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Preventing a Second Atlantis: Facilitating the Enjoyment of Water in an Era of Climate Change Impacts

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Summary

This thesis explores the connection between climate change and human rights from a legal perspective. Its starting point is the consideration of the plight of small island developing states (SIDS) in light of the adverse impacts of climate change on their territories and populations, such as the exacerbation of resource scarcity by climate change. In light of this, the thesis focuses on how water is regulated at the regime level by international human rights and climate change law and how those laws are implemented on the ground. The thesis considers this by asking the question *"In what ways might a closer integration of the international human rights and climate change legal fields facilitate the enjoyment of water in an era of climate change impacts?"*.

In pursuit of answering this question, the submission examines regime level and implementation level integration, in Parts One and Two respectively. In Part One the two regimes, international human rights and climate change law and how they both address the issue of water, are outlined. It is clear that the two regimes interact barely at all despite regulating the same subject matter. The need and possibilities for integration are then considered, including an analysis of the possibility of the adoption of a new treaty and/or soft law instruments. The thesis then moves on to the implementation level aspect of the research question through adopting a specific country lens and considers the situation of water scarcity and its exacerbation by climate change in Tuvalu in Part Two. Water scarcity is considered from a human rights perspective, followed by consideration of if and how international human rights and climate change laws are being implemented in the state. It is concluded there is limited implementation and it follows that regime level integration may not actually facilitate the enjoyment of water in the country. Subsequently implementation level means of integration are analysed by considering opportunities under development commitments.

Finally, by way of conclusion, the thesis summarises the conclusions reached in Parts One and Two. The conclusions of the thesis illustrate that there is not only disconnect between the two legal fields themselves, but also between the regimes and their implementation. The disconnect between the fields could be resolved by regime level integration which would ensure coherence of international law. The disconnect in terms of regime and implementation may indicate a further need for regime level integration, but it also demands that there is greater integration of the two fields at the implementation level.

Preface

In writing this thesis I have received an immeasurable amount of support from several people to whom I would like to extend my thanks. I would first and foremost like to thank my supervisor, Matthew Scott, for his invaluable academic support, without which this thesis could not have been written. I would also like to extend my gratitude to my colleagues at the Raoul Wallenberg Institute for Human Rights and Humanitarian Law for their assistance in suggesting relevant readings, as well as for discussing the topic of this thesis with me, which has given me food for thought. Thank you also to my classmates for the daily dose of refreshing discussions over copious amounts of coffee, which made this process all the more enjoyable. Finally, I would like to thank my family, for their unwavering belief in me and for their steadfast support.

Linnéa Nordlander

Lund, May 21st 2017

Abbreviations

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
CRPD	Convention on the Rights of Persons with Disabilities
DPOs	Development Policy Operations
DRD	Declaration on the Right to Development
GDP	Gross domestic product
GHGs	Greenhouse gases
HRBAD	Human Rights Based Approach to Development
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
ILA	International Law Association
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
MDGs	Millennium Development Goals
NAPA	National Adaptation Programme of Action
NGO	Non-governmental organisation
ODA	Official Development Assistance
SDGs	Sustainable Development Goals
SIDS	Small island developing states
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

UNDP	United Nations Development Programme
USD	United States Dollar
VCLT	Vienna Convention on the Law of Treaties
WHO	World Health Organisation

Glossary

Adaptation: "In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate."[1]

Adverse impacts/effects of climate change: "[C]hanges in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare."[2]

Climate change: "[A] change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."[3]

Greenhouse gases: "those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation."[4]

Mitigation: "A human intervention to reduce the sources or enhance the sinks of greenhouse gases."[5]

[1] Working Groups I and II of the Intergovernmental Panel on Climate Change, Glossary of terms. in Field CB and others (eds), *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* (Cambridge University Press 2012) 556.
[2] United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 31 March 1994) 1771 UNTS 107 (UNFCCC) article 1(1).
[3] ibid article 1(2).
[4] ibid article 1(5).
[5] Working Groups I and II (n 1) 561.

Chapter 1. Introduction

"But afterwards there occurred violent earthquakes and floods; and in a single day and night of misfortune all your warlike men in a body sank into the earth, and the island of Atlantis in like manner disappeared in the depths of the sea."[6]

- Plato in Timaeus, translated by Benjamin Jowett

1.1. Introduction to the topic

The legend of Atlantis has its written origins in Plato's work the Timaeus where it was said that Atlantis, a powerful island civilisation, disappeared into the sea following the onset of floods and earthquakes.[7] Questions as to the story reflecting fact or fiction have arisen through the years, although it is often panned off as a fictitious story intended to warn of the dangers of hubris and greed.[8] Regardless of its true reflection of history, the legend may soon be reproduced in our modern world. With the onset of climate change and its adverse impacts, small island developing states (SIDS) are at risk of physical disappearance due to sea level rise. [9] At the current rate of climate change impacts, SIDS like Tuvalu may disappear within the next fifty years.[10] This raises questions as to the fate of SIDS populations, such as where they could relocate to, whether relocation would allow their respective cultures and languages to live on, whether their governments would cease to exist rendering them stateless, just to name a few. However, in researching the above issues, it became clear to the author that the adverse impacts of climate change will make SIDS uninhabitable prior to any physical disappearance. The islands becoming uninhabitable stems in part from the exacerbation of water scarcity by climate change, threatening to render the states without any freshwater almost at all, making it

[6] Retelling of Plato's story of Atlantis found through NS Gill, 'Plato's Atlantis From the Timaeus: Did the city of Atlantis really exist?' (*ThoughtCo*, 24 September 2016) <https://www.thoughtco.com/platos-atlantis-from-the-timaeus-119667> accessed 19 May 2017.
[7] ibid.
[8] Willie Drye, 'Atlantis' (*National Geographic*) <http://www.nationalgeographic.com/archaeology-and-history/archaeology/atlantis/> accessed 19 May 2017.
[9] United Nations Human Rights Office of the High Commissioner, 'Climate change is a human rights issue' (*United Nations Human Rights Office of the High Commissioner*, 27 March 2015) <http://www.ohchr.org/EN/NewsEvents/Pages/ClimateChangeHumanRightsIssue.aspx> accessed 21 May 2017.
[10] UN Human Rights Council, 'Report of the Special Rapporteur on the human right to safe drinking water and sanitation, Catarina de Albuquerque: Mission to Tuvalu' (17-19 July 2012) UN Doc A/HRC/24/44/Add.2, 15.

impossible to sustain life there.[11] Multiple SIDS currently experience water scarcity by virtue of them not being naturally gifted in terms of freshwater availability on the islands. This scarcity is expected to be exacerbated by climate change as the adverse impacts thereof intensify in terms of severity and frequency.[12] This is problematic, as individuals and entire populations residing in SIDS would essentially be forced to relocate unless water scarcity is addressed. This is the case despite the individuals living in the states having a human right to water under international law.

