UNFCCC implicitly engages principles). For more on how the Paris Agreement's reference to CBDRRC could alter its application, see below IV.B; Lavanya Rajamani, 'Guiding Principles and General Obligation (Article 2.2 and Article 3)' in *The Paris Agreement on Climate Change* (n 20) 134.

[350] See Rajamani, 'A Framework Approach' (n 240) 210; Ronald Dworkin, *Taking Rights Seriously* (Harvard University Press 1977) 24–28; Bodansky (n 176) 501. Even new norms and standards 'have to be taken into consideration and…given proper weight.' *Gabčíkovo-Nagymaros (Hungary v Slovakia)* (Judgment) [1997] ICJ Rep 7 [140] (discussing sustainable development).

[351] See Boyle, 'Soft Law in International Law-Making' (n 349) 131–32; Alan Boyle, 'Some Reflections on the Relationship of Treaties and Soft Law' (1999) 48 ICLQ 901, 907–8.

cooperatively.[352] This provision is similar to the principle as conceived within international environmental law more generally, which encourages preventive action to avoid serious or irreversible damage in the absence of full scientific certainty.[353] As the International Court of Justice (ICJ) has noted 'in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment'.[354] The precautionary principle can be seen as building upon or interrelated to the principle of prevention, 'to guide or orient initiatives to avoid harm or probable harm to the environment.'[355] Indeed, prevention is one of the aims of precautionary measures in the regime. The UNFCCC's principle is one of the most detailed articulations in an international instrument, although as with other variations it does not specify the level of (un)certainty

[352] UNFCCC art 3(3).

[353] See, e.g., Declaration of the United Nations Conference on the Human Environment (adopted 14 June 1992) UN Doc A/CONF.151/26, Vol 1 (12 August 1992) Annex I (Rio Declaration) principle 15. The Rio Declaration characterises it as 'the precautionary approach'; the UNFCCC refers to 'Principles'. While there are different normative implications for a principle and an approach, with a principle having greater legal connotations, the use of one or the other may foremost signal different conceptions of risk rather than a disagreement over the importance of accounting for scientific uncertainty in decision-making. See Antônio Augusto Cançado Trindade, 'Principle 15' in *The Rio Declaration* (n 250) 411–12.

[354] *Gabčíkovo-Nagymaros* (n 350) [140]. In her separate opinion in *Whaling in the Antarctic*, Judge ad hoc Charlesworth stated that 'that treaties dealing with the environment should be interpreted wherever possible in light of the precautionary approach'. See *Whaling in the Antarctic (Australia v Japan: New Zealand intervening)* (Judgment) [2014] ICJ Rep 226, 456 [9].

[355] *Pulp Mills* (n 280) 159–62 [61]–[68] (separate opinion of Judge Cançado Trindade). See also Leslie-Anne Duvic-Paoli, *The Prevention Principle in International Environmental Law* (CUP 2018) 265–275. The status of the principle as customary international law is not settled. For more, see, e.g., *Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests (New Zealand v. France) Case* [1995] ICJ Rep 288 (dissenting opinion Judge Sir Palmer) 381 [91] (principle may now be customary international law relating to the environment); *Responsibilities and obligations of States with respect to activities in the Area*, Advisory Opinion, Order of 1 February 2011, ITLOS Reports 2011, 10 [153] (Chamber observes the 'trend towards' the principle's inclusion in customary international law, which would make it a relevant rule to take into account for treaty interpretation); Sands and others (n 237) 239 (sufficient evidence it is customary law).

needed before taking action, the meaning of risk—or what serious or irreversible damage entails—and how to determine cost-effectiveness.[356]

As a general environmental law principle, there are also questions as to whether it serves only as a justification not to postpone action or if it includes an obligation to act even without conclusive evidence of future harm.[357] With respect to mitigation, the IPCC has noted that the principle allows for banning products or substances 'where there is the *possibility* of their causing harm and/or where extensive scientific knowledge on their risks is lacking.' Furthermore, a ban can only be relaxed if scientific knowledge emerges that provides 'sound evidence that *no harm* will result.'[358] This puts the onus—however impossible to prove[359]—on those opposing the precautionary action, reversing the traditional burden of proof.[360] However, such a reversal is the exception rather than the norm, leaving the assessment of risk to the context in which it arises.[361] The principle's reflection in due diligence obligations may shed further light; triggering these obligations does not always require a showing that harm will come to pass but rather that it is foreseeable. The level of foreseeability can also be weighed with the magnitude of potential harm, to better determine actionable risks.[362] The

[356] As noted in Jonathan B Weiner, 'Precautionary Principle' in *Principles of Environmental Law* (n 250) 178; Cançado Trindade (n 353) 410–11. Rajamani argues these questions are often resolved through negotiation and not application. Rajamani, 'A Framework Approach' (n 240) 210. Chapters 3-5 argue that its application in light of human rights can shape adaptation measures.

[357] See Cançado Trindade (n 353) 408.

[358] H Kunreuther and others, 'Integrated Risk and Uncertainty Assessment of Climate Change Response Policies', in O Edenhofer and others (eds), *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the IPCC* (CUP 2014) 172.

[359] Weiner, 'Precautionary Principle' (n 356) 177 (impossible to provide such evidence).

[360] See *Pulp Mills* (n 280) [164] (precautionary approach does not reverse burden of proof).

[361] See Boyle and Redgwell (n 250) 333–35.

[362] See nn 281, 282 and accompanying text; ILC, 'Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with Commentaries' (11 May 2001) UN Doc A/56/10 art 2 and commentary; Boyle and Redgwell (n 250) 322–24.

thesis adopts this approach for risks to human rights, as discussed in chapter 4. Such an understanding of the principle suggests that where there is serious risk—and the impacts of climate change pose many—uncertainty will not be sufficient to overrule some form of precautionary action.

Cost-effectiveness may also pose a problem, although such a requirement is not explicitly mentioned in the obligations to assist in the costs of adaptation. Additionally, interpretation of these obligations in a given context may raise the issue of whether adaptation measures reasonably address the conditions they are targeting. Precautionary measures may prove costly; however, they are likely less costly than the catastrophic damage expected from many of the impacts of climate change.[363] These impacts pose the kind of latent risks that early and anticipatory precautionary action is meant to address. For climate change, the risks are compounded. Compared to other forms of past environmental harm, the nature of climate risks differ: they are global, although with local variation; unprecedented and rapidly occurring; and have elements of uncertainty in timing, extent, and distribution of impacts.[364] Yet it is certain that climate impacts will pose risks of serious harm to human health, life, and sources of subsistence.[365] To avoid such risks, precaution favours earlier measures rather than waiting for impacts to occur.[366] The principle also aligns with the purposes of adaptation—and its application to prevent or minimize adverse effects. There are also problems in measuring the cost of potential non-economic losses, some of which cannot or should not be easily quantified. Indeed, measures to protect certain human rights cannot be

[363] Similarly, the argument is made that mitigation now is less costly than the future adaptation action. See, e.g., Nicolas de Sadeleer, 'The Precautionary Principle and Climate Change' in *Climate Change Law* (n 43); Stern (n 23); Paris Agreement art 9.4.

[364] As discussed in de Sadeleer (n 363) 21–22.

[365] As analysed in ch 4, II.

[366] See Weiner, 'Precautionary Principle' (n 356) 179–80.

based on any cost-based rationale, although for other rights they can be balanced with important societal interests.[367]

Additionally, climate impacts pose multiple and changing risks.[368] Decision-makers must therefore choose which risks to prioritise, and a human rights-based approach is one way to help do so. Similarly, solutions to multiple risks can come through a holistic approach, one that incorporates a 'multi-risk reality' by weighing benefits and harms and seeking to reduce multiple risks at once.[369] Actions can shift over time as knowledge is updated about risks, thereby allowing consideration of long-term impacts or extended timescales. As applied to climate measures, Jonathan Weiner concludes that it is useful to consider precaution as a general posture for policy-making, with core elements that include the threat or risk; the stance that uncertainty does not preclude measures; preference for earlier measures that anticipate and prevent risk; more stringent protection rather than less; and monitoring and assessment of measures over time.[370] Thus, precautionary action can themselves become adaptive over time and as more information is acquired.

Finally, as argued in greater detail in chapter 4, the precautionary principle is integral to measures on mobility, and to adaptive mobility in particular.[371] It bolsters arguments to prevent or avoid displacement; to facilitate anticipatory, proactive pathways that protect

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[367] For example, certain positive human rights obligations that trigger adaptation measures—those associated with the right to life or core obligations of the right to an adequate standard of living—may require action irrespective of the cost-effectiveness. See ch 4, II.C-D.

[368] See generally Cass R Sunstein, *Laws of Fear: Beyond the Precautionary Principle* (CUP 2005) 14–15, 50 (raising criticisms of the principle as too narrowly focused in situations with many aspects of risk, but noting its potential use for climate change).

[369] See Weiner, 'Precautionary Principle' (n 356) 181; Jonathan B Weiner, 'Precaution in a Multi-Risk World' in Dennis Paustenbach (ed), *Human and Ecological Risk Assessment: Theory and Practice* (John Wiley & Sons 2002).

[370] Jonathan B Weiner, 'Precaution and Climate Change' in *The Oxford Handbook of International Climate Change Law* (n 278) 168–69.

[371] See also Gromilova (n 40) 152–3 (even when relocation is 'an end to adaptation', the principle ensures action where timing of impacts is uncertain).

rights; and to plan for relocation when there is a significant risk land will become uninhabitable. The principle, however, does not determine the allocation of costs of measures; here, other principles provide guidance. Furthermore, the inherent flexibility and indeterminate aspects that necessitate application on a case-by-case basis is a strength of the principle. It allows for the reflection of different values or approaches to risk depending on the context.[372] Likewise, it can incorporate different risks across contexts and influences the integration of human rights obligations that address the potential impacts of climate change.

B. Equity and CBDRRC

The UNFCCC's principles further include the provision that:

> 'Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.'[373]

This marks the first instance the principle of equity and CBDRRC were included in an operational provision of an international environmental agreement.[374] Equity 'sits at the very heart of the international climate change regime.'[375] It is an overarching or systemic principle that forms the basis for arguments that climate action must benefit those in developing countries, people in vulnerable situations, and future generations.[376] The equity principle rests

[372] See Miriam Haritz, 'Liability with and Liability from the Precautionary Principle in Climate Change Cases' in *Climate Change Liability* (n 43) 33.

[373] UNFCCC art 3(1).

[374] Rajamani, 'A Framework Approach' (n 240) 209.

[375] Cinnamon P Carlarne and JD Colavecchio, 'Balancing Equity and Effectiveness: The Paris Agreement & the Future of International Climate Change Law' (2019) NYU Environmental L J 107, 116.

[376] See n 250; Sands and others (n 237) 244; Carlarne and Colavecchio (n 375) 126; OHCHR, 'Key Messages on Human Rights and Climate Change' <http://www.ohchr.org/Documents/Issues/ClimateChange/KeyMessages_on_HR_CC.pdf> accessed 14 August 2020, para 6.

on a premise that States do not start on equal footing. As the primary source of emissions, developed States must take the lead in climate action—as this provision instructs.[377]

Equity incorporates broader concepts of fairness and justice into the climate change regime, as well as burden-sharing and affirmative action as applied within and between States and to individuals.[378] In doing so, equity can introduce concern for the impacts to people into a regime that is primarily focused on State relations.[379] In its reference to present and future generations, the provision also includes both intra- and inter-generational equity. Unlike many environmental principles that consider geographical distribution of risks, inter-generational equity focuses on temporal aspects of environmental impacts and resource management and seeks to balance the needs of current and future generations.[380] Thus, like equity more broadly, it is linked to fairness and distributive justice.[381]

The Paris Agreement acknowledges the need to consider inter-generational equity in its preamble. Inter- and intra-generational equity are linked, particularly for developing countries, as communities cannot be expected to fulfil obligations to other generations if they cannot meet basic needs today.[382] This makes assistance to developing countries important, not just to fulfil obligations to protect the interests and rights of people currently, but to better ensure adequate conditions for those who will follow. More broadly, equity features in the article describing the objective of the Paris Agreement, which 'will be implemented to reflect

[377] UNFCCC art 3(1).

[378] See Lavanya Rajamani, 'Integrating Human Rights in the Paris Climate Architecture: Contest, Context, and Consequence' (2019) 9 Climate L 180, 199.

[379] See generally *Urgenda* (Supreme Court) (n 197) (for the use of principles in a recent judicial decision).

[380] Claire Molinari, 'Principle 3' in *The Rio Declaration* (n 250) 140.

[381] Catherine Redgwell, 'Principles and Emerging Norms in International Law: Intra- and Inter-Generational Equity' in *The Oxford Handbook of International Climate Change Law* (n 278) 188.

[382] Edith Brown Weiss, 'Intergenerational Equity', MPEPIL (2013) para 11.

equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.'[383] Equity is also included in the article on the global stocktake.[384]

Inter- and intra-generational equity, along with CBDRRC, are manifestations of equity. Their implementation results in measures that include assisting countries in adapting to climate change.[385] These principles also enhance the standing of current generations to bring human rights-based claims for climate action.[386] Accordingly, they will play a key role in how adaptation obligations are understood, and how such obligations can and should be interpreted by States, as explored in chapters 4 and 5.

Differentiation provides the clearest guidance on assistance with adaptation. The CBDRRC principle is well-suited for global problems like climate change, and is considered one of the principles upon which the climate change regime is based.[387] It is central to its continued development, as well as to understanding current obligations.[388] Uncertainty remains about whether equity—and its expression through CBDRRC—incorporates more than a distributive element to include a corrective justice.[389] Indeed, the content and emphasis

[383] Paris Agreement art 2.2.

[384] ibid art 14.1. However, how equity will factor into the stocktake is uncertain, and subsequent guidance has not clarified. See 'Decision 19/CMA.1' (n 272); Lavanya Rajamani and Daniel Bodansky, 'The Paris Rulebook: Balancing International Prescriptiveness with National Discretion' (2019) 68 ICLQ 1023, 1037.

[385] See, e.g., Redgwell, 'Intra- and Inter-Generational Equity' (n 381) 190–91.

[386] See Annalisa Savaresi and Juan Auz, 'Climate Change Litigation and Human Rights: Pushing the Boundaries' (2019) 9 Climate L 252–55 (discussing cases using human rights and environmental principles). On the need for rights protective mechanisms for future generations generally, see Shue (n 83) 298–99.

[387] See Rio Declaration principle 7; Cullet, 'Principle 7' (n 250) 235, 238.

[388] Rajamani, 'Common but Differentiated Responsibilities' (n 250) 298.

[389] Carlarne and Colavecchio (n 375) 116; Cullet, 'Common but Differentiated Responsibilities' (n 284) 166–70 (differentiation based on corrective and distributive justice arguments).

of the CBDRRC principle are disputed; developing countries focus on responsibility while developed countries focus on capability.[390] At least within the UNFCCC, the inclusion of clearly delineated responsibilities for developed country Parties and their need to 'take the lead' in climate action indicates that a corrective element—based on historical responsibility—is implicit. In addition to its inclusion in the operative principles, CBDRRC is reiterated in the commitments set out in the UNFCCC, including those on adaptation.[391] Thus, differentiation distils what equity is between States into practical terms. It requires the division of Parties into categories with different commitments. Developed States have a duty to assist because of their capacity to act *and* contribution to climate change. Developing country Parties must adapt, but this is contingent on assistance from their developed country counterparts.[392] Indeed, as developing country and LDC Parties will be some of those most adversely affected by climate change but who have contributed the least to its causes, the operation of the principle is crucial to the implementation of adaptation obligations.

However, differentiation within the regime shifted from obligations based on category of State in the UNFCCC to a mixed approach in the Paris Agreement that seeks action by all Parties in some instances and continued differentiation for other facets.[393] This stems from the addition of 'in light of different national circumstances' to the principle as it is included in the preamble, the Agreement's objective, and the description of Parties' Nationally Determined Contributions (NDCs) on mitigation.[394] This qualification may introduce an evolutive element to the principle: as national circumstances shift, so too will their

[390] Bodansky, Brunnée and Rajamani (n 1) 27.

[391] UNFCCC art 4(1).

[392] See nn 290-292 and accompanying text.

[393] See Bodansky, Brunnée and Rajamani (n 1) 27–29, 221–26.

[394] Paris Agreement preamble, art 2.2, 4.3.

responsibilities. However, as Rajamani notes, it could add little given the 'respective capabilities' component.[395] Given this change, the utility of differentiation—and that of equity as an overarching principle—has been muddied and called into question with regard to mitigation.[396]

Yet for adaptation, differentiation remains critical and intact. The core of differentiation also remains unchanged for the financial assistance owed from developed to developing countries.[397] This is the result of the now issue-based approach to differentiation in the regime; different forms apply to different issue areas.[398] Without qualifying language as was incorporated into mitigation commitments, the UNFCCC principles continue to apply to adaptation to inform their scope and division of responsibility. In general, a number of open questions remain about CBDRRC in the regime and its legal weight as a standalone principle.[399] However, its use and analysis is not based on its status on its own or as a customary principle; it is integrated as a guiding principle and shapes interpretation.[400] It can therefore serve both an 'interpretative function' and provide a normative basis to incorporate duties beyond those based on reciprocity and State relations.[401] The latter may be found in justice-based arguments. Arguments related to differentiation: collective responsibility, ability to pay, and corrective and distributive justice have been used to ground obligations for

[395] Rajamani, 'Guiding Principles and General Obligation' (n 349) 134; Rajamani, 'A Framework Approach' (n 240) 209–10.

[396] See Carlarne and Colavecchio (n 375) 129.

[397] See Gastelumendi and Gnittke (n 228) 243.

[398] Rajamani, 'Ambition and Differentiation in the 2015 Paris Agreement' (n 244) 493.

[399] For more, see Rajamani, 'The Principle of CBDRRC in the International Climate Change Regime' (n 310).

[400] On its status as a standalone principle, see Cullet, 'Principle 7' (n 250).

[401] See Rajamani, 'Common but Differentiated Responsibilities' (n 250) 298; Cullet, 'Principle 7' (n 250) 236.

developed countries to assist in mobility and relocation, and even to take in migrants.[402] Thus, differentiation is key to the analysis of adaptation obligations and risks to human rights, and to ensuring adaptive mobility occurs and is supported by developed countries.

C. Preambular language and other provisions

In addition to the principles of the regime, the UNFCCC and Paris Agreement include other textual provisions and language that shapes how adaptation is undertaken and adaptation obligations are understood. Of relevance to the subsequent analysis of adaptation, human rights, and mobility is the preambular language of the Agreement and provisions on access to information and participation, which provide guidance on how adaptation should be undertaken.

> The preamble of the Paris Agreement acknowledges that:
>
> > Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity.[403]

The explicit inclusion of human rights in an international environmental treaty, and on climate change in particular, is a first. As part of the preambular text it does not create any new legal commitments. However, it is part of the Agreement's context, and thus as the next chapter explores in detail, can serve an important role in the interpretation of treaty obligations that bolsters arguments for the integration of human rights.

Both the UNFCCC and the Paris Agreement also include obligations and guidance on public access to information and participation, which strengthens the arguments in chapter 4

[402] See, e.g., Robyn Eckersley, 'The Common but Differentiated Responsibilities of States to Assist and Receive "Climate Refugees"' (2015) 14 European J of Political Theory 481; Katrina M Wyman, 'Ethical Duties to Climate Migrants' in *Research Handbook on Climate Change, Migration and the Law* (n 33).

[403] Paris Agreement preamble.

on procedural rights and their integration into adaptation obligations. The UNFCCC's commitments include an obligation to 'promote and cooperate in education, training, and public awareness related to climate change and ensure the widest participation in the process'.[404] To further specify what this means, education, training, and public awareness are given their own article. It obliges Parties to 'promote and facilitate' *inter alia* public access to information and participation in addressing climate change and its effects, as well as in developing adequate responses.[405] The COP's subsequent work programme on this obligation focused on broadly engaging stakeholders, education, and training, rather than ensuring participation for specific climate action or policies.[406]

Repeating the language of the UNFCCC, the Paris Agreement's preamble affirms the importance of education, training and public awareness.[407] Its provision on capacity-building also encourages these procedural duties. Finally, the Agreement includes a similar obligation to the UNFCCC, couched in softening language, that Parties shall cooperate 'as appropriate, to enhance climate change education, training, public awareness, public participation and public access to information.'[408] The decision adopting the Agreement brings together the UNFCCC and Paris Agreement's articles on education, training and public awareness with capacity-building, calling upon the Parties to ensure the former in relation to their

[404] UNFCCC art 4(1)(i).

[405] ibid art 6(a)(ii)-(iii).

[406] See, e.g., Decision 11/CP.8, 'New Delhi work programme on Article 6 of the Convention' (28 March 2003) FCCC/CP/2002/7/Add.1; discussed further in Yamin and Depledge (n 1) 208–11. See also Jeniffer Hanna Collado, 'Education, Training, Public Awareness, Participation, and Access to Information (Article 12)' in *The Paris Agreement on Climate Change* (n 20) 292–93.

[407] See Paris Agreement preamble; Carazo (n 20) 118.

[408] Paris Agreement arts 11.1, 12.

contribution to the latter.[409] On adaptation specifically, the Agreement acknowledges the importance of a participatory and transparent approach, gender-responsive action, and consideration of vulnerable groups.[410]

As with other textual provisions in the climate agreements, these are a mix of obligations with built in discretion or provisions that encourage action or acknowledge Parties' agreement.[411] Thus, on their own they do not create an obligation to take a *specific* action. But like preambular language, these provisions are part of the interpretive context of a treaty. They add to the understanding of climate agreements and their obligations, provide an indication of the purposes of adaptation, and represent shared understandings. Thus, as argued in the next chapter, they can inform interpretation and application of adaptation obligations.

V. Conclusion

Climate change adaptation is a process, one that includes a range of measures that anticipate and address climate impacts and changing conditions. In order to meet its purposes, this chapter argued that the process must account for the wider context, which includes socio-economic and political conditions in addition to environmental threats. Understanding these conditions will be important, as they contribute to the foreseeable risks to human rights that necessitate adaptive mobility.[412]

The chapter also set out the legal framework for adaptive mobility in the climate change regime. It anchors the analysis in adaptation obligations—of action, assistance and

[409] Decision 1/CP.21' (n 275) para 83. See Crispin d'Auvergne and Matti Nummelin, 'Capacity-Building (Article 11)' in *The Paris Agreement on Climate Change* (n 20) 289.

[410] See Paris Agreement art 7.5.

[411] See nn 243, 346 and accompanying text.

[412] As argued further in ch 4, II.C-D.

cooperation—which have evolved alongside the regime. Together, the obligations in the UNFCCC and Paris Agreement establish that while adaptation is an obligation for all State Parties, its implementation is a cooperative effort. Such an understanding is shaped and guided by the regime's operative principles, particularly precaution and those that create differentiated obligations between developing and developed country Parties. The support for and assistance to the former owed by the latter is a crucial contribution of the climate change regime to adaptation efforts and adaptive mobility. How the operative principles, preambular language, and other provisions of the climate agreements influence the interpretation of adaptation obligations is discussed in detail in the next chapter.

Chapter 3: Treaty Interpretation and the Integration of Relevant International Human Rights Law

I. Introduction

The previous chapters establish that human mobility is a form of adaptation and one that States may facilitate. As the thesis argues, adaptive mobility and adaptive mobility measures are a means to satisfy adaptation obligations, which in certain circumstances States are obliged to enable or undertake. This chapter provides the next step towards this conclusion, using the tools of treaty interpretation to focus on the terms of climate agreements, their context, the object and purpose of the treaties, and the systemic integration of relevant rules of international law.[413] These are part of a single interpretive process, each of which is discussed below. Together, they lead to the integration of human rights law and principles of the climate change regime into the interpretation of adaptation obligations.

The chapter proceeds as follows. Section II.A argues that systemic integration is obligatory as international law is a system that should aim for coherence and consistency. Section II.B then interprets adaptation obligations in light of human rights. Section II.B.1 looks to textual provisions and the preambular language of the Paris Agreement, which are part of the interpretive context and further the object and purpose of the treaties. It also highlights the role of the climate change regime's principles in interpretation, which as both part of the interpretive context and as principles that guide action under the regime necessitate anticipatory and precautionary adaptation measures. Section II.C analyses the nuances of systemic integration and resolves open questions as applied to adaptation, to establish the general relevancy of international human rights law, an understanding of

[413] See VCLT art 31(1)-(2), 31(3)(c). Systemic integration is the analytical focus, as it is the primary means to integrate human rights law into the interpretation of adaptation obligations.

adaptation obligations that evolves with changing circumstances, and their broad applicability to the Parties to climate agreements. These arguments provide the analytical framework for the remainder of the thesis, which uses the interpretive process to integrate specific human rights into adaptation obligations both generally (chapter 4) and as applied to certain developing countries (chapter 5).

II. Treaty interpretation and the integration of relevant law

The systemic integration of relevant international law involves the incorporation of extraneous treaty obligations into another normative framework, a process that is both based on presumptions about the coherence of international law and required by the rule on treaty interpretation. These are analysed respectively, below. Central to the analysis of the latter is the Paris Agreement's preamble, which is part of the interpretive context of the treaty. It includes language that establishes that rights, including the rights of migrants and people in vulnerable situations, form part of the normative environment in which climate change obligations operate.[414] This language also provides a starting point to argue for adaptation obligations that consider vulnerable individuals, incorporates human rights, and lead to adaptive mobility. Systemic integration takes the interpretive process further, adding content and guidance from relevant human rights and their accompanying positive duties into adaptation measures, assistance, and cooperation. Furthermore, as noted in the previous chapter, this thesis takes an evolutive approach to the interpretation of adaptation and adaptation obligations in the climate change regime. Treaty interpretation is not confined to a single moment, but can evolve as the need for different forms of adaptation arises. It is a

[414] See II.B.1, below; VCLT art 31(2).

process that can adapt to changing conditions and hence different interpretations of what adaptation obligations entail over time.[415]

A. The basis for integration: coherence in international law

The integration of human rights law into an understanding of adaptation obligations arises, in part, from a view that international law should aim for coherence even as areas of specialized law emerge. This view is fundamental to the thesis, which at its core relies on legal reasoning to bring human rights to bear in the context of climate change. As international law has developed to respond to the challenges of an increasingly connected and yet pluralistic legal landscape, efforts to square potential conflicts are on rise. The International Law Commission (ILC) in particular, and their work on the potential fragmentation of international law, has detailed ways to *inter alia* avoid conflict between treaty regimes or specialized areas of law, general principles and practices of international law, and/or prior and subsequent law. Its work culminated in a report that provides insight and guidance applied by the analysis that follows.[416] Indeed, while the work of the ILC is non-binding, its reports and conclusions are influential and have played a significant role in the progressive development of international law.[417] Moreover, the ILC prepared the draft forming the basis of the treaty text adopted by

[415] See generally Bjorge (n 235). For more on the application of evolutive interpretation, see also Malgosia Fitzmaurice and Panos Merkouris, *Treaties in Motion: The Evolution of Treaties from Formation to Termination* (CUP 2020) 128–40.

[416] See ILC, 'Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law; Report of the Study Group of the International Law Commission, Finalized by Martti Koskenniemi' (Fragmentation Report) (13 April 2006) UN Doc A/CN.4/L.682.

[417] The Statute of the ILC states that it 'shall have for its object the promotion of the progressive development of international law and its codification.' Statute of the International Law Commission (adopted 21 November 1947) Resolution 174 (II) art 1.1. For an account of the instrumental role the ILC has played in the development and codification of international environmental law, see e.g., Luis Arevalo, 'The Work of the International Law Commission in the Field of International Environmental Law' (2005) 32 Boston College Environmental Affairs L Rev 493.

States as the Vienna Convention on the Law of the Treaties (VCLT), which lays out the tools of treaty interpretation relied on below.

The ILC's report emphasises the coherence of international law, accomplished through legal reasoning, interpretation, and the resolution of normative conflicts.[418] However, even prior to the ILC's work—and as its report also explores—certain presumptions about international law support efforts towards coherence.[419] These presumptions help justify systemic integration. For example, the presumption that States do not intend to act inconsistently with other existing legal obligations—or the presumption against conflict—can lead to systemic integration to ensure coherence between relevant rules or obligations.[420] While this must be balanced with the need for law to evolve and change, this presumption stems, in part, from broader presumptions of good faith. Good faith operates generally to ensure parties undertake their treaty obligations.[421] It is also part of treaty interpretation and as such requires, when necessary, the inclusion of other rules of law as part of a treaty's normative environment.[422]

[418] It notes that '"fragmentation" or "coherence" are not aspects of the world but lie in the eye of the beholder.' The latter is found through legal reasoning. ILC, 'Fragmentation Report' (n 416) para 20.

[419] ibid paras 37-40.

[420] For further analysis and history of this presumption see Joost Pauwelyn, *Conflict of Norms in Public International Law: How WTO Law Relates to Other Rules of International Law* (CUP 2009) 240–44. See also *Case concerning right of passage over Indian territory (Portugal v India)* (Preliminary Objections, Judgment) [1957] ICJ Rep 125, 142; ILC, 'Fragmentation Report' (n 416) para 465.

[421] See VCLT art 26; *Gabčíkovo-Nagymaros* (n 35) [142].

[422] See VCLT art 31(1). See also *The South China Sea Arbitration (The Republic of Philippines v The People's Republic of China)*, Award, PCA Case No 2013–19 (12 July 2016) [476], [784], [1135], [1141]–[1143] , [1171]–[1172], [1190]–[2000] (tribunal noted the need to interpret the treaty in good faith, and to act in good faith in fulfilling obligations and complying with the tribunal award). Good faith applies to the entire process of interpretation. Gardiner (n 238) 171–72 (good faith has both a general application and one specific to interpretation).

These presumptions help ensure the integrity and efficacy of the international legal system.[423] They also underlie the understanding of treaty obligations, and that 'even when it is not made express, the principle of systemic integration will apply' through them.[424] Moreover, as the ICJ has stated '[i]t is a rule of interpretation' that a text or act of a State government 'must, in principle, be interpreted as producing and as intended to produce effects in accordance with existing law and not in violation of it.'[425] In this case, it means that human rights law is part of the normative framework and broader international legal system within which the climate change regime's obligations are interpreted and applied. This might seem obvious, but given the increase of international treaties with overlapping concerns and the potential for conflict, the relationship is not always clear.

To account for the broader international law system, integration—and for the thesis an understanding of adaptation obligations—requires the inclusion of a sense of unity and purpose in the process of legal reasoning.[426] Thus, integration is not only a means to manage potential conflict or fragmentation, it also helps ensure that relationships between obligations are approached in a manner that establishes that they remain part of a 'coherent and

[423] This thesis agrees with the ILC's conclusion that international law is a single legal system with rules and principles that should be interpreted in relation to each other. See ILC, 'Report of the International Law Commission on the Work of its Fifty-Eighth Session' (1 May–9 June and 3 July–11 August 2006) UN Doc A/61/10 para 251(1); cf Sean D Murphy, 'Deconstructing Fragmentation: Koskenniemi's 2006 ILC Project' (2013) 27 Temple Intl and Comparative L J 293, 301 (describing Koskenniemi's scholarship before the ILC report as concluding that a unified international legal system is impossible); Harlan Grant Cohen, 'From Fragmentation to Constitutionalization' (2012) 25 Pacific McGeorge Global Business & Development L J 381, 389–92 (minimizing conflicts between human rights and other international law is not a matter of avoiding fragmentation but reconciling two 'legal communities' with different values by translating one into the other's language).

[424] Campbell McLachlan, 'The Principle of Systemic Integration and Article 31(3)(C) of the Vienna Convention' (2005) 54 ICLQ 279, 311.

[425] *Portugal v India* (n 420) 142.

[426] ILC, 'Fragmentation Report' (n 416) para 419.

meaningful whole.'[427] Yet it is more than the recognition that other general and treaty-based international law is applicable alongside climate change agreements. Integration is also used in the thesis to bring clarity and content to adaptation obligations, strengthening and fleshing out the positive duties they entail. It assists in ensuring that treaty is able to evolve to account for changes in the law, as well as scientific knowledge and environmental conditions, to remain relevant and effective.[428] The latter plays an important role for adaptation, which must necessarily include accommodations for changing conditions. The former would be important if, for example, human rights law evolves to include a clear international right to a clean and healthy environment.[429]

As the subsequent arguments aim to demonstrate, this approach to the interpretation and consequent application of adaptation obligations can lead to adaptive measures that more consistently consider the risks to human rights and better addresses the needs of those most vulnerable to climate change. More specifically, as the illustrations in chapter 5 will establish, the content and clarification provided for adaptation obligations through integration leads to action to plan for and facilitate rights-based adaptive mobility.

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[427] ibid para 414; Jasper Finke, 'Regime-Collisions: Tensions between Treaties (and How to Solve Them)' in Christian Tams, Antonios Tzanakopoulos and Andreas Zimmermann (eds), *Research Handbook on the Law of Treaties* (EEP 2014) 423–27, 431–35. See also Annalisa Savaresi, 'Climate Change and Human Rights: Fragmentation, Interplay, and Institutional Linkages' in Sébastien Duyck, Sébastien Jodoin and Alyssa Johl (eds), *Routledge Handbook of Human Rights and Climate Governance* (Routledge 2018) 32.

[428] See *Gabčíkovo-Nagymaros* (n 35) [112] (because the parties recognized the potential need to adapt the project at issue, the '[t]reaty is not static, and is open to adapt to emerging norms of international law.'); Gardiner (n 16) 293–94. See also Bjorge (n 235); ch 2, II.B.

[429] Such a right is discussed further in e.g., Alan Boyle, 'Human Rights and the Environment: Where Next?' in Ben Boer (ed), *Environmental Law Dimensions of Human Rights* (OUP 2015) 219–27; John H Knox, 'Human Rights Principles and Climate Change' in *The Oxford Handbook of International Climate Change Law* (n 278) 217.

B. The tools of treaty interpretation

In addition to its role in maintaining coherence in international law, the integration of human rights law into the climate change regime—and adaptation obligations specifically—is an obligatory part of treaty interpretation. The VCLT provides the legal rules on how treaties should be interpreted and applied.[430] While not universally ratified, its articles on treaty interpretation (article 31 and 32) are considered customary international law.[431]

Article 31 is a single interpretive rule that prescribes the elements of treaty interpretation.[432] While the 'presumptive object of interpretation' is a treaty's text, this text does not exist in isolation.[433] No element of the rule is privileged over any other and all must be considered in the interpretation process.[434] Article 31 requires a treaty be interpreted in 'accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose.'[435] The context of a treaty includes its text, preamble, and any annexes.[436] Along with the context, article 31(3)(c) also mandates that '[t]here shall be taken into account, together with the context … [a]ny relevant rules of international law

[430] For scepticism regarding a 'law of treaties' see Vaughan Lowe, 'The Law of Treaties; or, Should This Book Exist?' in *Research Handbook on the Law of Treaties* (n 427).

[431] *Territorial Dispute* (n 238) [41]; *Iron Rhine* (n 238) [45]; Gardiner (n 232) 493; Gardiner (n 238) 162.

[432] The article is titled 'General rule of interpretation'. VCLT art 31. Commentary from the ILC on the draft articles of the VCLT explained that such a heading conveyed the intent that 'the article form a single, closely integrated rule' with all elements applied as 'a single combined operation.' ILC, 'Draft Articles on the Law of Treaties with Commentaries' (1966) II Yearbook of the ILC 187, 219–220 para 8. See Gardiner (n 238) 37–38.

[433] See Julian Mortenson, 'The Travaux of Travaux: Is the Vienna Convention Hostile to Drafting History?' (2013) 107 American J of Intl L 780, 785.

[434] See ibid 800 (discussing same).

[435] VCLT art 31(1).

[436] ibid art 31(2).

applicable in the relations between the parties.'[437] The inclusion of other rules of international law is also referred to as the principle of systemic integration. Furthermore, because article 31 is considered customary law, it is binding on all States in their efforts to interpret treaty obligations. Similarly, courts including the ICJ and appellate bodies like that of the World Trade Organization (WTO) look to customary law to guide interpretation and thus to the components of the rule set out in the VCLT.[438]

This section applies the VLCT's interpretive rule to the UNFCCC and the Paris Agreement. It looks to the evolution of adaptation obligations, the use of human rights and their inclusion in the Agreement's preamble, and the operative principles of both treaties. In doing so, this section argues that treaty interpretation provides a means to integrate human rights law into an understanding of obligations in the climate change regime.[439] While article 31 results in a unified interpretive process, its elements are analysed separately below to explain how each contributes to the process and differentiate between the implications of the text of the treaties and the integration of extraneous or external rules from international human rights law. The text is the focus of the first section; the systemic integration of external rules is analysed in the second section. Together, they lead to the need to integrate human rights law into adaptation obligations.

[437] ibid art 31(3)(c).

[438] See n 431; 'Understanding on Rules and Procedures Governing the Settlement of Disputes' Understanding on Rules and Procedures Governing the Settlement of Disputes, in Marrakesh Agreement establishing the WTO, Annex 2 (adopted 15 April 1994, entered into force 1 January 1980) 1869 UNTS 401 art 3(2); *United States – Standards for Reformulated and Conventional Gasoline*, Report of the WTO Appellate Body (29 January 1996) WT/DS2/AB/R 16–17.

[439] The climate agreements do not contain a consistency or incorporative clause noting the intent not to affect other rights or obligations in existing international agreements, such as found in—for example—the Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79 art 22. See Carazo (n 20) 115–16 (arguing Paris Agreement preamble functions as incorporative clause).

Finally, the evolutive approach of the thesis continues to inform both the process of treaty interpretation below and the understanding of concepts within the regime that affects the interpretive outcome and application of obligations. As chapter 2 argues, climate agreements are meant to evolve with changing conditions, science, and information. Adaptation is also an evolutive concept, as are human rights and the law enshrining them; as a result, systemic integration can incorporate changes in the law in the future as well as clarifications by judicial bodies about their scope and content.[440] Thus, as the arguments in this section will establish, adaption obligations are subject to evolutionary interpretation in order to account for their evolving nature. The integration of human rights into adaptation obligations is also not static, but rather must be adaptable to account for varying conditions and changes over time.

1. Terms of the treaty: Context and object and purpose

The rule on treaty interpretation looks to the language of a treaty in its context and in light of its object and purpose. Evolutionary interpretation also draws on these elements, which for climate agreements includes analysis of language on human rights and adaptation included in the preamble and operative text of the treaties.

The preamble's role in treaty interpretation is made clear in the VCLT. As the ILC emphasises '[t]hat the preamble forms part of the treaty for the purpose of interpretation is too well settled to require comment'.[441] The reliance on preambular language as part of a treaty's context and to support an evolutive interpretation has occurred in other contexts.[442]

[440] See nn 428, 429; II.B.3.a, below.

[441] ILC, 'Draft Articles (n 432) 221 para 13.

[442] See Callum Musto and Catherine Redgwell, 'US — Import Prohibition of Certain Shrimp and Shrimp Products (1998)' in Eirik Bjorge and Cameron Miles (eds), *Landmark Cases in Public International Law* (Hart Publishing 2017).

The Appellate Body of WTO, for example, has looked to the preamble of WTO's agreements to interpret the meaning of their provisions and to avoid conflict between environmental and trade concerns.[443] As noted above, the WTO's dispute settlement system interprets and clarifies provisions of its agreements in accordance with customary international law.[444] In the *United States–Import Prohibition of Certain Shrimp and Shrimp Products* (*Shrimp-Turtle*), the Appellate Body relied on the preamble of the WTO Agreement[445] to assist in interpretation of the provision at issue. It looked to the preamble's acknowledgement of 'the objective of sustainable development' to read environmental protection and conservation into the interpretation of 'exhaustible natural resources'.[446] The Appellate Body noted that the latter is not static but is 'by definition, evolutionary.'[447] It went on to explain that the preambular language 'gives colour, texture, and shading to the rights and obligations' of members under WTO agreements and to the interpretation of these agreements.[448]

International arbitration tribunals have also looked to treaty preambles to help resolve disputes. Tribunals have looked to bilateral investment treaties' (BIT) preambles to help flesh out what fair and equitable treatment (FET)—often the basis of a dispute—entails.[449] In

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[443] See *US – Gasoline* (n 438) 18, 30; *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the WTO Appellate Body (12 October 1998) WT/DS58/AB/R [129]–[131], [152]–[153], [155].

[444] See n 438.

[445] Marrakesh Agreement (n 438).

[446] *Shrimp-Turtle* (n 443) para 129.

[447] ibid para 130; citing *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970)* (Advisory Opinion) [1971] ICJ Rep 16. See II.B.3.a, below.

[448] *Shrimp-Turtle* (n 443) para 155. See Musto and Redgwell (n 442) 495, 505.

[449] See *CMS Gas Transmission Co v Argentine Republic*, Award, ICSID Case No ARB/01/8 (25 September 2005) [273]–[274] (BIT does not define standard of FET but the preamble 'makes clear' that there is 'no doubt...that a stable legal and business environment is an essential element'); *Occidental Exploration and Production Co v Republic of Ecuador*, Final Award, LCIA Case No UN 3467 (1 July 2004) [183]–[186] (looking to the preamble to make similar argument about stability as

addition, they have used a BIT's preambular language on the treaty's purpose to 'create favourable conditions' conducive to foreign investment.[450] Similarly, the ICJ has referred to preambular language to provide guidance on the object and purpose of a treaty. For example, the ICJ used preambular language in its judgment on the preliminary objections in *Oil Platforms* to determine the treaty's objective and thus interpretations of other provisions.[451] As Frank Berman has observed, the result is that treaty parties have the ability 'to give ostensibly operative form to what is essentially preambular material.'[452]

Like these cases, and the *Shrimp-Turtle* case in particular, the preamble of the Paris Agreement can help provide meaning to the Agreement's terms and support for the evolutionary interpretation of obligations. Indeed, its consideration is a required aspect of treaty interpretation. The preamble of the Agreement recognises 'the need for an effective and progressive response to the urgent threat of climate change'. It acknowledges that States should 'respect, promote and consider' their human rights obligations in actions to address climate change. It also highlights the rights of migrants and other people in vulnerable situations.[453] The preamble does not in itself create legal rights and obligations for State

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an element of FET). See also Max H Hulme, 'Preambles in Treaty Interpretation' (2016) 164 University of Pennsylvania L Rev 1281, 1312–17 (discussing these cases). For more on the use of preambles in interpreting BITs generally see, e.g., Tarcisio Gazzini, *Interpretation of International Investment Treaties* (Hart Publishing 2016) ch 4-6.

[450] See, e.g., *MTD Equity Sdn. Bhd. and MTD Chile S.A. v Republic of Chile*, Award, ICSID Case No ARB/01/7 (25 May 2004) [113].

[451] See *Oil Platforms (Islamic Republic of Iran v United States of America)* (Preliminary Objection, Judgment) [1996] ICJ Rep 803 [27]–[31] (looking to the preamble for the objective of the treaty, which influenced understanding of an article that shed 'light on the interpretation of the other Treaty provisions'). See also *Sovereignty over Pulau Ligitan and Pulau Sipadan (Indonesia/ Malaysia)* (Judgment) [2002] ICJ Rep 625 [49]–[52] (preamble invoked by the Court to determine the object and purpose of the Convention at issue).

[452] Frank Berman, 'Treaty "Interpretation" in a Judicial Context' (2004) 29 Yale J of Intl L 315, 317–18.

[453] See ch 2, IV.C; Paris Agreement preamble.

Parties, but it does provide a direct basis to include human rights law in the 'context' of the Agreement.[454]

The use of human rights law in this manner is not without precedent. Similar use of human rights references in the preamble of the Refugee Convention has allowed for an express link between international human rights and refugee law.[455] This link 'supports the adoption of international human rights standards as an appropriate source of guidance in interpreting the Refugee Convention.'[456] Moreover, as Michelle Foster argues, human rights law is developing, with evolving standards applicable to the interpretation of the Refugee Convention. International refugee law, much like the climate change regime, initially developed separately from international human rights law. This shifted overtime, as the two areas of law have converged and efforts have been made to strengthen linkages.[457] Similarly, efforts are ongoing to bring together human rights and the climate change regime, with hope that interaction and connection between the two will continue to increase.[458]

The inclusion of human rights in the Paris Agreement has been cited by María Pía Carazo as an example of preambular language functioning as an 'incorporative clause' that integrates other areas of international law to avoid conflict between regimes. Other treaties also include incorporative clauses to facilitate the 'mutual supportiveness of different

[454] VCLT arts 31(1), 31(2); see Rajamani, 'The 2015 Paris Agreement' (n 243) 343.

[455] See 1951 Refugee Convention (n 120) preamble (noting the Charter of the UN and the Universal Declaration of Human Rights (UDHR) 'have affirmed the principle that human beings shall enjoy fundamental rights and freedoms without discrimination' and that UN has 'endeavoured to assure refugees the widest possible exercise of these fundamental rights and freedoms'). Scholars have used the preamble to make this link. See, e.g., James C Hathaway, *The Rights of Refugees Under International Law* (CUP 2005) 53–54; Foster (n 101) 49–51.

[456] Foster (n 101) 49.

[457] ibid 49–51. See also n 466.

[458] For more on efforts to integrate human rights following the Paris Agreement, see ch 4, II.E.

regimes', but Carazo sees the Agreement's preamble as going beyond this 'towards a true incorporation of human rights' into the climate change regime and consequently, the need for States to include human rights in responses to climate change.[459] Alan Boyle disagrees, concluding that '[i]t does nothing of the kind.' Yet he still considers the preamble as reinforcing the significance of human rights.[460] Boyle's view appears more accurate, given the language included and placement in the preamble. The preamble does not, for example, reference obligations to protect or fulfil human rights, instead opting for 'promote and consider'. It also refers to Parties' respective human rights obligations and not such obligations in general.[461] This is likely the result of compromises in negotiation, and the belief that such language may have been too 'operative' for a preamble.[462]

Moreover, while the parallel drawn to the Refugee Convention remains apt to demonstrate an evolutive understanding of obligations and the integration of human rights, refugee law and the climate change regime began with different objectives. The Refugee Convention governs relations between a State and an individual; the UNFCCC initially focused on regulating the behaviour of and relations between States. This might make the integration of human rights, and reliance on the preamble, more intuitive for refugee law. Indeed, on its own the wording of the preamble that encourages States respect, promote, and consider human rights could limit the integration of rights obligations—particularly positive

[459] See Carazo (n 20) 115–16.

[460] Alan Boyle, 'Climate Change, the Paris Agreement and Human Rights' (2018) 67 ICLQ 759, 770, 775.

[461] Some of the rights discussed in chapter 4 are considered customary, like the right to life. Furthermore, as discussed in chapter 2, participation in climate agreements is widespread. Accordingly, the parties to various human rights instruments are generally Parties to climate agreements, making most existing rights obligations subject to integration into the climate change regime. See II.B.2.c, below.

[462] See Carazo (n 20) 115 (citing an interview with a negotiator for the Norway delegation at the Paris COP).

obligations. Fortunately, treaty interpretation does not end with the preamble, which makes other elements of the rule critical to such integration.