In light of the physical disappearance problem, a few legal issues could be considered such as the implications of state disappearance on statehood and consequent statelessness, whether climate-related migration is regulated by international law, and the applicability of the human right to water extra-territorially, among others. Upon researching the problems experienced by SIDS in relation to climate change, it became apparent that the issues outlined have been the subject of academic research previously and there is a body of analytical literature aiming to address and resolve these problems under the law. [13] In relation to the issue of SIDS becoming uninhabitable due to water scarcity, however, less academic research has been conducted. Greater focus being placed on scientific research establishing the links between climate change and exacerbation of water scarcity and how this might impact human rights enjoyment[14] than on the possible methods of securing water supply through the use of law. There are at least two international legal regimes which attempt to secure enjoyment of water for individuals, namely the international human rights and climate change legal regimes. The two regimes act separately from each other but both regulate water, and climate change law in particular regulates climate change which impacts water. Despite regulation, however, water is not being enjoyed on the ground in SIDS. If laws are adopted with the intention of securing greater enjoyment of water without achieving such enjoyment in practice in states, this indicates that there is some flaw in the legal system, either in regards to the laws themselves at the regime level or at the implementation level. The laws operate in official isolation from each other, despite the interaction between the enjoyment of the right to water with the adverse impacts of climate change in practice. The International Law Association (ILA) has highlighted that there

[11] Jane McAdam, *Climate Change, Forced Migration, and International Law* (Oxford University Press 2012) 124.
[12] Wu Hongbo, 'Mr Wu's Blog on Water and Sanitation' (Island Voices, Global Choices) <http://www.sids2014.org/index.php?menu=1583> accessed 19 May 2017.
[13] See for example, McAdam (n 11) and Mark Gibney and Sigrun Skogly (eds), *Universal Human Rights and Extraterritorial Obligations* (University of Pennsylvania Press 2010).
[14] For example, Intergovernmental Panel on Climate Change, *Climate Change and Water: IPCC Technical Paper VI* (Intergovernmental Panel on Climate Change 2008).

is a real risk for norm conflict between the international human rights and climate change regimes,[15] which makes one wonder whether this might be the cause of limited enjoyment of water.

The question then arises, would there be greater enjoyment of water if there was closer integration between two regimes? Discussions of integration between the two regimes have been conducted by scholars, as well as the benefits of adopting a human rights approach to climate change.[16] These discussions do not however tend to focus on whether integration of the two regimes would secure greater enjoyment of water supply specifically, and particularly not in SIDS.

1.2. Research question

In an attempt to understand the issue of water scarcity exacerbated by climate change discussed above, this thesis aims to answer the following question: *"In what ways might a closer integration of the international human rights and climate change legal fields facilitate the enjoyment of water in an era of climate change impacts?"*.

1.3. Scope and delimitations

When addressing the research question, the thesis focuses on regime level and implementation level integration of the two systems. In examining the possibility of regime level integration, focus is placed on the international human rights and climate change regimes. Specifically, Part One will focus only on aspects of the two regimes that address water supply. Under international human rights law emphasis will be placed on the right to water and thus

[15] Shinya Murase and others, 'Legal Principles Relating to Climate Change' [2014] 76(1) International Law Association Reports of Conferences 330-386, 371-374.
[16] See for example, John H Knox, 'Climate ethics and human rights' [2014] 5(Special Issue) Journal of Human Rights and the Environment 22-34, Ottavio Quirico, Jürgen Bröhmer, and Marcel Sazbó, States, climate change and tripartite human rights: the missing link. in Ottavio Quirico and Mouloud Boumghar (eds), *Climate Change and Human Rights: An International and Comparative Law Perspective* (Routledge 2016), Ottavio Quirico, 'Systemic integration between climate change and human rights in international law?' [2017] 35(1) Netherlands Quarterly of Human Rights 31-50.

international law regulating that right will be considered. As such the thesis focuses on integration of the international law regulating the right to water and not all human rights generally. In regards to climate change law, the thesis focuses primarily on adaptation and mitigation obligations and less on issues of cost and damage, which are also regulated by international climate change law. Furthermore, as with international human rights law, only aspects of climate change law relating specifically to water will be considered, not the climate change regime in its entirety.

In pursuit of answering the implementation level aspect of the research question, the thesis adopts a country-specific perspective in Part Two. In order to examine how the issue of water scarcity is being addressed on the ground, the situation in Tuvalu is considered. Other SIDS or national contexts will not be considered, but Tuvalu has been selected as a representative example of the situation of SIDS as the issue of water scarcity exacerbation by climate change is one applicable to all Pacific SIDS.[17] Thus the implementation level considerations are limited to the issues experienced in Tuvalu alone.

1.4. Aim and rationale

The aim of the study is to gain a greater understanding of why, despite intricate systems of international law being developed to regulate water supply, water supply has not been secured in SIDS, particularly in light of the adverse impacts of climate change. The reason for the pursuit of this knowledge is that water is fundamental to human life and it concerns the author that the adoption and interpretation of laws in view of safeguarding human life is being given significant attention and effort, yet the efforts are not increasing the enjoyment of water in SIDS. As such, the thesis considers whether the issue lies at the regime level and/or the implementation level and what ways the issues could be resolved. The hope is that this would facilitate greater enjoyment of water for those residing in SIDS even in this era of climate change impacts.

The submission adopts a human rights approach and advocates for the integration of human rights and climate change law. Human rights, as a set of principles and their

[17] Hongbo (n 12).

corresponding laws, provide a lens through which to see the world which comprehensively considers all aspects of human life. The system as developed under international, regional, and national laws has an unparalleled level of detail and has near universal subscription.[18] This suggests that the human rights approach, which is that adopted by the United Nations (UN) as well, has managed to code the morality of states and their ideas of right and wrong as well as their sense of duty and corresponding entitlements. It is preferred to alternative approaches by the author in light of these aspects. One particular benefit brought by the human rights approach is the significant focus placed on non-discrimination and attention to those most vulnerable in society in all aspects of life and the securing of human welfare.[19] The human rights approach also demands that those affected are given the opportunity to participate in decisions taken which affect them, creating a greater sense of autonomy among individuals.[20] This appears preferable to pro-poor approaches which, while addressing issues of discrimination and equality based on economic status, they primarily take into account one dimension of human welfare, namely poverty, and focuses primarily on how to address that issue through development and economic growth.[21] It is also preferred to the needs-based approach by the author as "rights" provide enforceable entitlements whereas "needs" may create a sense of revocation of autonomy. While needs and poverty are considered admirable and desirable issues for the project of international law to address, human rights are considered to offer a more comprehensive understanding of water scarcity and how it impacts a multitude of aspects of human life by the author. This is partially the case given that the human rights system includes a right to water specifically. This contains multiple related state obligations which must be met in relation to specified components of the right, while taking into account issues such as non-discrimination and equality. The human rights approach thus provides a level of detail in relation to water specifically taking into account a variety of aspects of the right in question, providing an intricate approach to how human welfare is to be interpreted. Moreover, as will

[18] Knox (n 16) 24-25.
[19] The right to freedom from discrimination is explicitly included in all core international human rights treaties, see, *inter alia*, International Covenant on Economic, Social, and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 999 UNTS 3 (ICESCR) article 2(2), Convention on the Rights of the Child (adopted 20 November 1989, entered into force 2 September 1990) 1577 UNTS 3 (CRC) article 2(1), and Convention on the Elimination of All Forms of Discrimination Against Women (adopted 18 December 1979, entry into force 3 September 1981) 1249 UNTS 13 (CEDAW) article 2, among others.
[20] The for example CRC (n 19) article 12, CEDAW (n 19) article 14(2)(a), among others. Catarina de Albuquerque, *Realising the Human Rights to Water and Sanitation: A Handbook by the UN Special Rapporteur Catarina de Albuquerque: Introduction* (Precision Fototype, 2014) 31.
[21] Marta Foresti and others, 'Human rights and pro-poor growth' (*Overseas Development Institute (ODI)*, January 2010) <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/5631.pdf> accessed 21 May 2017.

be made clear in the following discussion, particularly in Part Two, water scarcity affects more persons than just the economically disadvantaged in SIDS. Adopting a human rights approach to this allows one to understand what types of inequalities there are in enjoyment of water beyond economic status, such as residence location.