The operative principles and objective of climate agreements are further aspects that support an interpretation that includes human rights.[463] Separately, they affect obligations in two ways. First, like the preamble, both are part of the interpretive context. Second, the principles guide interpretation and application of the UNFCCC and Paris Agreement's provisions. Because they do not create standalone commitments or mandate specific action,[464] operationalization of these principles is accomplished by linking them to specific obligations—like adaptation—or other legal rules. Together, both the principles and objectives point to adaptation and other obligations to effectuate their purposes.

For example, the precautionary principle is central to the arguments in this thesis and informs the anticipatory adaptive mobility that flows from human rights integration. As chapter 2 explains, the principle influences when adaptation measures are taken—suggesting anticipatory and preventive action—while serving as a general catalyst to adapt in the face of foreseeable harm.[465] Specific adaptation measures and the means to satisfy adaptation obligations are discussed more concretely in the next two chapters. As they will argue, the precautionary principle reinforces the integration of positive human rights duties that address certain risks from climate change. Overall, the principle as it operates in the climate change regime seeks to *inter alia* 'mitigate negative impacts' from climate change, which includes effects to people and risks to and potential violations of human rights.

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[463] The Paris Agreement is an agreement under the UNFCCC, with its principles and objective continuing to govern and influence actions under both treaties. See nn 264, 349.

[464] See n 350.

[465] See ch 2, IV.A; UNFCCC art 3(3).

The objective of the climate agreements further shows that certain obligations are meant to evolve, with adaptation a changeable rather than fixed undertaking. The preamble and text can shed light on a treaty's object and purpose.[466] As discussed above, preambular language supports the inclusion of human rights considerations in the application of obligations that respond to climate change. The objective further supports an evolving understanding of adaptation. As discussed in chapter 2, the Paris Agreement expands and enhances the objective of the UNFCCC, in part, by its aim to increase the ability to adapt. This shift demonstrates the increasingly central role adaptation plays.[467] It is also underscored by the adaptation article, which like the preamble is part of the interpretive context. Its global goal on adaptation, as well as its recognition of the significant need for adaptation and the role it plays in the 'long-term global response' to 'protect people, livelihoods and ecosystems', further highlight the evolution of adaptation within the climate change regime.[468] The latter links adaptation to the protective purposes of human rights law, thereby establishing its relevance generally. In doing so, it brings adaptation in line with these purposes: to ensure conditions that allow people to live safely, with dignity, and to access livelihoods and basic needs.[469] Taken together, the Agreement's acknowledgement of human

[466] The preamble and text have been used by the ICJ to interpret the object and purpose of international agreements. See n 451. See also *Golder v The United Kingdom* (1979) 1 EHRR 524 [34] ('preamble is generally very useful for the determination of the 'object' and 'purpose' of the instrument to be construed'); Foster (n 101) 42–9 (preamble and text used, in part, to support interpretation of an object and purpose of the Refugee Convention that includes a human rights-based approach); Hathaway, *The Rights of Refugees Under International Law* (n 455) 53–4 (using preamble to interpret the human rights purpose of refugee law); Cathryn Costello, Yulia Ioffe and Teresa Büschsel, 'Article 31 of the 1951 Convention Relating to the Status of Refugees' (UNHCR 2017) 4–5 (preamble as a reflection of the Refugee Convention's 'multifaceted object and purpose').

[467] See Paris Agreement preamble, art 2.

[468] See ibid art 7.1-7.4.

[469] The IPCC frames livelihood assets as human security issues, and describes these as access to food, housing, water, and a lack of direct risks to health. All of these are also the 'material aspects of life' that human rights guarantee, analysed further in chapter 4. See Adger and others (n 27) 761.

rights, an enhanced objective, and references to the protection of people, livelihoods, and ecosystems facilitate an evolving interpretation of adaptation obligations that includes human rights.

2. Article 31(3)(c): systemic integration

While the context and object and purpose provide a starting point to find the meaning of a treaty provision, other provisions of article 31, particularly for present purposes article 31(3)(c), must also be considered. It is part of a single rule of interpretation, all elements of which are 'of an obligatory character'.[470] However, the weight accorded to this element will depend on the circumstances.[471] The systemic integration of other international law sources is therefore not always needed, but it must be considered and may be justified if any other part of the interpretive rule suggests recourse to external sources of law.[472]

Until recently, academics and international judicial bodies largely ignored this part of the rule. For example, it was not until 2003 that an ICJ case significantly and explicitly relied on article 31(3)(c).[473] Like the rest of the article 31, it is also customary law that exists

[470] ILC, 'Draft Articles (n 432) 220 para 9. See *Golder* (n 466) [30]; Gardiner (n 28) 161–62; cf Harro van Asselt, *The Fragmentation of Global Climate Governance: Consequences and Management of Regime Interactions* (EEP 2014) 65 (argues that it might be 'more prudent' to consider systemic integration as an 'objective rather than a principle').

[471] See McLachlan (n 424) 310; ILC, 'Fragmentation Report' (n 416) para 421 (no formal need for article 31(3)(c) when other techniques take the normative environment into account); Duncan French, 'Treaty Interpretation and the Incorporation of Extraneous Legal Rules' (2006) 55 ICLQ 281, 303 (article applies whenever other rules are relevant, but when the meaning of a provision is clear there is rarely need for recourse to external sources).

[472] See Gardiner (n 238) 326.

[473] See *Oil Platforms (Islamic Republic of Iran v United States of America)* (Judgment) [2003] ICJ Rep 161. However, the ECtHR relied on the provision in 1975 to interpret an obligation in light of other principles of international law. See *Golder* (n 466) [35]. See also Gardiner (n 238) 306–7. Additionally, earlier recognition that considered treaty terms as evolving included the related concept that a '[t]reaty is not static, and is open to emerging norms in international law.' *Gabčíkovo-Nagymaros* (n 350) [112].

alongside its treaty counterpart.[474] Thus, of late the ICJ has applied the provision to a dispute between States that are not party to the VCLT because it considers article 31(3)(c) to codify customary international law.[475] Similarly, the Appellate Body of the WTO—that relies on customary law for interpretation[476]—first employed systemic integration and referenced the provision in 1998.[477]

This relatively recent reliance on article 31(3)(c) may be 'a symptom of the lack of awareness of the obligatory character' of the article.[478] Or it may be due to a failure to identify the integration of other international rules as proceeding from the VCLT rather than flowing from the general interpretation of a treaty within its normative environment and as part of the international legal system.[479] It may also be that this system only recently began to fully consider potential fragmentation as treaties increased in quantity, subjects covered, and parties included.[480] Indeed, the emergence of international environmental law to address transboundary and global threats like climate change evinces the kind of specialized law that could conflict with other international law or legal regimes. As Judge Trindade explained in the ICJ's *Whaling in the Antarctic* case, '[w]ith the growth in recent decades of international

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[474] See *Military and Paramilitary Activities in and against Nicaragua (Nicaragua v USA)* (Merits, Judgment) [1986] ICJ Rep 14 [176] (treaty and customary rules exist alongside each other). See also Panos Merkouris, *Article 31(3)(c) VCLT and the Principle of Systemic Integration: Normative Shadows in Plato's Cave* (Brill 2015) 5–6 (interpretation of article 31(3)(c) affects customary law and vice-versa); *Oil Platforms*, Judgement (n 473) 277–79 [22] (separate opinion of Judge Buergenthal: article 31(3)(c) 'rule is sound and undisputed in principle as far as treaty interpretation is concerned', although disagreeing with majority application).

[475] See *Certain Questions of Mutual Assistance in Criminal Matters (Djibouti v France)* (Judgment) [2008] ICJ Rep177 [112].

[476] See n 438.

[477] See *Shrimp-Turtle* (n 443); Musto and Redgwell (n 442) 505–6; Pauwelyn (n 420) 255.

[478] Pobjoy (n 103) 39.

[479] See II.A, above; ILC, 'Fragmentation Report' (n 416) para 421.

[480] See, e.g., ILC, 'Report of the ILC' (n 423) paras 241-45.

instruments related to conservation, not a single one of them is approached in isolation from the others; not surprisingly, the co-existence of international treaties of the kind has called for a systemic outlook, which has been pursued in recent years.'[481] There has thus been a 'recent flowering of case law referring to article 31(3)(c)'.[482] Environmental challenges further underscore the difficulty balancing economic interests with environmental protection, which raises potential conflicts and the need for a coherent approach to State obligations.[483]

Systemic integration via article 31(3)(c) offers one way forward. It provides a means to avoid or address potential conflicts when different regimes interact.[484] It also assists in the interpretation of obligations that lack specificity and are not otherwise explained. Systemic integration 'bridges the gap between rule and system',[485] and can provide the mutual reinforcement of rules of law from different sources or legal regimes.[486] Prior to renewed interest in the provision by the ICJ and the ILC, however, its utility was questioned and content criticized as offering little instruction on how it should be applied.[487] Yet while the

[481] *Whaling in the Antarctic* (n 356) 357 [25] (separate opinion of Judge Cançado Trindade).

[482] Gardiner (n 238) 290. See *Mutual Assistance* (n 475) [112]–[113]; *Demir and Baykara v Turkey* (2009) 48 EHRR 54 [67]–[68]; *National Union of Rail, Maritime and Transport Workers v the United Kingdom* (2014) 60 EHRR 10 [76]; *European Communities – Measures Affecting the Approval and Marketing of Biotech Products*, Reports of the WTO Dispute Panel (29 September 2006) WT/DS291, WT/DS292, and WT/DS293 [7.67]–[7.72].

[483] ILC, 'Report of the ILC' (n 423) para 247. See also *EC-Biotech* (n 482) (dispute raised issues of precaution, free trade, and adverse effects on public health and the environment).

[484] See van Asselt (n 14) 221.

[485] Merkouris (n 474) 6.

[486] See Spyridon Aktypis, Emmanuel Decaux and Bronwen Leroy, 'Systemic Integration between Climate Change and Human Rights at the United Nations?' in *Climate Change and Human Rights* (n 112) 232.

[487] See Hugh Thirlway, 'The Law and Procedure of the International Court of Justice 1960–1989: Part Three' (1992) 82 British YB of Intl L 1, 58 (declaring it 'doubtful whether this sub-paragraph will be of any assistance in the task of treaty interpretation'). However, even Thirlway recognizes that a treaty must be 'interpreted against the background of general law'. ibid 60.

language of the provision does not provide clear guidance about all aspects of integration, treaty interpretation has never been considered a prescriptive process.[488]

Interpretation is a flexible exercise, which can yield more than one potential result.[489] The VCLT provides the tools that must be employed rather than the order or outcome of interpretation. Thus, the use and consequence of systemic integration varies depending on the type and language of the provision being interpreted. This includes situations where provisions are unclear or ambiguous and other rules of international law can provide clarity; treaty terms have recognized meaning in customary law; and/or treaty terms or provisions are 'open-textured' and recourse to other sources of international law help provide meaning or content.[490] Furthermore, the article's need to 'take into account' other rules of law is not defined by international law. Philippe Sands considers it stronger than to 'take into consideration' but weaker than 'apply'.[491] The provision is therefore not one that creates a duty to apply other rules of international law but rather an interpretative obligation to clarify the content of the provision at issue by looking to other rules.[492]

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[488] Treaty interpretation is likened to art rather than science. See ILC, 'Fragmentation Report' (n 416) para 464; Martti Koskenniemi, *From Apology to Utopia: The Structure of International Legal Argument* (CUP 2006) 340–42.

[489] See Gardiner (n 232) 504; Gardiner (n 238) 27–28 (VCLT indicates what to take into account with less guidance on how to do so).

[490] See, e.g., *Golder* (n 466) [35]–[36] (drawing on other rules of international law to read the European Convention on Human Rights (ECHR) as implicitly including a right of access courts); *Oil Platforms*, Judgment (n 473); *Shrimp-Turtle* (n 443) (drawing on external sources of law to clarify and provide content to treaty terms); ILC, 'Fragmentation Report' (n 416) para 467; McLachlan (n 424) 312; French (n 471) 303–4.

[491] Philippe Sands, 'Treaty, Custom and the Cross-Fertilization of International Law' (1998) 1 Yale Human Rights and Development J 103.

[492] See Pobjoy (n 103) 40; Alexander Orakhelashvili, 'Restrictive Interpretation of Human Rights Treaties in the Recent Jurisprudence of the European Court of Human Rights' (2003) 14 European J of Intl L 529, 537.

As discussed in chapter 2, adaptation obligations in the climate change regime can include a variety of actions within their ambit. They are the kinds of 'open textured' obligations that can be clarified by systemic integration. Thus, while the inclusion of human rights in the Paris Agreement's preamble provides guidance as part of its context, it is also viewed as 'an invitation to practice systemic integration in the interpretation of Parties' obligations'.[493] Systemic integration can concretise adaptation obligations in a given context—as chapter 5 will show—and allows for human rights law to help provide clarity as to what these obligations entail, including adaptive mobility. This is accomplished with a reading of article 31(3)(c)'s requirement to 'take into account' as meaning that outside rules of law can circumscribe, clarify, or flesh out a treaty's content. Such an understanding of systemic integration is one that is supported by the ILC, academic analysis, and case law, although determining the content may lead to disagreement.[494] Furthermore, without integration, there is potential for adaptation to conflict with human rights law and create or exacerbate the kinds of risks to rights discussed in the next chapter. However, if integrated, human rights and climate change norms can reinforce one another.[495] Integration can also take this further: as argued below, positive obligations from human rights law can help compel and shape proactive, concrete adaptive measures including measures enabling mobility. Yet this outcome is context dependent; the manner in which other rules of law are taken into

[493] Savaresi (n 427) 36.

[494] See *Namibia* (n 447) [53]; *Oil Platforms,* Judgment (n 473) [41] (integrating relevant rules of international law on use of force to interpret limits of measures under the treaty); *Al-Adsani v United Kingdom* (2001) 34 EHRR 273 [55]–[56] (looking to article 31(3)(c) to integrate international law on state immunity to limit the right at issue); ILC, 'Fragmentation Report' (n 416) para 478(b) (describing *Shrimp-Turtle* use of integration to provide content to treaty terms); Gardiner (n 238) 331 (the purpose of integration is not to apply other rules but rather to clarify content of treaty terms by reference to them) (citations omitted); McLachlan (n 424) 312–13; French (n 471) 304; cf van Asselt (n 14) 189 (unclear what taken into account means in some cases).

[495] See van Asselt (n 14) 230; Aktypis, Decaux and Leroy (n 486) 232.

account may result in different outcomes.[496] Indeed, systemic integration is an interpretative obligation and not an obligation to reach a particular result.[497]

The potential to reach different results when interpreting adaptation obligations is not inconsistent with the broad nature of adaptation and the variety of activities it can encompass. For this reason, adaptation obligations are analysed in different contexts in chapter 5, to explore what kind of conditions could lead to the need for adaptive mobility. In these cases, the integration of human rights law can add much-needed content and guidance. This can be tailored to the adaptive goal or mechanism on a case-by-case basis and remain faithful to the limits of treaty interpretation.[498] For example, when faced with rising sea levels and increased storm surges, a government may take a number of actions. These might shift, depending on the risks to human rights and severity of climate impacts. Initially, adaptation efforts to curb rising seas or address impacts—walls, changes to land use and irrigation, and alteration to drinking water sources—might be sufficient to address impacts and risks to human rights. As land becomes less habitable, then recourse to actions or policies that facilitate migration or planned relocation may be necessary in order to ensure human rights.

Yet systemic integration is not the panacea for all fragmentation concerns. Joost Pauwelyn describes its limits: because it is as a process of treaty interpretation rather than the application of a treaty, outside rules can only help provide meaning to terms and should not override them.[499] Systemic integration is intended to promote the coherence of rules of

[496] See ILC, 'Fragmentation Report' (n 416) para 480 (external rules could be applied, invalidated, or set aside).

[497] See Pobjoy (n 103) 40.

[498] For further on the need for a case-by-case comparison of human rights and the climate change regime in systemic integration, see, e.g., Aktypis, Decaux and Leroy (n 486) 232.

[499] Pauwelyn (n 420) 254.

international law rather than the displacement of one area of law by another.[500] Thus, integration cannot import an entire separate treaty regime without evidence that the parties intended to do so. This concern is mitigated within the thesis by a focus on integrating certain rights to provide guidance and content for adaptation, and the need to do so based on the circumstances in a particular context.

There also remains a wide margin of discretion afforded by the text of Article 31(3)(c), which raises several questions pertinent to the thesis.[501] The first is temporal:[502] it asks at what point in time interpretation looks to other rules of international law, and whether it should consider the law at the time of a treaty's negotiation or as it evolves. The second questions what are considered 'relevant rules' of international law. The last focuses on which parties must relevant rules apply between. Each of these questions will be addressed below, with answers applied generally to adaptation obligations.

a) Temporal considerations

There is no universal answer as to when an interpreter should look to other rules of international law to aid in interpretation.[503] The question is part of the broader issue of intertemporal law, and whether law and its existence, interpretation, and application is understood at the time of its creation or contemporary to its analysis.[504] The text of article 31(3)(c) does not explicitly address the issue, nor does the VCLT's preparatory work provide

[500] McLachlan (n 424) 318–19.

[501] See, e.g., Gardiner (n 238) 293–95, 299–304; ILC, 'Fragmentation Report' (n 416) paras 461-77.

[502] See generally Savaresi (n 427) 35 (*lex posterior* rule of limited utility for living instruments like climate agreements; ILC instead suggests use of systemic integration).

[503] See Gardiner (n 238) 290; ILC, 'Fragmentation Report' (n 416) paras 461-77.

[504] See Merkouris (n 474) 102–4; Bjorge (n 235) 144–45; *Island of Palmas (Netherlands v United States of America)* (1928) 2 RIAA 829, 845 (dictum of Judge Huber discussing that a juridical fact must be understood in light of law contemporary with it and not at the time a dispute arose).

a definitive answer.[505] ILC commentary does clarify that interpretation is not limited to the time the treaty was negotiated or adopted, as this restriction was removed from the final text of the VCLT. It also notes that such a restriction was an issue for some members as it failed to account for the evolution of law. Instead, it concludes that temporal issues would primarily be resolved by looking to the intent of a treaty's parties and exercising good faith in interpretation.[506] Looking at the surrounding sub-sections of article 31(3) does not offer further clarity. The inclusion of subsequent practice and agreements in articles 31(3)(a) and (b) could mean that the whole article is focused on law post-dating the treaty.[507] However, given the ILC's commentary and the failure to include the word subsequent in article 31(3)(c), it is more likely that the provision intentionally avoids temporal issues.

Given the lack of a definitive general answer, the most reasonable application incorporates the rest of the interpretive rule, and treaty interpretation more broadly: it looks first to the treaty to see if it offers guidance, and then to an understanding of the treaty that promotes its continued effectiveness.[508] Thus, the outcome will depend on the context and object and purpose of the treaty and whether the terms were meant to be fixed or evolve.[509] This accords with the ILC's commentary and the approach international courts and tribunals have taken when tasked with resolving disputes over treaty provisions. The latter have also

[505] VCLT art 32. When treaty terms are ambiguous, supplementary means including the *travaux preparatoires* can be used to clarify meaning.

[506] ILC 'Draft Articles' (n 432) 222 para 16.

[507] See Gardiner (n 238) 290.

[508] For more on the principle of effectiveness, see nn 238, 428 and accompanying text; ILC, 'Fragmentation Report' (n 416) para 478; ILC 'Draft Articles' (n 432) 219 para 6 (explaining '[w]hen a treaty is open to two interpretations one of which does and the other does not enable the treaty to have appropriate effects, good faith and the objects and purposes of the treaty demand that the former interpretation should be adopted.').

[509] See Gardiner (n 238) 295, 298; Bjorge (n 235) 143 (temporal element controlled by what parties intended).

looked outside the treaty itself—including to subsequent developments in international law—to justify an evolutionary interpretation and provide clarification about treaty obligations. In *Namibia Advisory Opinion*, the ICJ explained that it was 'bound to take into account' that concepts of the Covenant of the League of Nations—which it was interpreting—were 'not static, but by definition evolutionary'. Accordingly, 'an international instrument has to be interpreted and applied within the framework of the entire legal system prevailing at the time of interpretation.'[510] Subsequent cases and arbitral awards reiterate this point, including *Gabčíkovo-Nagymaros* (the '[t]reaty is not static, and is open to adapt to emerging norms of international law'); *Dispute Regarding Navigational and Related Rights* ('where the parties have used generic terms in a treaty…having been aware that the meaning of the terms was likely to evolve over time…the parties must be presumed, as a general rule, to have intended those terms to have an evolving meaning'); and *Iron Rhine* (citing *Namibia Advisory Opinion* and explaining that in addition to conceptual or generic terms, 'new technological developments' are subject to 'an evolutive interpretation, which would ensure an application of the treaty that would be effective in terms of its object and purpose').[511]

The WTO's Appellate Body has also considered the evolution of terms while relying on systemic integration—reflective of customary law—as 'interpretative guidance' that justified recourse to general principles of international law.[512] In *US-Gasoline*, the Appellate Body recognized that one of the WTO agreements—the General Agreement on Tariffs and

[510] *Namibia* (n 447) [53].

[511] *Gabčíkovo-Nagymaros* (n 350) [112]; *Dispute regarding Navigational and Related Rights (Costa Rica v Nicaragua)* (Judgment) [2009] ICJ Rep 213 [66]; *Iron Rhine* (n 431) [80]. See also *Aegean Sea Continental Shelf (Greece v Turkey)* (Judgment) [1978] ICJ Rep 3 [77].

[512] *Shrimp-Turtle* (n 443) [158]. See n 438.

Trade (GATT)–could 'not be read in isolation from public international law.'[513] Similarly and as noted above, in *Shrimp-Turtle*, it found that the key term to the dispute, 'exhaustible natural resources', was 'by definition evolutionary.'[514] The Appellate Body made use of various international environmental law sources to support its conclusion that exhaustible natural resources included living and non-living resources and that sea turtles as such a resource fell into this category.[515] This recognition relied on developments in international environmental law that post-dated the WTO covered agreements.

These cases accord with the ILC's view that the international law system should function as a coherent yet pluralistic whole, and that as the system expands and evolves, treaties may well have to accommodate these changes.[516] Absent specific evidence to the contrary in a treaty, the principle of effectiveness also justifies an evolutive interpretation and the application of other international law rules at the time of interpretation to ensure the treaty's terms remain applicable.[517] It is also supported by the evolution of concepts and goals within the climate change regime—like adaptation—and the inclusion of terms meant to incorporate changes in scientific information, technology, and environmental conditions. This does not mean that other rules of law should displace a treaty's terms, but rather that such

[513] *US-Gasoline* (n 438) 17. See Musto and Redgwell (n 442) 505–6 (analysing systemic integration in the WTO context).

[514] *Shrimp-Turtle* (n 443) [128]–[133] (citing *Namibia* (n 447)).

[515] These sources included, *inter alia*, statements by the World Commission on Environment and Development, provisions of the Conventions on the Law of the Sea and on Biological Diversity, and the Resolution on Assistance to Developing Countries, adopted with the Convention on the Conservation of Migratory Species of Wild Animals. *Shrimp-Turtle* (n 443) [130]–[134]. See Musto and Redgwell (n 442) 505 (noting there was 'no explicit interpretative justification for relying on these instruments' that 'appear to be provided as context in evidencing a shift in legal opinion since the adoption of the GATT'). However, before discussion of these sources, the Appellate Body cites *Namibia* and its statement that interpretation is affected by subsequent developments of law, applied at the time of interpretation. *Shrimp-Turtle* (n 443) [130].

[516] ILC, 'Fragmentation Report' (n 416) para 491.

[517] See nn 508, 511.

rules can provide meaning to terms in the interpretive process.[518] The use of human rights law to interpret and apply adaptation obligations exemplifies this tension. These obligations present similar issues to cases like *Shrimp-Turtle* or *Gabčíkovo-Nagymaros*: adaptation is a broad term that is tied to environmental change and its meaning is not circumscribed by the treaty at issue. The content of adaptation obligations can be clarified by looking to other rules of law, and to an evolving understanding that these rules promote. Yet in some ways, because adaptation is inherently evolutive and builds in adjustments over time, there is a clearer case to be made that the concept is 'by definition evolutionary'.[519]

Additionally, an evolving interpretation is consistent with the nature of responses within the climate change regime. Climate change presents new situations, and adaptation measures will shift as the effects of climate change create new challenges and alter geographies and resources. A failure to incorporate these changes into adaptation obligations could lead to violations of human rights law that would undermine adaptation efforts. Indeed, without changes to agriculture or irrigation in areas of prolonged drought—in the Sahel for example—violations of rights to adequate food or water, or to highest attainable standard of health, are likely to occur. As the impacts become more severe and desertification and famine set in, if individuals are not able to move, then their continued residence in an uninhabitable area could violate a right to adequate housing or worse, a right to life.[520]

[518] See Gardiner (n 238) 291. See also Bjorge (n 235) 190–91 (intent of parties to a treaty, rather than its wording, is the central element of interpretation often showing parties meant treaty to evolve).

[519] *Namibia* (n 447) [53].

[520] Discussed in ch 4, II.C-D; ch 5, II.C.

Adaptation obligations should also be interpreted in a way that takes into account the evolution of human rights law.[521] This leads to the integration of relevant human rights obligations at the time of interpretation, rather than at the time the UNFCCC or Paris Agreement was negotiated or adopted.[522] For example, an interpretation could incorporate a right to a decent or healthy environment, if such a right becomes more widely accepted by Parties to the climate change regime.[523] It could also incorporate relevant clarifications by judicial bodies about the scope and content of human rights law, as well as developments across and within other regimes, which themselves might be affected by climate change.

b) Relevant rules of international law

Article 31(3)(c) requires treaty interpretation to take into account '[a]ny relevant rules of international law'. Application of this part of the provision requires an understanding of what qualifies as a relevant rule of international law. The inclusion of the word 'any' implies all sources considered a rule of international law should apply. This conclusion finds support in the general agreement that the reference to rules is not limited to general principles, but can include other treaties and customary law.[524] As noted above, States are presumed not to enter into treaties with the intent to violate other international law obligations. Applicable law

[521] Human rights obligations in the context of environmental or climate change is evolving. Knox, 'Human Rights Principles and Climate Change' (n 429) 220–21. See also Boyle, 'Human Rights and the Environment' (n 429) 220 (noting 'evolutionary character' of human rights treaties).

[522] See *Namibia* (n 447) [53]. See also *Gabčíkovo-Nagymaros* (n 350) 114 (separate opinion of Vice-President Weeramantry) (the VCLT 'scarcely covers this aspect [inter-temporality] with the degree of clarity requisite so important a matter'). See further DW Grieg, *Intertemporality and the Law of Treaties* (British Institute of International and Comparative Law 2001).

[523] See n 429. While not the focus of the thesis, regional instruments include such a right and thus, could affect the interpretation of some States' obligations. See, e.g., Arab Charter on Human Rights (adopted 22 May 2004, entered into force 15 March 2008) art 38; African Charter on Human and Peoples' Rights (adopted 27 June 1981, entered into force 21 October 1986) (1982) 21 ILM 58 art 24.

[524] See ILC, 'Fragmentation Report' (n 416) para 422 (conscious choice by the ILC not to limit sources to general rules but to allow other sources like treaties); ibid para 426 (includes broader principles); McLachlan (n 424) 290; Gardiner (n 238) 301. See also *EC-Biotech* (n 482) [7.67].

continues to apply unless treaty parties specifically choose to diverge from a general principle or customary rule. Systemic integration builds upon this and can be used to integrate other rules to provide clarity about a term or the content of an obligation.[525] Indeed, article 31(3)(c) has been used 'as a bridge' between a treaty and other rules of international law.[526]

How to balance other rules or principles in systemic integration depends on the treaty being interpreted. This is due in part to the nature of the international system, which lacks an overarching mechanism to declare when certain rules should apply.[527] What is relevant is also unclear. Jurisprudence makes little mention of this aspect of the rule, and different criteria have been proposed. One approach looks to the subject matter and 'proximity' between the treaty and relevant law.[528] Relevance has also been connected to rules that answer questions not expressly resolved by a treaty.[529] As analysed in chapter 4, a number of human rights are put at risk by climate change. Growing recognition of the relevance of rights led to their inclusion in the Paris Agreement—in the preamble as well as implicitly through reference to

[525] See, e.g., Gardiner (n 238) 324.

[526] McLachlan (n 424) 280 (discussing *Oil Platforms*); *Oil Platforms*, Judgment (n 473) (looking to customary international law to provide limits to a treaty clause). See also Merkouris (n 474) 6. Although outside the scope of the thesis, the integration of soft law and non-binding norms is uncertain, and it is not always apparent how a court is referencing them—whether in interpretation or as guidance otherwise. See French (n 471) 308–10.

[527] However, treaty obligations cannot violate peremptory or *jus cogens* norms. See, e.g., VCLT art 53; McLachlan (n 424) 286; ILC, 'Fragmentation Report' (n 416) paras 363, 374.

[528] See *European Communities and Certain Member States - Measures Affecting Trade in Large Civil Aircraft)*, Report of the WTO Appellate Body (18 May 2011) WT/DS316/AB/R [864] (other rules of law are relevant if they concern the same subject matter as the provision at issue); Sands (n 491) 102 (relevant refers to subject matter or rules related in some way to the norm being interpreted); cf *Mutual Assistance* (n 475) [105]–[114] (general obligations can be relevant rules in interpretation of subsequent treaty of a different subject matter). See also Merkouris (n 474) (proposing four kinds of proximity for relevance: terminological, subject matter, shared parties, temporal).

[529] See Gardiner (n 238) 299.

rights-related considerations, participation, and provision of information.[530] Moreover, the risks to rights are the kinds of adverse impacts that precautionary climate action is meant to address.[531] However, as the next two chapters explore, what rights are relevant depends on the context, bearing in mind that climate change threatens multiple human rights.

The integration of human rights law has already been instrumental in developing an understanding of provisions of other areas of law.[532] For example, the link to human rights law in the preamble of the Refugee Convention identified above, and the systemic integration of subsequent international instruments to affirm a 'human rights orientation' to the Convention, has shaped an understanding of who is a refugee and refugee rights.[533] More recently, systemic integration has been used to argue for the integration of the Convention on the Rights of the Child (CRC) into interpretation of the Refugee Convention to ensure a 'child-rights framework' for assessing the status of and protection for the refugee child.[534]

Yet the use of article 31(3)(c) is not always clear-cut. Differing approaches to its application creates the potential for discord, as the *Oil Platforms* case exemplifies. The majority used article 31(3)(c) to read customary law on the use of force into interpretation of

[530] Paris Agreement preamble, arts 7.5, 11.2, 12. See Annalisa Savaresi and Joanne Scott, 'Implementing the Paris Agreement: Lessons from the Global Human Rights Regime' (2019) 9 Climate L 161.

[531] See UNFCCC art 3(3).

[532] For discussion of its relationship with IHL, including instances of complementarity or an integrated approach, see Daragh Murray, 'The Relationship Between the Law of Armed Conflict and International Human Rights Law' in Elizabeth Wilmshurst and others (eds), *Practitioners' Guide to Human Rights Law in Armed Conflict* (OUP 2016).

[533] See n 466; James C Hathaway and Michelle Foster, *The Law of Refugee Status* (CUP 2014) 8–9; Foster (n 224) 51–3 (article 31(3)(c) provides clear 'justification' for 'correct interpretation of key terms in the refugee definition' that are 'consistent with principles of international human rights law'). Even without specific reference to article 31, human rights law has been considered necessary to be taken into account in interpretation of the Refugee Convention, as it 'is an essential part of the framework of the legal system'. Lauterpacht and Bethlehem (n 116) para 75.

[534] See Pobjoy (n 103) 34–43.

a clause that allowed for measures 'necessary…for the maintenance or restoration of international peace and security, or necessary to protect its [a State party's] essential security interests'.[535] A few aspects of this case are relevant for the present analysis. First, the case brings a 'substantial body'[536] of general international law into treaty analysis and uses this law to limit measures that can be taken under the treaty's terms. Second, it uses customary law and peremptory norms to create such limits, in an area of law outside the normal subject matter of an economic treaty. Finally, the separate judicial opinions illustrate that there is some disagreement about the way that the article is perceived to operate. For example, Judge Simma supported the integration of general international law, and peremptory norms in particular, to provide understanding and limits to the treaty.[537] Judge Higgins warned, however, that the majority opinion used treaty interpretation to displace the applicable law, replacing the terms of the treaty with customary law. She criticised the majority's incorporation of the 'totality of substantive international law' on the use of force and felt that the provision at issue did not envisage 'incorporating the entire substance of international law on a topic not mentioned in the clause – at least not without more explanation than the court provides.'[538] Judge Kooijmans faulted the majority for its recourse to article 31(3)(c) rather than starting with 'the meaning of the words' in the treaty text. But he acknowledged that 'general international law…is indispensable as a standard of interpretation' to determine whether use of force was necessary.[539] *Oil Platforms* has been criticized on several other

[535] *Oil Platforms*, Judgment (n 473) [32].

[536] See ILC, 'Fragmentation Report' (n 416) para 458.

[537] *Oil Platforms*, Judgment (n 473) (separate opinion of Judge Simma) 324–61 [9].

[538] ibid (separate opinion of Judge Higgins) 225–240 [45]–[49].

[539] ibid (separate opinion of Judge Kooijmans) 246–65 [41]–[49].

grounds, including the fact that the majority decision does not provide guidance on when and how to apply other rules or principles of law.[540]

The integration of human rights into adaptation obligations is able to overcome or address these criticisms, and finds support from the majority application of article 31(3)(c) in *Oil Platforms*. Like the measures at issue in *Oil Platforms*, human rights law may provide clarity or content to obligations that could, for example, establish permissible limits to adaptation activities or compel proactive measures based on positive rights obligations. While interpretation should look first to the treaty terms before seeking clarification from other areas of international law, it must also 'take into account' other relevant rules.[541] The latter requirement is central to this thesis, which argues that both treaty and customary human rights law are relevant for integration purposes. Their binding nature and legal basis outside the regime only strengthens this argument.[542] However, their integration will not displace adaptation obligations, but rather—as is the case for acts in the name of national security like those in *Oil Platforms*—consideration of other law can assist in determining the limits of measures taken under a treaty. Human rights law can further be used in the way Judge Kooijmans envisioned: to determine whether a particular measure—in *Oil Platforms* measures involving the use of force—breached the relevant treaty and to do so by looking at other international rules in order to determine 'the lawfulness of these measures.'[543] Accordingly, human rights law plays a role in interpretation, to provide limits and content, and in application, to ensure activities fall within the parameters established by interpretation.

[540] See ILC, 'Fragmentation Report' (n 416) para 458; McLachlan (n 424) 309.

[541] VCLT art 31; ILC, 'Fragmentation Report' (n 416) para 457.

[542] See Sébastien Duyck, 'Delivering on the Paris Promises? Review of the Paris Agreement's Implementing Guidelines from a Human Rights Perspective' (2019) 9 Climate L 202, 208.

[543] See *Oil Platforms*, Judgment (n 473) (separate opinion of Judge Kooijman) 261 [48]–[50].

For climate change adaptation, the multiple functions facilitated by the integration of human rights law can ensure its inclusion at different points throughout the process of adaptation and during both interpretation and application of adaptation obligations. Conversely, adaptation measures that do not consider human rights can exacerbate human suffering and violate rights.[544]

c) Which parties

Article 31(3)(c) limits the use of other rules of international law to those 'applicable in the relations between the parties.' The VCLT does not clarify which parties are necessary, and there are differing opinions as to what this means. The ordinary meaning of the term 'parties' and the context of the provision also do not answer the question.[545] The crux of the disagreement is the degree of consistency of parties between the treaty at issue and the treaty containing the relevant rule. Customary law does not generally present such an obstacle, as it usually applies to all States.[546] Thus, the focus is on when a rule from a different treaty can be integrated. Four different scenarios have been suggested as possible solutions: (1) all parties to the treaty being interpreted must be parties to the treaty used in interpretation; (2) both treaties apply to the parties to a dispute; (3) if treaty membership is uneven, integration is only possible if the outside treaty expresses a rule of customary law; or (4) party parity is not required, but the rule being integrated has been implicitly accepted or tolerated by all parties to the treaty being interpreted.[547] Amongst these scenarios, this thesis adopts the last, looking

[544] For example, forced relocation or adaptive measures that displace people can create conditions that leave people worse off. See ch 5, II.

[545] Gardiner (n 232) 302.

[546] The possibility of a State that persistently objects to the customary rule could create outliers, although this would be rare. See John Tasioulas, 'Custom, Jus Cogens, and Human Rights' in Curtis A Bradley (ed), *Custom's Future: International Law in a Changing World* (CUP 2016).

[547] See Gardiner (n 238) 312–16; McLachlan (n 424) 314–15.

to the relevant human right and the extent of its acceptance by Parties in the climate change regime. However, the analytic focus is on interpretation that leads to anticipatory action, before a potential interstate dispute arises. By focusing on a prior point in time, other understandings of which parties are relevant to interpreting the meaning of obligations are possible.

The first scenario requiring party parity—or at least the same parties or more in the treaty relied upon for integration—has been criticized as too narrow, with little case law to support this reading.[548] If this were the case, for example, then international human rights law could not be considered relevant to the interpretation of the Refugee Convention—or to any other treaty—'because few, if any, treaties have co-extensive membership.'[549] Such a requirement would make it difficult for a treaty like the UNFCCC, which has near universal participation, to bring in any other treaty rule that is not already a part of customary law.[550] A requirement for shared parties could render parts of a treaty ineffective.[551] It would hamper treaties with greater consensus and allow other less widely accepted treaty bodies to rely on a broader range of international law sources in interpretation. This creates the 'ironic effect that the more the membership of a multilateral treaty…expanded, the more those treaties would be cut off from the rest of international law. In practice, the result would be the isolation of multilateral agreements as "islands" permitting no references *inter se* in their application.' [552] Such an outcome is contrary to the 'legislative ethos behind most multilateral treaty-making

[548] See Gardiner (n 238) 312–14. But see *EC-Biotech* (n 482) [7.69]–[7.71], [7.75] (taking this narrow approach).

[549] See Foster (n 101) 55.

[550] See UN Treaty Collection (n 183).

[551] It is also inconsistent with the principle of effectiveness. See III.B.3.a.

[552] ILC, 'Fragmentation Report' (n 416) para 471.

and…the intent of most treaty-makers.'[553] It also undercuts the power of agreements like those the climate change regime is built upon, and the potential for specific provisions like adaptation obligations. Indeed, their wide acceptance and universal applicability is what makes these obligations a potentially powerful legal tool.

The second and third scenarios have also been subject to criticism but are less relevant for the interpretation of adaptation obligations. Limiting recourse to treaty law that expresses customary law seems redundant, as customary laws are considered rules for integration purposes. Relying only on treaty as customary rules would also preclude recourse to the international environmental rules that in practice have already been integrated through treaty interpretation or read into article 31(3)(c) analysis.[554] The second scenario, which looks to the parties to a dispute, and the treaties in force that they share, raises concerns about inconsistent interpretations and also lacks case support.[555] These concerns matter less in the first instance, prior to any dispute. When a State is interpreting what its own obligations mean—here adaptation obligations—it considers its applicable legal obligations. Yet the word 'between' must have some meaning. Thus, a State interpreting its obligations vis-à-vis other countries could consider its human rights obligations, as well as those of States to which they owe adaptation obligations.[556]

The final scenario of implicit acceptance or tolerance also offers a potential compromise.[557] This would allow some States to be party to the treaty containing the outside

[553] ibid.

[554] See, e.g., *Gabčíkovo-Nagymaros* (n 350); *Iron Rhine* (n 431); *Shrimp-Turtle* (n 443).

[555] Gardiner (n 238) 314–16; Pobjoy (n 103) 42.

[556] This is particularly important for the interpretation of assistance and cooperation obligations owed by developed countries to developing country Parties.

[557] This scenario finds support in the use of international law instruments in *Shrimp-Turtle* (n 443); ILC, 'Fragmentation Report' (n 416) para 472; Pauwelyn (n 420) 260 (treaty may play role if it reflects the 'common intention' of parties or the 'ordinary meaning' of a treaty term); McLachlan (n

rule, with that rule being generally accepted by others. But a rule that has been implicitly accepted may be difficult to test. It may invite criticism that State consent—and hence sovereignty—is undermined. Furthermore, the preamble of the Paris Agreement references the Parties' 'respective obligations on human rights', potentially limiting interpretation to those human rights law instruments States have accepted. Most States, however, have ratified instruments containing some or all of the human rights discussed in the next chapter.[558] Some are also customary international law, binding on all States. Thus, while context dependent, the particular human rights relevant to the interpretation of adaptation obligations in the thesis are likely to have been ratified or accepted by the Parties to climate agreements in some form.

III. Conclusion

As this chapter argues, the climate change regime is not a self-contained body of law. It remains tied to other rules and principles of international, particularly human rights law. Tools of treaty interpretation—a treaty's context, object and purpose, and systemic integration of relevant law—lead to the same conclusion and the integration of human rights law. The interpretation of adaptation obligations also relies on an evolutive approach and a view of systemic integration that incorporates changes in law, increasing knowledge about risks and climate impacts, and accounts for the dynamic nature of the climate change regime. This allows for the continued effectiveness of adaptation obligations, and the ability to integrate human rights throughout the process of adaptation. The next chapter will build on this, to establish the relevance of specific rights, and the integration of the positive duties

424) 315 (even if a treaty is not in force between parties it can be used to show the 'common understanding' as to the meaning of the term).

[558] See n 564.

required under human rights law. An interpretation of adaptation obligations that includes such integration goes beyond the mere recognition of the risks to human rights that climate impacts pose. By integrating positive duties from human rights, adaptation focuses on the risks to people, prioritizes those most vulnerable, and requires action before the worst impacts occur. Thus, integration accomplishes more than simply reminding States to 'respect, promote, or consider' human rights obligations—as per the Paris Agreement's preamble—it requires concrete and affirmative action to ensure human rights.

Chapter 4: Integrating International Human Rights Obligations into the Climate Change Regime

I. Introduction

All human rights involve positive and negative duties—to act and to refrain from action affecting rights. While recognising that States should refrain from violating human rights, this chapter focuses on the positive duties or measures States must take to protect and fulfil human rights. The content of these duties is discussed below. On their own, they require action to ensure human rights, particularly when risks to these rights are foreseeable and involve access to basic necessities.

Before setting out the positive duties that can be integrated into adaptation obligations, Section II.A elaborates on vulnerability and how human rights law adds to and narrows the analysis in the thesis to a subset of those affected by climate impacts. Human rights law provides a means to put people and their rights at the centre of climate action. It affords concern for those who face the greatest risks from climate impacts. When combined with differentiation and the focus on developing countries in the climate change regime, it helps prioritize action and support for those most vulnerable to climate change in some of the most vulnerable places in the world.

The chapter next discusses the role mobility rights play in the thesis. Mobility as a human right—one that allows people to move freely—is both a premise that motivates the thesis and a right that underpins adaptive mobility. Section II.B identifies rights relevant to mobility, as well as their limitations. Access to these rights affects the experience of mobility and States must therefore account for these in any facilitated migration or planned relocation. Adaptive mobility measures can also address some of the gaps or limitations of mobility rights through advanced planning, access to internal mobility, and safe, legal pathways for

migration. Yet due in part to their current limitations, this thesis does not rely on these rights to establish the arguments in the thesis; other rights and their positive duties do the primary analytical work to compel and shape adaptive mobility and adaptive mobility measures.

Accordingly, the chapter focuses on these other rights. That human rights are both interdependent and indivisible is not disputed.[559] Nor is the relevance of rights not analysed in relation to adaptation obligations. Indeed, the process of integration is not only applicable to a few specific rights. However, the substantive rights that are the analysed in sections II.C and D—rights to life and to an adequate standard of living—are the focus because they are critical to survival and subsistence in the face of climate impacts. They also play a significant if not determinative role in a decision of whether people are able to stay or should move elsewhere. As this chapter argues, these rights prompt action in the face of foreseeable risks. Their integration incorporates the positive duties that flow from these rights, which results in the need to take measures to ensure a life with dignity and access to essential resources, including adequate food, water, housing, and health. Furthermore, this chapter suggests that it may be the cumulative effect of the risks to a number of these rights that necessitates protective measures. This will be illustrated in specific contexts in the next chapter, reintroducing the interdependence of rights.

Procedural rights are also analysed, as they are integral to the enjoyment of substantive rights and how adaptive mobility is undertaken. As section II.E sets out, the integration of procedural rights leads to positive duties by States to provide information, participation, and consultation to individuals affected by the impacts of climate change, particularly those in vulnerable situations who might otherwise be ignored in climate change decision-making. These rights should be provided throughout the process of adaptive

[559] See Daly and May (n 13) 175.

mobility, and are critical to adequate planning and preparation for such mobility. The argument for anticipatory action is further strengthened by an interpretation that includes the precautionary principle. Section II.F discusses how precaution applies to and can reinforce the integration of rights. Together, rights and precaution strengthen arguments for action in the face of foreseeable risk and sooner than when human rights law alone might indicate.

Finally, as the end of this chapter argues, States must in some situations request assistance when they cannot meet their core rights obligations. Likewise, developed States must provide cooperation and assistance to ensure provision of these essential resources and help States realize their economic, social, and cultural rights. These duties from human rights law can be integrated into adaptation obligations of assistance and cooperation to provide guidance on support for adaptation. As with adaptation measures, support is shaped by the principles of the regime, including those related to differentiation and precaution. The chapter closes by analysing integration of relevant human rights rules, with the forms of support that could satisfy obligations discussed in the next chapter.

II. Integrating relevant human rights into obligations to adapt

To provide guidance on adaptation measures, the integration of human rights into adaptation obligations focuses on the positive duties arising from rights obligations. Of particular relevance for adaptation are duties to address foreseeable risks, including those that put the right to life at risk.[560] Furthermore, for economic, social, and cultural rights—including the right to an adequate standard of living—States are obliged 'to ensure the satisfaction of, at

[560] See *Budayeva and Others v Russia* App nos 15339/02, 21166/02, 20058/02, 11673/02 and 15343/02 (ECtHR, 20 March 2008) (discussed below); John H Knox, 'Bringing Human Rights to Bear on Climate Change' (2019) 9 Climate L 171 (human rights bodies have clarified that States' rights obligations should extend to protection from foreseeable harm caused by environmental conditions, whether or not human rights are violated or the State is the cause). See also Burson, Kälin, McAdam and Weerasinghe (n 21) 384–88.

the very least, minimum essential levels of each of the rights'.[561] These positive duties are set out in detail below, as they comprise the content of the rights that are integrated into and shape obligations to adapt.