1.5. Methods and materials

In pursuit of answering the research question the thesis examines two "levels" of the law, namely the regime level and the implementation level. These two aspects have been selected given that water scarcity in SIDS persists despite regulation of water supply through at least two regimes. The problem may, as such, stem from problems at the regime level itself or from the implementation level, if the laws are not being implemented at all or if they are not being implemented properly. Given that the two legal fields act separately from each other while addressing the same resource, water, from different perspectives, it raises the question as to whether a closer integration at the regime level, implementation level, or both, would facilitate the enjoyment of water.

Part One of the thesis examines the regime level through a legal doctrinal approach. In adopting this approach, Part One of the thesis examines and interprets the international legal regimes in question, namely international human rights and climate change law. In order to consider in what ways a closer integration of the two regimes might facilitate enjoyment of water, Part One outlines why integration of the two regimes is desirable, why it is necessary, and if it is possible. This culminates with the consideration of what means of integration are available under international law.

Part Two of the thesis considers the implementation level through examination of international assistance and national methods of mitigating water scarcity in Tuvalu. Tuvalu was selected for the implementation level aspect of the question as it experiences water scarcity acutely, allegedly already experiences the adverse impacts of climate change on its water supply, documentation in English in regards to these issues are available, and aid and assistance conducted in the state is relatively well documented. The various projects which are carried out in Tuvalu are also considered, focusing primarily on those carried out by external actors. In

outlining the various assistance projects, consideration is made of to what extent human rights and climate change laws are being implemented through the projects to indicate what level of implementation of law is being conducted. This culminates in a consideration of whether integration of the two at the regime level would benefit water scarcity in Tuvalu and considers alternative methods of integration which may have greater effect at the implementation level.

The materials used in the study vary greatly. Part One focuses primarily on legal instruments such as international human rights treaties as well as the interpretation of those treaties by their respective treaty bodies. The interpretative guidance issued by treaty bodies is not legally binding on states and this should be borne in mind, however they are influential on states given the authority attached to treaty body status. The ILA is also frequently referenced in Part One in regards to their interpretation of international climate change law. The study 'Legal Principles Relating to Climate Change' by the ILA[22] is also not legally binding on states but is very comprehensive in regards to material consulted and was conducted by approximately 30 academics from the climate change field. As such the study in question, while not legally binding and should not be assigned as much weight as the statements of the treaty bodies in terms of interpretative guidance, nevertheless represents an influential interpretation of the law. Part Two focuses heavily on the reports of UN Special Rapporteurs as well as government documents from Tuvalu, New Zealand, and Australia on their activities within Tuvalu. The Special Rapporteur reports and Tuvaluan government reports are somewhat dated but represent the most recent information available on enjoyment of water in the state. Reports of the World Bank and various UN agencies have also been consulted in considering the ongoing activities in Tuvalu in terms of securing water supply. Few non-governmental organisation (NGO) reports have been used, although a report from, *inter alia*, Amnesty International was consulted. It should be noted that NGOs can be biased in their reporting as they may be selective on what they do and do not highlight. The majority of the above sources were accessed in electronic form. One source, the Joint Commitment for Development between Tuvalu and New Zealand,[23] was acquired by the author through contact with the New Zealand Ministry for Foreign Affairs. It is presumed that these reports are truthful and reflective of the situation in Tuvalu as well as the assistance being provided. Moreover traditional academic sources are consulted throughout the text, such as books and journal articles, accessed either in print or electronic form through the Lund University databases and libraries.

[22] ILA Principles (n 15) Draft Article 4(2).
[23] Joint Commitment for Development (New Zealand-Tuvalu) (no date given). (On file with the author.)

1.6. Structure

The structure of the submission below reflects the two elements in terms of "levels" of the law. Part One focuses on the regime level. It is divided into three chapters, with chapters 2 and 3 outlining international human rights law and international climate change law and their regulation of water respectively. This is followed by a consideration of the issue of regime level integration in chapter 4. Chapter 4 focuses on why integration of the two regimes is desirable, necessary, and possible. This is done by reflecting on the advantages of a human rights approach to climate change law, the conflicts which arise due to the separation of the two regimes, and the areas in which the two overlap which may enable integration of the two regimes. It concludes with a consideration the means of integration available under international law, by considering the feasibility and effectiveness of the adoption of a new treaty integrating the two systems as well as the issuance of authoritative interpretative guidance by the respective regime bodies. Part One concludes that integration of the two regimes is indeed desirable, necessary, and possible in theory, but in practice achieving such integration may prove challenging.

Part Two focuses on the implementation level. It is divided into two chapters. Chapter 5 outlines general information on Tuvalu, water scarcity there, how water scarcity is expected to be exacerbated by climate change in the Tuvaluan context, and how the situation can be understood from a human rights perspective. The chapter concludes that water is an ongoing problem in the state and this is expected to worsen as climate change impacts progress. This may quash the ability of the Tuvaluan state to meet the needs of the people in the state and consequently frustrate the realisation of the right to water, as it may become impossible for the state to satisfy. Chapter 6 goes on to consider what actions are being taken in view of securing water supply in the country. The activities of the Tuvaluan state itself are outlined, followed by the activities of external actors attempting to assist Tuvalu, of which there appears to be more. The question is posed as to whether regime level integration which was called for in Part One would actually alleviate the water scarcity experienced in Tuvalu. It is concluded that it likely would not as there is close to no implementation of either sets of laws in the Tuvaluan context, as the majority of water-related activities are undertaken pursuant to development commitments. However, given the benefits of human rights law in particular, the chapter goes on to consider what integration options are available at the implementation level and considers development alternatives by considering the right to development, the human rights based approach to development (HRBAD), and the Sustainable Development Goals (SDGs).

The thesis then concludes with a summary of the conclusions reached in Parts One and Two, discussing that integration appears to be warranted at the regime level as coherence is beneficial for the general project of international law. It is nevertheless recognised that the integration of the two regimes may not have a great impact on the enjoyment of water on the ground, at least not in Tuvalu. Rather other avenues of integration may be more appropriate, such as the integration of human rights and climate change into development work, which is done to a great extent in the SDGs. It is concluded that, while physical state disappearance of SIDS may not be far off should climate change impacts continue at their current rates possibly resulting in the disappearance akin to that of Atlantis, issues of resource scarcity may make the states uninhabitable before then, possibly leading to the abandonment of the islands and lost civilisations due to dispersion of the populations.