A couple of preliminary points are important before proceeding further. First, while the focus is on positive duties, there are several important implications of the negative aspects of rights obligations for adaptive mobility. For example, States must refrain from infringing on rights by not *inter alia* creating adaptation policies and mobility measures that discriminate or violate the rights.[562] Second, the rights analysed below are either customary law or widely accepted by most States, making them potentially applicable law for the purposes of systemic integration.[563] All States have ratified at least one international human rights treaty, and most have ratified some or all of the treaties that include the rights discussed in this chapter.[564] Thus, they apply broadly to those that are Parties to the UNFCCC and Paris Agreement.[565]

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[561] Committee on Economic, Social and Cultural Rights (CESCR), 'General Comment (GC) No 3: The Nature of States Parties' Obligations (Art. 2, Para. 1, of the Covenant)' (1990) E/1991/23 para 10.

[562] See UNHRC, 'Report of the Independent Expert on the on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, John H Knox: Mapping report' (30 December 2013) UN Doc A/HRC/25/53 para 67.

[563] See ch 3, II.B.2.c. Some scholars argue that all rights in the UDHR—including the rights analysed in the thesis—are customary international law binding on all States. See, e.g., Olivier De Schutter, *International Human Rights Law: Cases, Materials, Commentary* (3rd edn, CUP 2019) 59–68; Margaretha Wewerinke-Singh, 'State Responsibility for Human Rights Violations Associated with Climate Change' in *Routledge Handbook of Human Rights and Climate Governance* (n 427) 78; Hurst Hannum, 'The Status of the Universal Declaration of Human Rights in National and International Law' (2014) 25 Georgia J of Intl & Comparative L 287, 322–35 (discussing States and scholars who consider UDHR customary law).

[564] To date, 137 countries have ratified more than 10 international human rights treaties; at least 80 per cent have ratified four or more. See OHCHR, 'Status of Ratification' <http://indicators.ohchr.org/> accessed 2 March 2020; OHCHR, 'Human Rights Bodies' <https://www.ohchr.org/en/hrbodies/Pages/HumanRightsBodies.aspx> accessed 2 March 2020.

[565] These climate agreements enjoy wide participation. See nn 183, 193.

A. Vulnerability and the integration of human rights

As previous chapters establish, this thesis adopts a view of vulnerability that is concerned with those who are most at risk from the impacts of climate change. This stems from the combination of the climate change regime and human rights. The former affords a focus on the vulnerability of certain State Parties, and developing countries in particular, due to their geographic or economic risks from climate impacts. The latter introduces the human impact of climate change into the regime, and allows for a prioritization of those whose rights are most at risk by climate impacts. In this way, integration of human rights both adds to and narrows the scope of adaptation obligations, which provides a means to argue for the legal protection of some of those most vulnerable to climate change.

Within human rights law, positive duties are often tied to addressing vulnerabilities, as they affect the ability to effectively exercise human rights. In some jurisdictions, and in addition intrinsic vulnerability, this includes a concern for structural vulnerability or the obstacles a person faces in accessing rights due to their social or legal position (e.g. asylum seekers, those in State custody, domestic violence survivors).[566] This can link vulnerability to the situation of a person and their heightened exposure to risks to their rights, which accords

[566] The concept under the (European) Convention for the Protection of Human Rights and Fundamental Freedoms, as amended (adopted 4 November 1950, entered into force 3 September 1953) 213 UNTS 221, ETS 5 (ECHR) is interpreted in this way. See *Salman v Turkey* (2000) 34 EHRR 425 [99] (persons in custody are in a vulnerable position and States have a duty to protect them); *MSS v Belgium and Greece* App no 30696/09 (ECtHR, 11 January 2011) [235], [251], [259], [263] (applicant's vulnerability, in part 'inherent in his situation as an asylum-seeker', made him a member of particularly vulnerable group in need of special protection and contributed to finding a violation of ECHR). See also Moritz Baumgärtel, 'Facing the Challenge of Migratory Vulnerability in the European Court of Human Rights' (2020) 38 Netherlands Q of Human Rights 12 (arguing for concept of 'migratory vulnerability' under the ECHR, which is neither group-based or purely individual but instead results from social processes). However, concern for vulnerable groups is on the rise. See Lourdes Peroni and Alexandra Timmer, 'Vulnerable Groups: The Promise of an Emerging Concept in European Human Rights Convention Law' (2013) 11 Intl J of Constitutional L 1056. For more on structural vulnerability in international human rights generally, see Dorothy Estrada-Tanck, *Human Security and Human Rights under International Law: The Protections Offered to Persons Confronting Structural Vulnerability* (Hart Publishing 2016) ch 2.

with the perspective adopted in the thesis. It also does not preclude a focus on personal characteristics or group-based vulnerability that is recognised across the climate change regime and human rights law. For example, the UN Human Rights Council (UNHRC) and the Office of the United Nations High Commissioner for Human Rights (OHCHR) recognise that the negative impacts of climate change will disproportionately affect people who are in vulnerable situations due to their 'geography, poverty, gender, age, indigenous or minority status, national or social origin, birth or other status and disability'.[567] Vulnerability may also be tied to 'multiple and intersecting forms of discrimination, inequality and structural and societal dynamics' that lead to unequal access to and enjoyment of rights.[568] Human rights treaty bodies repeatedly state that particular attention must be given to vulnerable, disadvantaged or marginalized groups, including in participatory processes and providing essential goods and services.[569] The Paris Agreement preamble and article 7 both explicitly emphasise vulnerable persons; the former due to their situation—while at the same time identifying the rights of particular groups—and the latter specifying that vulnerable groups should be considered in adaptation and vulnerable people in the planning process.[570]

The concern for marginalised individuals and groups in human rights law sits in

[567] See UNHRC, 'Human Rights and Climate Change' (19 June 2017) UN Doc A/HRC/35/L.32 preamble; UNHRC (n 314) preamble; 'Cancun Agreements' (n 15) preamble; UNHRC, 'Analytical study on the impacts of climate change and the human right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Report of OHCHR' (6 May 2016) UN Doc A/HRC/32/23 paras 17, 23.

[568] UNHRC, 'Principles and Practical Guidance on the Protection of the Human Rights of Migrants in Vulnerable Situations, Report of the United Nations High Commissioner for Human Rights' (3 January 2018) UN Doc A/HRC/37/34 para 13.

[569] See, e.g., HRC, 'General Comment No 36: Article 6 (Right to Life)' (3 September 2019) UN Doc CCPR/C/GC/36 para 23; CESCR, 'General Comment No 14: The Right to the Highest Attainable Standard of Health (Art 12)' (11 August 2000) UN Doc E/C.12/2000/4 para 43; CESCR, 'General Comment No 15: The Right to Water (Arts 11 and 12 of the Covenant)' (20 January 2003) UN Doc E/C.12/2002/11 para 37.

[570] Paris Agreement preamble, art 7.5. See also nn 243, 244 and accompanying text (recognizing the mixed effect of hortatory to mandatory language in Article 7).

tension with the universality of rights it seeks to embody. Indeed, the emergence of treaties that target specific groups—women, children, disabled persons, and migrant workers[571]—evince international human rights law's concern with the rights of those deemed particularly vulnerable despite the fact that all people should be entitled to human rights.[572] There are also provisions that call for positive duties or special measures for vulnerable groups within human rights treaties.[573] More generally, that some experience greater risks to their rights—whether based on structural, personal, or intersectional causes—makes the principles of non-discrimination and equality an integral part to responses that address vulnerability.[574] These principles underlie States' obligations and individual's exercise of all rights under international human rights law.[575] As OHCHR posits, 'States are legally bound to address

[571] See, e.g., Convention on the Elimination of All Forms of Discrimination Against Women (adopted 18 December 1979, entered into force 3 September 1981) 1249 UNTS 13 (CEDAW); Convention on the Rights of the Child (adopted 20 November 1989, entered into force 2 September 1990) 1577 UNTS 3 (CRC); International Convention on the Protection of Rights of All Migrant Workers and Members of Their Families (adopted 18 December 1990, entered into force 1 July 2003) 2220 UNTS 3 (ICRMW); Convention on the Rights of Persons with Disabilities (adopted 13 December 2006, entered into force 3 May 2008) 2515 UNTS 3.

[572] For a deeper analysis of the tension between shared 'embodied vulnerability' as a basis for the universality of human rights, and its exclusion of those groups that are marginalized or most vulnerable, see Anna Grear, *Redirecting Human Rights: Facing the Challenge of Corporate Legal Humanity* (2010 edition, Palgrave Macmillan 2010) 96–113; discussed in Peroni and Timmer (n 566) 1061–62.

[573] See International Convention on the Elimination of All Forms of Racial Discrimination (adopted 7 March 1966, entered into force 4 January 1969) 660 UNTS 195 (ICERD) arts 1(4), 2(2); CEDAW art 4. See also UNCHR, 'Limburg Principles on the Implementation of the ICESCR' (8 January 1987) UN Doc E/CN.4/1987/17, Annex para 39. These describe such special measures to advance the rights of certain groups as non-discrimination.

[574] Intersectionality refers to the experience of discrimination due to the combination of multiple aspects of identity—for example, race and gender. See, e.g., Kimberlé Williams Crenshaw, 'Mapping the Margins: Intersectionality, Identity Politics, and Violence Against Women of Color' in Martha Fineman and Rixanne Mykitiuk (eds), *The Public Nature of Private Violence* (Routledge 1994). See also McInerney-Lankford (n 87) 143–44 (invoking intersectionality to argue about the importance of rights, equality, and non-discrimination to provide protection for climate migrants).

[575] ICCPR preamble, arts 2, 10; I International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3 (ICESCR) preamble, arts 2.2, 3.

such vulnerabilities in accordance with the principle of equality and non-discrimination.'[576] This both supports and mandates State action to address the risks to those most vulnerable to climate change, who also are often already marginalised; in balancing rights without discrimination, these are the individuals who are likely to have the greatest risks to their human rights.[577]

For adaptation obligations, non-discrimination translates into a bar on State measures that discriminate. However, this does not mean that these measures cannot be directed at or benefit certain groups or individuals. Substantive equality requires not only that a State refrain from treating individuals differently who are in similar situations, but that it may also need to treat differently those whose situations make accessing rights difficult.[578] In practice, the need to account for differential circumstances could mean, for example, that when considering the feasibility or costs of planned relocation, the burden should not be disproportionately borne by those most vulnerable or already marginalised. The need to address these vulnerabilities from the outset is essential, in part because many of those likely to be relocated due to climate change have faced 'systemic impoverishment and injustice' while contributing little to its causes.[579]

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[576] UNHRC, 'Report of the OHCHR on the relationship between climate change and human rights' (15 January 2009) UN Doc A/HRC/10/61 para 42.

[577] See, e.g., ibid para 42; Duyck (n 542) 207 (human rights framework focuses attention on most vulnerable individuals and groups requiring adaptation); Hall and Weiss (n 40) 334; Bridget Lewis, 'Balancing Human Rights in Climate Policies' in *Climate Change and Human Rights* (n 112) 46–47. Guidance on adaptation planning within the regime also call for 'particular consideration of marginalized groups'. LEG (n 168) 16–17.

[578] See HRC, 'General Comment No 18: Non-discrimination (10 November 1989) UN Doc HRI/GEN/1/Rev.1 26 (1994) para 10.

[579] Julie Koppel Maldonado and others, 'The Impact of Climate Change on Tribal Communities in the US: Displacement, Relocation, and Human Rights' [2013] Climate Change 601, 602. See also Sébastien Jodoin, Kathryn Hansen and Kaylee Hong, 'Displacement Due to Responses to Climate Change: The Role of a Rights-Based Approach' in *Research Handbook on Climate Change, Migration and the Law* (n 33) 226.

Critically for the analysis, those most vulnerable to climate impacts often happen to be members of vulnerable groups. The overlap is drawn out further in the illustrations in the next chapter, and by the socio-economic conditions that contribute to such vulnerability during times of environmental constraint. Women in vulnerable situations, for example, face greater difficulty accessing resources and entitlements needed to realize rights, which can result in more harm during times of environmental stress and the mobility that follows.[580] Such inequality in the face of disasters leads to higher mortality rates and greater difficulty accessing health care.[581] More broadly, women do not have land rights in many developing countries even though they account for over 40 per cent of the agricultural work force.[582] Overlapping experiences of poverty, lack of control over land and resources, and marginalization in decision-making can exacerbate risks and worsen challenges for women,[583] as can intersecting vulnerabilities for women with disabilities, older women, and girls. Consequently, these women are often less able to adapt; may in some instances be unable to migrate out of poor conditions; or if they move are more susceptible to gender-based violence, increased likelihood of being trafficked, and precarious conditions in transit.[584] Women are also currently underrepresented in climate negotiations and too often viewed as victims, with discrimination reinforced through adaptation policies and projects.[585]

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[580] UNHRC, 'Analytical Study on Gender-Responsive Climate Action for the Full and Effective Enjoyment of the Rights of Women' (1 May 2019) UN Doc A/HRC/41/26 paras 23-24.

[581] See UNHRC, 'Study–Climate Change and Right to Health' (n 567) para 17.

[582] See IPCC, 'Climate Change and Land' (n 41) 7.67.

[583] OHCHR, 'Discussion Paper: The Rights of Those Disproportionately Impacted by Climate Change' (2016) 2.

[584] See Committee on the Elimination of Discrimination against Women, 'General recommendation No 37 (2018) on the gender-related dimensions of disaster risk reduction in the context of climate change' (18 March 2018) UN Doc CEDAW/C/GC/37 paras 5, 75; Sabira Coelho, 'The Climate Change–Human Trafficking Nexus' (IOM 2017); Rigaud and others (n 23) 36.

[585] See Klepp and Chavez-Rodriguez (n 42) 20.

Accounting for differential vulnerability in adaptation measures, and focusing on the determinants of such vulnerability, can improve access to the resources needed to enjoy human rights. It is also consistent with the Paris Agreement's call for a gender-responsive approach to adaptation.[586]

Children are also disproportionately affected by environmental degradation due to their physiology and developmental needs. A lack of adequate food and water can have harmful consequences, including serious nutritional deficits. The stress from changing physical and social environments is known to have significant impacts on children's physical and mental health.[587] Such stress can occur during or after migration, when children are at greater risk of abuse and exploitation. Climate change is expected to increase the main causes of illness and death in children, which includes malnutrition, malaria, and diarrhoea. In addition, its impacts can disrupt access to medical services and education. This is the case for children on the move in the context of climate change, who face difficulties accessing basic services and education.[588]

In general, and as discussed in chapter 1, vulnerable persons are likely to have less adaptive capacity, which affects a person's ability and freedom to move, as well as their experience of mobility. As will be illustrated in the next chapter, vulnerability to climate impacts makes adaptive mobility critical to the protection of human rights, to efforts aimed at

[586] See Paris Agreement art 7.5; Klepp and Chavez-Rodriguez (n 42) 20–21.

[587] See UNHRC, 'Analytical study on the relationship between climate change and the full and effective enjoyment of the rights of the child, Report of OHCHR' (4 May 2017) UN Doc A/HRC/35/13 para 4; UNHRC, 'Study–Climate Change and Right to Health' (n 567) para 26.

[588] See UNHRC, 'Study–Climate Change and Rights of the Child' (n 587) paras 10, 39-40. Under international human rights law, children are entitled to access to education and should be educated about the environmental issues impacting their lives. See n 797; UNGA Res 70/1 (25 September 2015) (Transforming our world: The 2030 Agenda for Sustainable Development) UN Doc A/RES/70/1 paras 25, 51.

avoiding displacement, and to improving outcomes for those who move. The inclusion of those most vulnerable, through participation and in planning for and implementing adaptation, is necessary to truly address the risks to rights climate change poses.[589] Thus, the integrated focus on vulnerability allows for a prioritization of those whose rights are put at greatest risk from the impacts of climate change, in particularly vulnerable locations. Often, but not always, this focus overlaps with persons already in vulnerable situations, whether by virtue of their identity and/or structural or social barriers. It is also important to bear in mind that those most vulnerable are not inherently victims; they can also be agents of change and 'essential partners in…efforts to tackle climate change.'[590]

B. Mobility rights

The right to move, safely and with a degree of freedom and choice, is both an underlying premise that motivates the analysis of this thesis and a right that underpins the kind of anticipatory, proactive adaptive mobility it advocates. Human rights instruments enshrine specific rights that are relevant for people on the move. For movement within a country, the rights to liberty of movement and freedom to choose one's residence provide an internal right of mobility.[591] For international mobility, everyone has a right to leave any country, including his or her own. This provides a legal means to exit a country. Migrants also have a right to return to their country, subject to restrictions that are not arbitrary.[592]

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[589] Ignoring vulnerabilities risks privileging the status quo and reinforcing neoliberal concepts that individuals—including migrants—control their situations irrespective of the barriers they face. See, e.g., Bettini and Gioli (n 31).

[590] OHCHR, 'Five UN Human Rights Treaty Bodies Issue a Joint Statement on Human Rights and Climate Change.' (16 September 2019) <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998> accessed 20 September 2019.

[591] ICCPR art 12(1). See also CEDAW art 15(4); ICERD art 5(d)(i); ICRMW art 39(1).

[592] ICCPR art 12(2), 12(4). See also CRC art 10(3); ICERD art 5(d)(ii); ICRMW art 8; CESCR, HRC, 'General Comment No 27: Article 12 (Freedom of Movement)' (2 November 1999) UN Doc

In addition to serving as a foundational premise, there are several roles these mobility rights play in the thesis. First, their status as rights is taken as a given; thus, States facilitating adaptive mobility based in human rights must ensure access to these rights throughout the process of mobility. The right to choose one's residence also protects against forced internal displacement.[593] Next, they have limitations, which must be recognised but can largely be addressed through adaptive mobility measures of planning, facilitated internal mobility, and legal pathways to migration as argued for in the thesis. Finally, due to their limitations, the current barriers to international mobility, and the underdevelopment of positive duties, these rights are not the primary means used in the thesis to compel and shape adaptation obligations that result in adaptive mobility. However, they have corresponding duties that must be integrated when relevant.

On this last point, relevant duties include those that require respect for mobility rights and positive action when individuals cannot access these rights. In the interpretation and application of adaptation obligations, this means that States must not violate the rights of those who wish to move. If people want to move from vulnerable locations, States cannot inhibit their movement or choice of residence. Beyond the negative aspects of rights, there are certain circumstances when States must actively ensure them. For example, as argued below, through the integration of the rights to life and to an adequate standard of living, States must act to ensure access to these rights or their core components when they are put at risk by climate change. Accordingly, it follows that if a person is rendered immobile due to a risk to these rights, or a State is unable to provide access to them, then it must enable people to move to places where rights can continue to be ensured. This brings in risks from the rights

CCPR/C/21/Rev.1/Add.9 para 21 (on arbitrariness, there are few, if any, circumstances where it is reasonable to limit the right).

[593] See GC 27 (n 592) para 7.

analysed below, and the positive obligations associated with them, and connects them to mobility rights to facilitate adaptive mobility. In addition, and in line with the precautionary principle as discussed in section II.F, the prospect that climate impacts will put rights at risk, including mobility rights, mean that positive obligations are prompted earlier: States have an obligation to take the precautionary steps to plan for potential immobility, and to put in place avenues to either stay or move so that rights are not violated. Indeed, studies of mobility indicate that the incorporation of longer-term time horizons or foresight in adaptation planning—rather than reliance on short-term coping strategies alone—produces better results for those using mobility as an adaptive strategy.[594]

There are, however, limitations to mobility rights. Both the right to liberty of movement and choice of residence are reserved for those who are lawfully present within a State.[595] This mainly presents an obstacle for foreigners not lawfully within a State. Yet there are exceptions to this qualification; the Human Rights Committee (HRC) has, for example, recognized that a foreigner may enjoy the protection of the ICCPR in relation to entry or residence when considerations of non-discrimination, prohibition of inhuman treatment and respect for family life arise.[596] Most mobility rights can also be limited if 'necessary to protect national security, public order, public health or morals or the rights and freedoms of others'.[597] This could justify forced movement or evacuation when it is necessary to protect

[594] See Warner and Afifi (n 38) 320–21.

[595] ICCPR arts 12(1).

[596] HRC, 'General Comment No 15: The Position of Aliens Under the Covenant' (11 April 1986) UN Doc HRI/GEN/1/Rev.1 18 (1994) para 5.

[597] The right to leave one's own country and the rights to liberty of movement and choice of residence are subject to these limitations. ICCPR art 12(3). Additionally, the HRC has explained that restrictions must also be proportionate, appropriate to achieve their protective function, and the least intrusive means. GC 27 (n 592) para 14.

people's lives, health, or safety.[598] However, if adaptive mobility is undertaken in the manner set out by the arguments in the thesis, then it should occur before situations arise that would warrant limitations to these rights, and in advance of the kind of public emergency that allows for derogation from rights obligations.[599] Adaptive mobility—and its requisite planning for movement before displacement or so-called crises migration occurs—also provides the benefit of lawful mobility, thereby extending the rights related to internal mobility to those in a new State. It addresses or avoids the lack of a general right to enter another State, which has enabled the proliferation of barriers to international movement.[600] Lawful presence further protects against expulsion, providing a measure of security that affects access to livelihood opportunities and other rights.[601]

Despite their importance, the positive duties associated with mobility rights, and the right to leave in particular, are generally underexplored.[602] This is compounded by the barriers to entry into other States, and a focus on restricting or regulating people leaving their own country.[603] Such obstacles have been seen as downgrading or altering the significance of

[598] For situations where such forced movement is permissible and guidance on how it should be undertaken, see CESCR, 'General Comment No 7: The right to adequate housing (Art 11.1): forced evictions' (20 May 1997) UN Doc E/1998/22 paras 3, 13-16; 'Guiding Principles' (n 124) principles 6(d), 7-8; IASC, 'IASC Operational Guidelines on the Protection of Persons in Situation of Natural Disasters' (The Brookings–Bern Project on Internal Displacement 2011) A.1; Camp Coordination and Camp Management Cluster, 'The MEND Guide' (2015) Pilot Document 30–33; ILA, 'Sydney Declaration of Principles on the Protection of Persons Displaced in the Context of Sea-Level Rise' (2018) Resolution 6/2018 principle 5; discussed further in Burson, Kälin, McAdam and Weerasinghe (n 21) 393–98, 401.

[599] Derogation is only permissible under the ICCPR when a public emergency 'threatens the life of the nation'. ICCPR art 4. See n 21(for citations, discussion of derogation, and its limitations).

[600] See n 22. For implications of the lack of such a right and limitations on freedom of movement see, e.g., Satvinder S Juss, 'Free Movement and the World Order' (2004) 16 Intl J of Refugee L 289, 294.

[601] See ICCPR arts 12, 13.

[602] The HRC's GC on freedom of movement focuses on the negative aspects—freedom from interference—of the right. See GC 27 (n 592).

[603] The HRC has examined the right to leave in more detail, though generally focused on whether States can prevent their nationals from leaving. Discussed further in Colin Harvey and Robert P

free movement;[604] questions about and calls for a new or better way to manage international mobility given this reality have a long history.[605] Moreover, while some migrants may trigger *non-refoulement* protections, as discussed in chapter one, this does not provide a holistic solution: relief is typically granted on an individual basis after movement, and it would not cover the proactive mobility needed to adapt. Again, however, one of the advantages of adaptive mobility is that it aims to avoid retroactive status determination through advanced action, planning, and infrastructure to support anticipatory and proactive mobility.

For internal mobility, these rights have implications for how adaptive mobility occurs. Rights to freedom of movement involve an element of choice and thus, the active participation of those moving. This underscores the importance of procedural rights, discussed in section II.E below. Furthermore, States have a related obligation to protect against arbitrary displacement derived from various human rights and international law sources.[606] The obligation can also translate into positive duties to prevent foreseeable displacement and address vulnerabilities that could lead to such displacement, as discussed below and in the next chapter.[607] Likewise, the need to act sooner in undertaking adaptive

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Barnidge Jr, 'Human Rights, Free Movement, and the Right to Leave in International Law' (2007) 19 International J of Refugee L 1. For more on the history of restrictions on the right see Jane McAdam, 'An Intellectual History of Freedom of Movement in International Law: The Right to Leave as a Personal Liberty' (2011) 12 Melbourne J of Intl L 27.

[604] See Harvey and Barnidge (n 603) 3.

[605] See, e.g., Ramji-Nogales (n 96); Alexander Betts, *Survival Migration: Failed Governance and the Crisis of Displacement* (Cornell University Press 2013); Martin, Weerasinghe and Taylor (n 96).

[606] The prohibition against arbitrary displacement is express in IHL and is implicit in international human rights law, derived from rights related to freedom of movement, choice of residence, freedom from arbitrary interference with one's home, and adequate housing. See ICCPR arts 12(1), 17; ICESCR art 11(1); Kälin and Künzli (n 132) 540–41. It is also included in the Kampala Convention and the Guiding Principles on Internal Displacement. See 'Guiding Principles' (n 124) principle 6; Kampala Convention arts 3(1), 4(1), 4(4).

[607] See 'Guiding Principles' (n 124) principles 7-8. See also Brookings Institution and University of Bern (n 132) 43.

mobility can lead to measures that adequately plan for instances when displacement may be unavoidable, particularly for sudden onset events.[608]

Finally, there is a collective element to mobility rights as integrated into adaptation obligations. As discussed below, developed States have obligations to assist and cooperate in adaptive mobility. This distributes the burden of movement, particularly across borders, through the assistance of developed States. Forms such assistance may take include financial and technical support, cooperation on planned relocation, and/or admittance and stay in another State, as further illustrated in chapter 5.

C. Right to life

Human rights instruments protect the right to life.[609] The right is also a part of customary international law and the majority of legal scholarship considers it to be *jus cogens* or a peremptory norm.[610] As the HRC explained, it is 'the supreme right from which no derogation is permitted' even in situations of 'public emergencies which threatens the life of the nation'.[611] The right should not be narrowly interpreted and requires States to take positive action to ensure its protection from reasonably foreseeable threats.[612] Positive

[608] For guidance on such displacement see 'Guiding Principles' (n 124).

[609] See UDHR (adopted 10 December 1948) UNGA Res 217 A(III) art 3; ICCPR art 6; CRC art 6.

[610] See, e.g., BG Ramcharan, 'The Right to Life' (1983) 30 Netherlands Intl L Rev 297; BG Ramcharan, 'The Concept and Dimensions of the Right to Life' in BG Ramcharan (ed), *The Right to Life in International Law* (Martinus Nijhoff 1985) 28; Niels Petersen, 'Life, Right to, International Protection', MPEPIL (2012). For further debate see W Paul Gormley, 'The Right to Life and the Rule of Non-Derogability: Peremptory Norms of *Jus Cogens*' in *The Right to Life in International Law* (above).

[611] GC 36 (n 569) para 2; citing HRC, 'General Comment No 6: Article 6 (Right to Life)' (30 April 1982) UN Doc HRI/GEN/1/Rev.1 6 (1994) para 1 (replaced by GC 36); ICCPR art 4.2 (no derogation from the right).

[612] GC 36 (n 569) paras 3-4, 6-7, 18, 21, 26. See OHCHR Report (n 576) para 21; *Portillo Cáceres and Others v Paraguay* 'Views Adopted by the Committee under Article 5 (4) of the Optional Protocol, Concerning Communication No 2751/2016' (HRC 20 September 2019) UN Doc CCPR/C/126/D/2751/2016 (discussed below); *Teitiota* (HRC) (n 119) (discussed below).

obligations arise from both the general requirement that States 'respect and ensure' rights and the specific requirement that the right to life 'shall be protected by law.'[613]

Climate change poses a risk to all 'material aspects of life and livelihood.'[614] It can constrain access to resources and basic necessities. At the most extreme, such constraints pose a threat to human life and can arise from *inter alia* rising sea levels, prolonged drought and desertification, and flooding that could subsume low-lying areas.[615] Conservative estimates from the World Health Organization (WHO) predict 250,000 additional deaths annually from 2030 to 2050 as a result of climate change.[616] Because of its customary or *jus cogens* status, the right when relevant must be integrated into the adaptation obligations of all Parties bound by climate agreements.[617] And its broad relevance is increasingly clear. As the HRC recognized in General Comment 36—its most recent on the right—climate change constitutes one of 'the most pressing and serious threats to the ability of present and future generations to enjoy the right to life.' It advised States to look to their obligations under international environmental law to inform the content of the right and conversely, for the right to inform international environmental law obligations—much as this thesis looks to human rights to inform the content of climate change obligations—and noted the need to 'pay due regard to the precautionary approach.'[618]

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[613] ICCPR arts 2.1, 6.1. See GC 36 (n 569) para 4; HRC, 'General Comment No 31: The Nature of the General Legal Obligation Imposed on States Parties to the Covenant' (26 May 2004) UN Doc CCPR/C/21/Rev.1/Add.13 para 8.

[614] Adger and others (n 27) 761.

[615] See, e.g., IPCC, 'Summary for Policymakers' (n 38) 13.

[616] UNEP, 'Healthy Environment, Healthy People' (2016) Thematic report, Ministerial policy review session 7. Based on medium-high emissions scenario.

[617] See ch 3, II.B.2.(b).

[618] GC 36 (n 569) para 62.

Indeed, the incorporation of a precautionary approach, read alongside the integration of human rights into adaptation obligations, is central to the argument in the thesis that this process can transform obligations and shift the scope of positive duties to broaden their application.[619] This shift is necessary, as when positive obligations must be undertaken under human rights law is not always clearly specified or tends to be clarified after a violation occurs.[620] Furthermore, for the right to life, there is precedent that indicates that positive duties are limited to situations where the threat to life is considered imminent. However, as argued below, the understanding of the immediacy of the risk required to trigger action is developing. Likewise, while human rights law has been criticised as not adequately incorporating or accounting for pre-emptive approaches or movement,[621] this thesis seeks to remedy or question these conclusions. Through the *ex ante* analysis of risk and use of human rights, as interpretive tools and to shape measures to adapt to climate change, it demonstrates both the potential and value of an approach to mobility that requires long-term planning and action in the face of foreseeable harm.

The need for immediate or actual risk to the right to life has been used as a requirement for standing before the HRC. While decisions of the HRC are not legally binding, they influence the reasoning of other courts that have binding authority, and it is expected States will adhere to their guidance.[622] In order to bring an individual complaint

[619] Argued II.F, below.

[620] Human rights violations are generally established after harm has occurred. See OHCHR Report (n 576) para 70.

[621] See, e.g., Mariya Gromilova, 'Revisiting Planned Relocation as a Climate Change Adaptation Strategy: The Added Value of a Human Rights-Based Approach' (2014) 10 Utrecht L Rev 90; McAdam, 'Complementary Protection Standards' (n 104) 50.

[622] See, e.g., Paul M Taylor, *A Commentary on the International Covenant on Civil and Political Rights: The UN Human Rights Committee's Monitoring of ICCPR Rights* (CUP 2020) 8–10; Ginevra Le Moli, 'The Human Rights Committee, Environmental Protection and the Right to Life' (2020) 69 IICLQ 735, 737 (citing ICJ and regional cases referring to HRC decisions).

before the HRC a person 'must show either that an act or State party has already adversely affected his or her enjoyment of such a right, or that such effect is imminent.'[623] This standard was recently mentioned in a decision related to climate change: in determining that the applicant—Ioane Teitiota—and his family had not established a violation of their right to life stemming from their removal back to Kiribati, the HRC reiterated admissibility still considers imminence.[624] It also noted that the Tribunal ordering his removal did not find the risk to life sufficiently imminent, which applied this standard to the substantive claims.[625] Yet the HRC decision is more nuanced on the issue of imminence, and indicates that other standards are involved in assessing the risk to life under the ICCPR. On the issue of admissibility, it did not apply imminence to the right to life, instead opining that it was the imminence of deportation that influenced whether a claim could be brought, whereas the imminence of harm would affect the assessment of risk on the merits.[626] Upon discussing the merits, however, the HRC did not raise imminence again. Instead, it emphasised that States' obligations to ensure the right 'extends to reasonably foreseeable threats' that might result in the loss of life. It also cited General Comment 36, looking to the elements of a life with dignity in particular and recalling the Comment's recognition of the pressing threat climate change poses.[627] In finding no irreparable harm or real risk to the right, the HRC focused on whether there was 'a

[623] *Aalbersberg et al v. the Netherlands* Communication No 1440/2005 (HRC 12 July 2006) UN Doc CCPR/C/87/D/1440/2005 para 6.3. States must be party to the Optional Protocol to the ICCPR (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 302, to bring an individual complaint against them.

[624] *Teitiota* (HRC) (n 119) [8.4].

[625] See ibid [9.6].

[626] ibid [8.5].

[627] ibid [9.4]; citing GC 36 (n 569) 36.

reasonably foreseeable threat' of a health risk, exposure to indigence, deprivation of food, or extreme precarity that would impair the enjoyment of a life with dignity.[628]

Imminence has also been applied in regional case law, although it may not always be the imminence of the risk to the right that determines the outcome. For example, the European Court of Human Rights (ECtHR) determined that it was the imminence of the natural hazard that threatened life and not the imminence of the risk to the right that prompted positive action, particularly where such a hazard is 'clearly identifiable' and 'where it concerned a recurring calamity affecting a distinct area developed for human habitation or use'.[629] In the context *non-refoulement* and refugee law, the use of an imminence standard by courts to determine whether international protection is warranted has been criticised as unjustified and inappropriately limiting. Much like the thesis, this critique suggests that it is the risk of harm rather than its immediacy that should govern such decisions.[630] Here, the emphasis is on the foreseeability of the risk, which does not require certainty and can pose a threat over longer-terms.[631]

There is also a growing body of decisions and guidance that bolsters the need to act to prevent foreseeable risks—including from underlying or environmental conditions that cause such risks—which moves away from a focus on imminence alone. Human rights institutions and judicial bodies generally delineate positive obligations that are broad and unspecific,

[628] *Teitiota* (HRC) (n 119) [9.6]–[9.8].

[629] *Budayeva* (n 560) [137]. See also *Urgenda* (Supreme Court) (n 197) [5.2.1]–[5.5.3] (referring to imminence both for to the impending threat of climate change and risk it poses to rights); McAdam, 'Complementary Protection Standards' (n 104) 51 (ECtHR has insisted on imminence of the threat).

[630] See Anderson, Foster, Lambert and McAdam (n 104).

[631] See n 659 and accompanying text, below.

leaving a margin of appreciation for States to determine appropriate action.[632] Their guidance, however, helps set out the contours and content of human rights. Thus, they can inform the content of adaptation obligations—or the actions that must be taken to satisfy legal commitments under the climate change regime. For example, in addition to the *Teitiota* case, in a complaint brought against Paraguay, the HRC found that the failure to act and protect against foreseeable threats to life from environmental harm or degradation violates the right to life. Thus, States have an obligation to protect against such harm *before* it occurs. Accordingly, the risk from harm need not actually result in the loss of life for a violation to occur. The decision made no mention of imminence, instead focusing on whether a threat to life was reasonably foreseeable. It clarified that the right cannot be narrowly interpreted and cited General Comment 36, which found a duty to take measures to address the general conditions in society that threaten life or prevent the enjoyment of 'a life with dignity'.[633]

General Comment 36 is instructive. Imminence is not used to describe a violation of the right. Instead, the HRC interpretation repeatedly emphasises that the obligation to ensure the right extends to reasonably foreseeable threats.[634] The focus on foreseeability differs from the previous general comment it replaces, which does not elaborate on the right in this manner.[635] This supports the potential shift towards a different standard—one that aligns better with precaution and pre-emptive action as advocated for in the thesis. The Comment also explicitly includes 'degradation of the environment' in its list of conditions giving rise to

[632] Given the stakes of climate change, judicial decisions may be increasingly 'levelling-up positive obligations.' Ingrid Leijten, 'Human Rights v. Insufficient Climate Action: The Urgenda Case' (2019) 37 Netherlands Q of Human Rights 112, 118.

[633] See *Portillo Cáceres* (n 612) [7.3]–[7.5] (violation of right to life from large-scale agrochemical fumigation that contaminated rivers and drinking water); GC 36 (n 569).

[634] See GC 36 (n 569) paras 7, 18, 21-22.

[635] See GC 6 (n 611).

a duty and highlights means to address these conditions through *inter alia* 'measures designed to ensure access without delay by individuals to essential goods and services such as food, water, shelter, health-care, electricity, and sanitation'.[636] It makes clear that measures must be taken both to address the direct threat from environmental degradation, including climate change, as well as those threats it enables.[637]

The Comment and HRC's recent cases are significant in their contribution to the development of the right to life.[638] They expand the scope of positive duties associated with the right, in part through its interrelationship with a life with dignity, to include the need to address general conditions that give rise to threats to life and a life with dignity. Measures to address these threats—arising from climate change or otherwise—include those that ensure access to the right. These duties are typically associated with certain economic, social, and cultural rights, as discussed below. This links the right to life with subsistence rights, and the right an adequate standard of living in particular.[639] Such a link accords with the nature of the right to life, which serves as a prerequisite for enjoyment of other human rights.[640] Together,

[636] GC 36 (n 569) para 26.

[637] See ibid paras 26, 62; Le Moli (n 622) 745. For more on its drafting history, including reference to climate change, see ibid 740–45.

[638] Development is ongoing; a pending case against Australia may shed more light. See 'Climate Threatened Torres Strait Islanders Bring Human Rights Claim against Australia' (*ClientEarth*) <https://www.clientearth.org/press/climate-threatened-torres-strait-islanders-bring-human-rights-claim-against-australia/> accessed 6 April 2020 (petition not publicly available).

[639] See ICCPR art 1(2). Arguments that aspects of subsistence rights are components of the right to life predate the GC 36. See Committee on the Rights of the Child, 'General Comment No 7 (2005): Implementing Child Rights in Early Childhood' (20 September 2006) UN Doc CRC/C/GC/7/Rev.1 para 10 (implementation of right requires enforcement of *inter alia* right to an adequate standard of living); McAdam, 'Complementary Protection Standards' (n 104) 19; F Menghistu, 'The Satisfaction of Survival Requirements' in *The Right to Life in International Law* (n 610) (decent standard of living more than minimum needs).

[640] GC 36 (n 569) para 2.

and as further argued below, these rights and associated positive duties can be used in interpreting adaptation obligations.

The *Teitiota* case also has several implications that establish both the current limits for relying solely on a claim based on the right to life and the potential for adaptive mobility. The HRC declared that absent 'robust national and international efforts' the effects of climate change will expose individuals to a violation of the right. If this happens, then the *non-refoulement* obligations of other States would be triggered. However, the focus on the timing of serious harm is problematic; even accepting sea level rise will render States like Kiribati uninhabitable, the HRC found such a risk is currently too remote to find a violation of the right as intervening acts by affected States could allow for measures to protect life, including via planned relocation. This appears to preclude international protection until the threat climate change poses is immediate, rather than 'reasonably foreseeable' as the decision proclaims. Yet the *Teitiota* case is distinctive in several ways. First, it is focused on whether removal was appropriate and when *non-refoulement* obligations ensue. The latter tends to require an active, imminent, or foreseeable deprivation of rights;[641] adaptive mobility seeks to prevent rights violations and is not contingent on the immediacy of harm. Instead, it looks to the foreseeability of the risk and its likelihood, not when it will occur. And this likelihood is itself mitigated by the precautionary principle and does not equate with certainty. Yet foreseeability is more than mere speculation and requires that a State is or should be aware of the risk, by exercising due diligence through *inter alia* risk and impact assessments.[642] As

[641] See Michelle Foster, 'Non-Refoulement on the Basis of Socio-Economic Deprivation: The Scope of Complementary Protection in International Human Rights Law' (2009) 2009 New Zealand L Rev 257, 281; McAdam, 'Complementary Protection Standards' (n 104) 35; Anderson, Foster, Lambert and McAdam (n 104) 120–24.

[642] See Kristian Cedervall Lauta and Jens Elo Rytter, 'A Landslide on a Mudslide? Natural Hazards and the Right to Life under the European Convention on Human Rights' (2016) 7 J of Human Rights and the Environment 111, 117; Burson, Kälin, McAdam and Weerasinghe (n 21) 385 (protection

chapter 1 discusses globally, and the next chapter will for more localized impacts, risks from climate impacts are foreseeable and likely.[643] Furthermore, the intervening acts that the HRC includes as 'adaptive measures' were viewed as a means to mitigate the risk to the right to life.[644] Accordingly, these acts inform adaptation obligations; they provide a broad example of the positive actions—including mobility—States can take to mitigate the increasingly foreseeable risks to the right to life before they arise.

Regional case law provides further guidance on what States can do to meet their positive obligations. In the face of environmental risk, the right to life has been found to create a duty to *inter alia* regulate environmental risks, enforce environmental laws, and disclose information about risks and the environment.[645] These cases also make clear that the right not only applies to specific individuals, but also to the need to take positive, proactive steps to protect communities or society as a whole.[646] In *Budayeva and Others v Russia*, for example, the ECtHR found that Russia had violated the right to life in its handling of a deadly mudslide. The government was aware that there was a risk of such a mudslide before

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obligation arises from actual or imminent danger from a hazard that is known or foreseeable); Kälin and Künzli (n 132) 88, 102. For more on assessments and procedural rights, see II.E, below.

[643] See also Anderson, Foster, Lambert and McAdam (n 104) 133–34 (IPCC can inform analysis of likelihood of risks affecting mobility).

[644] See *Teitiota* (HRC) (n 119) [9.11]–[9.12].

[645] See *Budayeva* (n 560) [128]–[138]; *Öneryildiz v Turkey* (2005) 41 EHRR 20 [89]–[90] (State duty to take positive action to safeguard life, emphasizing public's right to information); *Case of the 'Street Children' (Villagrán-Morales et al) v Guatemala* (Merits) IACtHR Series C No 63 (19 November 1999) [144]; *Social and Economic Rights Action Center (SERAC) and the Center for Economic and Social Rights v Nigeria* Communication No 155/96 (27 October 2001) [67]. See also Kälin (n 21) 135–39; Boyle, 'Human Rights and the Environment' (n 429) 204; Burson, Kälin, McAdam and Weerasinghe (n 21) 387–88 (listing concrete measures to protect the right in the context of disasters). In general, States must take 'legislative, judicial, administrative, educative and other appropriate measures in order to fulfil their legal obligations' under the ICCPR. GC 31 (n 613) para 7.

[646] See, e.g., *Gorovenky and Bugara v Ukraine* App nos 36146/05 and 42418/05 (ECtHR, 12 January 2012) [32]. See also *Urgenda* (Supreme Court) (n 197) [5.3.1]; discussed further in Laurens Lavrysen, *Human Rights in a Positive State: Rethinking the Relationship between Positive and Negative Obligations under the European Convention on Human Rights* (Intersentia 2016) 85–87.

it occurred, and it did not implement sufficient planning or inform the public about the risk, even after the mudslide had begun.[647] This case has parallels to climate change: the Russian government was not responsible for the mudslide; similarly, many developing countries—including those provided as examples (Bangladesh, Pacific Island States, and countries in the Sahel)—are not responsible for the climate impacts that contribute to risks to human rights. However, State governments remain responsible for taking steps to safeguard the right to life. States' discretion to select measures to protect the right has limits, and taking *no* action is insufficient.[648] Substantive and procedural duties mean at a minimum, the State must put into place legislative and administrative frameworks to deter against threats to life.[649] Consequently, the right creates positive obligations for States 'to take appropriate steps to safeguard the lives of those within their jurisdiction'.[650] What is appropriate can be shaped by adaptation obligations, and in a particular context. This accords with *Budayeva*, where the court underscored that the scope of positive obligations depends on the origin of threat and extent to which risks can be mitigated.[651]

Likewise, there is an emphasis on the precautionary principle in regional cases analysing environmental harm. The Inter-American Court of Human Rights (IACtHR) looked to the right to life in an advisory opinion to Colombia. It found that in order to respect and ensure the rights to life and personal integrity, a State must take preventative action and mitigate environmental damage in accordance with the principle. It must protect rights where 'plausible indications' point to 'severe and irreversible damage to the environment'

[647] *Budayeva* (n 560).

[648] ibid [156].

[649] ibid [129], [131].

[650] *Cyprus v Turkey* (2001) 35 EHRR 30 [219].

[651] *Budayeva* (n 560) [137].

irrespective of scientific certainty.[652] Like the HRC and other regional law, the IACtHR explicitly linked positive obligations associated with the right to the accessibility and quality of water, food, and health. It also linked procedural rights, discussed below, to the realization of the right and called for States to act with due diligence to prevent harm—both tied to precaution and as an independent obligation.[653]

Domestic courts have made similar findings in several cases considering the risks created by climate change.[654] For example, the *Urgenda* case is the first successful suit brought by citizens to hold their government accountable for not doing enough to address climate change. It was also the first to successfully invoke human rights obligations and the precautionary principle for climate impacts: the District Court looked to the interpretation of right to life in the ECHR and found the principles of the UNFCCC, namely the precautionary principle and equity, particularly relevant for establishing a duty of care for climate policymaking.[655] The Hague Court of Appeal and the Supreme Court upheld the District Court's ruling. Both looked to regional human rights law to establish the State's obligations to take positive and preventive action to protect the rights to life and family life.[656] They again relied on the precautionary principle, connecting it to preventive measures required

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[652] *State Obligations in Relation to the Environment in the Context of the Protection and Guarantee of the Rights to Life and to Personal Integrity*, Advisory Opinion OC-23/17, Requested by the Republic of Colombia, IACtHR Series A No 23 (15 November 2017) [175]–[180].

[653] ibid [108]–[109], [123], [177], [180], [211]–[232].

[654] See e.g., *Asghar Leghari v Federation of Pakistan* [2015] WP No 25501/2015 (Lahore High Court). Although based on domestic law, the court relied on *inter alia* the right to life and the precautionary principle in finding the government failed to implement its National Climate Policy and Framework. ibid [7].

[655] *Urgenda Foundation v The State of the Netherlands (Ministry of Infrastructure and the Environment)* [2015] HAZA 13-1396, Case no C/09/456689 (The Hague District Court) [4.49], [4.56].

[656] *The State of the Netherlands v Urgenda Foundation* [2018] Case no 200.178.245/01 (The Hague Court of Appeal) [43] (unofficial English translation); *Urgenda* (Supreme Court) (n 197) [2.3.2].

under human rights law; the Supreme Court also clarified that the rights-based need to take appropriate measures against an imminent hazard relates to both mitigation and adaptation efforts.[657] Of note was the fact that there was no dispute about the danger climate change poses once global temperatures exceed 1.5 degrees, which presents a real, immediate, and imminent threat to human rights.[658] The Supreme Court cited systemic integration, and in contrast to the HRC's finding in *Teitiota*, it found that the fact that the risks posed by climate change 'may only materialise in the longer term' and 'will only be realized in a few decades and does not concern specific (group of) persons but large parts of the population' did not preclude the right to life from offering protection now—'in line with the precautionary principle'.[659] Furthermore, the 'mere existence of a sufficiently genuine possibility' that the risks from climate change will materialise was also sufficient to find a that such a risk was 'real and immediate'. Thus, the interpretive process and conclusions are much the same as the thesis, which aims to prompt action in advance of significant harm.