Part One. Regime Level

Part One of the submission attempts to address the regime-level aspect of the research question. Water is regulated by both international human rights and climate change law at the regime level in attempts to secure water supply for individuals and/or overall populations. Nevertheless, as discussed in the introductory chapter above, there are serious concerns which arise in relation to water supply, as SIDS and other states struggle with pre-existing water scarcity which is being and will be exacerbated by climate change. This section thus considers whether a closer integration between the two regimes would facilitate enjoyment of water by considering the issues that arise from the current approach of international law which separates human rights and climate change aspects of water into two distinct regimes.

Water supply raises issues in terms of human rights due to the fundamental need for water in terms of human survival. Without access to safe and sufficient water, human life is seriously threatened both directly and indirectly. Directly, water supply is vital for the sustenance of life in terms of the need for direct consumption. Indirectly water supply impacts a number of other rights which have impacts on the sustenance of human life, such as the rights to health and food.[24] For example, it is estimated that 502,000 diarrhoeal deaths each year can be attributed to the consumption of unclean drinking water.[25] As such, it is clear that the need for access to safe freshwater is of fundamental importance for human survival and are thus of relevance to human rights law. The availability and quality of water are also undoubtedly environmental issues. Water is a natural resource which is inextricably linked to the environment. Climate change is expected to impact water supply due to changes in precipitation, drought, flood, sea level rise, and the increase in frequency and severity of extreme weather events.[26] This will in turn have impacts on the enjoyment of water and the ability of states to meet human rights obligations under the right to water.

State action in regard to climate change on the international scene is primarily governed by international climate change law whereas international human rights law regulates state action in regards to securing water supply for individuals in the respective states. In chapters 2 and 3 below how the human rights and climate change regimes address water supply

[24] Nandita Singh, Introduction. in Nandita Singh (ed), *The Human Right to Water: From Concept to Reality* (Springer International Publishing 2016) 5.
[25] World Health Organization, 'Drinking-water: Fact sheet ' (*World Health Organization*, November 2016)<http://www.who.int/mediacentre/factsheets/fs391/en/> accessed 11 April 2017.
[26] IPCC Climate Change and Water (n 14).

will be outlined respectively through the adoption of a silo approach. Both sets of laws address water either directly or indirectly and thus run alongside each other when regulating state obligations. Yet, as will be discussed in the chapter 4, the regimes hardly recognise the existence of one other, let alone address how the co-existing obligations interact or should be interpreted so as to ensure coherence between the two regimes. This method of regulation creates both congruent and conflicting obligations under the respective laws. Chapter 4 will examine why integration is advantageous by examining the benefits of a human rights approach. This will be followed by a consideration of why integration is necessary as indicated by the norm conflicts that currently exist between the regimes. The chapter will then go on to consider areas of similarity or congruence which indicate that integration would be possible. It will be concluded that integration at the regime level is beneficial, necessary, and possible. Chapter 5 and consequently Part One will culminate with a consideration of how integration may be achieved at the regime level through consideration of the means available in international law.

Chapter 2. Legal Framework: The Right to Water in International Human Rights Law

2.1. Introduction: The right to water: an overview

While water is an essential component of human survivability, no explicit recognition of it as a free-standing right was included in the International Bill of Human Rights.[27] As such, the right has had a somewhat unique development in international law as it has been developed through expert interpretation and has been incorporated explicitly in more recent treaty law.[28] While the legal basis of the right is somewhat less clear than the explicit rights outlined in the Bill, it will be argued in this submission that there is legal basis for the right to water. This argument is based on the interpretation of the International Covenant on Economic, Social and Cultural Rights (ICESCR) by the Committee on Economic, Social and Cultural Rights (CESCR), the reports of the United Nations Special Rapporteur on the human rights to safe drinking water and sanitation, and reports and resolutions adopted by the Human Rights Council and the General Assembly. It is recognised that these sources are not hard law which binds states insofar as they do not constitute part of customary international law. Nevertheless, the sources are authoritative interpretations of hard law and stem from authoritative and influential bodies, as they all form part of the UN system who have been granted their mandate by state consent.[29] These interpretations will be treated as instruments as soft law, as reports such as General Comments are often regarded as such.[30] While no set definition of soft law exists under international law and it is beyond the scope of this submission to create one, soft law can generally be said to be somewhere between hard, binding law and

[27] The collectivity of the Universal Declaration of Human Rights (adopted 10 December 1948) UNGA Res 217 A(III) (UDHR), International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 (ICCPR), and International Covenant on Economic, Social, and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 999 UNTS 3 (ICESCR) is frequently referred to as the International Bill of Rights. See Christine Chinkin, Sources. in Moeckli and others (eds), *International Human Rights Law* (Oxford University Press 2010) 106.

[28] CEDAW (n 19) article 14(2)(h), CRC (n 19) article 24(2)(c), and Convention on the Rights of Persons with Disabilities (adopted 13 December 2006, entered into force 3 May 2008) 2515 UNTS 3 article 28(2)(a).

[29] The Committee on Economic, Social and Cultural Rights was established and given its authoritative interpretation mandate by ECOSOC Res 1985/17 (28 May 1985) UN Doc E/RES/1985/17, the mandate of the Special Rapporteur on the human rights to safe drinking water and sanitation was established by UN Human Rights Council Res16/2 (8 April 2011) UN Doc A/HRC/RES/16/2, the Human Rights Council was established by the UNGA Res 60/251 (15 March 2006) UN Doc A/RES/60/251, and the General Assembly was established by Chapter III and IV of the Charter of the United Nations (adopted 26 June 1945, entered into force 24 October 1945) 1 UNTS XVI.

[30] See for example Kasey L McCall-Smith, Interpreting International Human Rights Standards: Treaty Body General Comments as a Chisel or a Hammer. In Lagoutte and others (eds), *Tracing the Roles of Soft Law in Human Rights* (Oxford Scholarship Online 2017) 33-34.

principles which are not binding whatsoever.[31] Thus soft law has somewhat of a quasi-judicial nature.

A few notes ought to be made regarding the position adopted below. For the purposes of this submission, the definition of the right to water adopted will be that adopted by the Committee on Economic, Social and Cultural Rights in its general comment No.15: "[t]he human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses."[32] Further, "personal and domestic uses" includes "drinking, personal sanitation, washing of clothes, food preparation, personal and household hygiene".[33] Pursuant to this definition, the human right to water consists of a number of components, namely that water is available, accessible, and of a decent quality and safety.

The right to water also addresses sanitation. These rights have been developed congruently through treaty interpretation due to their inter-relationship. Inadequate sanitation is the primary cause of pollution of water sources[34] and correlated serious health consequences.[35] Furthermore the right to water itself covers water for personal sanitation.[36] Despite this intimate link, the submission focuses primarily on the right to water in isolation from sanitation, as water supply in anticipated to be severely and more directly adversely impacted by climate change, whereas the impact on sanitation will likely be more corollary to other impacts, such as sea level rise leading to migration and consequent crowding. Thus, while the importance of the connection between water and sanitation is recognised, focus is placed on the right to water itself given as the existence of potable water on state territory will determine the inhabitability to a degree which is not comparable to the existence of sanitation infrastructure or supplies.