In summary, the right to life requires positive action to prevent foreseeable threats to the right. When integrated into adaptation obligations, this requires actions to plan for and implement adaptation, from actions that enable people to remain in place to adaptive mobility measures where they cannot. Individuals must therefore have access to a means to survive, to

[657] See *Urgenda* (Supreme Court) (n 197) [5.3.2].

[658] *Urgenda* (Court of Appeal) (n 656) [43]–[46], [71]; *Urgenda* (Supreme Court) (n 197) [4.3], [5.6.2], [7.2.8]. For more on *Urgenda* and the role of international and regional human rights law see Petra Minnerop, 'Integrating the "Duty of Care" under the European Convention on Human Rights and the Science and Law of Climate Change: The Decision of The Hague Court of Appeal in the Urgenda Case' (2019) 37 J of Energy & Natural Resources L 149.

[659] *Urgenda* (Supreme Court) (n 197) [5.2.2], [5.4.2], [5.6.2]. The Court cited ECtHR cases, which establish that long-term risks, known or foreseeable to governments, create obligations to take appropriate measures to ensure human rights. See *Öneryildiz* (n 645) [98]–[101] (risk of gas explosion was known to authorities for years); *Taşkın and Others v Turkey* App no 46117/99 (ECtHR, 10 November 2004) [107], [111]–[114] (ECHR applies where environmental pollution might only materialise in decades); *Budayeva* (n 560).

avoid significant environmental risks, and if this requires access to another location now or in the future, a rights-based means to move and live elsewhere that is included in long-term adaptation planning. This is due in part to the developing scope and nature of the right, as identified in this section: action must be taken to address the general conditions that give rise to threats, and such a threat should be reasonably foreseeable—even over longer timescales—rather than imminent. Indeed, no fixed time frame should be required to assess future harm, as it is impossible or inappropriate to do so given the context dependent factors at play.[660] Moreover, even if imminence was required, as *Urgenda* notes, such a threat exists when we surpass a global temperature threshold that many scientists and experts now think is unavoidable.[661] Finally, the need and means to address general conditions connects the right to life—and one with dignity—to other rights, including an adequate standard of living. This requires urgent action. The impacts of climate change constitute 'a massive threat to the enjoyment of economic, social and cultural rights', which will affect these rights 'at an increasing pace in the future.'[662] Some of these rights, their interaction, and the cumulative effect and of risks to them, are discussed next.

D. Right to an adequate standard of living

The impacts of climate change need not threaten the right to life to necessitate positive action to protect or fulfil human rights. Other human rights and their positive duties can be integrated into an understanding of adaptation obligations, to support and shape proactive

[660] This conclusion is made for climate change and protection under refugee law or *non-refoulement* in Anderson, Foster, Lambert and McAdam (n 104) 135.

[661] See IPCC, '1.5°C Report' (n 60).

[662] See CESCR, 'Climate Change and the International Covenant on Economic, Social and Cultural Rights: Statement of the Committee on Economic, Social and Cultural Rights' (2018) <https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=23691&LangID=E> accessed 3 March 2020, paras 1, 4.

adaptation. Furthermore, while the thesis recognizes the interdependence and interrelationship between human rights, it focuses on several fundamental rights that are necessary for survival and subsistence.[663] The constituents of subsistence—rights to food, water, housing, and health—are derived from or components of a right to an adequate standard of living.[664] In addition to being critical to life and determinants of a life with dignity,[665] they are central to the ability and choice to stay or leave a place in the wake of changing environmental conditions. These rights are discussed respectively, with the rights that make up adequate standard of living under the ICESCR—food, water, and housing—analysed first and the right to health last.[666] The latter overlaps with the former, as the right to health is determined by and inclusive of the other constituent rights.[667]

Like the right to life, the right to an adequate standard of living is, as Lavanya Rajamani describes it, 'not in dispute' and particularly at risk from climate impacts.[668] The right is not explicitly defined in any international instrument, but rather is elaborated through its constituent rights discussed below. As with the rest of the rights contained in ICESCR, they are subject to progressive realization, with each State required to take steps 'to the

[663] See Henry Shue, *Basic Rights: Subsistence, Affluence, and U.S. Foreign Policy* (Princeton University Press 1980) (arguing 'basic rights' to subsistence should receive the highest priority to ensure fulfilment of certain vital needs like food, shelter, and access to healthcare); Theo van Boven, 'Categories of Rights' in Daniel Moeckli and others (eds), *International Human Rights Law* (3rd edn, OUP 2017) 143.

[664] See Asbjørn Eide, 'Adequate Standard of Living' in *International Human Rights Law* (n 663).

[665] See GC 36 (n 569) para 26.

[666] Health and medical care were originally a part of the right to an adequate standard of living within the UDHR. UDHR art 25(1). The right to health is now a separate article in the ICESCR (article 12).

[667] GC 14 (n 569) paras 3-4 (right dependent on determinants including food, housing, and water); Lavanya Rajamani, 'The Increasing Currency and Relevance of Rights-Based Perspectives in the International Negotiations on Climate Change' (2010) 22 J of Environmental L 391, 394.

[668] Rajamani, 'Rights-Based Perspectives' (n 667) 410–11.

maximum of its available resources'.[669] This built in flexibility allows developing countries time to fully realize the rights. It also requires international assistance and cooperation that will be explored further in section III. Economic and social rights require positive action, as respect for the right is not enough.[670] Thus, as the Committee on Economic, Social and Cultural Rights (CESCR) and subsequent analysis emphasises, these rights have core obligations that States must provide 'minimum essential levels of' and that must be protected and fulfilled irrespective of capacity.[671]

These core obligations are of immediate effect and must be maintained,[672] even in circumstances where limitations of ICESCR may be permissible.[673] The CESCR has declared some core obligations non-derogable.[674] As each section sets out below, the important essential resources they provide can be put at risk by climate change. When this occurs, or people are unable to access these resources on their own, States are obligated to act. It is in these situations where the integration of relevant rights incorporates core obligations. They provide the basic content of the right; the positive duties they require are the least that must be integrated, with more possible or necessary depending on circumstances, capacity, and international assistance. This results in the need for proactive measures before rights

[669] ICESCR art 2(1).

[670] See Frédéric Mégret, 'Nature of Obligations' in *International Human Rights Law* (n 663) 99.

[671] See GC 3 (n 561) para 10; see also Burson, Kälin, McAdam and Weerasinghe (n 21) 390–91 (discussing the relevance of these core obligations in context of disasters).

[672] See, e.g., Amrei Müller, 'Limitations to and Derogations from Economic, Social and Cultural Rights' (2009) 9 Human Rights L Rev 557. The non-derogable right to life and these core obligations sit atop a hierarchy of norms in human rights law, should one exist. Shelton, 'International Law and "Relative Normativity"' (n 243) 154.

[673] ICESCR art 4. Concerns have been raised that these limitations for emergency situations might be deployed at the expense of human rights. See, e.g., 'Climate Change and Human Rights: A Rough Guide' (n 21) 5.

[674] See below, on rights to water and health.

violations occur and may trigger adaptation sooner than the right to life. Furthermore, as these rights overlap and are interconnected, it may be the cumulative effect of risks to them that triggers action, particularly for adaptive mobility.

1. Right to food

The right to adequate food or nutrition is an aspect of an adequate standard of living.[675] It is included in several international instruments, although it is most comprehensively set out in the ICESCR.[676] Food is necessary for survival. For this reason, the right has been considered 'at the core' of the right to an adequate standard of living and a dominant concern for the evolution of any State or society.[677] Adequate food is an entitlement, owed to each person.[678] The ICESCR further enshrines 'the fundamental right to everyone to be free from hunger'.[679] Freedom from hunger is a subset of the right that creates immediate core duties for a State to ensure the right; these duties are of particular importance to climate change.[680] There is also widespread recognition that at least this subset of the right is customary law, although it has

[675] ICESCR art 11(1).

[676] See, e.g., CRC arts 24(2)(c), (e), 27(3) (adequate nutrition as component of rights to health and adequate standard of living); CEDAW art 12(2) (right to nutrition for pregnant and lactating women); GC 3 (n 561) para 1.

[677] Eide (n 664) 190.

[678] See Nadia Lambek, 'Respecting and Protecting the Right to Food: When States Must Get Out of the Kitchen', in Nadia Lambek and others (eds), *Rethinking Food Systems: Structural Challenges, New Strategies and the Law* (Springer Netherlands 2014) 116.

[679] ICESCR art 11(2).

[680] CESCR, 'General Comment No 12: The Right to Adequate Food (Art 11 of the Covenant)' (12 May 1999) UN Doc E/C.12/1999/5 para 1. Freedom from hunger is an aspect of the general right. See Lambek and others (n 678) 105; Philip Alston, 'International Law and the Human Right to Food' in Philip Alston and Katarina Tomaševski (eds), *The Right to Food* (Martinus Nijhoff Publishers 1984) 32–33.

been noted that the right in general 'has been endorsed more often and with greater unanimity and urgency than most other human rights.'[681]

Climate impacts are expected to hamper nutrition through the disruption of food systems and sources, loss of livelihoods, and increases in poverty.[682] Access to adequate food is put at risk when, for example, desertification or salinization leads to crop failure or reduces agricultural output.[683] The impacts to food availability can be worsened by poverty, malnutrition, and hunger. As highlighted by the Special Rapporteur on the right to food, an estimated half of the world's 854 million hungry people live in already degraded lands, degradation which will be exacerbated by climate change.[684] Many of those at risk are rural farmers and the poor in the Global South—which includes the areas illustrated in the next chapter—where up to 80 per cent of the world's hungry live.[685] Food insecurity or lack of access to food can lead to mobility, which is often precarious if undertaken without proper resources.[686] This has occurred in the Sahel and other regions where continued adverse impacts from climate change are expected.[687]

[681] Alston (n 680) 9; OHCHR and Food and Agriculture Organization (FAO), 'The Right to Adequate Food' (2010) Fact Sheet No 34 <https://www.ohchr.org/Documents/Publications/FactSheet34en.pdf> accessed 13 July 2020, 9.

[682] UNHRC, 'Study–Climate Change and Right to Health' (n 567) para 20; CESCR, '2018 Statement' (n 662) para 4.

[683] Climate change is expected to increase food production in higher latitudes and decrease it in lower latitudes. See OHCHR Report (n 576) para 26.

[684] UNHRC, 'Report of the Special Rapporteur on the right to food, Jean Ziegler' (10 January 2008) UN Doc A/HRC/7/5 para 51.

[685] Lambek and others (n 678) 106.

[686] See, e.g., FAO and IOM, 'Agriculture and Migration in the Context of Climate Change' (2017); OHCHR, 'Migrants in Transit' (n 21).

[687] See ch 5, II.C.

As interpreted by the CESCR, the right to adequate food applies universally and is realized when everyone 'alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement.'[688] Like the HRC, the CESCR's analysis is not binding but is highly persuasive and expected to be followed by State parties.[689] The CESCR sets out what the right requires, including its core content that emphasises availability and accessibility. As it clarifies: food must be available 'in a quantity and quality sufficient to satisfy the needs of individuals, free from adverse substances, and acceptable within a given culture'; and it must be accessible 'in ways that are sustainable and that doesn't impede the enjoyment of other rights'.[690] Put differently, a State must ensure conditions that allow a person to be able to either produce or buy food.[691] Special attention for accessibility of food may also be required for disadvantaged groups, '[v]ictims of natural disasters [and] those living in disaster prone areas'.[692] Furthermore, the right obliges every State to ensure that everyone under its jurisdiction, including migrants, is provided 'access to the minimum essential food' that is sufficient, safe, nutritionally adequate, and culturally appropriate.[693] Taken further, and the obligation to fulfil translates into a need for States to directly provide for individuals unable to access adequate food, including those who have faced disasters.[694]

[688] GC 12 (n 680) paras 1, 6.

[689] See, e.g., FAO, 'The Right to Food Guidelines: Information Papers and Case Studies' (2006) 99–100; UNGA Res 57/226 (18 December 2002) (The right to food) UN Doc A/RES/57/226 (welcoming work of CESCR).

[690] GC 12 (n 680) para 8.

[691] OHCHR and FAO (n 681) 3.

[692] GC 12 (n 680) para 13.

[693] ibid para 14.

[694] See ibid paras 11, 14-15.

A right to be free from hunger likewise has core content, which requires States to take action to mitigate and alleviate hunger, even in times of disaster—which would include climate change.[695] A State would be in violation if it did not provide the core minimum required for adequate food, to ensure that people are free from hunger. It would also be in violation if any individual were 'deprived of essential foodstuffs'.[696] In addition, part of discharging its obligations for the right to adequate food and freedom from hunger requires that when a State is unable to carry out its obligations, it must seek out international support.[697] The right is tied to the positive duties of other rights: for example, the right to life requires positive measures to eliminate widespread hunger and malnutrition and provide essential food.[698] Regional case law also links the right to food to human dignity, making it essential to the fulfilment of other rights.[699] While the right to food is justiciable, domestic and regional cases that focus on the right are rare. However, recent regional cases and national courts in developing countries have issued decisions that prompt legislative action to protect the right.[700]

2. Right to water

The right to water is recognized as implicit in the rights to life, an adequate standard of living, and the highest attainable standard of health.[701] It is also explicitly included in several

[695] See ibid para 6; OHCHR Report (n 576) para 25.

[696] GC 3 (n 561) para 10.

[697] GC 12 (n 680) para 17.

[698] GC 36 (n 569) para 26.

[699] See, e.g., *SERAC* (n 645) [65].

[700] For further discussion, see, e.g., Hilal Elver, 'The Challenges and Developments of the Right to Food in the 21st Century: Reflections of the United Nations Special Rapporteur on the Right to Food' (2016) 20 UCLA J of Intl Foreign Affairs 1, 23–25.

[701] See ICESCR arts 11, 12; GC 15 (n 569) paras 1, 3; UNGA Res 64/292 (28 July 2010) (The human right to water and sanitation) UN Doc A/RES/64/292.

international human rights law instruments.[702] The right's customary status is debatable, although its increasing inclusion in national law and constitutions signal such status is developing.[703] At least one scholar argues that the core content—access to water for basic needs—is a customary norm.[704] Like food, it is considered a prerequisite for the enjoyment of other human rights.[705] As recognized by the UN General Assembly and elsewhere, access to water is fundamental to survival and necessarily tied to a myriad of other rights and freedoms.[706] It is essential to secure an adequate standard of living and as such 'inextricably linked' to the rights to adequate food and housing.[707] The right is also an example of the convergence of the development of environmental and human rights law; its protection in environmental instruments has been cited by CESCR.[708]

Climate change affects water quality and availability. Drought can reduce access to water; sea level rise can lead to salinization of fresh water sources; and flooding can reduce water quality. Problems with accessing clean water and basic sanitation are expected to worsen with climate change. This could lead to over two billion people without access to an adequate water supply—twice the current amount.[709] The widespread lack of drinking water

[702] See CEDAW art 14(2)(h); ICERD art 5(e).

[703] See Daphina Misiedjan and Scott O McKenzie, 'The Human Right to Water' in *Human Rights and the Environment* (n 13) 341.

[704] Sara De Vido, 'The Right to Water as an International Custom: The Implications in Climate Change Adaptation Measures' (2012) 6 Carbon & Climate L Rev 221, 224–25.

[705] GC 15 (n 569) para 1.

[706] See UNGA, 'Right to Water' (n 701); GC 15 (n 569); Daly and May (n 13) 177–78; Misiedjan and McKenzie (n 703) 336–37.

[707] GC 15 (n 569) para 3; 'Report of the Special Rapporteur on the right to food' (n 684) para 18.

[708] See Daly and May (n 13) 176; Misiedjan and McKenzie (n 703) 337; GC 15 (n 569) n 5.

[709] See OHCHR Report (n 576) para 29; UNHRC, 'Study–Climate Change and Right to Health'(n 567) para 9.

is already considered a crisis, and polluted water is one of the leading causes of death globally.[710]

The CESCR's general comment on the right is the most thorough and authoritative interpretation. It recognises the importance of water for agriculture, subsistence farming, and the realization of the right to food but focuses on water as an aspect of health and personal consumption.[711] It lays out a non-exhaustive list of several core obligations of immediate effect, incumbent on all State parties regardless of capacity. These core obligations are aimed at access, availability, and quality and include *inter alia*: ensuring access to a minimum essential amount of water, on a non-discriminatory basis and for marginalized groups in particular; physical and equitable access to safe and regular water services; adoption and implementation of a national water strategy; access to adequate sanitation; and monitoring realization.[712] Thus at a minimum, all States must ensure that water is safe, sufficient and continuously available, and accessible and affordable.[713] States are also obliged to provide the right when individuals or a group are unable.[714] Like the right to food, special attention should be given to particular groups or individuals facing difficulties exercising their right including *inter alia* women, children, victims of disaster, and persons living in disaster-prone areas.[715]

[710] See UNDP, 'Human Development Report 2006: Beyond Scarcity–Power, Poverty and the Global Water Crisis'; Misiedjan and McKenzie (n 703) 336.

[711] GC 15 (n 569) paras 7-9.

[712] ibid para 37.

[713] Eide (n 664) 192.

[714] GC 15 (n 569) para 25.

[715] ibid para 16.

In addition, to ensure safe and sufficient water the CESCR encourages strategies and programmes that assess the impacts of—amongst other things—climate changes and desertification.[716] These strategies are consistent with the obligation to plan for adaptation. Furthermore, States' obligation to respect the right—and refrain from interfering with access to water and sanitation—has been used to argue for adaptation measures that ensure the right in anticipation of climate impacts.[717] Even prior to the adoption of the Paris Agreement, such adaptation was tied to rights-based approaches to and support for adaptation measures.[718]

Yet while the negative aspects of the right are necessary for climate action, including adaptation, the positive actions States must take to ensure rights bears directly the quality and dignity of life necessary to either remain in place or undertake mobility. As the IACtHR opined, States must take positive measures to guarantee the essential minimum of water and food for all, they must provide access for those unable to do so, and must disseminate information on how to use and protect these resources.[719] The latter connects procedural and substantive rights as discussed in section II.E below. Parties to the climate change regime also highlight human rights, and the rights to food and water in particular, in approaches to climate action.[720]

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[716] ibid para 27(e).

[717] Catrina de Albuquerque, 'Climate Change and the Human Rights to Water and Sanitation' (2010) Position Paper 25–26.

[718] De Vido (n 704) 227.

[719] *Colombia* (Advisory Opinion) (n 652) [121] (citing CESCR on the rights to water and food).

[720] See Ad-hoc working group on the LCA (AHWG-LCA), 'Ideas and Proposals on the Elements Contained in Paragraph 1 of the Bali Action Plan: Submissions from Parties (Part I)' (10 December 2008) FCCC/AWGLCA/2008/MISC.5/Add.2 106–7, 111; Rajamani, 'Rights-Based Perspectives' (n 667) 400–404 (discussing Parties' submissions related to human rights); ADWG-LCA, 'Additional Views on Which the Chair May Draw in Preparing Text to Facilitate Negotiations among Parties: Submissions from Parties' (30 April 2010) FCCC/AWGLCA/2010/MISC.2.

3. Right to housing

The right to adequate housing is a third component to an adequate standard of living.[721] It is also implied or included in a number of other international instruments.[722] The right is considered customary to those who consider the whole of the UDHR customary international law.[723] Otherwise, there is little practice or agreement that it has reached this status. Despite this, the CESCR explains that the right applies to everyone and should not be subject to any form of discrimination.[724]

The right is comprised of both freedoms and entitlements—and thus creates negative and positive duties for States.[725] These duties require the provision of 'adequate' housing, which has been interpreted to include security of tenure and protection against forced evictions (obligations of immediate effect); availability of facilities, materials, services, and infrastructure; and access to affordable housing. States are further required to monitor the housing situation within their jurisdiction, which is another obligation of immediate effect. The right also necessitates the provision of adequate space, security, privacy, and location, as well as enabling the expression of cultural identity. It goes beyond the provision of shelter to include the right to live in peace, security, and dignity.[726] Additionally, the right not to be subjected to arbitrary or unlawful interference with one's privacy, family, and home is

[721] See ICESCR art 11(1); CESCR, 'General Comment No 4: The Right to Adequate Housing (Art 11 (1) of the Covenant)' (13 December 1991) UN Doc E/1992/23.

[722] For example CRC art 27; CEDAW art 14(2); ICERD art 5(e)(iii).

[723] See n 563.

[724] GC 4 (n 721) paras 6-7.

[725] See OHCHR and UN Habitat, 'The Right to Adequate Housing' Factsheet No 21 <http://www.ohchr.org/Documents/Publications/FS21_rev_1_Housing_en.pdf> accessed 19 April 2020, 3; McInerney-Lankford (n 347) 160; GC 4 (n 721).

[726] See GC 4 (n 721) paras 7, 8, 13; GC 7 (n 598).

considered a component of adequate housing.[727] Regional courts have found that States have a duty to take positive action to secure rights related to housing, including the right to privacy.[728]

Forced evictions—carried out coercively and not in accordance with the law—are considered one of the most severe violations of the right.[729] They also violate a number of other human rights.[730] Protection against forced evictions has individual and collective elements, enjoyed by both an individual and their community.[731] The CESCR dedicated a separate general comment to the issue, recognising it as a serious violation of human rights while spelling out the circumstances under which evictions can lawfully occur. It noted that unlawful evictions can occur via internal displacement, as well as in mass exodus and in heavily populated urban areas.[732] These situations raise the separate but related right to be protected against arbitrary displacement, derived from sources including the right to housing.[733] Arbitrary displacement and violation of the right to adequate housing arise in circumstances where a State fails to respond to the risks created by climate impacts, as discussed in the next chapter. Additionally, climate impacts will create situations that require

[727] See ICCPR art 17; GC 4 (n 721) para 9.

[728] See, e.g., *López Ostra v Spain* (1995) 20 EHRR 277 [51]; *Taşkın* (n 659) [113]–[119]; *Fadeyeva v Russia* (2007) 45 EHRR 10 [92]–[99].

[729] Eide (n 664) 195.

[730] See ICCPR art 17.1; GC 4 (n 721) para 18; GC 7 (n 598) paras 4, 8; UNCHR, 'Forced Evictions, Resolution 1993/77' in 'Report on the forty-ninth Session of the UNCHR' (10 March 1993) UN Doc E/CN.4/1993/122.

[731] This protection has been extended where the right to housing is not explicit, but implicitly found through a combination of other rights, as is the case with the African Charter. See *SERAC* (n 645) [59]–[63] (finding violation of the rights to housing and protection against forced evictions).

[732] GC 7 (n 598) para 5.

[733] See n 606.

evacuation, lawful eviction or displacement.[734] These situations are not the primary focus of the thesis, which seeks to avoid emergency and post-disaster movement through adaptive mobility. Planned relocation will be analysed as a form of adaptive mobility, one generally considered a last resort, and must be undertaken in compliance with human rights and in a manner that allows people to live in conditions of safety, health, nutrition, and family unity.[735] If not, it runs the risk of being a forced eviction or unlawful displacement.

More generally, climate impacts affect land and human settlements, with people in high-density urban and coastal areas and those already in vulnerable situations considered most at risk.[736] Climate change will exacerbate precarious housing situations. At least a billion people are already inadequately housed, nearly all in developing countries; the proportion is quite high in sub-Saharan Africa and South Asia, where the vast majority of urban populations live in slum conditions.[737] Housing in slums and informal settlements are at acute risk, in part because these locations are already plagued by environmental degradation and disasters, which contributed to cheaper land and housing costs.[738] Low-lying and coastal areas are similarly at risk, with sea level rise and storms threatening to destroy coastal

[734] See n 598.

[735] See 'Guidance on Planned Relocation' (n 17) 11; IOM, Georgetown University and UNHCR, 'A Toolbox: Planning Relocations to Protect People from Disasters and Environmental Change' (2017) 3, 6. See also 'Guiding Principles' (n 124) principle 7; OHCHR Report (n 576) para 38; UNGA, 'The Right to Adequate Housing: Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context, Raquel Rolnik' (9 August 2009) UN Doc A/64/255 paras 55-64 (setting out conditions of resettlement necessary to ensure the right to adequate housing).

[736] CESCR, '2018 Statement' (n 662) para 4; 'Report of the Special Rapporteur on adequate housing' (n 735) paras 13-21, 30-34.

[737] GC 4 (n 721) para 4; UN-Habitat, 'Global Report on Human Settlements 2007: Enhancing Urban Safety and Security' (2007) (key findings).

[738] 'Report of the Special Rapporteur on adequate housing' (n 735) paras 18-19.

dwellings and inundate urban areas.[739] Within these areas, the Special Rapporteur on adequate housing has advised that consideration must be granted to the most vulnerable, with due attention paid to children and gender inequalities.[740] Furthermore, migrants in the context of climate change face risks to their right to adequate housing at multiple points in their journey. Not only will they leave behind their homes, without adaptive planning or implementation they may also encounter poor housing conditions in transit and upon arrival.[741]

These situations and the additional stressors on housing caused by climate impacts will implicate a number of aspects of the right outlined above. However, there are several of particular relevance that necessitate positive action by the State. This includes duties to ensure security of tenure—and its protection against forced evictions—and access to housing. Furthermore, as with the rights to food and water, CESCR advises that 'disadvantaged groups', which includes 'people living in disaster-prone areas' and 'victims of natural disasters', should be afforded 'some degree of priority consideration in the housing sphere'. Such priority should apply to '[b]oth housing law and policy' to fully account for 'the special housing needs of these groups.'[742] When such an understanding of the right is integrated into adaptation obligations, it clarifies that those particularly vulnerable or already marginalized should be prioritized in measures involving housing. Finally, the CESCR notes that States

[739] ibid paras 31-32.

[740] ibid para 21.

[741] See ibid paras 28-29; OHCHR, 'Migrants in Transit' (n 21) para 35.

[742] GC 4 (n 721) para 8(e). Whether climate impacts create 'natural' disasters raises interesting questions, as UNFCCC defines climate change as attributable to human activity. UNFCCC art 1(2). This is outside the scope of the thesis, as arguments focus on adaptation and vulnerability included in the climate regime. See also Scott (n 100) (arguing that the social context must be considered in risks from 'natural' disasters).

unable to meet their immediate obligations should request international cooperation, as discussed in section III below.[743]

4. Right to health

The right to health was originally an aspect of an adequate standard of living in the UDHR.[744] It is contained in a separate provision in the ICESCR, and included in a number of other international human rights instruments.[745] There is currently no consensus that the standalone right is customary law, with the caveat that again, some consider the UDHR to reflect customary law.[746] Although the right is separate in the ICESCR, its inextricable connection to the other component rights of an adequate standard of living is widely recognised.[747] Indeed, these and other rights 'address integral components of the right' to health.[748] Within the ICESCR, it is described as a right of everyone to enjoy 'the highest standard of physical and mental health.'[749] Thus, the right is not one to be healthy per se, but rather to be provided the conditions that allow for people to lead a healthy life in accordance with their individual potential and preconditions.[750]

Climate change poses a serious threat to health by undermining other rights, or the social and environmental determinants of health, including clean air and sufficient food,

[743] GC 4 (n 721) para 10.

[744] UDHR art 25.

[745] See ICESCR art 12; CEDAW arts 12, 14; CRC art 24; ICERD art 5(e)(iv).

[746] See Carol Castleberry, 'A Human Right to Health: Is There One and, If so, What Does It Mean?' (2015) 10 Intercultural Human Rights L Rev 189, 203.

[747] See, e.g., OHCHR and WHO, 'The Right to Health' (2008) Fact Sheet No 31 <www.ohchr.org/Documents/Publications/Factsheet31.pdf> accessed 15 July 2020.

[748] GC 14 (n 569) para 13.

[749] ICESCR art 12.1.

[750] See GC 14 (n 569) paras 4, 8-9; Eide (n 664) 195–96.

drinking water, and housing.[751] Deleterious effects on human health are explicitly included as an adverse effect of climate change under the UNFCCC.[752] The right is also highlighted by the preamble of the Paris Agreement.[753] Health problems and increases in disease outbreaks have been linked to changing environmental conditions, and climate change is predicted to exacerbate these problems.[754] For example, warming temperatures allow mosquitos to thrive and broaden their area of impact, carrying diseases further.[755] Many developing countries in Africa and South Asia already face large health burdens due to climate-related diseases including malnutrition, vector-borne illnesses, and diarrhoea linked to poor water and food security.[756]

Risks to health from climate change have been highlighted for those already in disadvantaged or vulnerable situations, including *inter alia* indigenous persons, children, and women in vulnerable situations.[757] Migrants also face increased health risks, which may result from decreased access to health care facilities and services; loss of support networks and assets; and difficulty obtaining food, water, and resources. In particular, those moving from rural to urban areas can suffer health impacts due to conditions in slums and informal employment sectors. Likewise, migrants' mental health may be impaired.[758] Those who experience life-threatening circumstances, lose their homes, or face difficulty accessing their

[751] UNHRC, 'Study–Climate Change and Right to Health' (n 567) para 9.

[752] UNFCCC art 1(1).

[753] Paris Agreement preamble.

[754] See IPCC, 'Synthesis Report' (n 62) 15; OHCHR Report (n 576) paras 32-33.

[755] See UNHRC, 'Study–Climate Change and Right to Health' (n 567) paras 18-19.

[756] World Bank, 'World Development Report 2010: Development and Climate Change' 95.

[757] See UNHRC, 'Study–Climate Change and Right to Health' (n 567) para 5; UNHRC, 'Study–Climate Change and Rights of the Child' (n 587) para 4.

[758] See UNHRC, 'Study–Climate Change and Right to Health' para 28.

livelihoods are at greater risk of harm to their mental health. Longer-term displacement is also linked to worsening mental health effects.[759]

Like other economic, social, and cultural rights, the right to health creates negative and positive duties. In general, this means that a State must refrain from interfering with the enjoyment of the right and also take positive measures to adopt legislation to help fully realize the right.[760] It must provide equal access to health services without discrimination and irrespective of migration status.[761] The right is also interpreted to include access to the underlying determinants of health—other components of an adequate standard of living—as well as participation of people in health-related decision-making.[762] While progressive realization of the right to health is still a goal for many developing countries, the core obligations of the right are considered non-derogable. These apply to those affected by climate change and include access to health facilities and services on a non-discriminatory basis, especially for vulnerable groups; minimum essential food to ensure freedom from hunger; basic shelter, housing and sanitation; an adequate supply of potable water; an equitable distribution of health facilities and services; and a national public health strategy.[763] Finally, and important in the context of climate change, the right includes steps to prevent, treat, and control disease.[764]

[759] See IDMC, 'Global Estimates 2015' (n 89) (discussing IDPs in Japan).

[760] GC 14 (n 569) para 33.

[761] See ibid para 34.

[762] ibid para 11.

[763] ibid paras 43, 47.

[764] ICESCR art 12(2)(c).

5. Integrating the right to an adequate standard of living

As the arguments thus far establish, the right to an adequate standard of living—and its component rights to food, water, housing, and health—is generally put at risk by climate impacts and is relevant to adaptation measures that respond to these impacts and the risks they pose. Their integration into adaptation obligations occurs by virtue of this relevance and their applicability to Parties to climate agreements. Some of the core obligations of these rights may be considered customary law. These rights have also been accepted by nearly every State in some form, including the States discussed in subsequent illustrations.[765] For example, while ICESCR currently has 171 State parties, the CRC has near universal participation and only a handful of States have not ratified CEDAW.[766]

Both the negative and positive duties arising from human rights obligations are relevant for integration into adaptation obligations. The prohibition against forced eviction, for example, requires States refrain from moving people without adequate safeguards and conditions. Such a negative duty is crucial for any efforts to relocate people. Likewise, positive duties integrated into obligations must include the core obligations set out above. In general, this means that if people's ability to access minimum essential resources is at risk due to climate impacts, or such a risk is reasonably foreseeable, a State must act to remedy the situation. As noted above, special consideration or attention should also be provided for

[765] See ch 3, II.B.2.b-c (on relevant law and which parties for systemic integration). Several Pacific Island States have not ratified ICESCR but are party to CEDAW and CRC.

[766] See 'Status of ICESCR' <https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=IV-3&chapter=4&clang=_en> accessed 15 July 2020. Some States—like the U.S.—have signed but not ratified the treaty, meaning they have an obligation to refrain from acts that defeat the object and purpose of ICESCR. VCLT art 18 (an obligation also reflected in customary international law). 'Status of CRC' <https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=IV-11&chapter=4&clang=_en> accessed 15 July 2020 (only US not a party); 'Status of CEDAW' <https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=IV-8&chapter=4&lang=en> accessed 15 July 2020 (only 8 States not party, including US). However, the US is a party to ICERD, which includes rights to health and housing.

individuals and groups facing difficulty accessing adequate food, water, and housing, including those living in disaster-prone areas.[767]

Moreover, given the need for precaution, and that these core minimums are of immediate effect, a risk to the right need not be imminent to prompt State action. Instead, like the right to life, the standard to assess such risk should focus on knowledge and reasonable foreseeability; if there is a potential or real risk of harm,[768] even one caused by the longer-term consequences of climate change, then positive duties are triggered.[769] The key components of such an assessment are the knowledge and foreseeability of risk and the potential impairment to accessing the minimum essential resources of these rights. Because these resources are critical to subsistence and survival, their impairment creates serious harm. Furthermore, given the prospective nature of risk assessment and different possibilities in how climate change will unfold—with mitigation and adaptation necessarily affecting the harm from impacts—some degree of uncertainty must be accepted. However, that interventions or multiple scenarios are possible does not obviate the need for such action, as is the case or has been argued for in other contexts.[770] Thus, the level of harm and applicable

[767] See GC 4 (n 721) para 8(h); GC 12 (n 680) para 13; GC 15 (n 569) para 16(h).

[768] Like the real risk test for the right to life, assessment is not rigid. In the thesis it is also akin the Guiding Principles on Business and Human Rights and their assessment of risk, which looks to 'potential or actual' impacts to human rights. They are not binding and apply to corporate behaviour, but provide insight into impact assessments, potential risks to rights-holders, and the need to address them. See OHCHR, 'Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework' (UN 2011) HR/PUB/11/04 principles 17, 18, 24.

[769] In *Urgenda*, for example, the District Court looked to several factors in establishing the scope of the duty of care. These factors included *inter alia* the nature and extent of harm; the knowledge and foreseeability of this harm; State action/inaction; onerousness of precautionary measures; and the State's discretion. *Urgenda* (District Court) (n 655) [4.52]–[4.82].

[770] See Anderson, Foster, Lambert and McAdam (n 104) 129 ('presence of "multiple" possibilities, each of which involves speculation, does not foreclose the possibility that protection is warranted'); cf *Teitiota* (HRC) (n 119) [9.12] (citing potential intervening acts as means to protect). See also UNHCR, 'Guidelines for International Protection No 12: Claims for Refugee Status Related to Situations of Armed Conflict' (2016) HCR/GIP/16/12 para 25 (focus of risk assessment on foreseeability of harm alongside other past, current, and contextual factors).

standard argued for in the thesis includes a margin of discretion, as the assessment of risk aims to account for harm before it occurs and is undertaken by States rather than as part of an adjudication process.[771]

Integration could lead to action on any or a number of the rights associated with an adequate standard of living. For example, when the right to food is at risk by climate impacts, States must act to ensure people are able to produce, cultivate, or access food—both physically and economically. This duty requires heightened attention to vulnerable persons, who might have difficulty accessing or obtaining food on their own.[772] If a State cannot meet their obligations, they must reach out for international assistance.[773] Similarly, integration of the right to adequate housing translates into positive measures to guarantee that housing is culturally appropriate, safeguards health, and includes shelter that is affordable, habitable, and accessible.[774] As with access to food and water, the right is further interpreted to require certain disadvantaged groups—which overlaps with those most vulnerable to climate impacts—priority in full and sustainable access to adequate housing.[775] In general, a focus on the rights needed to ensure subsistence and survival, and individuals most vulnerable to having these rights violated by climate impacts, helps prioritize those most in need of adaptation measures, and provides insight into where to direct adaptive mobility measures in particular.

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[771] In this sense, it differs from the need for substantial grounds to establish a 'real risk' in the context of *non-refoulement*. Discussed further in GC 31 (n 613) para 12; GC 36 (n 569) paras 30-1 (high threshold to establish substantial grounds). See also Anderson, Foster, Lambert and McAdam (n 104) 120–23, 132–33, 136.

[772] See GC 12 (n 680) paras 8, 13; OHCHR and FAO (n 681) 2–3, 14–17.

[773] See III.A, below.

[774] See, e.g., GC 4 (n 721).

[775] See ibid para 8(e).

Furthermore, and as will be detailed in the examples in the next chapter, climate impacts often affect a number of resources at once, including water, food, and housing. Accordingly, and due to the overlapping and interconnected nature of rights, it may be the cumulative risk to these rights that triggers action. Each of the affected rights, however, must be contemplated in adaptation planning and implementation. When the risk that a State will no longer be able to provide essential resources is foreseeable, even in the long-term, adaptation obligations that integrate rights require a State to plan in advance and take appropriate action. This will result in a range of adaptation measures, some of which can increase resilience and adaptive capacity to allow people to remain in place. When it is no longer possible to ensure rights in place, then it will be necessary to pursue adaptive mobility measures that provide for the continued enjoyment of rights elsewhere.

In addition, taking rights into consideration in advance can be both necessary and prudent.[776] As the Special Rapporteur on adequate housing has highlighted, in disaster situations human rights are often not sufficiently taken into account, leading to unintended rights violations:

> Sometimes [violations] result from insufficient resources and capacities to prepare and respond to the consequences of the disasters. More often, they are the result of inappropriate policies, neglect or oversight. These violations could be avoided if both national and international actors took the relevant human rights guarantees into account *from the beginning*.[777]

Integration of rights into adaptation obligations, and thus throughout the process of adaptation, can facilitate consideration of rights in planning. In doing so, it can prevent or better avoid emergency action and reduces the likelihood of rights violations. For example,

[776] See also II.F, below on the role of the precautionary principle.

[777] UNHRC, 'Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context, Raquel Rolnik' (20 December 2010) UN Doc A/HRC/16/42 para 12 (quoting IASC, emphasis added).

proactive measures to protect and ensure the right to adequate housing, including for migrants, translates into planning and preparation for the provision of *inter alia* housing that protects people from hazards or hazardous zones, adoption of legislative measures,[778] access to shelter in cases of disaster and in advance of significant slow onset events, and adequate consultation for affected persons.[779] As discussed next, the latter—and procedural rights more generally—can serve as a bridge between State action and enjoyment of substantive rights.

E. Procedural rights

Procedural rights are a central to the interpretation of adaptation obligations and integration of rights. They are critical to adaptation efforts, especially adaptive mobility. Many of these efforts will involve changes to the way land is used, including shifts in agricultural practices, planned relocation, and repurposing land for a new use. In each of these cases, procedural rights provide affected persons rights to access information, participation in decision-making, and an effective legal remedy for any harm suffered.[780] These rights draw from the combined development of international environmental law and human rights principles.[781] They are

[778] ICESCR art 2(1).

[779] See GC 4 (n 721) para 8.

[780] See UDHR arts 8, 19-21 (rights to information, association, assembly, to receive and impart information, participate in government, and to an effective remedy); ICCPR arts 2(3), 19 (right to an effective remedy, right to receive and impart information); CEDAW art 7 (right to participate in formulation of government policy); CRC art 13 (right to information); ICESCR art 13 (right to education must enable people to 'participate effectively in a free society'). See also Rio Declaration principle 10 (providing individuals access to information on the environment and the opportunity to participate in decision-making processes). While not binding, Principle 10 has inspired regional legal developments and is cited by judicial bodies, as discussed in Jonas Ebbesson, in *The Rio Declaration* (n 250) 2. See also OHCHR Report (n 576) para 81 (human rights framework 'underlines the critical importance of effective participation of individuals and communities in decision-making processes affecting their lives').

[781] See Boyle, 'Human Rights and the Environment' (n 429) 202–4; Ebbesson (n 780) 287–290; Lewis (n 577) 47–49; Knox, 'Human Rights Principles and Climate Change' (n 429) 221–23; Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (adopted 25 June 1998, entered into force 30 October 2001) ECE/CEP/43 (Aarhus Convention).

derived from the evolution of human rights law, environmental law, and the increasing emphasis on and enhancement of legitimacy in decision-making.[782] Consequently, these rights are seen as a furthering or application of already established human rights, to better enable fair decision-making processes.[783]

Development of procedural rights evinces the role environmental law has played in broadening and shaping human rights law, and the interconnection between the two. As Alan Boyle argues, consideration of human rights in an environmental context like climate change must account for environmental rights in other treaties. He cites the interpretive provision relied on in this chapter for systemic integration to argue that environmental rights—including those that provide for access to information and participation in decision-making—may be necessary in interpreting and applying human rights treaties.[784] While this thesis uses integration in the opposite direction—with human rights law shaping climate obligations—this establishes the synergistic relationship between the two. In fact, it is this evolution in human rights law that is read back into adaptation obligations through integration to clarify procedural duties. Thus, there is cross-fertilization between human rights and environmental issues, one confirmed by regional cases and instruments.[785] Courts and human rights bodies

[782] See Ebbesson (n 780) 289.

[783] See n 780; UNHRC, 'Analytical study on the relationship between human rights and the environment, Report of the UN High Commissioner for Human Rights' (16 December 2011) UN Doc A/HRC/19/34 para 8.

[784] See Boyle, 'Human Rights and the Environment' (n 429) 212 (citing VCLT art 31(3)(c) to argue for integration of Aarhus Convention). See also Lewis (n 577) 47 (arguing for a 'systemically integrated interpretation' of 'procedural "environmental" human rights' to apply to mitigation and adaptation measures).

[785] See Boyle, 'Human Rights and the Environment' (n 429) 203; Ebbesson (n 780) 298–303; Aarhus Convention; Revised African Convention on the Conservation of Nature and Natural Resources (adopted 7 March 2017, entered into force 4 February 2019). For regional cases, see, e.g., *SERAC* (n 645) [52]–[53] (interpreting the African Charter to require 'meaningful opportunities for individuals to be heard and to participate in the development decisions affecting their communities'); *Taşkın* (n 659) [119] (public access to information to assess environmental impacts is beyond question).

have found that access to information and certain procedural guarantees in decision-making are required by States to assess and respond to environmental risks.[786] They have also found that affected persons are entitled to meaningful consultation or participation in decision-making.[787] As Boyle concludes, decisions like these suggest that:

> [T]he most important contribution that existing human rights law has to offer with regard to environmental protection and sustainable development is the empowerment of individuals and groups affected by environmental problems, and for whom the opportunity to participate in decisions is the most useful and direct means of influencing the balance of environmental, social, and economic interests.[788]

Procedural rights, and establishing a process for people affected by environmental matters to access these rights, is also suggested as a means to reduce potential conflicts between overlapping usages of land and conservation and human rights.[789] While participation is a right—and one that is more likely to lead to consensus and ensure affected persons' voices are considered—current international legal obligations do not require consent. Yet soft law, guidance, and normative frameworks require consent as a prerequisite in certain situations, including planned relocation.[790] Consent is also prudent and can lead to

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[786] See cases ibid. See also *Öneryildiz* (n 645) [90]; *Claude-Reyes et al v Chile* (Merits, Reparations and Costs) IACtHR Series C No 151 (19 September 2006) [81].

[787] See *Pulp Mills* (n 280) [203]–[206], [215]–[219] (environmental impact assessments may now be a requirement of general international law; parties agreed assessment should include consultation of affected persons); *Maya Indigenous Community of the Toledo District v Belize* (Merits) Case 12.053, IACtHR Report No 40/04 (12 October 2014) [154]–[155] (connecting duty to consult with rights to life, family, health, and self-determination); *SERAC* (n 645) [53]; *Taşkın* (n 659) [113]–[119] (scrutinizing decision-making based procedural safeguards and the extent individuals' views were taken into account); GC 15 (n 569) para 56.

[788] Boyle, 'Human Rights and the Environment' (n 429) 216–17.

[789] See Marie-Catherine Petersmann, 'Conflicts between Environmental Protection and Human Rights' in *Human Rights and the Environment* (n 13) 297.

[790] See 'Guiding Principles' (n 124) principle 7 (must seek free, prior, and informed consent (FPIC) for those to be displaced); 'Nansen Conference on Climate Change and Displacement in the 21st Century: Chairperson's Summary and Nansen Principles' (2011) principle X (implement policies and responses–including planned relocation–on the basis of *inter alia* participation and consent of those affected); 'The Peninsula Principles on Climate Displacement within States' (Displacement Solutions 2013) principle 10 (aside from exceptional situations relocation must include full, informed consent); ILA (n 598) principle 6 (unless needed to protect life or safety, planned relocation must be undertaken upon request of community with full, free, informed consent). Although indigenous rights are not the

better outcomes for people on the move.[791] In general, participation in decision-making may help avoid conflicts by providing agency for people faced with choices affecting their rights and interests.[792] Additionally, realization of substantive rights, including the rights to life, culture, adequate health and water, has been interpreted to require participatory rights.[793] The relationship between the two kinds of rights is described as circular or cyclical, with compliance with procedural duties leading the ability to enjoy substantive rights.[794]

For responses to climate change, procedural rights are viewed to be of 'critical importance' by the OHCHR: as it has highlighted, vulnerability to climate change requires particular attention to those marginalised, which necessitates 'effective participation' in decision-making via human rights law; adaptation must also comply with and be guided by human rights norms, standards, and principles, including those related to access to

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focus of the thesis, consent is particularly important for measures that affect indigenous peoples. UNGA Res 61/295 (13 September 2007) 'United Nations Declaration on the Rights of Indigenous Peoples' UN Doc A/Res/61/295 (UNDRIP) (requiring FPIC in planned relocation, and measures affecting use of land); *Saramaka People v Surname* (Preliminary Objections, Merits, Reparations, and Costs) IACtHR Series C No 172 (28 November 2007) [129]–[137] (discussing circumstances requiring consent and/or consultation for indigenous persons).

[791] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 181, 252 (resettlement sites need to be selected in consultation with affected persons, which should include consent); Jane McAdam, 'Historical Cross-Border Relocations in the Pacific: Lessons for Planned Relocations in the Context of Climate Change' (2014) 49 J of Pacific History 301, 318 ('[w]idespread recognition now exists that relocation should only occur with free and informed consent of the communities concerned').

[792] See Petersmann (n 789) 297.

[793] See GC 14 (n 569) paras 11, 14, 17, 23, 34, 54; GC 15 (n 569) paras 24, 48; HRC, 'General Comment No 23: Article 27 (Rights of Minorities)' (8 April 1994) UN Doc CCPR/C/21/Rev.1/Add.5 para 7; *Maya Indigenous Community* (n 787).

[794] See Naysa Ahuja and others, 'Advancing Human Rights through Environmental Rule of Law' in *Human Rights and the Environment* (n 13) 19; UNHRC, 'Report of the Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, John H Knox: Preliminary report' (24 December 2012) UN Doc A/HRC/22/43 para 42.

information and participation.[795] Although broadly worded, the importance of procedural rights is affirmed by the text of the UNFCCC and Paris Agreement, which emphasize public participation, access to information, and cooperation.[796] Certain human rights treaties also contain obligations on public participation or access to information to *inter alia* eliminate discrimination of marginalized groups and ensure access to education on environmental issues, which can empower people in the decision-making processes that will affect their rights.[797]

Within the climate change regime, Lavanya Rajamani concludes that procedural rights fit comfortably within the architecture of the Paris Agreement and will likely be 'progressively mainstreamed and expanded'.[798] She observes that procedural aspects of human rights continue to advance, as they have not faced the contention that substantive aspects have.[799] While the preamble of the Paris Agreement is heralded as a milestone—the first international environmental treaty to explicitly recognize human rights—a draft included human rights in the operative provisions.[800] However, these were removed in the final

[795] OHCHR Report (n 576) para 81; UNHRC, 'Study–Climate Change and Rights of the Child' (n 587) para 33.

[796] See UNFCCC art 6; Paris Agreement art 12; see Duyck (n 542) 209; ch 2, IV.C;.

[797] See CEDAW art 7; CRC arts 24(2)(e), 29(1)(e); OHCHR Report (n 576) para 81; UNHRC, 'Study–Climate Change and Rights of the Child' (n 587) para 39.

[798] Rajamani, 'Integrating Human Rights' (n 378). In analysis of ambition levels for mitigation, Rajamani highlights barriers to the integration of substantive human rights. ibid 191. Here, the focus of integration uses language in the climate agreements and existing human rights commitments to move beyond the Paris Agreement's preamble to shape a subset of adaptation measures.

[799] ibid 197–98. Human rights language was included in earlier work of the COP. See, e.g., 'Cancun Agreements' (n 15). For a history of human rights in the climate change regime see Lavanya Rajamani, 'Human Rights in the Climate Change Regime: From Rio to Paris and Beyond' in John H Knox and Ramin Pejan (eds), *The Human Right to a Healthy Environment* (CUP 2018).

[800] This included drafts with human rights in Article 2. See, e.g., 'Draft Paris Outcome, Proposal by the President' (2015) Version 1 of 9 December 2015 at 15:00 <https://unfccc.int/resource/docs/2015/cop21/eng/da01.pdf> accessed 16 July 2020. For further

version. Indeed, despite continued efforts to integrate human rights further into the regime, following the Paris Agreement this has primarily resulted in references to its procedural aspects.[801] Thus, the need to provide information and participation is a thread that continues to bind climate agreements—from the UNFCCC to the Paris Agreement—and subsequent guidance on how to understand current obligations. This emphasis, and the current lack of further reference to substantive rights, makes the inclusion of human rights via systemic integration even more critical to their incorporation into adaptation. Additionally, as discussed in the previous chapter, there are implicit references to human rights concerns in the operative text of climate agreements that should be considered in interpretation, as well as several subsequent COP decisions and processes that reference human rights.[802] It has also been suggested that emphasis on 'participatory climate policy-making' in post-Paris guidance could 'prove instrumental to promoting coherence between the implementation of the Agreement and human rights norms.'[803]

Procedural rights also accord with the shared emphasis of human rights law and the precautionary principle on protecting against foreseeable risks, as will be discussed next.

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discussion, see Rajamani, 'Human Rights in the Climate Change Regime' (n 799) 243–44. Other multilateral agreements recognize human rights. See, e.g., Aarhus Convention.

[801] For example, guidance on implementing the Agreement does not include explicit references to human rights. Instead, it recommends that Parties provide information, involve stakeholders, and in some cases offer participation and consultation. See, e.g., Decision 17/CMA.1, 'Ways of enhancing the implementation of education, training, public awareness, public participation and public access to information so as to enhance actions under the Paris Agreement'(19 March 2019) FCCC/PA/CMA/2018/3/Add.2; Decision 18/CMA.1, 'Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement' (19 March 2019) FCCC/PA/CMA/2018/3/Add.2. For further discussion of this guidance and its inclusion of human rights, or lack thereof, see Rajamani, 'Integrating Human Rights' (n 378) 198–99; Duyck (n 542).

[802] See, e.g., Task Force on Displacement (n 224); Decision 2/CP.24, 'Local Communities and Indigenous Peoples Platform' (19 March 2019) FCCC/CP/2018/10/Add.1; for further, see Savaresi and Scott (n 530).

[803] Duyck (n 542) 223.

They allow for participation and information throughout the process of adaptation, which in turn can inform and affect the integration of substantive rights.[804] Indeed, procedural rights are critical for securing the local input and awareness needed to produce meaningful change.[805] They are thus a necessary component of preventive and proactive climate measures, which help achieve the purpose of adaptation in the regime: to anticipate and minimize the harmful impacts of climate change.

Concretely, procedural rights translate into a number of specific actions for adaptive mobility that will be discussed further in the next chapter. They could include participation in decision-making on adaptive mobility and planned relocation, including in selection of places to move and decisions about implementation; provision of information on and the opportunity to participate in requisite environmental and human rights impact assessments;[806] and the chance to participate in monitoring of adaptive mobility. A number of these actions—providing participation in assessment and decision-making—must necessarily occur *before* adaptation policies are put in place to identify vulnerable people and locations and risks to rights, the impact of *in situ* adaptation options, and whether mobility will become necessary.[807] This knowledge helps flesh out a State's obligation to respond to those climate

[804] Two scholars have found a 'right to know' emerging in the interaction of process and substance, which creates State duties to develop and disseminate information. They cite the Paris Agreement as an example of this interaction. Rebecca Bratspies and Sarah Lamdan, 'The Human Right to Environmental Information' in *Human Rights and the Environment* (n 13) 141.

[805] Shelia R Foster and Paolo Galizzi, 'Human Rights and Climate Change: Building Synergies for a Common Future' in *Climate Change Law* (n 43) 52.

[806] Assessment obligations have a basis in human rights law. See n 787; UNHRC, 'Mapping Report' (n 562) paras 29-35; *Taşkın* (n 659) [119] (studies and assessments allow States 'to predict and evaluate in advance the effects of those activities which might damage the environment and infringe individuals' rights') (citations omitted). See also *Öneryildiz* (n 645) [90] (right to information tied to protection of right to life); *Budayeva* (n 560) [132] (same); *SERAC* (n 645) [53] (right to information, and requirement to undertake impact studies linked to right to health and satisfactory environment).

[807] McInerney-Lankford (n 347) 152–53. For more on adaptation *in situ*, and short to medium-term planning where mobility can be delayed, see Cubie (n 159).

impacts that pose a threat to life and an adequate standard of living. It also facilitates the planning and implementation of mobility that is proactive rather than reactive. Facilitating a fully informed process of mobility, so that for example movement is to the most suitable place rather than the most accessible, can improve outcomes for migrants.[808] Procedural rights have also been rallying points and central to community buy-in for past and planned relocations, which affect their perceived and actual success over the long-term.[809]

F. Precaution and obligations to facilitate and implement adaptation

Chapter 2 set out the legal framework for the arguments of the thesis, which includes obligations to facilitate and implement adaptation and the overarching principles that guide climate action. Adaptation obligations are the subject of interpretation and the principles, preambular language in the Paris Agreement, and provisions on adaptation and access to information and participation inform the interpretive process. Thus far, this chapter establishes the general relevance of human rights to climate action and the consequent need to integrate human rights law as part of interpretation. It argues for an understanding of adaptation obligations that responds to foreseeable risks to rights. This section takes the process further, highlighting an argument already alluded to throughout the thesis: that the precautionary principle both reinforces the integration of rights and transforms adaptation obligations. The result leads to a stronger call for proactive adaptation measures in anticipation of predicted or foreseeable risks, even in the face of uncertainty.

[808] For more best practices, see Rigaud and others (n 23) 183.

[809] See, e.g., McAdam, 'Historical Cross-Border Relocations in the Pacific' (n 791); Robin Bronen, 'Climate-Induced Community Relocations: Creating An Adaptive Governance Framework Based In Human Rights Doctrine' 35 NYU Rev of L and Social Change 357, 398; Jane McAdam and Elizabeth Ferris, 'Planned Relocations in the Context of Climate Change: Unpacking the Legal and Conceptual Issues' (2015) 4 Cambridge J of Intl and Comparative L 137, 146.

In general, precaution expands the timing of climate action and precludes a lack of certainty as a reason not to act. As applied to adaptation obligations, it plays this role by reinforcing arguments for positive duties to protect rights in advance of significant harm or violations of rights. For example, it strengthens arguments that the duties to protect the right to life should not only occur when harm is imminent or certain, but also when climate impacts present a foreseeable and potential, actual or real risk of harm. The likelihood of such harm required for action is reduced through the principle, particularly when the consequences could be grave.[810] Thus, the principle ensures that the positive duties that emerge from human rights law are called upon earlier to incorporate human rights benchmarks and safeguards in planning and anticipatory action, in addition to implementation or a remedial capacity. In this way, they serve a transformative role, one that aids in overcoming potential limits to the use or integration of human rights law alone. Indeed, the practical utility of human rights has been criticised because of a failure to adequately incorporate anticipatory measures or their delineation after violations occur.[811] Yet an interpretation that supports anticipatory action is consistent with both the nature of adaptation obligations, their inclusion of planning and preparation, and the principle's aim to prevent and reduce harm from the impacts of climate change.[812]

Furthermore, as the risks to rights becomes increasingly evident, inclusion of the principle requires more urgent preventive action. This has parallels to the interaction of the principles of precaution and prevention in due diligence standards: the greater the certainty that a risk of harm exists, the less severe such harm must be to compel action.[813] Integrating

[810] See n 362.

[811] See n 621.

[812] See ch 2, IV.A

[813] See Stephens and French (n 280) 21.

human rights and precaution leads to similar results, with the threshold for harm arguably reduced—if the certainty of risk to rights is clear, action must be taken to prevent violations. However, climate impacts that put the rights analysed at risk are likely no less severe as they become more certain. Similarly, a precautionary approach alongside rights integration can incorporate related due diligence obligations. But together, they go beyond due diligence to require assessment, responses to, and concrete actions that address risks and ensure both procedural and substantive rights.[814] While these duties primarily govern relations between States and individuals within their jurisdiction, the CESCR suggests that climate-related human rights duties may extend beyond State borders to populations outside a State's territory.[815]

Overall, the risks posed by climate change are becoming increasingly certain. Accordingly, Jacqueline Peel observes that climate disasters present a straightforward application of the precautionary principle to compel proactive measures and to challenge a failure to consider the risks from climate change. She notes that evidence about these risks is well developed, and the burden to demonstrate otherwise should fall on those opposing such measures.[816] Combined with rights integration, the principle can be used by affected persons to demand measures that protect their interests. Precautionary action is often in the best interest of States as well, especially where risk assessments may be complicated by multiple

[814] See *Tātar v Romania, Chamber judgment* App no 67021/01 (ECtHR, 27 January 2009) (English summary); Wewerinke-Singh (n 563) 79 (case illustrates overlap between due diligence and obligations to prevent rights violations; further arguing obligations go beyond due diligence in a duty to take measures addressing serious and substantial risks to rights).

[815] CESCR, '2018 Statement' (n 662) para 5.

[816] Peel, 'International Environmental Law and Climate Disasters' (n 142) 89.

factors—like the drivers of mobility—or, as is the case for climate change, where catastrophic impact is possible.[817]

Precaution also plays a critical role in compelling and shaping mobility. By acting before serious harm occurs—and at a time prior to when human rights law may require on its own—adaptation can help reduce displacement, prevent precarious migration, and better facilitate mobility that ensures rights. These measures can help avoid the kind of 'adverse effects' that precautionary actions are meant to address.[818] Adverse effects, as made clear above, include risks to and violations of human rights. A precautionary approach to mobility is therefore a means to protect rights. It is of 'paramount importance' for climate action, to 'mobilize adaptation efforts at an early stage', encourage proactive resettlement when necessary, and 'foster the provision of assistance in adaptation.'[819] Indeed, advanced planning is particularly important for cases where relocation, especially international, will be the only feasible long-term option. For mobility more generally, a precautionary approach has also been used to generate protection arguments for migrants. Mariya Gromilova argues it is necessary to take a precautionary approach following population displacement, even if it is not possible to fully attribute its cause to climate change.[820] Graeme Hugo made a similar argument nearly a decade ago, explicitly calling for the application of the precautionary principle 'to put in place mechanisms at national and regional levels which have the capacity

[817] See Mayer (n 40) 293.

[818] UNFCCC arts 1(1), 3(3).

[819] Gromilova (n 40) 131.

[820] ibid 130.

to facilitate the process of resettlement of individuals, families, and in some cases entire communities displaced by climate change.'[821]

Thus, when read into an interpretation that integrates human rights law, precaution can further shape and guide adaptation obligations, to allow for various measures that can be tailored to the risks and context. Adaptation provides a means for States to affirmatively and concretely act to protect and fulfil human rights. Yet it is also an iterative process that adjusts to changing circumstances over time. Initially, obligations might be satisfied by adaptation *in situ*, including through efforts to reduce vulnerability and prevent displacement. These and other adaptation measures can allow for a delay in the need for mobility, and more time to assess when conditions in certain areas will put rights at serious risk or render land uninhabitable. This is consistent with the language in the Paris Agreement, requiring States to implement adaptation 'as appropriate'.[822] Thus, States have discretion in what adaptation measures may be appropriate for the given context—although *some* action to satisfy adaptation obligations and protect rights is required—and they must act to address the longer-term threats posed by climate change.[823] Furthermore, human rights law speaks to what is appropriate by limiting discretion if a 'specific type of measure is indispensable to avoid harm.'[824] Accordingly, and as the examples in the next chapter illustrate, when the severity of impacts is foreseeable or becomes more certain, and the resulting risks to human rights become too great, mobility will be the appropriate adaptive response. Thus, the adaptation process will necessarily support those who stay and those who leave. Indeed, in the

[821] Graeme Hugo, 'Lessons from Past Forced Resettlement for Climate Change Migration' in Etienne Piguet, Antoine Pécoud and PFA de Guchteneire (eds), *Migration and climate change* (CUP 2011) 267.

[822] Paris Agreement art 7.9.

[823] See, e.g., *Urgenda* (Supreme Court) (n 197).

[824] Stephens and French (n 280) 7–8.

implementation of adaptation, 'a continuum of response from protection in place to community relocation' will be required as climate change alters the landscapes and resources relied upon by people.[825]

III. Integrating relevant rights and rules into obligations to cooperate and assist in adaptation

As section II established, the integration of positive duties from human rights can shape obligations to act on adaptation and lead to measures to address risks to rights. Obligations to assist and cooperate in adaptation provide a means to help implement these measures. For developing countries, the ability to undertake and implement adaptation may also be contingent on developed States fulfilling their duties to provide support.[826] In general, support can improve capacity or provide resources, thereby contributing to wider efforts to manage climate risks in a comprehensive manner. More specifically, it can help ensure that adaptive mobility occurs, and in a manner that leads to more rights-responsive outcomes.

Like the obligations to facilitate and implement adaptation, however, obligations to cooperate and assist leave room for interpretation. This section analyses the integration of relevant rules and human rights duties that strengthen and influence an understanding of these obligations. It also argues that adaptation obligations to assist and cooperate add a collective dimension to support, which can shift or share the burden of adaptation efforts and adaptive mobility. Thus, while the primary responsibility remains on the State seeking to ensure rights, duties to support adaptation broaden this into a collective effort.

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[825] See Robin Bronen, 'Climate-Induced Community Relocations: Institutional Challenges and Human Rights Protections' in Robert A McLeman and François Gemenne (eds), *Routledge Handbook of Environmental Displacement and Migration* (Routledge 2018) 394.

[826] See nn 290-292; UNFCCC art 4(7). Support is critical in developing countries lacking capacity or with weak governance, which affects the ability to address the drivers of mobility. See IPCC, 'Managing Risks' (n 32) 451.

A. Relevant rules and rights obligations

Human rights law and other rules related to rights include duties of cooperation and assistance that are relevant to an interpretation of adaptation obligations.[827] This thesis often refers to obligations to cooperate and assist together, as both are necessary to effectively address climate change. They are also used in conjunction in human rights law—in the ICESCR for example—or overlap in purpose. However, the analysis below will clarify instances where there is a distinctive focus or difference between the two. For example, cooperation may be incumbent upon all implicated by the obligation, whereas assistance involves duty bearers and those owed the duty. Assistance is a form of cooperation, and one that under climate agreements entails direct duties for developed countries to provide to developing countries. Human rights law also reflects the broader reach of cooperation, and a similar division between those who must assist and those to whom assistance is owed.

For cooperation, other relevant rules are found *inter alia* in international human rights instruments and the UN Charter.[828] Both have been raised as independent sources for a duty to cooperate on climate change.[829] The Charter is a treaty, with all members bound by its articles.[830] As the overlap with Parties to the climate change regime is nearly perfect, this

[827] On the legal status of the duty to cooperate in international law, see, e.g., Rüdiger Wolfrum, 'Cooperation, International Law Of' MPEPIL (2010); Sands and others (n 237) 198 (principle of cooperation is customary law); Peter-Tobias Stoll, 'The Climate as a Global Common' in *Climate Change Law* (n 43) 138 (arguing that a customary duty of cooperation for aspects of climate change has emerged, but needs further exploration).

[828] See generally Wolfrum (n 827).

[829] See OHCHR Report (n 576) para 84 (duty to cooperate on climate change, which is particularly important for developing countries); 'Slow Onset Study' (n 18) paras 152-54; Knox, 'Human Rights Principles and Climate Change' (n 429) 230–31.

[830] See *Certain Expenses of the United Nations (Article 17, Paragraph 2 of the Charter)* (Advisory Opinion) [1962] ICJ Rep 151 10; Nico J Schrijver, 'The Future of the Charter of the United Nations' in Armin von Bogdandy and Rüdiger Wolfrum (eds), *Max Planck Yearbook of United Nations Law*, vol 10 (2006) 5.

means that its articles apply to those bound by climate agreements.[831] International cooperation is central to the UN; the Charter sets out one of its purposes is '[t]o achieve international cooperation in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and for fundamental freedoms. . .'[832] UN members also pledged to cooperate in promoting 'universal respect for, and observance of, human rights and fundamental freedoms'.[833] John Knox recognizes that while general, the language of the Charter suggests a commitment by States to act jointly to address global human rights challenges and that climate change presents such a challenge.[834] A general obligation of this nature supports the need to cooperate on adaptation efforts that seek to avoid risks to human rights. Thus, for developing States undertaking adaptation and adaptive mobility measures to help ensure human rights, the need for broader cooperation from other States in those measures is bolstered by the terms of their UN membership.

International human rights instruments, and the ICESCR in particular, contain more specific provisions on cooperation and assistance.[835] The ICESCR obliges State parties to progressively realize the rights it contains 'individually and through international assistance

[831] All UN members States, for example, are Parties to the UNFCCC.

[832] Charter of the United Nations (adopted 26 June 1945, entered into force 24 October 1945) 1 UNTS XVI art 1(3).

[833] See ibid arts 13, 55, 56. For more on the nature of cooperation in the Charter and its evolution, see Tobias Stoll, 'International Economic and Social Co-Operation' in Bruno Simma and others (eds), *The Charter of the United Nations: A Commentary*, vol II (3rd edn, OUP 2012); Brian D Lepard, *Customary International Law: A New Theory with Practical Applications* (CUP 2010) 312–17 (describing drafting history and scholars opinion on status).

[834] Knox, 'Human Rights Principles and Climate Change' (n 429) 230–31.

[835] The importance of cooperation is highlighted in the preambles of the CEDAW, CRC, and ICERD.

and cooperation'.[836] This applies to all of its rights, including the right to an adequate standard of living. The latter further recognizes 'the essential importance of international co-operation' in realizing the right.[837] More specifically, it requires that for the right of everyone to be free from hunger, State parties 'shall take, individually and through international co-operation' measures and programmes needed to improve methods of food production, conservation, and distribution and to ensure equitable distribution of food globally according to need.[838] As the CESCR emphasizes for all of the rights it enshrines, assistance and cooperation play an 'essential role' in their realization; it is an obligation of all States, but 'is particularly incumbent' on those States—namely developed countries—that have ability to assist.[839] The duty to fulfil rights under ICESCR has also been interpreted to suggest that rich States are obliged to assist poorer States in adaptation.[840]

Furthermore, in a recent statement, the CESCR suggested that as part of their duties of international cooperation and assistance developed States should support adaptation, particularly through technological or financial means. It reminded States that they not only owe duties to their own populations, but also to those outside their territories.[841] The CESCR

[836] ICESCR art 2(1). However, some countries—the United States in particular—are not parties to ICESCR. Signatories like the US have an obligation to refrain from acts that defeat its object and purpose, n 766.

[837] ICESCR art 11(1).

[838] ibid art 11(2).

[839] See GC 3 (n 561) paras 13-14.

[840] Daniel Bodansky, 'Climate Change and Human Rights: Unpacking the Issues' (2010) 38 Georgia J of Intl & Comparative L 511, 521; Bodansky, Brunnée and Rajamani (n 1) 306.

[841] CESCR, '2018 Statement' (n 662) paras 5, 6. The Global Compact on Migration, although non-binding, evinces States' agreement to cooperate to provide safe, orderly and regular migration. Objectives include minimizing drivers of cross-border migration through joint analysis, information sharing, and development of adaptation strategies. It establishes agreement to cooperate on solutions for those 'compelled to leave their countries' due to *inter alia* climate change. UNGA Res 73/195 (19 December 2018) 'Global Compact for Safe, Orderly and Regular Migration' UN Doc A/RES/73/195, Annex paras 18(h)-(j), 39.

has also clarified that when a State is unable to meet its required core minimum duties to provide certain basic resources, it should—and in some cases must—request international assistance to do so. For example, in interpreting the right to adequate housing, the CESCR stated that when a State is unable to take 'steps which must be taken immediately' due to resource constraints, 'it is appropriate that a request be made as soon as possible for international cooperation'.[842] Furthermore, and as applied to the immediate obligation to monitor the housing situation, the CESCR clarified that in order 'to satisfy its obligations under article 11(1) [a State] must demonstrate, *inter alia*, that it has taken whatever steps are necessary, either alone or on the basis of international cooperation, to ascertain the full extent of homelessness and inadequate housing within its jurisdiction.'[843] Similarly, on the right to water, the CESCR reiterated the 'essential role of international cooperation and assistance to take joint and separate action' to realize the right.[844]

The duties or emphasis on cooperation and requesting assistance to meet core obligations also imply a reciprocal duty to provide such assistance, especially when read alongside the obligation to assist in progressive realization of ICESCR rights. While this is a shared obligation by all State parties, as repeatedly emphasised by the CESCR in general and for specific rights, it is one that falls primarily on developed States. As it noted in its general comments on the right to health and the right to water, 'it is particularly incumbent on State parties and other actors in a position to assist to provide international assistance and cooperation…which enables developing countries to fulfil their core obligations'.[845] For the right to water, the CESCR further encourages States to facilitate realization of the right in

[842] GC 4 (n 721) para 10.

[843] ibid para 13.

[844] GC 15 (n 584) para 34.

[845] The comments' wording is virtually identical. GC 15 (n 569) para 38; GC 14 (n 569) para 45.

other countries through, *inter alia*, provision of resources, financial and technical assistance, and necessary aid including to refugees and displaced persons. As to whom this assistance duty falls upon, the CESCR again clarified that 'economically developed States parties have a special responsibility to assist the poorer developing States in this regard.'[846] More broadly, when discussing international sanctions, the CESCR has stated that:

> '[j]ust as the international community insists that any targeted State must respect the civil and political rights of its citizens, so too must that State and the international community itself do everything possible to protect at least the core content of the economic, social and cultural rights of the affected peoples of that State.'[847]

Taken together, ICESCR's text and obligations along with the CESCR's interpretations lead to an understanding of cooperation and assistance with several key implications for the arguments in the thesis. First, as established above, a State must provide the minimum essential goods and resources required to access food, water, housing, and healthcare. This triggers positive action in certain circumstances to ensure these resources, including through adaptation and adaptive mobility measures. Per their adaptation obligations, developed States must assist in adaptation, which through integration includes support in addressing risks to rights. Second, if a State cannot meet its core rights obligations—including as needed to adapt or satisfy its adaptation obligations—then it should reach out for assistance in doing so. In response or without prompting, other States, particularly those developed countries with the means to do so, are obliged to cooperate and provide assistance in meeting these core obligations. This duty is one required by adaptation obligations and clarified by relevant human rights duties. It helps specify one form of assistance in adaptation required of developed States—support to ensure basic necessities for vulnerable populations in developing countries.

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[846] GC 15 (n 569) para 34.

[847] CESCR, 'General Comment No 8: The relationship between economic sanctions and respect for economic, social and cultural Rights' (12 December 1997) UN Doc E/C.12/1997/8 para 7.

Third, the relevant duties to cooperate and assist from the ICESCR further establish the importance of the right to an adequate standard of living to the analysis. While the right to life compels other States to assist in certain circumstances, for example through *non-refoulement*, this tends to only occur for acute cases.[848] Furthermore, there is no similar explicit duty to assist and cooperate in the ICCPR.[849] However, as the analysis of the right to life evinces, the conditions required for a dignified life overlap with those protected by the right to an adequate standard of living. The inclusion of the latter makes the integration of related positive duties more direct, as does the related obligations of States to assist and cooperate. In practical terms, integration translates into the incorporation of human rights-based measures in requests for adaptation assistance within the climate change regime and a double or strengthened duty to provide such assistance. As the next chapter suggests, assistance could come in a variety of forms but must include financial and technical support.

Arguments can also be made that satisfying these obligations could be accomplished through the admittance of migrants into other States, and assistance and cooperation to implement such endeavours. Recognising a duty to admit or right of entry is one means to meet adaptation obligations. This is needed, as no such general right exists. Thus, the legal basis for such a standalone right or duty is contestable. But arguments have been made that a shared duty to receive international migrants stems from States' contributions to the causes of climate change; this case has been made specifically for small island States and those who must permanently relocate.[850]

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[848] See, e.g., *Teitiota* (HRC) (n 119).

[849] Some argue that human rights and the duty of international cooperation create extraterritorial obligations for high emission States to support climate change adaptation based on foreseeable harm to human rights. Knox, 'Human Rights Principles and Climate Change' (n 429) 231; Hall and Weiss (n 40) 344–45. However, this faces resistance due to *inter alia* reticence to accept responsibility for climate change or assistance as a rights obligation (n 851).

[850] See, e.g., Eckersley (n 402). See also ch 5, II.B.

Furthermore, as with the limitations of human rights law in compelling direct adaptation action on its own, the duties to cooperate and assist derived from the Charter and human rights law face obstacles that are better addressed by their inclusion in the climate change regime. Developed States' resistance to these duties as obligations hampers their concrete use.[851] The status of cooperation within the ICESCR as legally binding or requiring particular States to provide particular forms of assistance has been questioned, although the potential for a specific right to give rise to mandatory obligations to cooperate 'according to the circumstances' is conceded.[852] Yet these duties can be used, as they are in the thesis, to buttress the climate change regime's obligations to cooperate and assist in adaptation.[853] Integration also takes their role a step further. It not only ensures that relevant rights obligations and duties support arguments for assistance with and cooperation on adaptation, but also that they are included in a human rights-based approach to adaptive mobility. Thus, combined the obligations of the climate change regime and human rights law are stronger than if taken on separately.[854]

Finally, a duty to assist for international mobility is also supported by other legal sources. For example, the United Nations Convention on the Law of the Sea contains a duty to render assistance—which could have extraterritorial impact—although it is limited to

[851] As discussed in Knox, 'Human Rights Principles and Climate Change' (n 429) 227; Gromilova (n 621) 90; Matthew Craven, 'The Violence of Dispossession: Extra-Territoriality and Economic, Social, and Cultural Rights' in Mashood Baderin and Robert McCorquodale (eds), *Economic, Social, and Cultural Rights in Action* (OUP 2007) 77.

[852] See Philip Alston and Gerard Quinn, 'The Nature and Scope of States Parties' Obligations under the International Covenant on Economic, Social and Cultural Rights' (1987) 9 Human Rights Q 156, 191; see also Burson, Kälin, McAdam and Weerasinghe (n 21) 403–4.

[853] See Rajamani, 'Rights-Based Perspectives' (n 667) 425–26.

[854] Human rights treaty bodies recognise this interconnection, and the need for coordinated efforts to address climate change. See CIEL and GIESCR, 'States' Human Rights Obligations in the Context of Climate Change: Synthesis Note on the Concluding Observations and Recommendations on Climate Change Adopted by UN Human Rights Treaty Bodies' (2018) 13; GC 37 (n 584).

assistance at sea.[855] The principle of 'temporary refuge' offers another means of support, one rooted in customary law, which creates time-bound obligations of admission and non-return.[856] A number of States have granted temporary refuge following disasters, although many instances regularize the status of those already in a new country.[857] The Nansen Initiative's Protection Agenda builds on this principle, and advocates for integration of human rights-based approaches to admit those fleeing across borders in the context of climate change and disasters.[858] Temporary refuge, however, does not offer a long-term solution for those who need to move more permanently. Nor is it a good fit for the kind of anticipatory, proactive movement that characterizes adaptive mobility in this thesis.[859]

B. Operative principles and obligations to assist and cooperate

There are several principles of the climate change regime that are key to interpreting adaptation obligations to cooperate and assist. They include the principles that underlie differentiation within the regime—equity and the CBDRRC principle—and the principle of precaution.[860]

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[855] United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 396 art 98.

[856] This principle and the protection it may offer are discussed in Guy S Goodwin-Gill, 'Non-Refoulement, Temporary Refuge, and the "New" Asylum Seekers', *Refuge from Inhumanity? War Refugees and International Humanitarian Law* (Brill 2014) 457–58.

[857] Cantor (n 105) 36–40.

[858] Protection Agenda (n 15) paras 20, 47, 51, 88.

[859] While the analytical focus is on legal obligations that help concretise adaptation obligations, there are non-binding or soft law frameworks that can strengthen arguments for adaptive mobility, cooperation, and assistance. For example, the Sendai Framework calls for enhanced international cooperation to developing countries from developed countries; highlights small-island States, African countries, and LDCs as requiring support due to their high vulnerability; and provides concrete measures of support. 'Sendai Framework' (n 142) paras 8, 14, 18(f), 19, 28, 41; discussed further in 'Slow Onset Study' (n 18) paras 160-61; Burson, Kälin, McAdam and Weerasinghe (n 21) 405–6.

[860] See ch 2, IV; Redgwell, 'Intra- and Inter-Generational Equity' (n 381) 186.

Chapters 1 and 2 explain that the focus on developing countries and the assistance owed to them in adaptation in this thesis is due both to the disproportionate impacts they face from climate change,[861] and the differentiated obligations contained in climate agreements. The principles of equity and CBDRRC are driving forces of differentiation, and guide action under the regime. As discussed in chapter 2, differentiation helps allocate responsibilities and support for adaptation. These responsibilities are underscored by the inclusion of language in the UNFCCC and Paris Agreement that repeatedly requires consideration be given to the 'needs and special circumstances of developing country Parties', particularly those vulnerable to climate impacts.[862] Within these countries, as section II.A argues, integration of human rights further justifies a focus on those most vulnerable to climate change. These are the people or places that 'bear the disproportionate burden' of climate change and whose differentiated situations require acknowledgement and action.[863] The integration of human rights duties to assist and cooperate, as discussed above, can help concretise their adaptation obligation counterparts. Yet it is an interpretation that includes differentiation which helps distil duties into practical terms. Operationalizing its principles in a given context can address gaps in protection for those who face risks to their rights from climate impacts, particularly migrants and those that adaptive mobility measures address.[864]

In addition to differentiation, the precautionary principle affects interpretation of adaptation obligations to assist and cooperate. As with its influence on an interpretation that results in anticipatory adaptation measures, the principle also supports proactive assistance

[861] Existing vulnerabilities also impact movement in these countries. In recent years, between 90-95 per cent of those displaced by sudden-onset disasters are in developing countries. See, e.g., IDMC, 'Global Estimates 2015' (n 89) 9.

[862] See UNFCCC art 3(2); ch 2, III.B.2.

[863] See UNFCCC art 3(2).

[864] As illustrated in chapter 5.

and cooperation. The success of adaptation may hinge on the timeliness and breadth of assistance. As Mariya Gromilova argues, 'climate law can be seen as and interpreted in conjunction of human rights norms': human rights law provides a 'baseline against which to measure the extent and scope of assistance' required under the climate change regime, while the precautionary principle means that 'there is no need to wait for human rights violations' before providing assistance.[865] Thus, the principle leads to assistance before severe harm from climate impacts occurs. Anticipatory adaptation measures and support for them can help avoid human rights violations and when the circumstances arise, facilitate adaptive mobility.

More generally, an interpretation that integrates relevant rights and principles into duties to assist and cooperate can provide several important clarifications about the scope of obligations. First, it establishes who is due support and who should provide it. Differentiation in the climate change regime and integration of relevant rights obligations makes clear that support is required from developed country Parties and must be directed at developing countries and vulnerable people within them. This helps shift the burden from those developing countries most affected by climate impacts—and where adaptive mobility will be undertaken—to a broader set of States. In doing so, it brings a collective element to support and makes adaptation and adaptive mobility an effort that goes beyond the implementing State. This can help address capacity issues or difficulty implementing adaptation measures.[866] Collective action serves as a starting point; it avoids singling out one 'guilty' party or producing backward looking or defensive behaviour by focusing instead on what is needed going forward to transform problematic structures or situations.[867] Yet collective

[865] Gromilova (n 40) 153.

[866] On implementation gaps, see Ahuja and others (n 794) 20–21.

[867] See Iris Marion Young, *Responsibility for Justice* (OUP 2011) 104–106 (setting out social connection model of responsibility for wide-reaching injustices best addressed through collective action); Eckersley (n 402) 489 (citing Young).

responsibility does not obviate the duty for a State to provide assistance in order to meet its adaptation obligations.

Furthermore, support need not be uniform and will depend on the context. This is highlighted by the Special Rapporteur on human rights and the environment, who has declared that '[a]ll States have a duty to work together to address climate change but the particular responsibilities necessary and appropriate for each State will depend in part on its situation.'[868] As discussed in the next chapter, the forms of assistance may also vary between internal and cross-border adaptive mobility due to the different issues they raise: for example, satisfaction of obligations to assist and cooperate in cross-border scenarios can come through admittance of migrants into another State. However, the general argument remains the same. Developing States are owed assistance in planning for and implementing adaptation measures, including adaptive mobility measures, and developed States are primarily responsible for providing such assistance. Because adaptation obligations are evolutive, support is not necessarily a one-off or one-time contribution. Likewise, assistance and cooperation should adjust to reflect the changing needs of developing country Parties. This is consistent with the '[c]ontinuous and enhanced international support' required by the Paris Agreement.[869] Practically, this means that developing countries should have access to support multiple times, and for proactive, anticipatory measures that allow people to adapt or move out of areas where they face significant risks to their human rights.

[868] UNHRC, 'Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment' (1 February 2016) UN Doc A/HRC/31/52 para 46.

[869] Paris Agreement art 7.13. See ch 5, III (discussing scaled up finance and support for developing countries).

IV. Conclusion

Climate impacts threaten a multitude of human rights. The analysis in this chapter has focused on those rights critical to subsistence and survival, decision-making in adaptation, and the ability of individuals to stay or move from a place. Integrating these rights and their positive duties into an interpretation of adaptation obligations leads to measures that not only consider human rights, but that also proactively ensure rights in the face of foreseeable risks. Furthermore, these positive duties inform the kinds of actions necessary to protect rights, which at a minimum requires the provision of essential goods and resources and the participation of those affected in decision-making processes. In some circumstances, as illustrated in the next chapter, addressing the foreseeable risks to rights will require States to undertake anticipatory and proactive forms of adaptation, including measures that enable adaptive mobility. Furthermore, an interpretation that integrates relevant human rights and the principle of precaution can transform adaptation obligations. Together, they lead to action sooner than may be required by human rights duties independently. Such a focus on foreseeability shifts action to an earlier point—indeed to now—to plan for and put into place the frameworks necessary to protect and ensure human rights over the long-term. Consequently, the interpretive process provides guidance on when adaptation obligations are triggered and what measures they entail. This can improve outcomes for vulnerable persons, including migrants, by providing for some degree of legal certainty; once risks to rights are identified, then the means to ensure these rights can be explored.

The success of adaptation is also dependent on support from other States. The interpretation of obligations to assist and cooperate in adaptation, which includes the integration of human rights duties and the principles that drive differentiation in the climate change regime, creates duties for developed States to support developing countries' adaptation efforts. In some cases, assistance will be necessary to ensure developing countries

can provide minimum essential resources put at risk by climate impacts. In some situations, providing these resources will further require facilitating adaptive mobility. At a minimum, adaptation obligations require that developed country Parties pay for aspects of adaptation. As discussed in the next chapter, support translates into various forms of assistance. Whether assistance is financial or otherwise will depend on the context. For adaptive mobility, the aim is to enable proactive and anticipatory movement that incorporates human rights over longer terms—in planning for such mobility, during the process, and upon and after arrival.

Chapter 5: Adaptive Mobility and Integration in Action

I. Introduction

As the previous chapter argues, the integration of relevant human rights and their corresponding positive duties, combined with an interpretation that includes the operative principles of climate agreements, leads to adaptation obligations that require proactive and anticipatory action. Under certain circumstances, this requires action to plan for and implement adaptive mobility through adaptive mobility measures. This chapter seeks to analyse the conditions that could give rise to obligations to enable adaptive mobility. In particular, it takes the human rights-based interpretation of adaptation obligations and applies them in several regional and State contexts. As chapter 1 explained, these examples were selected because they are vulnerable developing countries expected to face significant and foreseeable adverse impacts from climate change. Each can also be considered the kind of vulnerable developing country Parties—based on geographic and/or economic vulnerabilities—entitled to support within the climate change regime. Accordingly, they must be given due consideration and are owed assistance and cooperation from developed country Parties. As discussed further below, within these countries, there are also a number of people who are particularly vulnerable to climate impacts and face risks to human rights that put their subsistence or survival in question. Due to their vulnerability, it is these individuals who should be prioritized under human rights law and are thus are the focus of integration, and the anticipatory mobility that underpins the thesis.

While each of the three contexts analysed below present a different interaction of threats from climate impacts and current conditions, together they serve several purposes in the thesis. The first is demonstrative. These examples operationalize legal arguments to illustrate how integration could work in action to help consider and ensure human rights.

Alongside integration, they draw on knowledge about impacts and the need for precaution to shape adaptation. They also show the nature and cumulative effect of risks to rights. Impacts often affect a number of essential resources at the same time, creating overlapping and interconnected risks. Thus, the experience and interaction of risks to multiple rights is what could trigger adaptive action. The second is to contrast how mobility has unfolded and may continue to unfold absent the rights-based adaptive mobility advocated by the thesis. Potential adaptive mobility measures that enable anticipatory, proactive movement are discussed, to show what is possible if rights are integrated throughout the process of adaptation. The final purpose is to provide some scope; both ambitious arguments and limitations are raised. Indeed, interpreting adaptation obligations in light of human rights is not a panacea. Integrating rights does not mean that specific actions or adaptive mobility measures are required in all circumstances or across contexts. States retain discretion in selecting appropriate measures. Political will is also necessary, but may not always be forthcoming.[870] However, the actions that can or may be necessary to satisfy adaptation obligations—including enabling internal mobility, relocation, and admittance of migrants into other countries—provide a means to better ensure the rights of some of those most vulnerable to climate impacts. Such an interpretation also provides guidance for State action and support to meet obligations of assistance and cooperation.

Overall, the chapter argues that the integration of human rights early and throughout the process of adaptation, in planning, implementation, and monitoring, can lead to better outcomes for people vulnerable to climate change. In particular, it can result in preparation and support for adaptive mobility that helps avoid forced movement or displacement and includes the participation of affected persons. Forms of support will also be analysed. In

[870] Mobilizing political will is beyond the scope of the thesis. See ch 6, I.B (future research). Willingness to cooperate and address aspects of climate mobility is evinced in non-binding frameworks, including 'Sendai Framework' (n 142); 'Global Compact on Migration' (n 841).

general, obligations to assist and cooperate translate into support—primarily from developed States—in planning for, implementing, and monitoring adaptation measures that include mobility. However, the assistance needed will vary depending on the context and type of mobility.

Accordingly, the illustrations will explore the different legal issues internal and international mobility raise. Most climate-related mobility, including adaptive mobility, is expected to occur within State borders.[871] Indeed, without adaptive action and proactive mobility, the scope of internal displacement is predicted to be substantial with grave consequences for those who move and for receiving communities.[872] Yet as the illustrations demonstrate, international mobility will be necessary under certain conditions. And while whether or not a person crosses a State border is not necessarily the most important factor in a migrant's experience,[873] for an analysis of international law and the forms of support and change needed, the distinction matters. States cooperating on international mobility or planned relocation will need to provide legal pathways for such movement, which can address some of the current barriers to migration.[874] Without such concerted effort, crossing borders will likely prove too costly or difficult for many on the move in the context of climate change and render some immobile.[875]

[871] See nn 91-92.

[872] Rigaud and others (n 23).

[873] Local conditions or connections across localities may influence the experience more than other factors. See Katherine Brickell and Ayona Datta, 'Introduction: Translocal Geographies' in Katherine Brickell and Ayona Datta (eds), *Translocal Geographies: Spaces, Places, Connections* (Ashgate 2011).

[874] See n 22.

[875] See Foresight (n 38) 37.

II. Concretising adaptation obligations: Developing country illustrations

The concretisation of adaptation obligations is illustrated below using three examples, Bangladesh, the Pacific Island States, and the Sahel region. As the analysis will set out, while a range of adaptation measures is possible in all locations, these examples were selected as each highlights a different form of adaptive mobility most suited the particular context.

In general, concretisation—or the process of interpreting obligations to integrate rights in a specific context—occurs as follows: each area faces various known and predicted impacts of climate change, which lead to certain risks to the human rights of those vulnerable to these impacts. State responses governed by the climate change regime include obligations to adapt, and to cooperate and assist in adaptation. Interpretation of these obligations requires integrating relevant positive human rights obligations and the inclusion of the principles of the climate change regime. Together, this provides a duty to act in the face of foreseeable risks to human rights and shifts the focus of action towards anticipatory adaptation. It also necessitates proactive assistance and cooperation by developed States in such action. Yet the nature of adaptation measures will vary depending on the particular conditions of a given location or population; these conditions help tailor the positive duties to the risks involved, providing insight into when and what duties are called into action. Thus, the context operationalizes the arguments in the thesis. It makes the broad adaptation obligations and positive human rights duty more concrete.

Each of the countries illustrated can qualify as particularly vulnerable under the climate change regime, whose needs must be considered and that are thereby entitled to support from developed country Parties.[876] Bangladesh contains low-lying coastal areas, and areas prone to natural disasters or with fragile ecosystems—all of which are identified by the

[876] See ch 2, III.B.2.

UNFCCC as requiring special consideration. Likewise, Pacific Island States and some States in the Sahel face these environmental vulnerabilities, as well as others identified: the Pacific Island States include small island countries; the Sahel includes countries with arid and semi-arid areas, areas liable to drought and desertification, and some are landlocked and transit countries. Most are also LDCs, whose needs must be accounted for in certain forms of assistance.

To provide the context for the interpretation of adaptation obligations, the examples draw on existing and expected changes to the environment, how these affect people's livelihoods and rights, and past and current patterns of mobility. The latter provides insights into future mobility that can assist in planning for and implementing adaptive mobility. The examples also discuss areas and conditions—*inter alia* location, socio-economic factors, and/or access to resources—that will render people vulnerable to climate impacts. Each discusses various responses that can satisfy adaptation obligations through a human rights-based approach. They are not exhaustive of all possible appropriate action, but rather illustrate key anticipatory rights-based responses entailing adaptive mobility measures. Integration of human rights also does not only require facilitating adaptive mobility, although that is the focus of the thesis. In some circumstances, it could lead to *in situ* adaptation that allows people to stay in place as long as possible, and it may necessitate multiple strategies as conditions change over time. Naturally, appropriate action must be tailored to context, so appropriate responses in one location may not be apt for another.[877]

Accordingly, each example does not analyse all or the same forms of internal and international mobility that are possible or necessary. Instead, they highlight different

[877] Solutions should be integrated across sectors including *inter alia* adaptation, disaster risk reduction (DRR), agricultural and land use planning. See Alice Thomas, 'Human Rights and Climate Displacement and Migration' in *Routledge Handbook of Human Rights and Climate Governance* (n 427) 118.

challenges and solutions that collectively illustrate the arguments for integration and measures to support adaptive mobility. Bangladesh is a country preparing for a significant rise in internal displacement due to the adverse effects of climate change to its low-lying deltas and coastal areas, which will make it increasingly difficult to sustain livelihoods and homes. It is also home to a large refugee population, which is vulnerable due to the conditions of their living situations and exposure to environmental conditions. While international mobility can and will occur in response to climate change, internal options in Bangladesh are the most feasible and likely in the near future. Thus, the analysis emphasises the potential internal options both being contemplated and that adaptive mobility measures make possible. The Pacific Island States are also comprised of many low-lying areas where people face significant risks from climate impacts. They are often cited as a unique case, where relocation of entire communities or populations will be needed in the coming years. The region illustrates the range of adaptation options—and adaptive mobility—that are possible or preferred before this occurs. Yet it also suggests the need to plan for relocation well in advance. Finally, the Sahel is a region vulnerable to a variety of climate impacts, and whose inhabitants have suffered from long-term droughts in the past. Amongst other challenges, future drought and desertification are expected to be similar or worsen with climate change. Resource constraints and environmental degradation already adversely affect pastoralists and farmers alike, with a mobility and immobility in many forms underway. Here, however, it is used to illustrate the potential for cooperation to facilitate legal pathways across borders and the need for international support. Each of the examples highlights the importance of international assistance and cooperation, which may vary depending on the context and the kinds of adaptive mobility measures pursued. As will be highlighted below, support could include financial and technical assistance, coordination of cross-border mobility and planned relocation, regional or bilateral agreements on movement, liberalization

of immigration policies and visas, facilitating labour migration, assistance in obtaining land elsewhere, and/or easing barriers to remittances.

A. Bangladesh

1. Climate impacts, vulnerabilities, and risks to rights

Bangladesh is considered one of the most climate vulnerable countries in the world.[878] It faces a number of impacts: sea level rise, flooding, increased intensity and frequency of storms, riverbank and coastal erosion, and severe droughts in some parts of the country.[879] These impacts are increasingly foreseeable, and predicted to occur sooner and with more severity as mitigation goals are not met.[880]

The country has long dealt with flooding and extreme weather events. Eighty per cent of the country is floodplain, and 30 to 70 per cent of the land is flooded each year.[881] Sea level rise also poses a risk to individuals and communities. Almost half of Bangladesh's population live at 10 metres or less above sea level.[882] Recent estimates predict sea level rise of up to a metre by the end of the century, and between 10 and 25 centimetres by 2020 and 2050

[878] It consistently ranks as such given current and longer-term risks. See, e.g., David Eckstein and others, 'Global Climate Risk Index 2020: Who Suffers Most From Extreme Weather Events? Weather-Related Loss Events in 2018 and 1999 to 2018' (Germanwatch eV 2019); 'Climate Change and Environmental Risk Atlas 2014' (Maplecroft Global Risk Analytics 2014) <https://www.maplecroft.com/insights/analysis/global-economic-output-forecast-faces-high-or-extreme-climate-change-risks-by-2025/> accessed 31 May 2021.