Finally an additional element forms a vital component of all aspects of the right, but will not be outlined individually as it pervades all the components. This element is that of non-discrimination and equality. Non-discrimination and equality is a cornerstone of rights

[31] For further discussion of the definition and scope of soft law generally, please see Stephanié Lagoutte and others (eds), *Tracing the Roles of Soft Law in Human Rights* (Oxford Scholarship Online 2017).
[32] UN Committee on Economic, Social and Cultural Rights 'General Comment No.15: The right to water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)' (20 January 2003) UN Doc E/C.12/2002/11 para 2.
[33] UN Human Rights Council 'Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development: Report of the independent expert on the issue of human rights obligations related to access to safe drinking water, Catarina de Albuquerque' (1 July 2009) UN Doc A/HRC/12/24 para 34.
[34] General Comment No.15 (n 32) para 1.
[35] Albuquerque report 2009 (n 33) para 33.
[36] ibid para 34.

enjoyment.[37] The right to water is universal and thus applies equally to everyone without discrimination.[38] As such states have an obligation to ensure that there is no discrimination in the enjoyment of the right to water. A number of sub-obligations flow from the overall obligation, such as allocating appropriate resources to prevent covert discrimination.[39] The obligation to protect vulnerable inhabitants exists at all times, even when states experience severe limitations on available resources.[40] Furthermore, states must "provide those who do not have sufficient means with the necessary water and water facilities and to prevent any discrimination on internationally prohibited grounds in the provision of water and water services."[41] Persons living in rural and deprived urban settings can be particularly disadvantaged when it comes to water supply and as such states should also pay particular attention to meeting their needs. The Committee on Economic, Social and Cultural Rights particularly stresses that "no household should be denied the right to water on the grounds of their housing or land status".[42] These obligations ought to be born in mind when reading the submission below as they form part of the components and obligations,[43] as state action taken to address the components and obligations outlined below can lead to overt or covert discrimination and thus infringes on the aforementioned obligations, without necessarily infringing the aspects as detailed below.

2.2. Legal basis of the right to water in international human rights law

The right to water was not one of the rights explicitly included in the International Bill of Human Rights. Regardless of the reasoning behind the omission, it became clear that freshwater supply was vital for the realisation of a number of the rights explicitly included in the Bill such as the right to life[44] and an adequate standard of living.[45] The importance of water as a human right was first recognised in the Action Plan adopted at the Mar del Plata Conference in 1977, which explicitly recognised that "all peoples…have the right to have access to drinking

[37] Daniel Moeckli, Equality and Non-Discrimination. in Moeckli and others (eds), *International Human Rights Law* (Oxford University Press 2010) 189.
[38] Singh (n 24) 3.
[39] General Comment 15 (n 32) para 14.
[40] ibid para 13.
[41] ibid para 15.
[42] ibid para 16(c).
[43] Albuquerque handbook (n 20) 27.
[44] ICCPR (n 27) article 6.
[45] ICESCR (n 19) article 11.

water in quantities and of a quality equal to their basic needs".[46] This recognition was followed by explicit acknowledgement of water as a human right in the Convention on the Elimination of all Forms of Discrimination Against Women[47] (CEDAW) in 1979, the Convention on the Rights of Child[48] (CRC) in 1989, and the Convention on the Rights of Persons with Disabilities[49] (CRPD) in 2006. As such, the right was granted solid legal basis under a number of international and relatively widely ratified treaties, [50] recognised either as a free-standing right or as an integral component of other rights.

The explicit recognition of the right to water in the aforementioned treaties were significant milestones in the life of water as a human right. However, the treaties in which the right was explicitly recognised cover only a limited set of beneficiaries each. Thus, international treaty law only explicitly recognised the human right to water for women, children, and persons with disabilities, under the respective conventions. This limitation has been addressed through the interpretation of the ICESCR or alternate specific rights by authoritative legal bodies. The Committee on Economic, Social and Cultural Rights has been active in developing the interpretation of the right to health under article 12 of the ICESCR as containing a right to water. In its general comment No. 14 the Committee stated that "the right to health [as defined in article 12(1)] embraces a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health, such as … access to safe and potable water and adequate sanitation".[51] Moreover the Committee found that not only does access to safe and potable water form an integral part of the overall right to health, but it also forms a part of the requirement that "health facilities, goods and services must also be scientifically an medically appropriate and of good quality".[52] The Committee subsequently went further and recognised the human right to water as a free-standing right, interlinked with but also independent from other human rights. In its general comment No. 15 the Committee referred to "the human right to water" explicitly as a free-standing, independent human right, but also as "indispensable for leading a life in human dignity … [and] a prerequisite for the realization of other human rights".[53] The Committee went

[46] UN Water Conference 'Mar Del Plata Action Plan' (14-25 March 1977) UN Doc E/CONF.70/29.
[47] CEDAW (n 19) article 14(2)(h).
[48] CRC (n 19) article 24(2)(c).
[49] CRPD (n 28) article 28(2)(a).
[50] Ratification status of the three treaties: 189 ratifications of CEDAW (n 19), 196 ratifications of the CRC (n 19), and 173 ratifications of the CRPD (n28).
[51] UN Committee on Economic, Social and Cultural Rights '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 4.
[52] ibid para 4.
[53] General Comment 15 (n 32) para 1.

on to define the right to water as entitling everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses".[54] It also specified that an "adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water-related disease and to provide for consumption, cooking, personal and domestic hygienic requirements".[55] In light of this the Committee acknowledged the right to water's intricate link with the rights to health, adequate housing and food, and particularly life and human dignity.[56] The details of the right in terms of components and obligations of the right as specified by the Committee will be examined in further detail in the subsections below.

A number of other authorities followed suit in recognising and an analysing the existence of the right to water and its content under international human rights law. The UN High Commissioner for Human Rights, for example, issued a report outlining the content and scope of human rights obligations related to safe drinking water under international human rights instruments in 2007.[57] In the report, the Commissioner found that "specific obligations in relation to access to safe drinking water and sanitation have been increasingly and explicitly recognized in core human rights treaties, mainly as part of the right to an adequate standard of living and the right to health".[58] Moreover the Commissioner held that access to safe drinking water is inextricably related to the right to life under the International Covenant on Civil and Political Rights (ICCPR)[59] due to the obligation of states to adopt positive measures to "increase life expectancy and eliminate malnutrition and epidemics".[60] Given that "dirty water, poor hygiene and lack of basic sanitation" has a severe impact on human life,[61] access to water cannot be divorced from the obligations under the right to life. The Commissioner further found that access to safe drinking water formed part of the rights to food and adequate housing.[62]

The human right to water was subsequently explicitly recognised by two major UN bodies in 2010. In July 2010 the General Assembly adopted a resolution explicitly recognising "the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights".[63] Shortly thereafter, in October 2010, the

[54] ibid para 2.
[55] ibid para 2.
[56] ibid para 3.
[57] UN Human Rights Council 'Report of the United Nations High Commissioner for Human Rights on the scope and content of the relevant human rights obligations related to equitable access to safe drinking water and sanitation under international human rights instruments' (16 August 2007) UN Doc A/HRC/6/3.
[58] ibid para 6.
[59] ICCPR (n 27) article 6.
[60] High Commissioner 2007 (n 57) para 6.
[61] ibid para7.
[62] ibid para 9-10.
[63] UNGA Res 64/292 (3 August 2010) UN Doc A/RES/64/292 para 1.

Human Rights Council adopted a resolution affirming "that the human right to safe drinking water and sanitation is derived from the right to an adequate standard of living and inextricably related to the right to highest attainable standard of physical and mental health, as well as the right to life and human dignity".[64] These resolutions were major milestones, as two bodies with significant influence in international human rights law explicitly recognised the existence of water as a right. The recognition of water as a human right took another significant leap forward in 2011 with the establishment of the mandate of the Special Rapporteur on the human rights to safe drinking water and sanitation.[65]

2.3. Components of the right to water

2.3.1. Overview of the content of the right to water

This subsection will outline the core components of the right to water. The components are highlighted by the definition adopted of the right, namely that the "human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses".[66] This is the selected definition for the present submission for two reasons. Firstly, it is the most comprehensive definition of the ones considered and as such provide the most detail in terms of state adherence. Secondly, the CESCR aims to secure the right to water for all whereas the CEDAW, CRC, and CRPD all have specified groups of beneficiaries and as such their definitions focus on discrimination or equality issues which may not be relevant to all persons who experience water scarcity under climate change impacts. The meaning of "personal and domestic uses" is considered to include "drinking, personal sanitation, washing of clothes, food preparation, personal and household hygiene".[67]

[64] UN Human Rights Council Res 15/9 (6 October 2010) UN Doc A/HRC/RES/15/9 para 3.
[65] UN Human Rights Council Res 16/2 (8 April 2011) UN Doc A/HRC/RES/16/2.
[66] General Comment 15 (n 32) para 2.
[67] Albuquerque report 2009 (n 33) para 34.

2.3.2. Availability

Availability of water primarily concerns the existence, quantity, and continuity of water. The availability requirement specifies that water supply is sufficient and continuous to cover each person's personal and domestic uses.[68] This does not guarantee an unlimited amount of water,[69] but must be sufficient so as to meet the person's basic needs and sustain life.[70] While the exact quantity of water guaranteed per person is not specified in the documents issued by the authoritative bodies, they tend to rely on the World Health Organisation's (WHO) Guidelines for Drinking Water.[71] The Guidelines specify that 50-100 litres of water per person per day is the amount necessary to ensure satisfaction of all aspects of personal and domestic use, while 100-200 litres is optimal and 20 litres is the lowest level of access which can still maintain life but raises issues in regards to health due to limitations placed on hygiene.[72] The availability requirement has implications both for the present and future provision of water.[73] The actions taken by states to ensure the availability of water now must not create an inability to fulfil the availability requirement in the future and as such states should assess the impact of their actions upon water availability and issues such as climate changes.[74] As such the availability aspect depends both on the environment, as the presence of water is subject to the process of the natural water cycle, and on state action, as they can work with the provision of water to ensure optimal availability and do so in a sustainable manner so as to avoid inhibiting future water availability.

2.3.3. Accessibility

The accessibility component can be divided into three sub-components, namely equitable accessibility, physical accessibility, and economic accessibility. The content of each constituent will be outlined in turn below. It is noteworthy that informational accessibility also forms part of the component. This sub-component can be summarized as including "the right to seek, receive and impart information concerning water issues".[75] Given that informational

[68] Singh (n 24) 3-4, CESCR General Comment 15 (n 32) para 12(a).
[69] High Commissioner 2007 (n 57) para 15.
[70] Singh (n 24) 3-4.
[71] World Health Organization, *Guidelines for Drinking-water Quality* (4th edn, World Health Organization 2011). In reports issued before 2011, older editions of the Guidelines were used.
[72] ibid 84, High Commissioner 2007 (n 57) para 15.
[73] Albuquerque handbook (n 20) 33.
[74] General Comment 15 (n 32) para 28.
[75] ibid para 12(c)(iv).

accessibility is not heavily impacted by climate change, this sub-component is not of particular relevance for the purposes of this submission and will consequently not be considered any further.

Equitable accessibility essentially deals with equality and non-discrimination in access to water.[76] In order for the right to water to be realized, "water and water facilities and services must be accessible to all".[77] Equitable access covers both *de jure* and *de facto* discrimination and demands that no group is excluded from water access.[78] Further, there should be no disproportionate expense burden for poorer households as compared to richer households in regards to accessing water.[79] The principle also dictates that persons who face discrimination in their access to water or have no such access should be prioritised when distributing public resources.[80]

Physical accessibility addresses the ability of beneficiaries to access water in practical terms, such as proximity to the nearest water collection point and the safety in accessing this point. This aspect is fundamental to the enjoyment of the right to water, as the level of cumbersomeness and danger in collecting water will determine the quantity of water collected.[81] The High Commissioner for Human Rights stresses that access to safe drinking water "should be provided within or in close proximity to the home in a way that provides regular water and prevents excessive collection time",[82] while the Committee on Economic, Social and Cultural Rights states that "water, and adequate water facilities and services, must be within safe physical reach for all sections of the population" and stresses that "[p]hysical security should not be threatened during access to water facilities and services".[83] Moreover the infrastructure of water facilities must be geared towards accessibility so as to avoid creating barriers for certain groups such as children or persons with disabilities.[84]

Economic accessibility addresses the issue of the affordability of water. This sub-component demands that water is affordable for all and that no one should be denied the realisation of the right to water due to an inability to pay for the costs associated with water supply.[85] This does not imply that states must provide water free of charge but water must be

[76] High Commissioner 2007 (n 57) para 22.
[77] General Comment 15 (n 32) para 12(c)(iii).
[78] High Commissioner 2007 (n 57) para 23-24.
[79] General Comment 15 (n 32) para 27.
[80] High Commissioner 2007 (n 57) para 24.
[81] Albuquerque handbook (n 20) 34.
[82] High Commissioner 2007 (n 57) para 25.
[83] General Comment 15 (n 32) para 12(c)(i).
[84] Albuquerque handbook (n 20) 34.
[85] High Commissioner 2007 (n 57) para 28, Singh (n 24) 5.

affordable and water cost must not inhibit the beneficiaries' opportunity to enjoy other human rights.[86] States are obliged take action to ensure the affordability of water.[87] The affordability requirement addresses both direct and indirect costs of water access,[88] for example if water must be boiled prior to consumption then wood or fuel for burning must also be affordable. Affordability of water is of particular concern to poorer members of society and as such there should be no disproportionate expense burden for poorer households as compared to richer households in regards to accessing water.[89] In order to ensure that poorer parts of the population have their right to water realised, states can exempt them from paying for the water as needed without violating the principle of non-discrimination.[90]

2.3.4. Quality and safety

Should the quality and safety of water component not be met, serious risks would be posed to the health and lives of users and the general public.[91] The quality and safety of water is defined as "water that does not represent any significant risk to health over a lifetime of consumption".[92] The water must additionally be free from micro-organisms, chemical substances, and radiological hazards that may threaten human health.[93] No universal quantifiable standard has been adopted under international human rights law in regard to water quality and safety, but the WHO Guidelines for Drinking Water Quality are often referenced as a baseline.[94] Water quality and safety is also intricately linked with adequate sanitation, as failure to ensure this is known to result in widespread water pollution and as such protection of water quality demands adequate sanitation systems.[95] The quality and safety of water is thus measurable in terms of what the water must be free from, yet states ultimately determine themselves what the national standards for drinking water are or should be.[96] Water must also be acceptable in terms of colour, odour, and taste as this will ensure the use of safe water sources.[97] Furthermore the facilities and services must be socially and culturally acceptable to