[879] See Saleemul Huq and Jessica Ayers, 'Climate Change Impacts and Responses in Bangladesh' (2008) IP/A/CLIM/NT/2007-09; Adger and others (n 26) 761.

[880] See, e.g., IPCC, '1.5°C Report' (n 60) 5, 203, 231.

[881] Huq and Ayers (n 878) 2.

[882] Gordon McGranahan, Deborah Balk and Bridget Anderson, 'The Rising Tide: Assessing the Risks of Climate Change and Human Settlements in Low Elevation Coastal Zones' (2007) 19 Environment and Urbanization 17, 26. Half of the country's population lives at 5 metres or less above sea level. Displacement Solutions, 'Climate Change Displaced Persons and Housing, Land and Property Rights: Preliminary Strategies for Rights-Based Planning and Programming to Resolve Climate-Induced Displacement' (2010) 22.

respectively.[883] This rise may negatively impact Bangladesh more than any other non-island nation.[884]

Yet the impacts of climate change do not occur in isolation. Sea level rise, for example, interacts with or causes other hazards like tidal and storm surges that increase coastal flooding, saltwater intrusion, and erosion.[885] More prolonged and severe flooding will further reduce access to land and freshwater. Significant portions of the country's coastal areas are at risk from these impacts. The combination of slow onset climate events with storm surges and sudden events threatens up to 30 per cent of Bangladesh's coastal area in coming decades.[886] Saltwater intrusion currently reaches up to 100 kilometres inland, and sea level rise will worsen this, further reducing access to freshwater.[887] Freshwater access is already a problem in these areas, where twenty million people already experience salinity in their drinking water.[888] Indeed, salinization threatens over 40 per cent of the Ganges-Brahmaputra Delta in the country if temperatures continue to rise at their current pace.[889] Human activity—like dams, river diversions, and embankments—also exacerbates impacts and increases the risks of downstream flooding.[890]

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[883] Ainun Nishat and Nandan Mukherjee, 'Climate Change Impacts, Scenario and Vulnerability of Bangladesh' in Rajib Shaw, Fuad Mallick and Aminul Islam (eds), *Climate Change Adaptation Actions in Bangladesh* (Springer Japan 2013) 24.

[884] Rigaud and others (n 23) 146.

[885] See Ebru Kirezci and others, 'Projections of Global-Scale Extreme Sea Levels and Resulting Episodic Coastal Flooding over the 21st Century' (2020) 10 Scientific Reps 11629.

[886] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 163; Bangladesh's Second NC (2012) 184 (identifying regions at risk of salinisation).

[887] Huq and Ayers (n 878) 7.

[888] Potsdam Institute for Climate Impact Research and Climate Analytics, 'Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience' (World Bank 2013) 109.

[889] Hoegh-Guldberg and others (n 153) 232–33.

[890] Rigaud and others (n 23) 146.

These impacts put peoples' livelihoods, health, and related rights to life and to an adequate standard of living at risk.[891] Climate related water- and vector-borne diseases—yellow fever, cholera, dengue, diarrhoea, and malaria—are a risk to health and lives and are expected to increase both in total numbers and areas of impact alongside climate change in the region.[892] Many in the country are dependent on land and natural resources for their food and livelihoods, with up to two thirds of people involved in farming activities in some capacity.[893] Half the labour force is also employed through agriculture.[894] Climate impacts affect food production and availability, water supply and quality, and the ability to earn a living; the pace and scale of change will overstretch people's traditional coping strategies in the country.[895] Food insecurity is also likely to increase malnutrition.[896] Yet the government of Bangladesh recognises that these risks will not be evenly distributed. It considers vulnerability as the thesis does: looking at both geographic areas that are vulnerable due to location and certain already marginalised groups who will be most vulnerable to climate impacts in these areas. Bangladesh has identified those experiencing poverty, women, children, and the elderly as those most likely to suffer a disproportionate share of harm from climate change.[897] Furthermore, where short-term gains are prioritised over long-term

[891] See Adger and others (n 27) 761. Bangladesh links risks to livelihood from climate change to a variety of adverse effects requiring adaptation measures, including access to food, drinking water, housing, and health. Bangladesh's Second NC (n 886) 181–84.

[892] Bangladesh's NAPA–Updated (n 334) 33; Bangladesh's Second NC (n 886) 179; Mahfuz Ahmed and Suphachol Suphachalasai, 'Assessing the Costs of Climate Change and Adaptation in South Asia' (ADB 2014) 35, 65.

[893] Bangladesh's NAPA (2005) 23; Huq and Ayers (n 878) 3.

[894] Bangladesh's Second NC (n 886) 182.

[895] McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 161–62.

[896] Bangladesh's NAPA–Updated (n 334) 33; Bangladesh's Second NC (n 886) 184.

[897] Bangladesh's NAPA–Updated (n 334) 33–34; Bangladesh 'Bangladesh Climate Change Strategy and Action Plan' (2009) 13; Bangladesh's Second NC (n 886) 184–85.

prospects, environmental change can lead to worsening conditions for agriculture, income, and health—particularly for women.[898]

Those living in slums and informal settlements, many of whom have migrated from rural areas, are also highly vulnerable. Increased flooding, rising temperatures, and other climate impacts are expected to increase the incidence of disease in urban areas.[899] There is widespread recognition that these areas and the forces contributing to vulnerability in them must be addressed.[900] Without such action, those in living in precarious situations will continue to face risks to their lives, livelihoods, and basic rights. Indeed, current living conditions for urban migrants often violate human rights: many reside in inadequate housing and shelter and lack access to basic necessities like drinking water, healthcare, and education.[901]

2. Current and predicted mobility

Historically, climate and other environmental impacts have exacerbated and shifted patterns of mobility. This will continue to be the case in the absence of anticipatory and proactive planning and adaptive measures to address the impacts and conditions that drive movement. For example, disasters in Bangladesh have displaced over 900,000 people on average annually, with nearly all of these weather related displacements.[902] People currently use

[898] See IPCC, 'Managing Risks' (n 32) 452; McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 165.

[899] Sabina Faiz Rashid, Showkat Gani and Malabika Sarker, 'Urban Poverty, Climate Change and Health Risks for Slum Dwellers in Bangladesh' in *Climate Change Adaptation Actions in Bangladesh* (n 883) 59–60.

[900] See, e.g., IPCC, 'Managing Risks' (n 32) 294, 317.

[901] See Rabab Fatima, Anita Jawadurovna Wadud and Sabira Coelho, 'Human Rights, Climate Change, Environmental Degradation and Migration: A New Paradigm' (2014) IOM and MPI Issue in Brief 7.

[902] See IDMC, 'Bangladesh' <http://www.internal-displacement.org/countries/bangladesh> accessed 9 October 2020 (data covering 2008-2019).

temporary, seasonal, and circular migration as a livelihood strategy or to cope with changing conditions, which often increases following disasters.[903] However, movement is predicted to become more permanent due to changes in flooding and risks from sea level rise.[904] Most of those who move remain within the country, and it is expected that this will continue to be the case as the impacts of climate change worsen.[905] An estimated 10 per cent of Bangladesh's population are already internal migrants.[906]

Furthermore, the majority of migration within countries, including Bangladesh, is to urban areas.[907] People often leave environmentally fragile areas and head to cities, where their stay becomes long-term or permanent.[908] This is expected to increase in the coming decades. Global predictions estimate up to 60 per cent of people could live in urban areas by 2030 and 70 per cent by 2050; without proper planning a majority of these people could be living in slums and working in informal employment sectors.[909] In Dhaka, Bangladesh's largest city, the slum population doubled in size from 1996 to 2006 following significant rural-urban migration.[910] Displacement is and will continue to lead to continued growth in Dhaka and

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[903] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 167–9.

[904] Evidence of past floods indicates this trend. 'Turn Down the Heat' (n 888) 123.

[905] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 162, 169–70.

[906] Amina Maharjan and others, 'Migration and Household Adaptation in Climate-Sensitive Hotspots in South Asia' (2020) 6 Current Climate Change Reports 1.

[907] See Adger and others (n 27) 767 (accounts for up to 80 per cent of internal migration).

[908] See Matthew Walsham, 'Assessing the Evidence: Environment, Climate Change and Migration in Bangladesh' (IOM 2010) 19. In Dhaka, up to 70 per cent of those in the slums moved there after experiencing some form of environmental hardship. Deepti Mahajan, 'No Land's Man: Migration in a Changing Climate', *On the Move: Migration Challenges in the Indian Ocean Littoral* (Stimson Center 2010) 9 (citing IOM); Mi Zhou and Dorien Braam, 'Community Resilience and Disaster-Related Displacement in South Asia' (NRC 2015) Nansen Initiative Research Paper 37 (no statistics about disaster-related movement to urban centres but those in Dhaka slums claim the environment negatively affects their lives).

[909] See Rigaud and others (n 23) 35; Adger and others (n 27) 767.

[910] Bangladesh's Second NC (n 886) 175.

Bangladesh's other urban areas, with many poor and vulnerable migrants ending up in the slums.[911] As noted above, those living in slums are particularly vulnerable to environmental change, making it more likely that they will face difficulties accessing basic resources resulting in serious risks to their human rights.

Without proper planning and adaptation obligations that are understood to ensure rights in anticipation of foreseeable risks, the displacement that has occurred in the past will likely be replicated. For example, case studies of displacement in southwest and coastal Bangladesh, due largely to coastal flooding, erosion, and storm surges, found that many were forced to a narrow embankment nearby without access to new land; this left almost 90 per cent of those displaced without access to livelihood opportunities and with little assistance from the government.[912] These kinds of precarious displacements will increase in magnitude and scope without concerted climate action—putting the country at greater risk than nearly any other for widespread population movement—with estimates of 6.5 million already displaced by climate change and another 20 to 35 million expected to be forced from their homes by mid-century.[913] Bangladesh is also home to nearly a million Rohingya refugees from Myanmar.[914] Nearly all are living in refugee camps, which have been criticised both for conditions that violate component rights to an adequate standard of living and for

[911] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 169 (citations omitted).

[912] UN Habitat, 'Forced Evictions, Global Crisis, Global Solutions' (2011) 56; see also Displacement Solutions, 'Climate Displacement in Bangladesh: The Need for Urgent Housing, Land and Property (HLP) Rights Solutions' (2012) 4–6.

[913] Displacement Solutions (n 882) 16, 22; UN Habitat (n 912) 56; Bangladesh's Second NC (n 886) 175. While this provides a rough picture, sweeping estimates can be inaccurate or justify harmful measures as discussed ch 1, III.A.

[914] Bangladesh is not party to the Refugee Convention and does not have a legally binding framework for refugees.

constraining freedom of movement.[915] In addition, there is concern that the scale and prolonged nature of the Rohingya 'refugee crisis' will stretch thin a country that is one of the most vulnerable to climate change.[916] This is the status quo, which could lead to one in every seven people in Bangladesh being displaced by climate change absent intervention.[917]

3. Integration of human rights and adaptive mobility

Yet as the thesis argues, displacement is not inevitable. If Bangladesh's obligations to plan for and implement adaptation are interpreted as set out in the last two chapters, then measures should be taken to both boost resilience to remain in place and plan for adaptive mobility where land is steadily becoming uninhabitable. In the process, the State must also bear in mind the long-term and foreseeable risks to rights posed by climate impacts.[918] Thus, while proposed short-term measures—raising houses above coastal flood levels or providing drinking water where salinization is prevalent[919]—can offer relief initially, they could become maladaptive over time. Concern about current adaptation plans in Bangladesh cite such risks, and the likelihood that people will be forced to stay in hazardous areas if they proceed.[920] Indeed, as highlighted above, more of Bangladesh's land is predicted to become incompatible

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[915] See Human Rights Watch, 'Bangladesh: Clampdown on Rohingya Refugees' *Human Rights Watch* (7 September 2019) <https://www.hrw.org/news/2019/09/07/bangladesh-clampdown-rohingya-refugees> accessed 18 October 2019.

[916] See Ambalika Singh, 'Rohingya Influx in a Climate Vulnerable Country' *Dhaka Tribune* (6 September 2019) <https://www.dhakatribune.com/climate-change/2019/09/06/rohingya-influx-in-a-climate-vulnerable-country> accessed 18 October 2019.

[917] See NSMDCIID (n 74) 4.

[918] Bangladesh is party to international human rights instruments, including the ICCPR, ICESCR, CEDAW, ICERD, and the CRC. See also The Constitution of the People's Republic of Bangladesh (4 November 1972) preamble; art 11 (obligation to guarantee human rights).

[919] Michele Klein Solomon and Koko Warner, 'Protection of Persons Displaced as a Result of Climate Change: Existing Tools and Emerging Frameworks' in Michael B Gerrard and Gregory E Wannier (eds), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (CUP 2013) 291–92.

[920] Magnan and others (n 168) 652.

with continued access to food, water, and housing over time. Existing inequalities and the socio-economic conditions of those vulnerable to climate change interact with these climate-related constraints to put basic rights at risk.[921] Thus, adaptive planning can and *must* account for both current conditions and longer-term environmental changes, particularly given that return will not be possible to certain places, as floods take over land and coastal areas further erode.

The inequalities and societal constraints of those vulnerable to climate change is acknowledged as an important aspect of adaptation programmes in Bangladesh. The government has recognised the 'special needs' of 'marginalized/vulnerable groups', for adaptation planning and action in general and in 'responding to [climate-induced] displacement issues'; it includes in these groups women, children, elderly, and indigenous people.[922] Accordingly, Bangladesh has created a Climate Change and Gender Action Plan, which recognises that women 'often lead the way in adapting to climate change impacts'.[923] The Plan aims to take action to support women who have migrated due to climate change in livelihood activities in both rural and urban areas.[924]

Given the longer-time scales necessary to adequately adapt, integration of positive duties to provide basic resources—minimum essential food, water, adequate housing or healthcare—must also encompass multiple measures that shift overtime. Bangladesh is currently contemplating livelihood diversification, changes in agricultural practices,

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[921] See nn 891-896 and accompanying text. See also Brooke A Ackerly and others, 'Climate and Community: The Human Rights, Livelihood and Migration Impacts of Climate Change' in *Climate Change, Migration and Human Rights* (n 159) 189–202 (finding this interaction in Bangladesh).

[922] See Bangladesh's NAPA–Updated (n 334) 7; Bangladesh's Second NC (n 886) 181; NSMDCIID (n 74) 12.

[923] Ministry of Environment and Forest, 'Bangladesh: Climate Change and Gender Action Plan' (2013) 22.

[924] ibid 44.

rehabilitation of infrastructure, and building of climate resilient housing.[925] Longer-term suggestions include training and education to help people adjust livelihoods in the future, enabling movement to nearby communities, and facilitating relocation that aims to empower affected persons in decision-making.[926] For the latter—where efforts to adapt in place must give way to movement in order to ensure human rights and avoid arbitrary displacement[927]—adaptive mobility may take several forms. The government could, for example, focus on internal options: it could facilitate migration by working to ensure conditions during transit and at the destination, and to plan for movement to urban centres. To ensure rights and continued access to necessary resources for both migrants and receiving communities, this further leads to addressing the potential discrimination that can result from resource constraints and lack of opportunities that those internally displaced often face.[928]

In addition to facilitated migration, relocation may be needed. There are several uses of planned relocation, with internal relocation emphasised most as a strategy for Bangladesh. The first use is as a preventative measure, to move people away from a hazardous location; the second is to enable a durable solution within a country for those already displaced; and the third, considered exceptional, is international relocation where large portions of a State are not fit for habitation.[929] Communities may also be relocated to make room for mitigation or adaptation projects, as has occurred for large-scale development projects. Planned relocation in Bangladesh is already viewed as both a potentially positive adaptation strategy

[925] See NSMDCIID (n 74) 14–17.

[926] See Solomon and Warner (n 919) 291–92 (longer-term strategies for Bangladesh).

[927] Bangladesh recognises this prohibition, absent a compelling and overriding public interest. NSMDCIID (n 74) 16.

[928] See 'Guiding Principles' (n 124) principles 4, 18.2 (must apply principles without discrimination and provide IDPs access to basic necessities without discrimination); Khalid Koser, 'Internally Displaced Persons' in Alexander Betts (ed), *Global Migration Governance* (OUP 2012) 212.

[929] See Protection Agenda (n 15) para 96; McAdam and Ferris (n 809) 139.

and a durable solution for those displaced, which is supported by community-based initiatives in parts of the country.[930]

The government, however, has recognized that 'a clear gap' in its policy framework exists surrounding climate mobility, as its NAPAs and initial climate planning documents only make cursory mention of climate-related migration and displacement.[931] It has attempted to fill this gap with its National Strategy on the Management of Disaster and Climate Induced Internal Displacement (NSMDCIID), which looks to proactive and human rights-based strategies for all stages of displacement. While the NSMDCIID includes adaptation and disaster risk reduction (DRR),[932] if focuses primarily on management and responses to internal displacement.[933] Thus, it does not address the risks to rights through anticipatory adaptation or adaptive mobility as proposed in the thesis. Yet the NSMDCIID establishes the government's willingness to incorporate human rights into its climate strategies,[934] and thus its potential to embrace adaptation obligations that integrate human rights. Indeed, Bangladesh has identified the same rights as the thesis—to *inter alia* life, housing, health, food, and water—as essential to the management of mobility.[935] Its leadership in other forums, including the Platform on Disaster Displacement (PDD), further evince a desire to

[930] See NSMDCIID (n 74) 11, 21, 24; Ezekiel Simperingham, 'State Responsibility to Prevent Climate Displacement: The Importance of Housing, Land and Property Rights' in *Climate Change, Migration and Human Rights* (n 159) 91.

[931] NSMDCIID (n 74) 5 (noting gap and lack of discussion in NAPA and Action Plan). See Bangladesh's NAPA (n 893); Bangladesh Climate Action Plan (n 897) 17, 59 (however, notes migration must be considered and calls for a long-term programme to monitor migration); Bangladesh's Second NC (n 886) 175 (short discussion of link between disasters and migration).

[932] The Strategy is part of Bangladesh's implementation of the Sendai Framework. NSMDCIID (n 74) 6.

[933] ibid 5–6.

[934] ibid 9–10 (citing Bangladesh's obligations and international human rights law as a framework to guide responses).

[935] ibid 12, 18.

engage with and cooperate on these issues on an international level.

In addition to Bangladesh illustrating a context where environmental conditions are a driver of mobility and significant climate impacts will foreseeably render large parts of the country uninhabitable, the country also provides a means to explore how the integration of human rights can shape planning for increased urbanization. This serves as a contrast to current rural to urban mobility in Bangladesh, which highlights some of the risks of internal mobility if rights and conditions are not considered.[936] As a current adaptation strategy, the effect of urban migration is mixed: in many cases it leads to greater insecurity and poverty; yet it can still serve as a tool to diversify income and provide remittances.[937] However, advanced planning and inclusion of human rights can improve outcomes.

More specifically, if the government facilitates continued movement to large urban centres like Dhaka and Chittagong—which will occur absent intervention—it must do so in a way that does not put people in precarious positions or further perpetuate the growth of slums.[938] The government has already acknowledged the need to improve conditions in slums, provide security of tenure, and shift mobility away from these areas.[939] It noted that current urban planning likely does not adequately account for climate change.[940] Any new infrastructure or urban areas 'must be built to be climate resilient' and requires better planning to account for risks from climate change.[941] Furthermore, given that both cities are

[936] See nn 909-911 and accompanying text.

[937] Walsham (n 908) 25; 'Slow Onset Study' (n 18) para 87.

[938] The spontaneous movement of people from rural to urban settings is not generally viewed as a positive adaptation strategy, which governments often deter. See Koko Warner and others, 'National Adaptation Plans and Human Mobility' [2015] Forced Migration Review 8.

[939] See NSMDCIID (n 74) 23.

[940] Bangladesh's Second NC (n 886) 175.

[941] Bangladesh Climate Action Plan (n 897) 18.

expected to be subject to sea level rise, increased storm surges, or flooding from nearby rivers—and thus be places of out- as well as in-migration[942]—Bangladesh plans to focus on smaller urban growth centres to reduce pressure on already overwhelmed infrastructure in larger cities. Proposed efforts in these alternative urban areas include generating new employment opportunities; providing affordable housing and educational opportunities; improving transit to allow for longer commutes; and ensuring access to healthcare, water, sanitation, and electricity.[943] If implemented, many of these would satisfy adaptation obligations to address risks to rights in urban areas. They would also be a significant undertaking, one that is likely to require financial, technical, or monitoring assistance.

Furthermore, in implementing any measure of adaptation, including adaptive mobility measures, an integrated rights-based approach must include procedural rights. The CESCR's most recent concluding observations to Bangladesh confirm the need for climate action to be 'formulated and implemented on the basis of human rights and with the meaningful participation of affected communities and civil society.'[944] The importance of participation is apparent in Bangladesh. The government recognises rights to access information and to participate in decision-making, as well as the need to carry out assessments to understand vulnerability for climate mobility.[945] Community-based groups also feature prominently in addressing the climate-related mobility that has already occurred due to coastal flooding; around 200 such groups formed the Association of Climate Refugees to work on mobility issues and empower those at risk in Bangladesh.[946] Conversely, resettlement or relocation

[942] See Rigaud and others (n 23) 97, 126, 156.

[943] NSMDCIID (n 74) 17.

[944] CESCR, 'Concluding observations on the initial report of Bangladesh' (18 April 2018) UN Doc E/C.12/BGD/CO/1 para 14.

[945] See NSMDCIID (n 74).

[946] UN Habitat (n 912) 56. However, this group does not appear to have been active since 2014.

without the participation and against the will those affected risks loss of livelihood, cultural expression and practices, and displacement while undermining the legitimacy of climate measures.[947] Furthermore, as Jane McAdam observed based on research in the country, keys to successful adaptation are the acceptance of those who must adapt, their perception of effective strategies, and measures that allow for a continued life with dignity.[948]

As the previous chapters established, Bangladesh retains some discretion in how it satisfies it adaptation obligations, which is consistent with the Paris Agreement's language that adaptation must be implemented 'as appropriate'. However, the predicted impacts for certain vulnerable areas of the country will render other adaptation efforts insufficient at some point, meaning that mobility will be the most 'appropriate' or adequate response to protect against the potential or actual risks to people's lives, health, or access to basic necessities. To ensure rights are not violated and adaptation obligations are met, Bangladesh must at a minimum begin to plan for adaptive mobility in these places, with facilitation of such mobility to follow. An understanding of local differences in climate impacts can also assist in planning. For example, in rice-growing areas in the northeast of the country out-migration is expected due to loss of crop productivity, with movement toward cropland areas in the Ganges River Basin where water availability is expected to increase.[949] This information can help to appropriately plan for a wide-range of adaptation measures—from agricultural practices to potential areas of relocation.

Finally, while the focus of the analysis of Bangladesh is on internal mobility, international movement is also a potential adaptive strategy. In general, international labour

[947] Adger and others (n 27) 779; Alice Kaswan, 'Adaptation Justice' in *Climate Change Law* (n 43) 607.

[948] McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 174–75 (citations omitted).

[949] Rigaud and others (n 23) 157.

migration could be scaled up to provide opportunities for migrants to diversify income and boost adaptive capacity at home via remittances. Remittances already generate significant economic benefits for the economy and are an adaptation strategy that Bangladesh has promoted to transfer risks and shift livelihood opportunities.[950] Yet greater links with climate change and an emphasis on conditions for migrants is needed to ensure sufficient plans are in place to protect rights and foster integration into a new location.[951] International mobility also requires resources and can entail significant costs, which can limit who is able to move absent support. Bangladesh's strategies incorporating labour migration recognise that loans are likely needed to facilitate international mobility.[952] However, labour migration and the reliance on remittances alone has been criticised as shifting the onus of adaptation onto migrants and maintaining an unfair economic status quo.[953]

Current and past mobility helps predict patterns that will likely continue, either with or without State action. This is true of international mobility. Future movement to places with established immigrant populations may also be preferable due to established social, economic, and community networks. For Bangladesh, labour migrants often travel to Gulf States and Malaysia. India is also a primary destination for migrant workers, and for migrants in general from Bangladesh.[954] Movement from Bangladesh to India has occurred following

[950] See NSMDCIID (n 74) 15, 24.

[951] International labour migration for Bangladesh is discussed further in McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 208–10.

[952] NSMDCIID (n 74) 23.

[953] See Farbotko and others (n 45) 399.

[954] See Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and ILO, 'Labour Market Trends Analysis and Labour Migration from South Asia to Gulf Cooperation Council Countries, India and Malaysia' (2015) 16, 18. However, most of these destination countries are not parties to the ICRMW, which provides rights protections for labour migrants. See 'Status of the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families' <https://treaties.un.org/Pages/ViewDetails.aspx?chapter=4&lang=en&mtdsg_no=IV-13&src=IND> accessed 2 October 2020.

previous sudden-onset events;[955] these, along with other past migrations account for one of the largest international migration flows globally, leading to somewhere between 12 to 17 million people migrating from Bangladesh to India since the 1950s.[956] The potential use or expansion of regional labour markets, bilateral or regional mobility arrangements, seasonal international migration, planned relocation, and creation of temporary or circular migration programmes with other countries have been proposed to enhance secure international migration pathways to India and beyond.[957] To offer an adaptive solution, however, these measures must integrate participation of affected persons and ensure human rights. Bangladesh's treatment of its own immigrants and refugees like the Rohingya also needs to change, as housing or relocating people to flood-prone islands or uninhabitable locations would clearly run afoul of any approach that integrates human rights.[958] In addition, the conditions of those who remain must be factored into adaptation and mobility policies. Out-migration in Bangladesh is one factor that makes those who remain more vulnerable to disasters.[959]

4. International assistance and cooperation

In general, and as discussed further in section III below, developed States support will play a critical role in addressing any capacity and cost issues that arise for Bangladesh in

[955] See Nansen Initiative Secretariat, 'Climate Change, Disasters, and Human Mobility in South Asia and Indian Ocean' (2015) Nansen Initiative Background Paper 14.

[956] See ibid 16.

[957] McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 209–10; NSMDCIID (n 74) 15; Nansen Initiative Secretariat, 'Climate Change, Disasters, and Human Mobility in South Asia and Indian Ocean' (2015) Summary of Conclusions 9–10.

[958] See Human Rights Watch, 'Bangladesh: Move Rohingya from Dangerous Silt Island' (9 July 2020) <https://www.hrw.org/news/2020/07/09/bangladesh-move-rohingya-dangerous-silt-island> accessed 12 August 2020.

[959] See Michelle Yonetani, 'Mapping the Baseline: To What Extent Are Displacement and Other Forms of Human Mobility Integrated in National and Regional Disaster Risk Reduction Strategies?' (PDD 2018) 32.

implementing adaptation measures. Bangladesh has identified financial and technical support as the main sources of assistance needed from developed countries in order to achieve its adaptation goals.[960] Such international support is vital to efforts to prevent displacement, allow for *in situ* adaptation, and to put concrete plans into action for adaptive mobility. For the latter, costs may include those needed to implement planned relocation, urban infrastructure rehabilitation or mobility programmes, or to assess and monitor relevant mobility measures.

In order to facilitate adaptive international mobility, there is also a need to find legal pathways abroad. This could be provided through the recognition of an emerging duty to admit, as argued in the previous chapter. Legal migration could also arise via bilateral, multilateral, or regional agreements, all of which are a means to satisfy adaptation obligations to assist and cooperate. More concretely, these could come in the form of labour agreements, free movement agreements, liberalization of visas, or providing land for relocation, all of which would need to integrate procedural and substantive human rights protections.[961] Easing barriers to or facilitating remittances is also a form of assistance that can quickly benefit developing countries.[962]

However, the potential for increased mobility to neighbouring India raises the limits of and need for broader cooperation and support. Both countries consistently rank amongst the most climate vulnerable, vulnerabilities they share despite their political border.[963] As it

[960] Bangladesh Climate Action Plan (n 897) 31.

[961] Relocation is discussed in ch 5, II.B; free movement agreements in ch 5, II.C.

[962] Billions of US dollars flow to developing countries via remittances. In 2016, for example, remittances totalled an estimated 430 billion. Baldwin and Fornalé (n 50) 323.

[963] See Eckstein and others (n 878); Architesh Panda, 'Climate-Induced Migration and Interdependent Vulnerabilities between Bangladesh and India' in Bishawjit Mallick and Benjamin Etzold (eds), *Environment Migration and Adaptation: Evidence and Politics of Climate Change in Bangladesh* (AHDPH Publishing 2015) 206.

remains a country that is still developing, India is not yet obliged to provide financial assistance to Bangladesh within the climate change regime. India considers itself a developing country for the purposes of adaptation funding and support, and thus could also be entitled to assistance in adaptation efforts.[964] A number of projects are already underway in India that are being supported by the Adaptation Fund.[965] Yet both India and Bangladesh have cooperative obligations. Based on the arguments of the thesis, each also has independent obligations to undertake anticipatory adaptation and to ensure human rights. This should lead, at a minimum, to policies to coordinate cross-border mobility. Developed countries should then assist bilateral or regional efforts, as required by their adaptation assistance obligations. Overall, and as discussed above, a balance of short and long-term planning is needed to ensure existing indebtedness, precarity, or more significant risks to rights are not exacerbated.[966] Participation of affected persons across borders will require further coordination, or greater disruptions and rights violations are likely.[967]

B. Pacific Island States

1. Climate impacts, vulnerabilities, and risks to rights

The region of the Pacific Island States (PIs) includes 22 States and territories, most of which

[964] See Government of India, 'Submission of India for Consideration by the Standing Committee on Elements in the Development of the Further Guidelines for the Fifth Review of the Financial Mechanism' (2013) ('[a]daptation remains the highest priority to developing countries' whose funding needs must be considered); Ministry of Finance, 'Climate Summit for Enhanced Action: A Financial Perspective from India' (2019) abstract, 7-11, 21 (declaring that 'like other developing countries', India 'is suffering the brunt of climate change', and developed countries are currently not meeting their climate finance commitments under the UNFCCC and Paris Agreement).

[965] These include projects to build adaptive capacity and increase resilience for vulnerable populations in the western Himalayas, on the coast, and for small farmers and inland fisherman. See 'Adaptation Fund: Approved Projects' <https://unfccc.int/climatefinance/af/approved_projects> accessed 22 October 2020.

[966] See IPCC, 'Managing Risks' (n 32) 452.

[967] Adger and others (n 27) 769, 779.

are considered small island developing States.[968] Small island countries emit less than 1 per cent of the world's greenhouse gases.[969] Yet they will suffer some of the most significant impacts. The threat of sea level rise is grave for PIs, with many communities living at or near sea level. Although sea level is often discussed in global mean rise, the increase is not uniform across regions. Between 1993 and 2009, small island States in the western Pacific experienced four times the sea level rise than the global average.[970] Rising seas can have significant impacts on these States due to their low elevations. PIs have more land in low-elevation coastal zones (LECZ)—contiguous coastal areas that are less than 10 metres above sea level—than any other region in the world.[971] The whole island of Tuvalu, for example, is less than 5 metres above sea level, and along with the Marshall Islands, over 90 per cent of its populations live in an LECZ.[972] States composed almost entirely of atoll islands, including Kiribati, Tuvalu, and the Marshall Islands, are particularly at risk from rising seas.[973]

Many PIs are already experiencing erosion, saltwater intrusion, and loss of land from a combination of sea level rise, flooding, and storm surges.[974] These are expected to worsen with the predicted impacts of climate change. Drought is also a concern for PIs, as rising temperatures and changes to rainfall patterns are likely to reduce adaptive capacity and lead

[968] See The Nansen Initiative, 'Human Mobility, Natural Disasters and Climate Change in the Pacific' (2013) Nansen Initiative Background Paper 8–9.

[969] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 19.

[970] Leonard A Nurse and others, 'Small Islands', in VR Barros and others (eds) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the IPCC* (CUP 2014) 1619.

[971] Sixteen per cent of their land is in LECZs. McGranahan, Balk and Anderson (n 882) 24.

[972] McAdam, Burson, Kälin and Weerasinghe, 'International Law and Sea-Level Rise' (n 75) para 17.

[973] Sabira Coelho and Angelica Neville, 'Effects of Climate Change on Human Mobility in the Pacific and Possible Impact on Canada' (IOM 2016) 10, 19.

[974] See Nansen Initiative Background Paper (n 968) 9.

to loss of ecosystem services needed for livelihoods and survival.[975] Accordingly, the inhabitants of certain areas of PIs are particularly vulnerable to further impacts from climate change: urban areas; atolls; coastal, delta, and riverine communities; and drought-prone locations.[976] As with Bangladesh, certain groups are identified as particularly vulnerable. For example, gender inequality, gender-based violence, lower employment rates, and a lack of political participation have worsened the poverty, health problems, and access to housing for a number of women in the region. In Tuvalu, the Marshall Islands, Vanuatu, and Tonga, women rarely own or are legally unable to own land independently.[977] Hardships for women can in turn hamper the development and nutrition of children.[978]

In general, impacts of climate change for PIs create certain key risks for residents. The IPCC has highlighted the '[r]isk of death, injury, and ill-health, or disrupted livelihoods' for those on small islands.[979] Access to water resources is likely to be constrained; and cultural resources and identity are threatened.[980] These risks are not, however, experienced in the same way across PIs. Context, current conditions, and location affect an individual's vulnerability. For example, risks to housing from climate impacts is exacerbated by low-lying locations of coastal settlements.[981] Indeed, existing conditions compound risks for climate

[975] Nurse and others (n 970) 1616; 'Slow Onset Study' (n 18) para 111.

[976] John Campbell and Olivia Warrick, 'Climate Change and Migration Issues in the Pacific' (UN Economic and Social Commission for Asia and the Pacific 2014) 28–9.

[977] World Bank Group, 'Systematic Country Diagnostic for the Eight Small Pacific Island Countries: Priorities for Ending Poverty and Boosting Shared Prosperity' (World Bank 2016) 22–3, 26, 28, 57.

[978] ibid xii, 23, 57, 89.

[979] IPCC, 'Summary for Policymakers' (n 38) 13.

[980] See Adger and others (n 27) 758, 762.

[981] 'Report of the Special Rapporteur on adequate housing' (n 735) paras 30-34.

impacts, which include demographic pressures, issues with sanitation, water shortages, loss of agriculture, and/or development challenges.[982]

2. Current and predicted mobility

As elsewhere, past displacement following disasters or sudden onset events has been primarily internal.[983] Mobility from rural to more central urban islands of a State has also been attributed to a mixture of climate change and socioeconomic factors; historically the latter included lack of access to adequate food, education, and employment, as well as pressure from overpopulation.[984]

The region has a long history of relocation, which will continue as a means to adapt to climate change.[985] Lessons can be learned from past relocations, which evince the threat to human rights when adequate planning and participation from affected community are not incorporated into the process. Without a human rights-based approach, resettled communities are often worse off in their relocation site or face greater impoverishment.[986] These threats

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[982] Nansen Initiative Background Paper (n 968) 9; Ilan Kelman, 'No Change from Climate Change: Vulnerability and Small Island Developing States' (2014) 180 Geographical J 120, 120; Koko Warner and others, 'In Search of Shelter: Mapping the Effects of Climate Change on Human Migration and Displacement' (CARE 2009) 18.

[983] Nansen Initiative Background Paper (n 968) 5, 9.

[984] ibid 8, 10. See also Tuvalu's NAPA (n 334) 6 (internal migration high due to lack of food access); Solomon Island's NAPA (n 334) 40 (recognising displacement will be caused by rising seas); Fiji's NAP (n 336) 75 (expecting rural-urban migration).

[985] See Dalila Gharbaoui and Julia Blocher, 'The Reason Land Matters: Relocation as Adaptation to Climate Change in Fiji Islands' in Andrea Milan and others (eds), *Migration, Risk Management and Climate Change: Evidence and Policy Responses*, vol 6 (Springer 2016) 152. See also McAdam, 'Historical Cross-Border Relocations in the Pacific' (n 791); Jane McAdam, '"Under Two Jurisdictions": Immigration, Citizenship, and Self-Governance in Cross-Border Community Relocations' (2016) 34 L and History Rev 281; Jane McAdam, 'Self-Determination and Self-Governance for Communities Relocated across International Borders: The Quest for Banaban Independence' (2017) 24 Intl J on Minority and Group Rights 428.

[986] See UNHCR, 'Planned Relocations, Disasters and Climate Change: Consolidating Good Practices and Preparing for the Future' (2014) paras 34-48 (discussing lessons learned from development-induced resettlement). For a general history of planned relocation, which can provide lessons for future relocations, see Jane McAdam, 'Relocation and Resettlement from Colonisation to Climate Change: The Perennial Solution to "Danger Zones"' (2015) 3 London Rev of Intl L 93.

will be replicated without integration of relevant rights, or if affected persons aren't provide the opportunity to participate in decision-making. Analysis of several colonial era relocations highlights the need for consultation and inclusion of relocated persons in decision-making, as well as the importance of perceived choice and agency. Participation is a right and must be meaningful, rather than a formality.[987] Consent of affected persons should be the goal and a prerequisite for planned relocation;[988] without providing some agency to those who move, as well as a commitment to provide rights, individuals are likely to lose access to rights and aspects of their identity.[989]

3. Integration of human rights and adaptive mobility

Generally, and for the PIs specifically, the integration of human rights—adequate housing, food, water, or health—does not mean migration must be facilitated in every case. PIs are considering a number of other adaptation measures: constructing sea walls, providing alternate livelihood options, and developing strategies to evaluate future risks. The latter includes projects aimed at planning for, preventing, and responding to displacement in the region.[990] Human rights both drive and shape these efforts. Without access to rights, and to adequate housing, food, and water in particular, people are more prone to displacement; people living on vulnerable land are likewise more likely to be displaced.[991] Furthermore, the slow-onset nature of sea level rise and predicted impacts in the region are well-suited for anticipatory and preventive action and planning, and affords different mobility options from

[987] See ch 4, II.E. See also GC 14 (n 569) paras 11, 54; GC 15 (n 569) paras 24, 48.

[988] See n 790.

[989] See McAdam, 'Historical Cross-Border Relocations in the Pacific' (n 791); McAdam and Ferris (n 809) 144 (those relocated more likely to view it as successful when able to participate and have some control in the process).

[990] See IDMC, 'Project Brief: Pacific Response to Disaster Displacement' (2019).

[991] See Simperingham (n 930) 90; Thomas (n 877) 113 (examples in US and the Philippines).

sudden onset disasters.[992] These actions accord with adaptation obligations that require precaution, planning, and the facilitation of adequate measures to prepare for and avoid risks to rights before they become violations.

PIs are often presented as particularly urgent cases, as predicted impacts will make it likely that a number of communities will need to relocate.[993] That large areas of land will become uninhabitable is widely accepted, as is the eventual need for international relocation.[994] As the IPCC recognises, 'for some populations, migration away from their homeland may become the only viable response.'[995] These international relocations are perceived as distinct in their collective nature, predictable need, and the inability of islanders to return home.[996] However, before they occur, it is likely that internal relocation and other adaptive responses will be pursued.[997] Thus, the PIs demonstrate an area where timing will necessarily shift adaptation measures.

Fiji, for example, has begun internal relocations, moving residents to higher ground as sea level rise encroaches on coastal communities.[998] Relocation is also occurring in the Solomon Islands, although on a community-driven ad hoc basis in the absence of a national

[992] See ILA (n 598) (outlining duties of positive action on adaptation and forms of mobility to address sea level rise).

[993] The need for relocation in the region has been called 'credible and verifiable'. See Maxine Burkett, 'Lessons from Contemporary Resettlement in the South Pacific' (2015) 68 J of Intl Affairs 75, 75.

[994] See, e.g., *Teitiota* (HRC) (n 119) [9.11]; McAdam, Burson, Kälin and Weerasinghe (n 972) para 50.

[995] IPCC, 'Ocean and Cyrosphere Report' (n 19) 1.50.

[996] Burkett, 'The Nation Ex-Situ' (n 108) 351.

[997] See McAdam, '"Under Two Jurisdictions"' (n 985) 5; McAdam, 'Self-Determination and Self-Governance for Communities Relocated across International Borders' (n 985) 434.

[998] See Nansen Initiative Background Paper (n 968) 11; Dalila Gharbaoui, 'Social and Cultural Dimensions of Environment-Related Mobility and Planned Relocations in the South Pacific' in *Routledge Handbook of Environmental Displacement and Migration* (n 825).

policy to provide guidance.[999] One of its provincial capitals that sits less than two metres above sea level is moving its whole township to an adjacent mainland in stages.[1000] Likewise, thousands of Carteret Islanders are permanently relocating from their atoll islands to the mainland.[1001] Vanuatu's policy on climate change and disaster-induced displacement recognises internal relocation, or what it sees as sustainable integration elsewhere, as a durable solution for displaced persons. It concludes that mobility requires safeguards to protect and assist communities and to ensure human rights.[1002]

In these and future instances, human rights play a central role—in compelling planned relocation and in guidance on how to accomplish them. For government supported relocations, this can stem in part from the integration of human rights into adaptation obligations. Integrating PIs' positive duties related to the rights adequate housing and life, including the need to take measures to address societal conditions and the prohibition against arbitrary displacement, will lead to planned relocation from areas in the PIs where rights can no longer be protected in place. In some cases, this will require movement of whole communities, which is currently being contemplated by a number of the PIs. Moreover, as a form of adaptive mobility, planned relocation should occur before impacts result in dire situations or rights violations. While typically considered as a measure of last resort, it is included as a preventive measure in a number of DRR strategies to address disasters and climate change—one that requires ample time for planning and implementation.[1003] Indeed, preparation and anticipation for climate change in the Pacific has been characterised as

[999] See Farbotko and others (n 45) 397.

[1000] Burkett, 'Lessons from Contemporary Resettlement' (n 993) 77.

[1001] ibid.

[1002] See Government of Vanuatu, 'National Policy on Climate Change and Disaster-Induced Displacement' (2018).

[1003] For examples of planned relocation in DRR strategies globally, see Yonetani (n 959).

'essentially translat[ing] to planning for community relocation'.[1004] Any planned relocation requires significant advanced planning—including long-term land use plans—consultation with affected persons, and ample time to enact a holistic approach that is more than 'moving houses, [but is rather] about moving lives'.[1005]

As described above, planned relocation can be used to accomplish several goals, all of which are under consideration for PIs. It is a strategy which can be employed to move people away from hazardous areas, as a durable solution for those displaced, and/or to move communities abroad as more areas of land become uninhabitable.[1006] Community-led relocation has the potential to be transformative and adaptive, as long as institutional support, proper planning and implementation, inclusion of affected persons' perspectives, and essential human rights are ensured. Past relocations in Fiji evince the need for each of these factors in order for planned relocation to succeed: extensive and advanced planning, a 'collaborative process' with government and affected persons, and consideration of impacts at the relocation site are highlighted as critical components.[1007] Even where successful, communities will have to make hard choices and deal with loss of ties to ancestral or homelands.[1008] For the region as a whole, customary land tenure and traditional negotiation processes will also be central to the relocation process, where 80 per cent of the land is under

[1004] Gharbaoui and Blocher (n 985) 153.

[1005] See, e.g., Marshall Islands' Initial NC (n 261) 52–3 (relocation requires long-term land use planning and 'concurrence' of owners in relocation area); Karen E McNamara and Helene Jacot Des Combes, 'Planning for Community Relocations Due to Climate Change in Fiji' (2015) 6 Intl J of Disaster Risk Science 315, 317 (quoting Fijian climate change policy officer).

[1006] See n 929.

[1007] See 'Statement of United Nations Special Rapporteur David R Boyd on the Conclusion of His Mission to Fiji' (OHCHR 2018) <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=23964&LangID=E> accessed 10 May 2020; Amanda Bertana, 'Relocation as an Adaptation to Sea-Level Rise: Valuable Lessons from the Narikoso Village Relocation Project in Fiji' (2019) 3 Case Studies in the Environment 1.

[1008] One community opted to move buried ancestors to the relocation site. See 'Toolbox' (n 735) 18.

such tenure in most countries.[1009]

Fiji further exemplifies the use of a rights-based approach that seeks to anticipate and plan for relocations of communities. Its context makes some adaptive mobility more appropriate for it than for other PIs. For example, the country contains mountainous and higher elevation terrain that may make internal relocations more feasible. The Fiji government has identified hundreds of coastal and riverbank communities put at risk by the impacts of climate change, a number of which will require relocation in the coming decade.[1010] To facilitate these relocations, and as part of their climate-related adaptation strategies, the State developed guidelines on planned relocation.

The guidelines align well with the human rights-based approach called for by an integrated understanding of adaptation obligations. They aim to ensure a 'gender responsive consultative and participatory process', community ownership of the relocation process, and a commitment to human rights while fulfilling the needs of those relocated.[1011] As is the case in the thesis, their human rights-based approach is explicitly linked to the ICCPR, ICESCR, and Paris Agreement. The latter is viewed as bringing together rights and mobility, which 'associates inexorably to climate change discourse' and reflects Fiji's duties to ensure the rights, engagement, and participation of those affected.[1012] Moreover, as with adaptation obligations, the guidelines take a precautionary or 'pre-emptive approach' for all stages of the relocation process, and note that in implementing this process 'addressing human rights

[1009] Gharbaoui and Blocher (n 985) 150.

[1010] Republic of Fiji, '5-year & 20-year National Development Plan: Transforming Fiji' (2016) 102. Around 45 villages need to relocate in the 5-10 years. Gharbaoui and Blocher (n 985) 153, 164.

[1011] Ministry of Economy, Republic of Fiji, 'Planned Relocation Guidelines: A Framework to Undertake Climate Change Related Relocation' (2018) 1, 5, 8. See also Tuvalu's NAPA (n 334) 6 (internal migration high due to lack of food access); Solomon Island's NAPA (n 334) 40 (recognising displacement will be caused by rising seas); Fiji's NAP (n 336) 1, 5, 8 (taking a gender and human rights-based approach to adaptation planning and action).

[1012] Fiji's Planned Relocation Guidelines (n 1011) 8.

aspects is unavoidable and important in all…stages of movement, as 'relocated people carry their rights at all times'.[1013] Thus, implicit in Fiji's plans for relocation is the integration of human rights into adaptation strategies and the need to take anticipatory action on mobility. In this way, the guidelines operationalize the interpretive approach advanced by this thesis.

There is a danger, however, that planned relocation could be used as a tool by States to accomplish other goals. One of the potential benefits of an interpretation of adaptation obligations that integrates human rights is that it can help avoid the use of mobility as a pretext. In the process of planning for adaptation and through the participation of affected persons, it should lead to outcomes that rely on rights as both a catalyst and a pillar of implementation and that reminds States they cannot arbitrarily displace or illegally evict people.[1014] Thus, the integration of human rights both compels and shapes the process of adaptation, and adaptive mobility measures specifically. Furthermore, engagement and consultation with affected persons are key to the success of planned relocation. Yet while consent remains the goal of participatory processes, it is not always possible or legally required. Instead, certain protective measures must be taken. Here, interpretation of the right to freedom of movement is instructive. If planned relocation is deemed necessary on public health or security grounds and could restrict the will and free movement of individuals, States must show that it is necessary, proportional to the risk, and no reasonable alternative is possible.[1015] States must also make information available to individuals or communities who will have to leave their homes due to climate change, as well as provide certain procedural

[1013] ibid 9.

[1014] Unlawful forced movement could violate a number of human rights, including the rights to liberty of movement and choice of residence; freedom from arbitrary or unlawful interference with privacy, family, and home; and adequate housing. ICCPR arts 12(1), 17; ICESCR art 11(1). See nn 730-733 and accompanying text.

[1015] See GC 27 (n 592) paras 11-18; 'Guiding Principles' (n 124) principle 7.

protections necessary for planned relocations. Systemic integration makes clear that these requirements extend in advance of any movement—to decisions about planned relocations, migration policies, and adaptation that affects human mobility.

In addition, the region illustrates the multiple roles adaptation can play, different strategies across States, and the tension between plans to both stay and move. Well before climate mobility was on the agenda of the climate change regime, governments of the PIs were actively lobbying the international community for international migration opportunities. Some sought to alleviate demographic pressure, as was the case for Tuvalu in the 1980s and 1990s. But States have begun shifting emphasis to climate change in the last two decades.[1016] Leaders of the PIs regularly identified the risks to human rights that climate impacts create, the threat to livelihoods and subsistence, and the need to protect climate migrants.[1017] Many island States have declared their desire to stay and maintain sovereignty, while some recognise the increasing need for population movements.[1018] The international turn towards climate change has led to a dual focus on mobility as adaptation and adaptation to remain in place in the PIs, to protect human rights and ensure the continued existence of communities. Emphasis on both highlights the view of relocation as a last resort and the need to plan for mobility and relocation well in advance, both of which are underscored in consultations in the region.[1019] Likewise, the varying emphasis on either remaining in place or planning for mobility in the region shows that no single solution is appropriate across contexts.

[1016] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 31.

[1017] See, e.g., 'Malé Declaration on the Human Dimension of Global Climate Change' (14 November 2007); Pacific Island Forum, 'Forty-Eighth Pacific Islands Forum: Forum Communiqué' (8 September 2017) PIFS(17)9 para 52; Pacific Island Forum, 'Forty-Ninth Pacific Islands Forum: Forum Communiqué' (6 September 2018) PIFS(18)10.

[1018] See 'Slow Onset Study' (n 18) para 116.

[1019] See The Nansen Initiative 'Human Mobility, Natural Disasters and Climate Change in the Pacific' (2013) Outcome Report 13.

The atoll States of Kiribati, Tuvalu, and the Republic of the Marshall Islands provide examples of divergent views on mobility. The low-lying nature and exposure of these atoll island nations makes them particularly vulnerable to storm surges and sea level rise, which can lead to flooding, erosion, and destruction of agricultural lands.[1020] Kiribati is already planning for mobility; its 'migration with dignity' policy aims to create opportunities to migrate abroad now and in the future, while allowing individuals to stay for as long as possible.[1021] It committed to purchase land from Fiji, purportedly for food security reasons, but relocation has also been discussed.[1022] Yet within the country, residents have different perspectives on what the aims of government policy should be: some wish to remain; others would prefer to migrate to New Zealand instead of Fiji due to work opportunities and social networks; and some analyses puts development priorities ahead of mobility, although one need not come at the expense of the other.[1023]

In contrast, Tuvalu is currently more committed to *in-situ* adaptation than planning for mobility.[1024] Despite long-term risks, residents of Tuvalu have remained in places facing sea level rise due to their ties to the land.[1025] Some continue to express their intent to stay

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[1020] See, e.g., Campbell and Warrick (n 976); Seiji Yamada, Maxine Burkett and Gregory G Maskarinec, 'Sea-Level Rise and the Marshallese Diaspora' (2017) 10 Environmental Justice 93.

[1021] The policy emphasises voluntary labour mobility, circular migration, and remittances. The subsequent government, however, puts more emphasis on *in situ* adaptation. Discussed in 'Kiribati National Labour Migration Policy' (2015); Farbotko and others (n 47) 397. See generally Protection Agenda (n 15) paras 86-91, 119-20.

[1022] See Nansen Initiative Background Paper (n 968) 11.

[1023] See Silja Klepp, 'Framing Climate Change Adaptation from a Pacific Island Perspective - The Anthropology of Emerging Legal Orders' (2018) 68 Sociologus 149, 160–61; Klepp and Chavez-Rodriguez (n 42) 4; Robert Oakes, 'Culture, Climate Change and Mobility Decisions in Pacific Small Island Developing States' (2019) 40 Population and Environment 480, 497. See also Farbotko and others (n 45) (mobility can promote adaptation and development).

[1024] Migration and resettlement are considered a 'last resort'. Tuvalu's NAPA (n 334) 25; McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 203. See Cubie (n 159) 107 (highlighting Tuvalu's *in situ* adaptation efforts).

[1025] Adger and others (n 27) 770; Oakes (n 1023) 497.

irrespective of the potential inundation of their land. Similarly, while the Marshall Island government recognises relocation as adaptation, some Marshallese root land at the heart of their existence and culture; these kinds of connections compel people to stay despite deteriorating conditions, purportedly choosing immobility even in the face of extreme risks.[1026] These decisions are difficult, in part because even planned, rights-based migration will still result in cultural and land-related losses.[1027] The loss of customary land—and its associated links to culture, individual and community identities, and livelihoods—is considered one of the worst potential impacts of climate change in the region.[1028] While some of these losses cannot be avoided, case studies in Kiribati and Alaska indicate that the extent and ability to mitigate negative impacts will depend on whether relocated persons can maintain or improve livelihoods, cultural and kinship connections, and access to basic necessities.[1029] Moreover, the very emphasis on the 'disappearing State' may become a self-fulfilling prophecy due to changes in resources and reduced assistance, rather than as a result of physical impacts.[1030] The uncertainty caused by predicted impacts is already influencing mobility decisions, irrespective of whether the impacts occur.[1031]

More broadly, residents of the PIs, referred to as some of the world's first 'climate refugees', often resist this label or being framed as victims rather than agents defining

[1026] See Burkett, 'The Nation Ex-Situ' (n 108) 360; Carol Farbotko and Celia McMichael, 'Voluntary Immobility and Existential Security in a Changing Climate in the Pacific' (2019) 60 Asia Pacific Viewpoint 148, 154–55. This raises questions about whether States can forcibly move people who, aware of the risks to their lives, wish to remain. See Burson, Kälin, McAdam and Weerasinghe (n 21) 397–98.

[1027] See Adger and others (n 27) 765, 770–71; Wewerinke-Singh and Van Geelen (n 89) 688–89.

[1028] See Campbell and Warrick (n 976) 3, 10.

[1029] See McNamara and others (n 47) 115.

[1030] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 120.

[1031] See Nansen Initiative Background Paper (n 968) 10.

solutions on their own terms.[1032] This desire contributed to New Zealand's decision to drop a plan that would have provided a visa for people displaced by climate change; many Pacific Islanders prefer adaptation support first, and then more extensive legal opportunities for migration.[1033] Growing recognition of different perspectives—even if outliers—are important to mobility planning. Immobility is one such preference, which is not always socio-economic, but can be a choice tied to culture, attachment to place, and subjective understandings of the risks of climate change. On the whole, the PIs represent the perception that climate risks will both require adaptation in place and mobility in the future. However, the risk calculus may vary depending on the importance placed on the culture, environment, and economy in present locations and compared to destinations.[1034]

The participation of affected persons can help mitigate some of the varying perceptions on adaptation. Engagement can help identify preferences and constraints, educate on mobility-related measures, and incorporate useful local knowledge.[1035] There are also unique factors that must be taken into account in the PIs in order to ensure basic rights. For example, there is currently limited guidance on how to negotiate new land arrangements for customary landholders, which is critical to resolve in order to foster successful adaptive

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[1032] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 33, 40, 203 (highlighting pushback against refugee term and victimhood); Eckersley (n 402) 482 (noting that Kiribati's president considers refugee label undignified because people do not wish to move or be treated like refugees); cf Maxine Burkett, 'Climate Reparations' (2009) 10 Melbourne J of Intl L 509, 538 (SIDS are 'tragic victims of climate change'); Gemenne, 'The Refugees of the Anthropocene' (n 33) 396, 400 (using the term 'climate refugees' to highlight the plight and responsibility for and towards those moving).

[1033] See Helen Dempster and Kayly Ober, 'New Zealand's "Climate Refugee" Visas: Lessons for the Rest of the World' (*Center For Global Development*, 10 January 2020) <https://www.cgdev.org/blog/new-zealands-climate-refugee-visas-lessons-rest-world> accessed 14 August 2020.

[1034] See Oakes (n 1023) 497–98.

[1035] See Nurse and others (n 970) 1640; Klepp and Chavez-Rodriguez (n 4'2) 16–19; Adger and others (n 27) 764.

mobility and avoid displacement.[1036] Security of land tenure is a basic requirement of the right to adequate housing that necessitates positive action by the State, particularly for those in areas vulnerable to climate change.[1037] Local tenure provides certainty for those in places of destination, and access to developed systems of land governance for migrants helps promote the sustainable use of land and hence longer-term access to basic resources.[1038]

4. International assistance and cooperation

The PIs further illustrate a region where certain forms of international assistance and cooperation will be necessary for adaptive mobility to succeed. International adaptive mobility, whether through legal migration pathways or planned relocation, will require significant cooperation across States, to work with communities in both countries and to access the assistance required from other States. All States involved must observe human rights standards and ensure essential goods and resources; States cannot derogate from minimum core obligations related to an adequate standard of living. They must also observe the protections required to avoid forced evictions.[1039] International planned relocation, in particular, requires certain kinds of cooperation and assistance. All planned relocation requires identifying an appropriate site to move people and impact assessments.[1040] However,

[1036] Vanuatu's Policy on Climate Change and Disaster-Induced Displacement (n 1002) 12. Collective rights, including self-determination, can provide further security and ties to homelands but are outside the scope of the thesis. For more see Frédéric Mégret, 'The Right to Self-Determination' in Fernando R Tesón (ed), *The Theory of Self-Determination* (CUP 2016); Jens David Ohlin, 'The Right to Exist and the Right to Resist' in *The Theory of Self-Determination*; McAdam, 'Self-Determination and Self-Governance for Communities Relocated across International Borders' (n 985); Gharbaoui and Blocher (n 985); Ben Powless, 'The Indigenous Rights Framework and Climate Change' in *Routledge Handbook of Human Rights and Climate Governance* (n 427); Ori Sharon, 'Tides of Climate Change: Protecting the Natural Wealth Rights of Disappearing States' (2019) 60 Harvard Intl L J 95.

[1037] See nn 726, 742 and accompanying text.

[1038] See Barnett and Webber (n 22) 9.

[1039] See ch 4; II.D.3.

[1040] See n 806.

international relocation involves additional hurdles; there must be agreement on how to move people across borders, what a durable solution looks like in a new State, and how to ensure access to basic resources and social services. Migrants, especially international migrants, often face discrimination and barriers to such resources and services.[1041] Accounting for these risks throughout the process—and as argued for through a human rights-based approach—can help avoid some of the problems associated with international mobility. This includes integrating the principles of non-discrimination and equality, which may require positive action to ensure that international migrants are treated equally.

Additionally, cross border scenarios create different considerations for the ways procedural rights are guaranteed. Individuals and communities of origin, transit, and destination are entitled to information and participation in decision-making. However, when the destination is across a State border, different actors and logistical considerations come into play, which require international cooperation and collaboration to ensure participation for all relevant stakeholders. Procedural rights are integral to communities in both States of origin and destination. Understanding the implications of these rights for planning and implementation will require the combined efforts of these States, as well as those providing further assistance. It may also require work to change norms that impede the participation of marginalised groups including women and indigenous persons.[1042]

Furthermore, the admittance of migrants from the PIs is a manifestation of cooperation and assistance that could satisfy adaptation obligations.[1043] Those at risk of losing their habitation are foreseeably some of the most vulnerable to climate impacts; their legal

[1041] See Rigaud and others (n 23) 33.

[1042] See IPCC, 'Climate Change and Land' (n 41) 3.55.

[1043] See ch 4, III.A; Eckersley (n 402) (arguing for the admittance of 'climate refugees' from small island developing States in particular).

entry and provision for a new home does not equate with entry for all migrants—or even anyone adversely affected by climate change. Rather, it is one way that States can meet their adaptation obligations while providing options for some of those most vulnerable to climate impacts. Not acting, and not addressing these populations will lead to the opposite: a failure to satisfy obligations to assist and to cooperate on adaptation and human rights. And while advocacy and political will are key to any emerging duty to admit, as this thesis explores, law is critical to facilitating or inhibiting mobility. Law provides the authority to act, tools to adapt, and can facilitate mobility away from areas where life and subsistence rights are at risk. The law itself must be adaptive—as previous chapters have argued—to continue to respond to and anticipate impacts and ensure appropriate structures and regulations are in place.[1044]

The climate change regime offers a starting place for international regulation: it can provide a means to implement adaptive mobility across borders, and more radically, can ground an emerging duty to admit. For example, the principles of differentiation can help determine who is responsible for assistance and to what degree; the financial mechanisms and institutional bodies can guide undertakings and offer forums for dialogue and cooperation; and the general COP can provide oversight.[1045] States are more likely to accept international migrants or relocation if they are provided adequate support from other States. If the collective and forward-looking aspects of adaptation obligations are the focus, obstacles created by attribution or blame can be better avoided.[1046]

Furthermore, once the requirement to satisfy adaptation obligations through rights-

[1044] See, e.g., Craig Anthony Arnold, 'Adaptive Law' in *Research Handbook on Climate Disaster Law* (n 83).

[1045] Discussed further in III, below. The need for appropriate funding for adaptation efforts has been identified by States in the region. See, for example, Marshall Islands' Initial NC (n 261) 1, 7–9.

[1046] See n 867 and accompanying text.

based approaches becomes apparent to States, it gives them the flexibility to explore ways to do so. This allows both affected States like those in the PIs, as well as States interpreting their obligations to provide support, to look to guidance grounded in human rights. Thus, those instruments that do not create legal obligations, but that are based in best practices and rights, can be used to inform interpretation and decision-making. Guidelines and guidance on planned relocation can provide greater detail on how to formulate laws, policies, and programmes to implement adaptive planned relocation.[1047] They emphasise, for example, assessment of risks, the need to maintain or restore previous standards of living for both relocated and receiving communities, and regulations on relocations in national laws that provide accountability mechanisms and adequate support.[1048] A toolbox on relocation offers checklists for governments and detailed guidance on a legal framework, procedural and other human rights, the needs of affected persons, land issues, and evaluation and accountability.[1049] Relevant guidance further includes the Nansen Protection Agenda, a culmination of a multi-year consultative process endorsed by 109 States in 2015. The Agenda advocates for the integration of rights-based approaches to DRR, adaptation, and cross-border displacement. It emphasises proactive planning and measures, managed mobility, and the admission of those facing climate impacts or disasters.[1050] It proposes humanitarian protection measures to facilitate admission, like the expansion of visa categories or free movement agreements. Thus, the Agenda can and should be instructive to States. Yet it, and other non-

[1047] See, e.g., 'Guiding Principles' (n 124) principle 7(3); 'Guidance on Planned Relocation' (n 17); UNHCR, 'Planned Relocations, Disasters and Climate Change' (n 986); Protection Agenda (n 15) para 95; 'Toolbox' (n 735); ILA (n 598) principle 6; Burson, Kälin, McAdam and Weerasinghe (n 21) 400 (listing recommended action from guidance on planned relocation). While much of this guidance focuses on internal relocation, their principles and measures are also applicable to international relocation.

[1048] See 'Guidance on Planned Relocation' (n 17) paras 15, 21, 28-9.

[1049] See 'Toolbox' (n 735).

[1050] See Protection Agenda (n 15); see also ILA (n 598) principles 7, 9.

binding guidance, are not an alternative to legal commitments. Instead, their suggestions can serve as guidance to flesh out content or provide direction to satisfy legal obligations, obligations that the thesis seeks to establish drives and shapes anticipatory adaptation and measures to enable adaptive mobility.

Additionally, cooperation and assistance are important for adaptive mobility to succeed, not only from developed countries obliged to do so, but also from States throughout the region. Fiji has recognised the high probably of international mobility and the need to integrate migrants into host States across the Pacific through collaboration.[1051] The government has agreed to accept migrants from Kiribati and other PIs, and some communities have gone so far to declare willingness to share their land with those relocated from other States.[1052] Regionally, the Framework for Resilient Development in the Pacific (FRDP) calls upon States to integrate human mobility into national policies and measures, including relocation and labour migration policies.[1053] The FRDP is the first regional integrated strategy for disaster risk management and climate change, which has the potential to enable policy and action across contexts and phases of mobility to improve outcomes and enable joint efforts and cooperation.[1054] Similarities between communities and social ties can further help facilitate the relocation process,[1055] and support mobility within the region or to places with established social networks.

Interim measures that allow for temporary or circular migration in the region can

[1051] See Fiji's Planned Relocation Guidelines (n 1011) 9.

[1052] See 'Statement of UN Special Rapporteur' (n 1007). However, the Special Rapporteur characterizes this as a progressive and generous approach, rather than one mandated by law.

[1053] 'FRDP– An Integrated Approach to Address Climate Change and Disaster Risk Management 2017-2030' (2016) Voluntary Guidelines for the Pacific Islands Region 15.

[1054] See Yonetani (n 959) 38.

[1055] Gharbaoui and Blocher (n 985) 163.

potentially serve as shorter-term solutions, while planning for permanent migration or relocation continues. These could provide staggered movement and remittances that enable others to stay, which may reduce the need for mass migration in the future.[1056] They also reflect decisions that occur at a household level, with some individuals who will migrate while others stay behind. Existing labour migration programmes have also been suggested as a means to adapt—and could be viewed as one form of assistance from developed States like New Zealand and Australia. However, these were not contemplated for climate change and would need to more explicitly incorporate the same rights for migrants as provided for other residents.[1057] They also tend to require repatriation, and may limit the potential for voluntary adaptive migration.[1058] More permanent movement to New Zealand, Australia, or neighbouring States is also preferred by several PIs, through family migration, educational visas, or other schemes.[1059] Similarly, expanding on visa programmes like the Pacific Access Category or the Compact of Free Association, could be a form of international assistance, albeit for limited populations. The former permits a certain number of citizens from Tonga, Tuvalu, Kiribati, and Fiji to apply for residence in New Zealand. The latter allows Marshallese to travel freely to the United States.[1060]

[1056] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 203–4.

[1057] See Farbotko and others (n 45) 397, 400.

[1058] See Bruce Burson and Richard Bedford, 'Facilitating Voluntary Adaptive Migration in the Pacific' (2015) 49 Forced Migration Review 55.

[1059] See McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 202.

[1060] Movement under agreements like the Compact of Free Association can come with costs. Some Marshallese face discrimination and difficulty accessing social and health services in the U.S. See Yamada, Burkett and Maskarinec (n 1020).

C. The Sahel

1. Climate impacts, vulnerabilities, and risks to rights

Like the other developing countries illustrated above, the Sahel is considered one of the most climate vulnerable regions in the world. The cause of such vulnerability stems from multiple factors. Most of the States in the region are LDCs, where large portions of the population live in poverty or are resource-dependent. The region includes parts or all of Senegal, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Chad, Sudan, and Eritrea. The Gambia and Guinea-Bissau are sometimes considered part of the region. Aside from Nigeria, all are considered LDCs. Approximately 80 per cent of the region's residents rely on natural resources for livelihoods and survival.[1061] Populations in the LDCs are growing 2.5 times faster than rest of the world and on the whole are expected to double by 2050; in some States in the Sahel, populations will nearly triple.[1062]

The diverse geography in the Sahel also renders the region vulnerable to different climate impacts. Temperatures over the last several decades have risen more than most regions in the world.[1063] Sea level rise threatens the west near the Atlantic Ocean, where much of the population lives less than five metres above sea level.[1064] From north to south, the desert turns to grassland, which then transitions to savannah woodland and tropical climates in the south and coastal areas. Much of the Sahel is comprised of drylands, where water is

[1061] UNEP, 'Livelihood Security: Climate Change, Migration and Conflict in the Sahel' (UNEP 2011) 5.

[1062] UN Department of Economic and Social Affairs, Population Division, 'World Population Prospects 2019: Highlights' (2019) ST/ESA/SER.A/423 10.

[1063] Since 1970, the increase is between 0.5 to over 1°C in parts of the Sahel. See Isabelle Niang and others, 'Africa', in *Climate Change 2014, Part B* (n 970) 1206; UNEP, 'Livelihood Security' (n 1061) 8.

[1064] See Center for International Earth Science and Information Network - CIESIN - Columbia University, 'Low Elevation Coastal Zone (LECZ) Urban-Rural Population and Land Area Estimates, Version 2' <http://dx.doi.org/10.7927/H4MW2F2J> accessed 8 August 2020.

scarce. Indeed, the region's varied ecosystems are largely dependent on interconnected river systems and wetlands. These riverine systems and wetlands support the wildlife and crops needed for food, livelihoods, and survival.[1065] Certain areas in the region are considered climate change 'hotspots'; impacts are predicted to contribute to desertification, wetland degradation and coastal erosion, and increased flooding and more frequent rainfall in different parts of the region.[1066] Food production and livelihoods are tied to rainfall, which is key to determining accessibility of food and food prices.[1067] Rising temperatures and shifting rainfall patterns are expected to contribute to further desertification and increased mobility.[1068]

The African continent has been highlighted by the UNFCCC as requiring cooperation to protect areas affected by drought and desertification.[1069] For several decades, it is estimated that twice as many people—1.6 billion—have been affected by droughts than by sudden onset events like storms.[1070] The region is marked by persistent vulnerability. Most of the Sahel is currently considered rural, with nearly 80 per cent of people living in rural areas where they rely on subsistence agriculture for livelihoods and survival.[1071] Since the 1970s, it has suffered chronic food shortages with causes that include poverty, economic crisis,

[1065] See F Jane Madgwick and others, 'Wetlands and Human Migration in the Sahel' (Wetlands International 2017) 12.

[1066] See Niang and others (n 1063) 1209, 1211; Carlo Buontempo, 'Sahelian Climate: Past, Current, Projections' (Met Office Hadley Centre 2010) 203; Philipp Heinrigs, 'Security Implications of Climate Change in the Sahel: Policy Considerations' (OECD Sahel and West Africa Club 2010).

[1067] See World Food Programme (WFP), National Agency for Civil Aviation and Meteorology of Senegal and Columbia University's International Research Institute for Climate and Society, 'Climate Risk and Food Security in Senegal: Analysis of Climate Impacts on Food Security and Livelihoods' (2013) 8.

[1068] See Niang and others (n 1063) 1206, 1211; UNEP, 'Livelihood Security' (n 1061) 8.

[1069] UNFCCC art 4(1)(e).

[1070] See IOM, 'Migration, Environment and Climate Change: Assessing the Evidence' (2009) 5.

[1071] UNEP, 'Livelihood Security' (n 1061) 16–17.

desertification, and other climate impacts. These have contributed to widespread malnutrition and health issues.[1072] Threats to land and food sources put at risk a number of rights, including the rights to life and to an adequate standard of living. Water is also crucial for the region; it an essential resource, and one that is a basic human right. A lack of access to water, whether through drought or diversions for commercial or agricultural sources, is an ongoing issue in the region.[1073] Water constraints from drought and desertification will worsen these issues, and the resulting mobility discussed below. In 2018, the Special Rapporteur on extreme poverty and human rights warned that as the adverse impacts of climate change increase '[m]illions face malnutrition due to devastating drought, and many more will have to choose between starvation and migration.'[1074]

2. Current and predicted mobility

Mobility has long been a way of life for many and a means to cope with environmental change in the Sahel. Pastoralists migrate seasonally with the rainfall, those seeking agricultural work follow established networks, and environmental degradation and long-term drought and desertification pushes people into cities and beyond.[1075] This mobility regularly crosses international borders. Up to half of adults in Burkina Faso move outside the country for at least some part of the year.[1076] During prolonged drought, up to one million people migrated from the State to other countries in the region.[1077] In parts of Senegal, drought-related migration initially confined within the country expanded to nearby States and then to

[1072] See WHO, 'Sahel Region' (2006) Health Action in Crises.

[1073] See Madgwick and others (n 1065).

[1074] UNHRC 'Climate Change and Poverty: Report of the Special Rapporteur on Extreme Poverty and Human Rights' (17 July 2019) UN Doc A/HRC/41/39 para 4.

[1075] 'Slow Onset Study' (n 18) paras 95, 100; see also Adger and others (n 27) 726.

[1076] See Warner and others 'In Search of Shelter' (n 982) 9.

[1077] IOM, 'Migration, Environment and Climate Change' (n 1070) 329.

Europe. Those left behind, mainly women and children, faced a heavy economic burden and relied on remittances for survival.[1078] Mobility can also perpetuate further environmental degradation, becoming part of a cycle of worsening conditions, food insecurity, and rights violations that leads to further movement and pressure on resources in places of destination.[1079] Such pressure can turn destinations into places of out-migration due to precarious conditions and environmental degradation.[1080]

Rainfall decreases, land degradation, and violence in the region has led to rapid migration to large cities and their significant expansion.[1081] As climate impacts worsen, labour and rural to urban migration are expected to increase in drylands, with displacement resulting from of increasingly intense and prolonged impacts. Similar patterns will arise in the region's coastal zones, with initial rural to urban migration and more permanent movement away from areas at risk from sea level rise.[1082] Without any efforts to address or adapt to climate impacts, movement to urban areas will contribute to the urbanization of certain areas, where populations have increased by up to 120 per cent in the last few decades.[1083] Urban areas along the west coast will likely become sources of large-scale movement. Many cities like Dakar, Senegal are at sea level or a metre above, exposing millions to climate impacts.[1084] Like other urban areas globally, migrants in cities tend to live in more vulnerable communities. In Dakar, for example, up to 40 per cent of new migrants

[1078] ibid 330–31.

[1079] UNHRC, 'Study–Climate Change and Right to Health' (n 567) para 15.

[1080] Madgwick and others (n 1065) 12.

[1081] See Warner and others 'In Search of Shelter' (n 982) 9.

[1082] See Rigaud and others (n 23) 30.

[1083] See WHO (n 1072); Sudan's NAPA (n 334) 36 (those facing droughts have moved into towns from rural areas); Mauritania's NAPA (n 334) 16 (recognising 'massive immigration to urban areas of farmers due to climactic stress and impacts on sources of subsistence').

[1084] See UNEP, 'Livelihood Security' (n 1061) 47.

lived in high-risk flood areas.[1085] Indeed, people often move away from areas experiencing environmental change to areas with greater environmental vulnerability and precarious living conditions.[1086] A number of those who have migrated to cities leave behind advancing desert conditions and failing pastoral systems.[1087]

Access to water, or a lack thereof, is a further driver of mobility in the region. People tend to migrate and settle near water sources; for example, the Inner Niger Delta has nearly seven times the population density as the rest of the region.[1088] Recent displacement in the region underscores the way climate impacts can affect resources—and water in particular—interacting with other existing conditions to lead to competition and conflict. The Lake Chad Basin provides an example: climate change and water extraction contributed to the shrinking of the lake to a tenth of its former size. This has constrained resources and helps drive conflict.[1089] Since at least 2013, ongoing conflict in the Basin area has caused the displacement of millions and led to refugee movements to nearby countries.[1090]

Links are also being made between resource constraints and poor management policies, changes to rainfall, competition, and the push of pastoralists south into areas where

[1085] Adger and others (n 27) 768.

[1086] See Foresight (n 38) 9; Castles, de Haas and Miller (n 34) 211.

[1087] See 'Report of the Special Rapporteur on adequate housing' (n 735) para 29.

[1088] See Madgwick and others (n 1065) 23.

[1089] See United Nations Children's Fund (UNICEF), 'No Place to Call Home: Protecting Children's Rights When the Changing Climate Forces Them to Flee' (2017) 18. Although not the focus of the thesis, the interaction between climate change and conflict contributes to cross-border mobility in the region. For more, see Weerasinghe (n 30).

[1090] See US Agency for International Development (USAID), 'Lake Chad Basin - Complex Emergency' (2017) Fact Sheet 21 4. Other parts of the region are also experiencing conflict and displacement. See UNHCR, 'Malian Refugees in Burkina Faso, Mauritania and Niger and IDPs in Mali' <https://data2.unhcr.org/en/situations/malisituation> accessed 2 October 2020; 'Slow Onset Study' (n 18) para 95.

farmers are expanding agricultural areas.[1091] Nomadic pastoralists generally respond to changes in environment and disruptions by modifying their mobility patterns.[1092] As grazing land becomes drier and wetlands and water sources dry up, pastoralists are changing their migration routes. For example, Sudan's NAPA recognises that pastoralists and herders are some of the most vulnerable to climate change. Impacts are already forcing them southwards into areas where they face chronic disease and loss of herds.[1093] Shifts southward and across borders may become more permanent, and there is concern that this will replace temporary and seasonal migration as certain climate impacts—droughts and floods—become more frequent and severe.[1094] Fragmentation of nomadic migration due to large-scale agriculture is already seen as a disruption to mobility with consequences to well-being and resources.[1095] In some cases, forced sedentarisation or fencing that impedes livestock mobility has led to degradation of resources and migration away from traditional areas.[1096] The transboundary movement of pastoralists and people with their livestock is an enduring feature of the region, but one identified as requiring oversight to avoid conflicts or tension during prolonged drought.[1097]

More generally, cross-border and longer distance travel is a means to secure livelihoods in the face of climate impacts. For individual migrants from the Sahel,

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[1091] Sudan's NAPA (n 334) 16 (recognising its policies are not providing potable water and food security, which can contribute to conflict between farmers and pastoralists); UNEP, 'Livelihood Security' (n 1061) 9; Adger and others (n 27) 772–73.

[1092] See IPCC, 'Managing Risks' (n 32) 300; Barnett and Webber (n 22) 8 (past permanent migration due to drought).

[1093] Sudan's NAPA (n 334) 9, 30; 'Guiding Principles' (n 124) principle 9 (particular obligation to protect against the displacement of *inter alia* pastoralists).

[1094] See UNEP, 'Livelihood Security' (n 1061) 8.

[1095] See Baldwin and Fornalé (n 50) 325 (citation omitted).

[1096] See IPCC, 'Climate Change and Land' (n 41) 3.40.

[1097] See Yonetani (n 959) 41.

destinations are often north, to Maghreb countries (Egypt, Tunisia, Morocco, and Libya) with people remaining or transiting beyond to Europe.[1098] Slow onset events, however, can inhibit mobility or reduce the distance individuals are able to migrate.[1099] Some—particularly individuals reliant on natural resources for livelihoods—who are exposed to environmental stressors like prolonged drought may be unable to move.[1100] Others are left behind while family members migrate, weakening networks at home or worsening conditions.[1101] While mobility is the focus of the thesis, these populations must be considered in adaptation planning. Their overall well-being and ability to move is enhanced if access to rights and livelihoods is ensured.

3. Integration of human rights and adaptive mobility

The expected changes to the landscape and mobility in the Sahel are part of the context in which adaptation obligations arise. In the absence of strong and anticipatory adaptation measures, pressure on the land from climate impacts will exacerbate and worsen precarious migration, refugee movement, and displacement. Yet the known socio-economic conditions, patterns of mobility, and climate impacts can help States to plan for and implement adaptation, and facilitate adaptive mobility where needed. Like sea level rise, drought and desertification are foreseeable and occur over timescales that create both opportunities and obligations to act. They provide the time to take anticipatory action and fulfil obligations to prevent or mitigate the causes of precarious mobility or displacement. Likewise, political, economic, and governance factors will almost always affect the extent to which an

[1098] See World Bank Group, 'Turn Down the Heat: Confronting the New Climate Normal' (World Bank 2014) 28, 144.

[1099] See Adger and others (n 27) 768; OHCHR, 'Slow Onset Study' (n 18) paras 100-01.

[1100] See Warner and Afifi (n 38) 300.

[1101] See IPCC, 'Managing Risks' (n 32) 311.

environmental hazard or resource constraint contributes to risks to rights, food insecurity, and mobility. As a region where most people rely on access to natural resources—water and land for subsistence farming and grazing—the depletion or degradation of these resources puts related rights at risk. These risks triggers positive obligations on behalf of the State to ensure safe, adequate, and equitable access to essential resources.[1102] However, in places where these resources cannot be provided, obligations to act on adaptation and the predicted precarious movement that might ensue without such action establish the need to explore adaptive mobility options.

As chapter 2 describes, adaptation planning, via NAPAs and NAPs, is a first step in facilitating human rights-based adaptive mobility and accessing financing and assistance. These planning processes allow States to integrate adaptation into domestic planning. They offer potential adaptation measures that can address vulnerability, for example by improving access to food and drinking water, livelihood opportunities for herders, or consider migration as an autonomous adaptation strategy.[1103] Yet only a handful of those submitted from States in the region propose projects involving relocation or migration. Burkina Faso, for example, includes relocation of populations from flood zones and low-lying areas as an adaptation measure.[1104] Sudan's NAP highlights displacement and migration as an impact of climate change, with 'tribal migration route rehabilitation' in part of the country as a form of adaptation.[1105] These recognitions are a positive move towards adaptive measures that contemplate mobility. However, to satisfy obligations to plan for adaptation, and lay the

[1102] See ch 4, II.C-D.

[1103] See, e.g., Sudan's NAPA (n 334) 43, 45; Eritrea's NAPA (n 334) 27.

[1104] Burkina Faso's NAP (n 336) 15, 64, 66.

[1105] Sudan's NAP (n 336) 28.

groundwork for programmes that can be implemented, greater attention must be given to mobility in adaptation planning and processes.

Implementation of adaptation and adaptive mobility will also require an increased focus on proactive and pre-emptive solutions. A number of measures become necessary when risks to human rights are considered and precaution and positive duties integrated. This includes preparing for changes to ecosystems and resources, facilitating mobility for pastoralists and those in vulnerable drylands, and securing land elsewhere. Adequate housing and land tenure, as well as governance capacity to ensure rights, are critical to sustainable land use, which in turn fosters access to food and food security and reduces the risk of further climate-related mobility.[1106] Conversely, the absence of tenure and adequate resources contributes to vulnerability and hinders the ability to adapt, [1107] which can lead to displacement and also runs afoul of integrated obligations to adapt.

One of the purposes of adaptation is to promote the kind of protective governance that helps address the causes of climate vulnerability. Rather than ensuring rights protection for those who reach a tipping point and must move, an approach that facilitates or contemplates movement in advance of human rights violations or land becoming entirely uninhabitable sidesteps problematic categorizations of people on the move and bases responses on context and needs. It can provide rights protection for risks prior to and throughout adaptive mobility, which in turn can help avoid displacement. The Guiding Principles on Internal Displacement and their binding counterpart in the region—the Kampala Convention—also include duties to prevent the conditions that lead to displacement, which could apply to adaptation *in situ* or proactive mobility.[1108] While they strengthen arguments to take preventative action, as

[1106] See IPCC, 'Climate Change and Land' (n 41) 1.18.

[1107] See ibid 3.15.

[1108] See 'Guiding Principles' (n 124) principles 5, 6; Kampala Convention art 3.1(a), 4.

discussed in chapter 1, limitations preclude their broad application to the kind of pre-emptive, anticipatory mobility advanced by this thesis.[1109] Other solutions, including free movement or regional mobility agreements require coordination and cooperation, as discussed next.

4. International assistance and cooperation

As with the previous examples above, international support will be critical to successful adaptation in the Sahel. Finance and technical support are particularly important. They are required as a matter of law within the climate change regime and are needed to practically implement adaptation measures. The current lack of cooperative action—including financial and technical assistance for climate mitigation and adaptation—has been called out by the African Commission for Human and Peoples' Rights (ACHPR). For over a decade, the ACHPR has repeatedly linked climate change and human rights in resolutions, encouraged measures to protect vulnerable groups, and called for the integration of human rights and climate change into development plans.[1110]

Cooperation and assistance are needed, in part, because of the capacity and status of LDCs in the region. Even with foresight and planning, implementation of adaptation programmes in the region will be difficult without adequate support. Instability in governance, social structures, and economic conditions in the Sahel reduce adaptive capacity. Other obstacles include weak labour markets, land tenure issues, rapidly growing populations, and development projects and policies, all of which can complicate adaptation

[1109] See n 135. See also n 1222 (areas of future research).

[1110] ACHPR, 'Resolution on Climate Change and Human Rights and the Need to Study Its Impact in Africa' (Banjul, The Gambia 25 November 2009) ACHPR/Res.153(XLVI)09; ACHPR, 'Resolution on Climate Change in Africa' (Luanda, Angola 12 May 2014) ACHPR/Res.271(LV)2014; ACHPR, 'Resolution on Climate Change and Human Rights in Africa' (Banjul, The Gambia 20 April 2016) ACHPR/Res.342(LVIII)2016; ACHPR, 'Resolution on the Human Rights Impacts of Extreme Weather in Eastern and Southern Africa Due to Climate Change' (Sharm el Sheikh, Arab Republic of Egypt 14 May 2019) ACHPR/Res.417(LXIV)2019.

efforts.[1111] The climate change regime singles out LDCs and creates an obligation of all Parties to take into account their 'specific needs and special situations' in funding and technology transfer, both of which are required forms of adaptation assistance.[1112] These needs and situations help justify and are reinforced by differentiation in the regime and integration of the CBDRRC principle into obligations of assistance for LDCs.

Regional cooperation will also be necessary to better implement or expand on existing migration policies and mechanisms. In general, a DRR framework and programme of action exists for the continent to improve coherence and integration between adaptation, DRR, issues of conflict and fragility, and other development priorities; it also seeks to promote inter-country cooperation.[1113] Cooperation over shared resources also has the potential to reduce conflict and address drivers of mobility.[1114] It will be needed to facilitate continued migration pathways for pastoralists throughout the region. Cooperation can help States, both internally and with other countries, balance competing interests to avoid maladaptation and violations of human rights. Here, human rights principles of non-discrimination and equality can play a role in prioritising rights and needs. Likewise, the need to ensure minimum essential rights creates clear mandates for certain rights on balance: survival and subsistence take priority over property rights.[1115]

[1111] UNEP, 'Livelihood Security' (n 1061) 8–9. For example, irrigation and dam projects tend to privilege the needs of those in urban centres and a few farmers at the expense of others downstream. These kinds of development projects have occurred in Mali, Lake Chad, and the inner Niger Delta where dams and diversions have led to declines in wetlands. See Madgwick and others (n 1065).

[1112] See UNFCCC art 4(9); Paris Agreement preamble, art 9.4. Discussed further in ch 2, III.B.2.

[1113] See African Union, 'Africa Regional Strategy for Disaster Risk Reduction' (2004); African Union, 'Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in Africa: In Line with the ARSDRR' (2017) 7; Yonetani (n 959) (discussing Programme of Action further).

[1114] Thomas (n 877) 112–13.

[1115] See Magnan and others (n 168) 650.

Furthermore, and discussed above, international adaptive mobility requires legal pathways for migrants and cooperation to provide concrete solutions. The expansion and liberalization of regional mobility or free movement agreements is one means that has been suggested to regularize migration between States and promote the integration of migrants into receiving States.[1116] Many of the countries in the Sahel are members of the Economic Community of West African States (ECOWAS), which has adopted several free movement protocols.[1117] In principle, free movement agreements like those in ECOWAS enable citizens of member States to enter and reside in other member States. However, the extent to which free movement agreements can help climate vulnerable populations depends on how well they are incorporated and respected by national governments.[1118] Such agreements offer a means to assist and to address international mobility through an adaptive lens. They have a number of benefits that fill in gaps in protection and international law: they can offer access to international territory; permit entry, stay and work; and allow for permanent or regularised status. These features are not automatic, if there are too many bureaucratic hurdles and human rights protections are not explicit, then the protections they could afford will be limited.[1119]

[1116] This has been proposed to address climate mobility, as discussed in UNHCR, 'Summary of Deliberations on Climate Change and Displacement' (2011) Expert Roundtable, Bellagio Conference para 36; McAdam, *Climate Change, Forced Migration, and International Law* (n 40) 234; Tamara Wood, 'The Role of Free Movement of Persons Agreements in Addressing Disaster Displacement: A Study of Africa' (PDD 2019); Ama Francis, 'Free Movement Agreements & Climate-Induced Migration: A Caribbean Case Study' (Sabin Center for Climate Change Law, Columbia Law School 2019).

[1117] Protocol Relating to Free Movement of Persons, Residence and Establishment (adopted 29 May 1979, entered into force 8 April 1980) A/P.1/5/79 (ECOWAS Protocol). The Community of Sahel-Saharan States also sought to establish a free movement agreement, which was drafted but never adopted.

[1118] See Wood (n 1116).

[1119] ibid 7–8.

Similarly, and as suggested for the PIs, a system that facilitates visas or allows entry is a way for States to fulfil obligations to cooperate and assist in adaptation. The admittance of international migrants can be tailored to the specific risks that adaptive mobility measures in a State are addressing, which could alleviate potential concerns that such a system would create a duty to admit all migrants. Instead, and as emphasised above, the focus is on those most vulnerable to climate change and the foreseeable risks to their rights. Given this focus, States could consider which populations face greater risks from climate change and the most effective way to protect rights, offering a rights-based means to strike the balance in establishing priorities. Scaled up, such a system could operationalize the differentiation within the regime—to both share the burden of adaptation while distributing its costs depending on the status and capacity of States. This would result in different obligations for States, depending on whether they are taking on international migrants or supporting in such efforts.

III. Integrated obligations of assistance and cooperation: additional considerations

The developing country illustrations provide some examples of concrete forms of assistance and cooperation, as well as why such support is necessary. This section expands on these, arguing that certain forms of assistance are required from developed States across contexts, including financial and technical support. Other assistance could also satisfy obligations to assist and cooperate, would be instrumental in ensuring continued rights for migrants, and improve the likelihood of success for adaptive mobility. However, some—like a duty to admit—test the limits of the thesis and integration of human rights.

In addition, there are several practical barriers to the provision of or access to support. A detailed analysis of these barriers is not within the scope or constraints of this thesis, but they warrant mentioning as they will affect the adequacy of assistance and the consequent

success of adaptation efforts. The integration of human rights and the guidance from principles within the regime can help overcome some of these barriers; others may require more radical or far-reaching solutions. Similarly, there are open questions that remain on how assistance and cooperation can work on the ground, with the interpretive tools used in the thesis able to help answer some, but not all, of these questions. Importantly, developed States bound by climate agreements remain obliged to provide support, irrespective of the logistical or bureaucratic issues that may arise.

A. General forms of support

Assistance in adaptation can take different forms. As chapter 2 explains, at a minimum, the assistance owed to developing countries is financial. Chapters 3 and 4 further establish that such assistance, both by virtue of being the target of certain adaptation measures and through the integration of human rights, includes support for efforts that protect individuals. If a vulnerable developing country undertakes measures that are a form of adaptation under the climate agreements, then assistance obligations require that developed country Parties help pay for the associated costs. The latter must assist in 'meeting costs of adaptation' for particularly vulnerable developing countries—arguably those States discussed in the illustrations—or the 'agreed full incremental costs' needed by developing countries more broadly.[1120] The Paris Agreement reminds developed country Parties of their financial obligations and requires them to 'provide financial resources to developing country Parties', to scale-up these resources, and to work to balance financial support between adaptation and mitigation.[1121] Small island developing States and LDCs—like those in the PIs and Sahel—

[1120] UNFCCC art 4(3), 4(4).

[1121] Paris Agreement art 9.1, 9.3.

are cited as examples necessitating financial support for adaptation.[1122] As discussed in the next section, questions about the meaning of 'incremental costs' and whether they only cover costs beyond those that are necessary, limiting its breadth.[1123] In contrast, costs of adaption for particularly vulnerable countries are viewed as potentially unlimited—as long as a programme or measure can be considered adaptation, an argument can be made for assistance.[1124] Yet this view is unlikely to be a widely embraced interpretation and is itself mitigated by the wording of the obligations, which focus on assistance with costs rather than responsibility for them.

As established in this thesis, mobility can be an adaptation strategy, one that States can enable to satisfy obligations within the climate change regime. Accordingly, at a minimum, developing States are owed financial support in the costs of planning for adaptive mobility and implementing adaptive mobility measures.[1125] This is a straight-forward means for developed States to meet their assistance obligations. Developing countries can also avail themselves of the financial mechanisms to request such support. Bangladesh, for example, plans to explore more funding options for its measures to prevent, address, and mitigate climate-induced displacement, including opportunities through the adaptation funding mechanisms in the climate change regime.[1126] However, there is a risk that without more accountability or recognition of assistance *as an obligation*, developed countries may provide inadequate or superficial support rather than meaningful assistance. Such support must also be for anticipatory measures, which broaden the scope of funding for disasters and

[1122] See nn 295-299 and accompanying text.

[1123] Mace (n 173) 63–64.

[1124] See ibid 64.

[1125] For example, see Biermann and Boas (n 94) 417 (arguing sea level rise is broadly undisputed as a climate impact and thus costs of associated mobility must be paid for by developed countries).

[1126] NSMDCIID (n 74) 26.

environmental change. Current funding often occurs after the fact, rather than for *ex ante* measures that can help reduce harm before the worst impacts occur.[1127] Further work is needed to define assistance obligations and their satisfaction, work that extends beyond the understanding of legal commitments to how to compel such action.

In addition to financial assistance, developed country assistance could come in the form of providing information, helping with information gathering, assistance in assessing risks, or technological support. The UNFCCC obligates developed country Parties to take all practicable steps to transfer technology and knowledge.[1128] The Paris Agreement builds on this, creating further obligations to 'strengthen cooperative action on technology development and transfer' and that require financial support 'shall be provided to developing country Parties' to implement its related commitments. The Agreement also clarifies that these commitments apply equally to adaptation and mitigation.[1129] Yet as with financial support in general, questions remain about how to determine and ensure adequate support. Likewise, questions have been raised about how to deploy useful technologies, whether these obligations can enhance climate action, and how to effectively support developing countries when implementation depends on many activities outside the climate change regime.[1130] There is no question, however, that technological and financial assistance is owed to developing countries in their adaptation efforts. This is confirmed outside the regime as well. The CESCR has stated developed States' duties of international assistance and cooperation should include support for adaptation efforts 'particularly in developing countries, by

[1127] See Rosemary Lyster and Maxine Burkett, 'Climate-Induced Displacement and Climate Disaster Law: Barriers and Opportunities' in *Research Handbook on Climate Disaster Law* (n 83).