[86] Albuquerque handbook (n 20) 35, High Commissioner 2007 (n 57) para 28.
[87] A number of examples are provided in para 27 General Comment 15 (n 32).
[88] ibid para 12(c)(ii).
[89] ibid para 27.
[90] Singh (n 24) 5.
[91] Albuquerque handbook (n 20) 35.
[92] High Commissioner 2007 (n 57) para 17.
[93] ibid para 12(b) and 17 and Albuquerque handbook (n 20) 35.
[94] Singh (n 24) 4, High Commissioner 2007 (n 57) para 17.
[95] Singh (n 24) 4.
[96] ibid 4.
[97] ibid, High Commissioner 2007 (n 57) para 12(b), and Albuquerque handbook (n 20) 35.

ensure that persons actually use the facilities and services in place.[98] The acceptability of services and facilities cannot be measured the way quality can and a uniform approach cannot be adopted in regards to all societies, but must be tailored to the needs of the community in question depending on their social and cultural practices.

2.4. State obligations under the right to water

2.4.1. General legal obligations

Human rights represent a vertical relationship between the state and the individual in which the individual is the rights-holder and the state is the duty-bearer.[99] By virtue of this relationship individuals are entitled to having their rights realised by the state. The right to water contains a few obligations which are immediately applicable.[100] This set of obligations can be divided into three obligations in particular. Firstly, states have the obligation to guarantee that exercise of the right will be done without discrimination of any sort.[101] Secondly, states have a duty to take steps towards realisation of the right.[102] The realisation of the right to water is subject to resource constraints and as such it is acknowledged that this right is to be realised progressively.[103] The recognition and acceptance of the need for progressive realisation poses the risk of states taking no action and legitimising this by arguing that there is no immediacy inherent in the right and corresponding obligation. The obligation to take steps circumvents that possibility, as it demands that some action must be taken in view of realising the right to water fully. States must also aim to move expeditiously and effectively in taking steps aimed at rights realisation,[104] which ensures that arbitrary steps are not taken merely to pacify the international community. Finally, there is a duty of non-retrogression inherent in the right to water.[105] As such, any progress made is to be maintained and deliberate reversal of the progress will be presumed contrary to the right to water.

[98] Albuquerque handbook (n 20) 36.
[99] James W Nickel and David A Reidy, Philosophy. in Moeckli and others (eds), *International Human Rights Law* (Oxford University Press 2010) 41.
[100] General Comment 14 (n 51) para 30-32.
[101] General Comment 15 (n 32) para 17.
[102] ibid para 17.
[103] ibid para 17.
[104] ibid para 18.
[105] ibid para 19.

Core obligations of the right to water must always be respected, even under very strenuous circumstances such as disaster.[106] The core obligations include the following three considerations according to the CESCR. Firstly, availability of the minimum amount of essential water to prevent disease must be ensured.[107] Secondly, non-discrimination must be ensured in relation to access to water and corresponding services and facilities.[108] In order to protect vulnerable groups, states must adopt low-cost targeted water programmes.[109] States must also monitor the realisation of the right.[110] Finally, ensuring an adequate supply of safe and potable water forms a core obligation of the right to health[111] and as such the core obligations of the right to water will also form part of the core obligations of the right to health. In relation to disaster specifically, such as those which are more likely to occur more frequently in SIDS as a result of climate change, it has been said that temporary camps and shelters and permanent relocation sites must have "adequate water … facilities, including water pumps".[112]

2.4.2. Respect

The obligation to respect is a negative obligation. Individuals must have their rights respected, which requires that states do not interfere with rights enjoyment. In relation to the right to water this entails that states "may not prevent people from enjoying their human rights to water".[113] As such, states must not interfere, directly or indirectly, with the enjoyment of the right.[114] For example, states may not directly diminish or pollute water[115] or engage in any activity that pollutes water.[116] Failure to comply with the obligation to respect the right to water will as such stem from action rather than inaction.

[106] ibid para 37-38.
[107] ibid para 37(a).
[108] ibid para 37(b).
[109] ibid para 37(h).
[110] ibid para 37(g).
[111] General Comment 14 (n 51) para 43(c).
[112] The Brookings – Bern Project on Internal Displacement, 'IASC Operational Guidelines on the Protection of Persons in Situations of Natural Disasters ' (*OHCHR*, January 2011) <http://www.ohchr.org/Documents/Issues/IDPersons/OperationalGuidelines_IDP.pdf> accessed 20 May 2017 33.
[113] Albuquerque handbook (n 20) 26.
[114] General Comment 15 (n 32) para 21.
[115] ibid para 21.
[116] High Commissioner 2007 (n 57) para 36.

2.4.3. Protect

The obligation to protect the right to water is a positive obligation which entails ensuring that third parties do not interfere with the enjoyment of the right in any way.[117] This obligation can be of particular importance for the right to water, should the national water supply be managed by private actors. In such an instance states must ensure that the private supplier provides "equal, affordable, and [physically accessible] sufficient, safe and acceptable water".[118] A number of specific obligations exist,[119] but of particular importance for the purposes of this submission is that states must ensure that third parties do not pollute water resources.[120] In order to satisfy the obligation to protect the right to water states must adopt "necessary and effective legislative and other measures to restrain [third party interference]".[121] Thus in order to comply with their obligations states must in fact take positive action.

2.4.4. Fulfil

The obligation to fulfil the right water is a positive one. Generally, the obligation can be said to demand that states ensure that conditions are in place which allow everyone to enjoy the right to water.[122] In order to create such conditions states must adopt "legislative, administrative, policies, programmes, and [other measures]".[123] The obligation to fulfil can be divided into three categories, namely the obligations to facilitate, promote, and provide. Each form of obligation requires distinct, but related positive action. The obligation to facilitate the right to water can be expressed as a requirement upon the state to "take positive measures to assist individuals [and communities] to access safe drinking water".[124] In order to satisfy the obligation to promote, states must "take steps to ensure that there is appropriate education concerning the hygienic use of water, protection of water sources and methods to minimize water wastage".[125] While the obligation to fulfil generally does not require that states provide services directly,[126] there is an exception when individuals are unable to access safe drinking

[117] General Comment 15 (n 32) para 23, Albuquerque handbook (n 20) 27.
[118] General Comment 15 (n 32) para 24.
[119] For a more comprehensive overview, see ibid para 23-24.
[120] ibid para 23.
[121] ibid para 23.
[122] Albuquerque handbook (n 20) 27.
[123] High Commissioner 2007 (n 57) para 40.
[124] ibid para 40, General Comment 15 (n 32) para 25.
[125] General Comment 15 (n 32) para 25.
[126] Albuquerque handbook (n 20) 27.

water for reasons beyond their control. In such cases, states have an obligation to provide access to safe drinking water by using the means at their disposal.[127] The obligation to fulfil can consequently be considered the obligation owed by states to ensure that there is some form of access to water, while the obligations to protect and respect concern the prevention of interferences with pre-existing enjoyment.