[1128] UNFCCC arts 4(3), 4(5). On obstacles to the development and implemention of these commitments, see n 289.

[1129] Paris Agreement art 10.2, 10.6.

[1130] See de Coninck and Sagar (n 289) 259–74.

facilitating transfers of green technologies, and by contributing to the Green Climate Fund.'[1131] To satisfy its obligations related to adaptive mobility, developed countries could, for example, help with training to undertake or technical assistance in impact assessments for planned relocation or provide technology to assist in doing so. These assessments can identify areas of risk, impacts on host communities and those who will move, and areas where assistance from developed countries could aid domestic efforts.

For those States implementing adaptative mobility, knowing challenges and risks in advance provides an opportunity to plan, better ensure rights, and to seek further assistance. Recognising risks to human rights and using rights-based principles and standards can both help the State identify concrete adaptation strategies on mobility and inform international assistance. A rights based-approach, in turn, leads to the need for participation in decision-making, assessment of impacts, and an emphasis on all stakeholders' rights obligations.[1132] Additionally, long-term impacts that allow for 'climate foresight' or foreseeable risks should—and as argued in the previous chapter must—be taken into account in adaptation planning, policies, and funding.[1133] In the Solomon Islands, for example, town planners from Australia helped develop adaptation strategies that include a detailed relocation plan. This plan resulted in identification of various challenges—employment continuity, provision of certain services, and loss of current assets—which all need addressed.[1134] Similar assistance that is funded and facilitated by developed States is a means to satisfy adaptation obligations.

As a part of support for planning and assessment, or independent of it, developed country Parties could also assist with gathering, understanding, or distilling information

[1131] CESCR, '2018 Statement' (n 662) para 6.

[1132] Wewerinke-Singh and Van Geelen (n 89) 696.

[1133] Such foresight considers long-term measures as opposed to short-term coping strategies as adaptation. See Solomon and Warner (n 919) 291.

[1134] Simperingham (n 930) 92.

needed by the public to participate in decision-making. This helps ensure that developing countries are able to protect and fulfil procedural rights and satisfies Parties' obligations to cooperate. The UNFCCC includes an obligation to cooperate in 'education, training and public awareness related to climate change'; and the Paris Agreement 'to cooperate in taking measures, as appropriate, to enhance climate change education, training, public awareness, public participation and public access to information'.[1135] And while 'as appropriate' is seen as limiting or introducing discretion into an obligation,[1136] when linked to an example—facilitated migration or planned relocation from coastal Bangladesh or Fiji—it takes on a specific context that makes mobility, and participation and education about it, appropriate and necessary.

Technical and technological support—as discussed above—are commitments within the climate change regime as well.[1137] Economic and technical support is also interpreted as a duty of assistance in human rights law, to help developing countries meet their core obligations. Such assistance is 'particularly incumbent on States… in a position to assist'.[1138] For those developing countries illustrated above, technical assistance could come in multiple forms and at different times: for example, to provide support with shifts in agricultural policies or expansion of grazing lands that enables people to stay in place for as long as possible; to address climate impacts or improve urban living conditions through assistance in planning and on infrastructure; and to assist in adaptive mobility measures or relocation planning, implementation, and monitoring when foreseeable risks make it untenable for people to remain. More specifically, places expected to be common destinations will require

[1135] UNFCCC art 4(1)(i); Paris Agreement art 12.

[1136] See Rajamani, 'The 2015 Paris Agreement' (n 243) 343, 353.

[1137] See Paris Agreement art 7.7(b). However, this article is not prescriptive and uses the language 'should strengthen' institutional arrangements to provide technical support.

[1138] See, e.g., GC 15 (n 569) para 38.

support in accommodating migrants and doing so in a manner that continues to ensure rights. As discussed above, urban areas are expected to grow and have the potential to provide new livelihood opportunities. Yet there are already systemic problems in these settings that create and worsen socio-economic vulnerabilities. Climate impacts will further strain these areas, directly and via increased populations. Assistance with urban planning, cooperation across cities, and more formal collaborative efforts can help address known and expected challenges. As with broader adaptive efforts, support could also come through assistance in the review of relevant laws and policies or sharing best practices for rights-based approaches.

Finally, as mentioned in the illustrations, satisfying obligations to assist and cooperate can come through the facilitation of international mobility. This will require significant changes to the way international migration is viewed and governed, which currently inhibits movement and limits the benefits that can be offered by mobility. Safe and legal means to migrate across borders can help address or avoid obstacles and access to human rights. Adaptive mobility is one way to accomplish this, but will require various forms of support. These could include agreements on international relocation, advanced planning and adoption of consistent policies across countries, a broader system to facilitate international migration, and rights-based approaches to mobility. Addressing precarious and abusive labour markets in States of destination will also offer more reliable livelihood opportunities,[1139] which affects access to adequate food, housing, and sanitation. Additionally, practical changes can improve outcomes, from simple solutions to help facilitate remittances to larger improvements that build networks and access to social services—schools, health facilities, and documentation.[1140]

[1139] See François Crépeau, 'Towards a Mobile and Diverse World: "Facilitating Mobility" as a Central Objective of the Global Compact on Migration' (2018) 30 Intl J of Refugee L 650, 656.

[1140] See Barnett and Webber (n 22) 22–24.

Collective obligations further support a duty to admit, especially when considering human rights.[1141] However, even if States accept that their obligations to assist and cooperate include a duty to admit, which is far from a given, assistance will be required for receiving States.[1142] The forms this will take and what is needed will depend on the capacity of the State, its status within the climate change regime, and the environmental and general conditions in places of destination. Each of these areas provides an entry point for assistance and support. Without action to address these conditions, mobility can lead to further environmental degradation and produce out-migration in host communities.[1143]

In summary, concrete forms of assistance and cooperation could include:

- financial, technical, or technological support for adaptive mobility measures
- assistance in building capacity to enable decision-making and implementation of adaptive mobility measures
- support and assistance with formulating relevant laws and policies
- support for or providing processes for participation in decision-making on adaptive mobility and adaptive mobility measures, including planned relocation
- assistance with securing or provision of land elsewhere
- facilitating transfer of remittances
- coordination of cross-border mobility through *inter alia* admittance into another State, expansion of visas, labour migration programmes, or free movement agreements
- regional or bilateral agreements to enable cooperation and support for adaptive mobility

Without assistance—which can enable proper planning, resources, and the protection of human rights—governments run the risk of movements that increase insecurity and relocations that leave people worse off. Disorganized and precarious movement, displacement, and the exacerbation of already problematic trends will likely result without

[1141] See ch 4, III.A, ch 5, II.B.4; Eckersley (n 402).

[1142] See Mayer (n 40) 164; Magnan and others (n 168) 658.

[1143] See Rigaud and others (n 23) 34.

adequate support. For the places illustrated above, this could worsen precarious rural to urban mobility in Bangladesh, displacement in the Sahel, or movement that crowds or consolidates populations in the PIs where people face increasing pressures and constraints. Likewise, ad hoc responses that address human rights only after violations occur, and insufficient measures to adapt and facilitate movement, will lead to displacement and forced relocations.[1144] While anticipatory adaptive mobility for developing countries requires significant resources and capital, the alternative is likely to prove more costly. Accordingly, support plays a crucial role in whether anticipatory measures can be undertaken or will succeed.

B. Barriers to assistance and cooperation

Despite their importance, there are a number of barriers to assistance and cooperation in the climate change regime that must be resolved before any meaningful action can be taken to support mobility measures in developing countries. Foremost, there is currently a gap in adaptation funding. Although developed country Parties are obligated to pay for certain adaptation costs and fund efforts for developing countries, their financial commitments to date fall far short of the estimated amount needed for adaptation. The pledge leading up the Paris Agreement promised a combined $100 billion USD of public and private funding by 2020 to assist developing countries. The decision adopting the Paris Agreement recognized this goal and encouraged significant increases in adaptation finance, which would better balance climate funding between mitigation and adaptation.[1145] States need to fulfil this commitment, which has been cited by the Special Rapporteur on the Environment as a means to help pay for the costs of relocation in developing countries.[1146] Yet costs are likely to far

[1144] See Biermann and Boas (n 94) 406.

[1145] 'Decision 1/CP.21' (n 275) paras 54, 115.

[1146] See 'Statement of UN Special Rapporteur' (n 1007).

exceed the amount pledged in assistance.[1147] A funding shortfall means that developed States' adaptation obligations are already being violated, and likely will continue to be violated until this gap is closed.[1148]

In addition to questions about the adequacy of funding, there is concern about the perceived equity, fairness, and processes involved in decision-making for the regime's financial mechanisms.[1149] The Adaptation Committee is exploring how to mobilize support; deployment of funding for adaptation could come from multiple sources, although access to and implementation of funding in practice has been challenging.[1150] The GEF manages the LDCF and SCCF, both of which are sources of adaptation funding.[1151] These financial mechanisms have been criticized as being inefficient and inaccessible to the most vulnerable States, those they are aimed at reaching.[1152] In addition, developed States have historically funded mitigation efforts, which undermines the focus and adequacy of adaptation finance.[1153]

[1147] Estimates of adaptation costs range from 140-300 billion US dollars annually by 2030 and 500 billion by 2050. See Adaptation Committee, '25 Years of Adaptation' (n 208) 9. See also Ian Callaghan, 'Climate Finance after COP21: Pathways to the Effective Financing of Commitments and Needs' (Investor Watch 2015) 10, 14.

[1148] See Wewerinke-Singh and Doebbler (n 276) 1509. See also Marshall Islands' Initial NC (n 261) 1, 7–9 (recognising the need for appropriate funding in order to adequately adapt).

[1149] See IPCC, 'Managing Risks' (n 32) 413.

[1150] See Anju Sharma and others, 'Pocket Guide to the Paris Agreement' (ecbi 2016) 18–20; Adaptation Committee, 'Flexible Workplan' (n 220).

[1151] These mechanisms are discussed in ch 2, III.A.

[1152] Rosemary Lyster characterises these funds as under 'serious stress'. There are concerns about the lack of funding, number of developing countries able to access funding (Adaptation Fund), and whether funds are actually being dispersed to developing countries (LDCF and SCCF). Rosemary Lyster, 'Climate Justice, Adaptation and the Paris Agreement: A Recipe for Disasters?' (2017) 26 Environmental Politics 438, 452–53. See also Gromilova (n 40) 41 (funds criticized for their inadequacy); Bodansky, Brunnée and Rajamani (n 1) 145 (SCCF and LDCF are modestly funded due to voluntary nature of contributions).

[1153] See de Chazournes (n 227) 133; Mayer (n 40) 199.

Even if funds are used for adaptation, there is further worry that climate mobility will have to compete with other general adaptation measures.[1154]

Confusion also surrounds what is meant by incremental costs within the regime, the need for these to be agreed upon, and the purpose of measures covered by such costs.[1155] For example, under the GEF guidelines, funding is provided to meet incremental costs for 'measures to achieve agreed *global* environmental benefits' beyond an established baseline.[1156] Various problems have been raised for the application of such criteria due to need to show global as opposed to local benefits and difficulty establishing baseline costs.[1157] Yet this criteria does not apply to the LDCF and the SCCF.[1158] Incremental costs and barriers also do not apply to the assistance required to meet the costs of adaptation for particularly vulnerable developing countries, as the obligation does not have the same caveats.[1159] Moreover, while vulnerability is subjective, the illustrations establish that those countries most likely to need assistance with adaptive mobility are those most vulnerable to climate impacts.

Barriers to the use of human rights in the climate regime have also been raised. Foremost, the lack of enforcement or a mechanism to sanction or hold States accountable for the provision of adaptation assistance can undermine its effectiveness.[1160] Potentially unclear

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[1154] Biermann and Boas (n 94) 416.

[1155] See UNFCCC art 4(3).

[1156] GEF 'Operational Guidelines for the Application of the Incremental Cost Principle' (2007) GEF Policy Paper 2 <https://www.thegef.org/sites/default/files/documents/OPERATIONAL.GUIDELINES.FOR_.THE_.APPLICATION.OF_.THE_.INCREMENTAL.COST_.PRINCIPLE_0_0_0_0.pdf> accessed 30 September 2020 (emphasis added).

[1157] See Gromilova (n 40) 131; Mace (n 173).

[1158] See de Chazournes (n 227) 137.

[1159] See UNFCCC art 4(4).

[1160] See Wewerinke-Singh and Van Geelen (n 89) 696.

duties to correspond with rights have also been identified as a challenge.[1161] Likewise, how rights are actually understood and used may differ from how they rationally should be called upon.[1162] Other problems involve structures or systems that may go beyond solutions rooted in human rights law or the arguments in the thesis. These include systemic issues: the way existing legal structures can replicate historical injustices by *inter alia* privileging corporations or those in power;[1163] worry that adaptation funding will not reach local communities;[1164] and concern that developing States are not in a position to negotiate or control their migration policies, which could allow for undue interference in accessing financial support.[1165] As it currently stands, certain regions, even those facing severe impacts like the Pacific Islands, receive only a small share of global funds for adaptation, which are distributed unevenly.[1166] For climate mobility specifically, at least one scholar contends assistance may be favoured by developed States as a way to justify intervention in developing States domestic policies and further management and deterrence of international mobility.[1167] Other scholars worry that discourse on climate and mobility emphasises a form of resilience that places responsibility for adaptive capacity on the individual migrant.[1168] However, as noted in chapter 1, alternative framings can be more problematic if they emphasise security

[1161] See Burkett, 'Behind the Veil' (n 83) 456.

[1162] See Marcus Hedahl, 'Directional Climate Justice: The Normative Relationship between Moral Claim Rights and Directed Obligations' (2014) 5 J of Human Rights and the Environment 35, 46.

[1163] See Burkett, 'Behind the Veil' (n 83) 456.

[1164] See Burkett, 'Lessons from Contemporary Resettlement' (n 993) 80.

[1165] See Mayer (n 40) 252.

[1166] Farbotko and others (n 45) 399.

[1167] Mayer (n 40) 252, 302.

[1168] See Klepp and Chavez-Rodriguez (n 42) 18.

narratives or allow for militarisation of responses at the expense of individual dignity and human rights.

None of these obstacles are insurmountable.[1169] For example, State-level coordination and assistance for adaptation measures—especially related to mobility—need not trade off with community-based adaptation and participation in decision-making. This also accords with the explicit conclusion in the regime that adaptation is not just a local problem but multi-dimensional, requiring international cooperation and assistance.[1170] An approach incorporating both State and community-based input could help address the potential for funding not reaching local communities and the 'political gap' identified in top-down governance. The latter risks overlooking past and current antagonisms to ignore those marginalized.[1171] Irrespective of the nuances of the adaptation programme, clear pathways for financing and support for mobility are necessary to ensure movement leads to improved adaptation and development.[1172] Furthermore, this thesis views adaptive mobility as a part of States' broader efforts to adequately adapt to climate change and to base decision-making on risks to vulnerable people and their rights. Thus, it does not consider mobility in competition with other forms of adaptation, but rather as part of a continuum of measures and efforts to adapt to continually changing conditions.

This thesis seeks to contribute to the interpretation of adaptation obligations through the integration of positive human rights duties, which can address several of the barriers to adaptation and assistance head on. For example, it speaks directly to the criticism that there

[1169] However, Burkett argues that climate change requires a radical overhaul of international law, one that 'demands a rethinking of deeply held legal precepts'. Burkett, 'The Nation Ex-Situ' (n 108) 372.

[1170] Paris Agreement art 7.2.

[1171] See Burkett, 'Lessons from Contemporary Resettlement' (n 993) 82–83; Burkett, 'Climate Reparations' (n 1032) 533.

[1172] Farbotko and others (n 45) 399.

are not clear duties to correspond with rights by analysing and concretising positive duties. More generally, integrating rights alongside principles of equity and precaution can help ensure consideration of longer-term risks across communities and generations, which can help reduce the likelihood of maladaptation. The use of obligations within the regime to ground adaptation measures further seeks to maintain important aspects of responsibility with developed States and share the burden more broadly via cooperation and assistance. This collective framework, combined with the integration of human rights duties of assistance of cooperation, strengthens arguments for shared obligations. Through integration, developed States are obliged to assist developing countries in adaptation that protects rights and responds to risks. Funding is also expected to prioritize the most vulnerable countries, including LDCs, small-island developing States, and African countries.[1173]

Oversight will be needed to assure assistance is not used to impose anti-migration policies or undue contingencies on developing countries. Human rights mechanisms may be deployed to hold States accountable for their failure to ensure rights or provide adequate rights-based support. The latter, however, faces challenges in justiciability. Other suggestions for accountability include the use of the Task Force on Displacement or an external quasi-judicial body, but much more development of either would be required.[1174] The Adaptation Committee can play a key role, continuing to ensure exchange of information and management of finance.[1175] It may also facilitate longer-term planning related to mobility.

Other barriers can be addressed through the integration of human rights into the

[1173] See, e.g., 'Cancun Agreements' (n 15) paras 95, 97; Gastelumendi and Gnittke (n 228) 241.

[1174] See Maxine Burkett, 'Reading Between the Red Lines: Loss and Damage and the Paris Outcome' (2016) 6 Climate L 118, 126; Mayer (n 40) 134. The Task Force falls under loss and damage in the regime, although this overlaps with adaptation. See nn 221-224 and accompanying text.

[1175] See Sven Harmeling, 'Climate Change Impacts: Human Rights in Climate Adaptation and Loss and Damage' in *Routledge Handbook of Human Rights and Climate Governance* (n 427) 93–94.

policies of processes of funding mechanisms. Recently, steps have been taken to incorporate human rights safeguards into the policies of adaption funding sources within the regime, including the GCF and Adaptation Fund. The GCF is one of the Paris Agreement's primary funding mechanisms, which is tasked with support for LDCs and developing country Parties in the creation and implementation of national adaptation plans.[1176] Both funds have an 'Environmental and Social Policy', which instructs that all funded projects and programmes must respect human rights (Adaptation Fund) or be designed or implemented in a manner that promotes, protects, and fulfils universal respect for and observance of human rights (GCF). Both include assessments that screen for social, environmental, and/or human rights impacts, as well as how marginalized or vulnerable groups are affected.[1177] They have also been suggested as means to help pay for mobility-related initiatives.[1178]

Other improvements to funding mechanisms have been made: GCF projects are now country-led, which is a positive departure from a system that initially allowed donor governments to dictate terms for accessing funds. The GCF now intends to allocate half of its funds to adaptation and half of that to particularly vulnerable countries, which would include those illustrated above. There are also 'encouraging signs' as human mobility has been incorporated into some of the GCF's current projects.[1179] In addition, the COP approved funding through the GCF for national adaptation plans of up to 3 million US dollars per

[1176] See 'Decision 1/CP.21' (n 275) paras 47, 55, 59. The Adaptation Fund may also serve the agreement subject to decisions by the COP. ibid para 60.

[1177] See, e.g., Adaptation Fund Board, 'Environmental and Social Policy' (amended March 2016, approved 2013); Green Climate Fund Board, 'Environmental and Social Policy' (2018) Decision B.19/10, paragraph (b), Annex X; Duyck (n 542) 210 (discussing safeguards).

[1178] See Ilona Millar and Kylie Wilson, 'Towards a Climate Change Displacement Facility' in *Research Handbook on Climate Change, Migration and the Law* (n 33) 434; IOM, 'IOM Contributions to Global Climate Negotiations: 22nd Conference of Parties to the UNFCCC' (2016) 5.

[1179] Task Force on Displacement (n 224) para 81(c)(b).

country.[1180] The GEF small grants programme is an additional potential source of support for planning or initial measures on adaptive mobility, although its financial limits will constrain its impact.[1181] Despite limitations, the use of existing funding mechanisms may be preferable to creating an entirely new fund, which could dilute the assistance developing countries receive.[1182] However, suggestions for a new funding mechanism dedicated to mobility issues have been put forward as another source of financing.[1183]

C. Open questions

There are several further unresolved questions that affect how assistance and cooperation can be used to support States undertaking adaptive mobility. While they do not undermine the core legal arguments of the thesis, they impact their practical implementation. Some of the tools used thus far—principles in the climate agreements and positive duties from human rights—speak to these questions. Others are beyond the scope of the thesis and require further research and work.

Whether States are obligated to seek assistance with adaptive mobility measures from other Parties is an open question. Chapter 4 establishes that in some instances States should request international assistance in ensuring human rights.[1184] This is the case where States are unable to meet their core duties to provide minimum essential resources that are components

[1180] See Decision 10/CP.22, 'Report of the Green Climate Fund to the Conference of the Parties and Guidance to the Green Climate Fund' (31 January 2017) FCCC/CP/2016/10/Add.1.

[1181] These small grants currently distribute $5,000 for planning adaptation projects. For more on these funds, see Burkett, 'Lessons from Contemporary Resettlement' (n 993) 84–5; Harmeling (n 1175) 101–103.

[1182] See Sheila C McAnaney, 'Sinking Islands? Formulating a Realistic Solution to Climate Change Displacement' (2012) 87 NYU L Rev 1172, 1200–01.

[1183] See Biermann and Boas (n 94) 417.

[1184] For more on an obligation to seek or accept assistance in post-disaster or acute situations, see Camilla Barker-DeStefano, *The Unlawful Refusal of Emergency Humanitarian Aid* (Oxford DPhil 2018).

to an adequate standard of living.[1185] More broadly, the status of an *obligation* to request assistance is uncertain, although non-binding instruments call for a State duty to seek assistance where, for example, it lacks the capacity to adequately respond to a disaster.[1186]

Practically, a request for assistance or funding within the regime would likely be required to access funding from its financial mechanisms. In general, developing countries have repeatedly called for assistance and cooperation from developed States to address the adverse effects of climate change, and mobility issues more specifically. Bangladesh, for example, argued that financing for adaptation must be substantially scaled up in order to develop and implement adaptation programmes that include measures related to internal and international migration, planned relocation, or 'climate refugees'. It has also argued for developed States to accept 'climate refugees.'[1187] More recently, Bangladesh confirmed that it will pursue international cooperation when internal or inland relocation is not possible.[1188] PIs have called for increased assistance with relocation if it becomes necessary, as well as protection of human rights for those displaced by climate change.[1189] Bolivia emphasized the responsibility of developed countries for climate change, and consequently the 'hundreds of millions of people that will have to migrate as a result' and the need to provide migrants 'all human rights'. Like Bangladesh, it called for developed States to welcome climate migrants into their territories and to remove any restrictive policies that would preclude these migrants

[1185] See ch 4, III.A. See also McInerney-Lankford (n 347) 162.

[1186] ILC, 'Draft Articles on the Protection of Persons in the Event of Disasters' (2016) UN Doc A/71/10 arts 11-12.

[1187] ADWG-LCA, 'Ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan: Submissions from Parties (Part I)' (19 May 2009) FCCC/AWGLCA/2009/MISC.4 (Part I) 27 (submission of Bangladesh).

[1188] NSMDCIID (n 74) 13.

[1189] See Pacific Island Forum, 'The Niue Declaration on Climate Change' (2008); Pacific Island Forum, 'Forty-Eighth Pacific Islands Forum' (n 1017) para 52.

from a life with dignity and rights.[1190] In the lead up to the Cancun Agreements, Tuvalu, Ghana, a group of LDCs, Argentina, Swaziland (on behalf of a group of African countries), Egypt, Venezuela (on behalf of a group of Central American countries), and the Alliance of Small Island States (AOSIS) all raised concerns about climate-related mobility, and argued for the responsibility of developed countries to provide funding and/or assistance.[1191] Other submissions highlighted efforts to plan for mobility or the need for cooperation and coordination.[1192]

Questions have also been raised about how to allocate the costs of adaptive mobility, amount developed countries must contribute, or admittance of international migrants. Various principles to help determine such allocation have been raised, but do not provide a definitive answer.[1193] Differentiation within the regime broadly dictates developed States contribute to adaptation funds, and thus provides a starting point to allocate the costs and burdens associated with adaptive mobility.[1194] However, whether amounts should be based on current ability to pay, historical contributions to climate change, how much a State has benefitted from emissions, or otherwise is not answered by this thesis.[1195] In general, CBDRRC and

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[1190] See ADWG-LCA, 'Additional Views on Which the Chair May Draw' (n 720) 17 (submission of Bolivia).

[1191] See Bodansky, Brunnée and Rajamani (n 1) 325–36. See, e.g., ADWG-LCA 'Ideas and Proposals on the Elements Contained in Paragraph 1 of the Bali Action Plan: Submission from Parties' (13 March 2009) FCCC/AWGLCA/2009/MISC.8 20 (submission of AOSIS); ADWG-LCA, 'Additional Views on Which the Chair May Draw' (n 720) 43, 88 (submission of Ghana; submission of Venezuela on behalf of Cuba, Bolivia, Ecuador and Nicaragua); ADWG-LCA, 'Ideas and Proposals on the Elements Contained in Paragraph 1 of the Bali Action Plan: Submission from Parties' (13 March 2009) FCCC/AWGLCA/2009/MISC.1 78 (submission of Swaziland).

[1192] See, e.g., ADWG-LCA, 'Ideas and Proposals' (13 March 2009) (n 1191) 52 (submission of Lesotho).

[1193] See Biermann and Boas (n 94) 417.

[1194] For displacement or forced movement, the growing recognition of a right to compensation supports an argument for developed States to pay for the costs of mobility. See Kälin (n 125) 132–40; Ferris, 'Relevance of the Guiding Principles' (n 130) 127.

[1195] See Lyster (n 52) 446.

differentiation links implementation of cooperative obligations to capacity and responsibility. Likewise, human rights law emphasises the need for assistance and cooperation from those States with the ability to do so.[1196] Its principles of equality and non-discrimination could help resolve issues in climate action at the intergovernmental level.[1197] Dinah Shelton argues that 'any allocation of benefits and burdens that makes vulnerable populations worse off, even if the harm is felt outside the boundaries of the state, cannot be regarded as equitable or in conformity with international human rights law.'[1198] Developing States may therefore call upon developed States to refrain from climate action that creates extraterritorial harm and to proactively assist in adaptation. Both can be used to argue for enhanced obligations related to mobility in the context of climate change—and can bolster calls for admittance to developed States for migrants from developing States.

IV. Conclusion

This chapter used concrete examples to illustrate the arguments of this thesis. As these examples aimed to show, the need for adaptive mobility arises in a variety of contexts. Each demonstrated the potential ways adaptation measures can contribute to better planning for and protection of those whose rights are foreseeably at risk from climate impacts. Each also raised different aspects of the arguments for integration and their application on the ground, and show the importance of tailoring solutions to the challenges of a particular place. Thus, they exemplify how general rights duties apply to the conditions of a specific location or population. Bangladesh represents a country that already experiences significant mobility

[1196] See GC 3 (n 561) paras 13-14.

[1197] See Doreen Stabinsky, 'Climate Justice and Human Rights' in *Routledge Handbook of Human Rights and Climate Governance* (n 427) 288.

[1198] Dinah Shelton, 'Equitable Utilization of the Atmosphere: A Rights-Based Approach to Climate Change' in Stephen Humphreys (ed), *Human Rights and Climate Change* (CUP 2010) 124.

associated with environmental conditions, which is likely to be exacerbated by climate impacts. Without an understanding of obligations as advanced in the thesis, large-scale displacement or precarious migration is likely to occur. Poor conditions in slums and for refugee populations could worsen. Integration of rights and precaution, however, can lead to adaptive efforts that prevent displacement, ensure people do not move to more fragile areas, address underlying conditions that create vulnerability to impacts, and plan for adaptive mobility and implement adaptive mobility measures.

The Pacific Islands will experience similar risks from a confluence of different impacts and conditions. Many of their low-lying communities face long-term threats from sea level rise and other adverse effects of climate change, which will eventually render coastal land uninhabitable. The region represents the tension between the desire to stay in place and the need to plan ahead for mobility, which the thesis argues needs not be a trade-off but rather a matter of timing. International support will be particularly important, especially for the planned relocation that is predicted to be required to ensure the survival and subsistence of individuals and communities. However, in the absence of advanced planning and support, the islands will likely be left to explore political and diplomatic solutions that may not take advantage of the time that remains for anticipatory action.[1199]

The Sahel region has a different history of mobility, one influenced by pastoral and nomadic lifestyles and livelihoods. In a region where most rely on the land for survival, constraints imposed on shared resources from water scarcity and drought have already contributed to changes in mobility. To address the predicted impacts from climate change, concerted efforts will be needed in countries where capacity and governance will be tested. Cooperation and support are needed, both regionally and internationally. The latter is

[1199] See, e.g., *Teitiota* (HRC) (n 119).

required within the climate regime, at a minimum to provide financial and technical assistance in adaptation.

Across these contexts, such support is necessary in the planning and implementation of measures to enable adaptive mobility, which provides the benefit of legal and rights-based movement that can lead to better outcomes for migrants. Assistance and cooperation can come in a variety of forms, but foremost must ensure that developing countries are able to undertake adaptive mobility measures. Thus, assistance should come throughout the process of movement, from assessments and consultations with affected persons in advance, to implementation and support for ensuring adequate conditions in transit and on arrival, and continued assurances of rights and resources in places of destination. In general, as the illustrations and analysis of this chapter demonstrate, support can be financial, technical, or technological. It includes concrete measures of support for adaptive mobility measures that facilitate both internal and international mobility. For the latter, legal pathways are necessary and require cooperation and assistance to coordinate cross-border mobility. Furthermore, and as this chapter has demonstrated, the foreseeability of climate impacts lends themselves well to such an approach, affording the practical and institutional opportunities to plan for, address, and support adaptive mobility. Likewise, the integration of human rights compels action to address risks before they become harms, and in turn can result in guidance to identify priorities for action and funding, account for vulnerability and inequality, evaluate adaptation, and ensure the participation of affected persons.[1200]

[1200] See, e.g., Hall and Weiss (n 40) 359–62; Parihar and Dooley (n 202) 274–75.

Chapter 6: Conclusion

I. Summary of arguments for adaptive mobility

This thesis analysed adaptation obligations in the climate change regime and the role international human rights law can play to shape and enable proactive, anticipatory measures to plan for and implement adaptive mobility. It set out the arguments to accomplish this, which relied on the dynamic nature and developments of both adaptation and obligations within the regime. Adaptation is not a one-time measure in the regime. Rather it is part of a process, one that preceding chapters established must incorporate societal risks and conditions. Adaptation must also necessarily shift over time to anticipate or respond to changing conditions. In certain circumstances, as the analysis of the thesis concludes, this leads to adaptive mobility and measures to enable it as part of the adaptation process.

Treaty interpretation tools provided the means to reach this conclusion. Under international law, interpretation of adaptation obligations must both incorporate principles of precaution and differentiation, and integrate human rights law. While adaptation obligations are broad and offer States some discretion, they may be concretised through the integration of specific rights, and in particular the positive duties these rights generate. This thesis focused on key rights—the rights to life, to an adequate standard of living, and procedural rights—that are critical to survival, subsistence, the ability and need to stay or move, and the participation of those affected. Developing country illustrations put these arguments into action. They show that when and how adaptation obligations are triggered will not be identical across contexts.

The process of interpretation is not fixed, just as the adaptation and adaptive mobility measures that satisfy obligations necessarily evolve over time. As each example discussed, there will be circumstances where foreseeable risks require positive action to ensure the

rights of those vulnerable to climate change, and this will include positive action on adaptive mobility. While this will take different forms—facilitation of migration or planned relocation, both within or across borders—a key contribution of adaptive mobility across contexts are the requisite measures to plan, implement, and work with affected persons *in advance* of serious rights violations. Accordingly, and as the thesis aimed to establish, such anticipatory measures can lead to better outcomes for vulnerable people. Adaptive mobility also offers an alternative to mitigate future scenarios of wide-scale displacement and migration crises, which can lead to better outcomes for the States involved.

Implementation of adaptive mobility measures, however, will require cooperation and assistance. This thesis grounds these measures and adaptive mobility in the climate change regime, in part, because of its differentiated obligations. These obligations afford arguments that developed States, wealthy States that on the whole have benefitted most from the causes of climate change, must provide material and meaningful—as opposed to incidental—support for developing States in adaptation. Collective action, that shares and distributes the risks and costs of climate change, is urgently needed to address its impacts.

A. Benefits of adaptive mobility

An overarching goal of this thesis is to highlight the potential of adaptive mobility. From the preceding chapters, several conclusions can be drawn about the benefits of adaptive mobility, adaptive mobility measures, and the arguments they are based upon.[1201]

The first is the contribution integrating human rights law into adaptation obligations can make to adaptation efforts, and the ways this can shape mobility. Overall, integration provides a direct means for human rights to guide adaptation obligations and compel certain adaptation measures. Human rights law puts people and their rights at the centre of solutions;

[1201] The discussion of these benefits is not meant to be exhaustive.

it incorporates concern for harm to individuals arising from climate impacts and allows for the introduction of duties owed to people. This widens the scope of action under the climate change regime, from a focus primarily on State relations or governance to measures that directly affect people. More specifically, human rights law has the potential to be a powerful source of protection for those who move in the context of climate change. The thesis focused on the role rights can play to prevent harm through States' adaptation programmes: to plan and prepare for climate impacts that put rights at risk and contribute to mobility; to better prevent displacement through the protection of rights; and to facilitate migration or planned relocation before risks become harm. These anticipatory actions come via the integration of positive rights duties into adaptation obligations, which prompts State action to address foreseeable risks to certain essential resources.

Positive duties, and the need to address known and foreseeable risks, further require that adaptation target those societal conditions that contribute to threats to rights, and to a life with dignity in particular. Conditions include those factors that render a person vulnerable to climate impacts—environmental degradation and a lack of access to 'essential goods and services' such as food, water, health-care, and housing.[1202] An understanding of vulnerability that both accounts for these known conditions and that is not static can provide a means to prioritize the rights of those most vulnerable in adaptation and policies and measures on mobility. Likewise, acknowledging the multi-causality of vulnerability and mobility affords a broader focus on risks associated with climate impacts. This further enables a move away from protection for migrants based on forced movement and retroactive status determinations and towards the recognition of the rights, needs, and agency of individuals throughout the process of migration.

[1202] See GC 36 (n 569) para 26.

Indeed, when action is taken to provide anticipatory pathways for mobility rather than status-based protection after movement, the need to establish climate change as the cause of movement can be avoided. That climate impacts will be a direct or indirect driver of mobility is widely acknowledged,[1203] but as the illustrations and arguments aimed to show, it is climate impacts in concert with specific conditions and contexts that ultimately lead to the need to move. Waiting for forced movement and failing to consider the risks to those in areas where, for example, drinking water is no longer safe or it is difficult to pursue one's livelihood, is a remarkably insufficient—if not disingenuous—approach to address climate impacts and related mobility. Rather than ensuring rights protection for those who *must* move or who have already moved, adaptive mobility seeks to facilitate movement in advance of violations of human rights or land becoming uninhabitable.

Rights-based approaches also take advantage of the broad applicability of rights, which are not time-bound or tied to a migration status. They allow for measures to ensure and realize the rights of all—and those most vulnerable in particular—to address existing conditions and inequalities and to empower affected individuals in decision-making. The latter is a key addition to adaptation obligations; procedural rights require consideration of people who might otherwise be ignored in adaptation decision-making and policies. Thus, human rights-based approaches provide a degree of certainty to people: once risks to rights are identified, then a means to ensure these rights can be explored, and actions taken can and should include input from those affected. More generally, the integration of human rights law can help transform the climate change regime to provide more holistic responses. By drawing on its 'moral, political and institutional weight', the inclusion of human rights law can 'solidify the ethical moorings needed to compel meaningful action' on climate change.[1204]

[1203] See generally Foresight (n 38); Rigaud and others (n 23).

[1204] Foster and Galizzi (n 805) 45.

The second benefit of arguments for adaptive mobility within the climate change regime draws on the principle of precaution. As an operative principle and cornerstone of the regime, it guides the interpretation and application of obligations. For adaptation obligations, precaution necessitates measures to address risk and take anticipatory action in the face of uncertainty. It strengthens arguments to shift adaptive actions earlier, and to a time that is sooner than might be required by human rights law alone. Thus, measures must be taken to plan for, implement, and monitor adaptive mobility when risks to rights—or their determinants (access to food, water, etc.)—is foreseeable; however, such foreseeability need not be imminent or certain. This accords with knowledge about climate impacts, which is increasing in certainty but necessarily predictive. Such knowledge offers the opportunity to act now and plan for mobility, which will be critical to successful relocations or facilitated migration.[1205] Together, rights-based approaches and precaution provide clearer thresholds for when action must be taken;[1206] at a minimum to ensure certain core and non-derogable rights and more ambitiously where any number of rights are at risk.[1207] Thus, while action grounded in human rights and precaution does not dictate specific action, they can help determine when adaptive mobility is necessary and how it occurs—to proactively protect rights before, during, and after movement.

The third benefit of adaptive mobility is the collective framework this thesis embeds it within. Differentiation in the regime creates duty holders and bearers. It makes clear that developed countries owe support for adaptation to developing countries. Adaptation is a cooperative effort, one that the Paris Agreement recognises spans multiple levels of

[1205] Action taken now allows States to shape mobility in the future and avoid displacement. See McAdam, 'Nansen Initiative to the PDD' (n 46) 1546.

[1206] See Rajamani, 'Rights-Based Perspectives' (n 667) 424.

[1207] See I.B, below on future research.

governance and actors.[1208] Human rights law adds an element of specificity and bolsters arguments to assist developing States in measures to address risks to rights through adaptation. It is the climate change regime, however, that provides the institutional mechanisms necessary to deploy certain forms of support—namely financial and technical—which can make burden sharing more than merely a proposition. Progress must be made to develop these mechanisms, and to do so in a way that responds to concerns about current gaps in adaptation support. These mechanisms and other institutions of the regime also provide a potential forum to work out practical issues on adaptive mobility. They could, for example, be used as a space to negotiate agreements on safe and legal pathways across borders, one of the aspirational legal arguments of the thesis.

The final benefit of adaptive mobility is its contribution to the broader discourse on climate change and human mobility. The thesis sought to frame mobility as primarily positive, and highlight steps that can be taken to improve outcomes for migrants and affected States. In doing so, it shifted the analytical focus away from the threat that mobility poses to national security or receiving communities by exploring ways that adaptive mobility measures can reduce risks to human rights and help avoid displacement and migration crises. Much of the work to change perceptions of mobility and State interests will be political and diplomatic.[1209] Yet as with the concepts that anchor this thesis, an underlying premise is that perceptions and interests can evolve and that legal analysis contributes to altering the discourse. International law can shape and structure cooperation and coordination between States, treaty regimes, and the rules they create. It is a reflection of a pluralistic political reality. However, as the arguments for treaty interpretation emphasised, the system of

[1208] See Paris Agreement art 7.2.

[1209] See Mayer (n 40) 268; Crépeau (n 1139) 651 (migration crises will not be addressed until politicians set out a long-term, rights-based vision of mobility).

international law can strive for coherence and achieve points of convergence. For adaptation obligations, this is accomplished through the integration of human rights. This seems like a timely progression. Adaptation, and mobility as an adaptive measure, are increasingly necessary. Human rights law provides the content and guidance to inform the manner and means by which such mobility occurs.

B. Future research and ways forward for adaptive mobility

The introduction of this thesis identified several issues that are beyond its scope, and preceding chapters have also identified open questions and areas that warrant further research. For example, the role of international organizations in adaptive mobility and motivating State action is not within the purview of arguments aimed at interpreting State obligations.[1210] Likewise, *how* to mobilize State action to ensure implementation of obligations is a topic not covered in the legal analysis.[1211]

The thesis aims to establish the need to enable mobility when individuals face risks to their rights, rather than after rights violations. It also sought to concretise and clarify adaptation obligations, which is the first step in implementation. However, fully integrating human rights law would require access to an effective remedy for individuals should any violations occur.[1212] A human rights-based approach ought to enable individuals to seek

[1210] For further exploration of the role of international organizations see, e.g., Nina Hall, *Displacement, Development, and Climate Change* (Routledge 2016). See generally Alexander Betts (ed), *Global Migration Governance* (OUP 2012).

[1211] On compliance with international legal norms, both legally binding and soft-law, see generally Dinah Shelton (ed), *Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System* (OUP 2003); Mark G Burgstaller, *Theories of Compliance with International Law* (Martinus Nijhoff Publishers 2005). For diplomatic or political strategies to compel measures and support see, e.g., Alexander Betts 'International Cooperation in the Refugee Regime' in Alexander Betts and Gil Loescher (eds), *Refugees in International Relations* (OUP 2011); Nina Hall, 'Money or Mandate? Why International Organizations Engage with the Climate Change Regime' (2015) 15 Global Environmental Politics 79.

[1212] See ICCPR art 2(3).

protection from governments or claim rights, rather than relying on charity or being considered a passive beneficiary of aid.[1213] To do so requires a means or mechanism to monitor human rights impacts, hold States accountable, and offer a remedy or restitution for any losses.[1214] The institutions within the climate change regime do not offer such a forum currently, which may introduce the need for development outside the regime or reliance on current human rights bodies and mechanisms. An individual's enforcement of State climate obligations is also not contemplated within the climate change regime, which provides for dispute settlement between State Parties, creates a multilateral consultative process (UNFCCC), and a committee (Paris Agreement) to resolve questions and promote implementation and compliance.[1215] Most environmental regimes focus on facilitating compliance rather than enforcement, although the latter is identified as necessary to strengthen commitments to environmental obligations and can proceed from a review of States' compliance.[1216] Future research could explore options for enforcement, to clarify the stakes or processes involved should an obligation be violated.[1217]

Furthermore, analysis of other aspects of the regime or specific rights could extend the reach of the arguments in the thesis. Its interpretive process could be applied to other rights, including those that are more contested. For example, the rights of indigenous peoples and the right to self-determination, amongst others, could play an important role in mobility,

[1213] See IASC (n 598) 2.

[1214] For further on accountability, monitoring, and evaluation for relocation see 'Toolbox' (n 735) 28–9.

[1215] The UNFCCC consultative process was never developed. However, the first formal meeting of the Paris Agreement Implementation and Compliance Committee (PAICC) was held in June 2020. See also n 1174 and accompanying text, on potential accountability for assistance with adaptive mobility.

[1216] See Daniel Bodansky, *The Art and Craft of International Environmental Law* (Harvard University Press 2010) 227–228, 242 (outlining arguments made for stronger enforcement and setting out three forms of international review—implementation, compliance, and effectiveness review).

[1217] On climate litigation in general, and raising human rights issues, see n 51; Savaresi and Auz (n 386).

which requires answers to questions about their content and applicability.[1218] The use of other goals or operative principles of the regime may also provide indirect support for or affect the scope of adaptive mobility. Adaptation is linked to broader goals of poverty alleviation and sustainable development. Measures on adaptive mobility will need to contend with this link, which can be both complementary or contradictory depending on the context and development agenda.[1219] Their inclusion in the regime establishes that other international norms or laws govern action on adaptation.[1220] How these areas interact with obligations could affect their interpretation, much as human rights law shaped arguments for adaptive mobility in the thesis. They also raise issues of international regime interaction or institutional separation that are not explored.[1221] Similarly, other international policy frameworks or forums incorporate and seek coherence across human rights, climate change, and mobility, which could be used to strengthen normative arguments for adaptive mobility.[1222]

The role of secondary or remedial obligations was also not included in the analysis of primary obligations in the thesis. However, they are a potential source of action on mobility. If responsibility could be established for harm from climate change, which would require

[1218] See ICCPR art 1; ICESCR art 1. See also 'Guiding Principles' (n 124) art 9 (particular obligation to protect against the displacement of indigenous peoples, amongst others); UNDRIP; Paris Agreement preamble (States should account for the rights of indigenous peoples in climate action) .

[1219] See n 347.

[1220] See UNFCCC preamble, arts 3(4), 3(5), 4(7); Paris Agreement preamble, arts 2.1, 7.1.

[1221] For concrete suggestions on how different institutions and processes can interact, inform one another, and assist the climate change regime to provide a rights-based approach to climate change generally, and climate-related mobility specifically, see, e.g., Jane McAdam and Marc Limon, 'Human Rights, Climate Change and Cross-Border Displacement: The Role of the International Human Rights Community in Contributing to Effective and Just Solutions' (Universal Rights Group 2015) Policy Report 21–23.

[1222] See n 859. See, e.g., 'Sendai Framework' (n 142); UNGA, 'Agenda for Sustainable Development' (n 588); 'Global Compact on Migration' (n 841). The development of provisions to prevent displacement in the Guiding Principles on Internal Displacement could also be further explored. See n 135.

establishing breach of *inter alia* a climate obligation, human rights law, or the no-harm principle,[1223] then support for adaptation and adaptive mobility *could* become a remedy. This would take a number of steps to achieve, and it introduces obstacles in establishing causation that the thesis has sought to avoid.[1224] More broadly, calls for legal reform—because legal systems are too ossified, fragmented, or unable to respond to a complex problem like climate change—puts into question the utility of international law.[1225] The process of integration used in the preceding chapters offers a partial response to this critique, one which looks to the evolutive nature of climate obligations and the regime generally. It works with existing tools and structures, to make new arguments for the protection of people, collective action, and cooperation.

Finally, to build on these arguments and move forward with adaptive mobility, the programmes and laws required for implementation will themselves have to adapt. Thus, adaptation will be needed, both through law and in the structures surrounding it. The former motivates the arguments in this thesis. The latter can shape the measures and developments critical to turn arguments into a reality, as well as answer questions about what role the law can and should continue to play.

Climate change poses a tremendous—if not the biggest—global threat to the survival of people, ecosystems, and the planet. Yet some of the challenges and risks it pose are foreseeable, and provide the opportunity to act now and with urgency to address its impacts.

[1223] For more on the elements that establish responsibility, see ILC, 'Draft Articles on Responsibility of States for Internationally Wrongful Acts' (November 2001) Supplement No 10 UN Doc A/56/10, chp.IV.E.1.

[1224] Further analysis of secondary obligations is found in the sources cited in n 347. See generally Verheyen (n 160); Jacqueline Peel, 'Climate Change' in André Nollkaemper and Ilias Plakokefalos (eds), *The Practice of Shared Responsibility in International Law* (CUP 2017); Lauren Nishimura, 'Responding to Climate Change and Migration: Adaptation and State Obligations' (RLI, University of London 2018) RLI Working Paper Series Mini-Volume (Papers 23-26) 39–40.

[1225] See, e.g., Burkett, 'Behind the Veil' (n 83) 477–78.

Solutions will require concerted and cooperative efforts of unprecedented scope, as well as incremental steps and innovative proposals across contexts, governance, and actors. This thesis offers one such innovation, circumscribed by international law but underscoring its potential. It has used human rights law to shape adaptation obligations, to provide a direct means to integrate mobility as adaptation into the climate change regime. Adaptive mobility focuses attention on the rights and needs of vulnerable individuals, responds to risks from climate impacts, and prompts anticipatory and proactive measures. At the same time, adaptation obligations of assistance and cooperation offer solutions for sharing the burden of adaptation, which can be marshalled to offer concrete forms of support for developing countries in their efforts to adapt and provide safe pathways for mobility going forward.

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