2.4.5. Obligations of an extra-territorial nature

The existence of extra-territorial obligations in international human rights law has traditionally garnered great debate.[128] The bodies who explicitly recognised the right to water that have been under consideration in the present submission have nevertheless detailed that certain obligations do exist for states that are applicable beyond their territorial borders.[129] Whether these obligations can indeed be said to have legal validity is beyond the scope of this submission and as such the authority of the bodies in question will be relied upon as definitive statements of the law, all the while being mindful of the uncertainty surrounding this legal area.

The obligations discussed below primarily apply to economically developed states who are to assist developing states.[130] Generally, the extra-territorial obligations of states in relation to the right to water can be derived from the obligation to participate in international cooperation and assistance, specified in article 2(1), 11(1) and 23 of the ICESCR.[131] All three obligations (respect, protect, and fulfil) are said to apply extraterritorially. In relation to the obligation to respect the right to water, states must "refrain from actions that interfere, directly or indirectly, with the enjoyment of the right to water in other countries".[132] States must also refrain from acting within its own jurisdiction in a way that will hamper the ability of other states to realise the right to water within their own jurisdictions.[133] Regarding the obligation to protect, states must "prevent third parties … from violating the human rights to water and sanitation in other countries", when those third parties are within the jurisdiction of the state

[127] High Commissioner 2007 (n 57) para 40, General Comment 15 (n 32) para 25.
[128] Sigrun Skogly and Mark Gibney, Introduction. in Mark Gibney and Sigrun Skogly (eds), *Universal Human Rights and Extraterritorial Obligations* (University of Pennsylvania Press 2010) 2 and 4-6 and Amanda Cahill, Protecting Rights in the Face of Scarcity: The Right to Water. in Mark Gibney and Sigrun Skogly (eds), *Universal Human Rights and Extraterritorial Obligations* (University of Pennsylvania Press 2010) 196-198.
[129] Extra-territorial obligations in the right to water have been explicitly recognised by the UNGA Res 64/292 (n 63) and General Comment 15 (n 32).
[130] General Comment 15 (n 32) para 2.
[131] ibid para 30.
[132] ibid para 31.
[133] ibid para 31.

concerned.[134] In relation to the obligation to fulfil, states are primarily required to facilitate the right to water, through *inter alia* "provision of water resources, financial and technical assistance, and [providing] the necessary aid when required".[135]

States also have extra-territorial obligations in disaster scenarios. In such situations affected states have a duty to seek assistance as a component of the satisfaction of human rights obligations.[136] States not affected have a right to provide assistance to the affected state(s).[137] In such scenarios when states offer relief assistance for disasters and emergencies priority should be given to Covenant rights, including the right to water consistently with human rights standards.[138] Extra-territorial obligations also extend to state action in their conduct in the international sphere. When adopting international agreements or acting in international financial institutions states must ensure that the right to water is taken into account and not adversely impacted by any action taken.[139] States are also encouraged to pursue the adoption of further international agreements securing the right to water.[140] The right to water thus seems to call for a rights based approach to international action, demanding positive action in ensuring that rights are not interfered while also actively assisting states who need such assistance in realising the right to water for those within their jurisdiction.

[134] Albuquerque handbook (n 20) 27.
[135] General Comment 15 (n 32) para 31.
[136] UNGA International Law Commission ' Fourth report on the protection of persons in the event of disasters by Eduardo Valencia-Ospina, Special Rapporteur' (20 May 2011) UN Doc A/CN.4/643 para 13-16, Albuquerque handbook (n 20) 26, High Commissioner 2007 (n 57) para 33.
[137] ibid para 78-87.
[138] General Comment 15 (n 32) para 34, Albuquerque handbook (n 20) 27.
[139] General Comment 15 (n 32) para 35-36.
[140] ibid para 35.

Chapter 3. Legal Framework: Water in International Climate Change Law

3.1. Introduction

Water supply is intricately and inextricably connected to climate change. Climate change is expected to alter rainfall patterns and lead to drought or flooding, an increase in incidents and severity of extreme weather events, and sea level rise.[141] These will undoubtedly affect the enjoyment of human rights, particularly in regards to the right to water in SIDS. The international community elected to address the climate change issue collectively through adoption of climate change-specific legal instruments. These instruments and their provisions and principles will be the focus of the present chapter. In order to examine the aspects of international climate change law relevant to the present submission the remainder of the chapter is divided into four subsections. These sections will provide an overview of international climate change law, the general principles of the regime, and what provisions exist in relation to water specifically as well as explicit provisions on small island states in the relevant instruments respectively.

International climate change law generally outlines mitigation commitments and all mitigation of climate change will also mitigate adverse impacts on water supply. Climate change is expected to cause changes in weather which impacts water quantity due to less rainfall, as well as causing sea level rise and flooding which causes issues in regards to water quality due to, *inter alia*, salinity intrusion. Consequently any mitigation of climate change will also lessen the likelihood of those impacts occurring, which will in turn ensure that water supply is not diminished. As such, for the purposes of conciseness, all mitigation efforts detailed by the climate change regime will not be included in this chapter. Rather, only the particular aspects of the climate change regime relevant to the issue of water supply on small island states will be incorporated. This includes explicit reference to water and small island states but also the general principles of international climate change law as these include human dimensions and are as such relevant to the analysis in subsequent chapters.

[141] IPCC Climate Change and Water (n 14).

3.2. International climate change law: an overview

International climate change law is comprised primarily of three key instruments, namely the United Nations Framework Convention on Climate Change (UNFCCC or FCCC), the Kyoto Protocol,[142] and the Paris Agreement.[143] These instruments will be those considered for the purposes of this submission as they form the basis of international climate change law. The instruments do not regulate a vertical relationship between state and individual like human rights law, but rather set out state obligations owed due to the principle *pacta sunt servanda.* The obligations are voluntary commitments that states have accepted by virtue of consent, represented by signing and ratifying the treaties. These instruments are hard law as they contain binding obligations on their state parties. [144]

The recognition of the importance of addressing climate change on a global level led to the adoption of the UNFCCC in 1992. The Convention has attracted massive ratification, with 195 state parties. As indicated by its name, the Convention sets out a framework within which climate change action is to operate. The Convention generally sets out the long-term vision for international action in relation to climate change and its adverse impacts. The objective is identified in article 2 of the Convention as the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".[145] This goal is also the ultimate goal of any related instruments, [146] and it follows, the ultimate goal for any action taken under the international climate change law regime. Generally the Convention does not set specific obligations in terms of detailed state action. Article 4 of the Convention does outline state obligations, but these are obligations of effort, not result.[147] It has been argued that the Convention adopts a "soft" approach to international law, in that it encourages cooperation among state parties rather than

[142] Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) UNTS 2303 162.
[143] Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016).
[144] For further, more comprehensive reading on the content and development of the international climate change regime, the following sources are recommended: Cinnamon P Carlane, Kevin R Gray, and Richard G Tarofsky, International Climate Change Law: Mapping the Field in Cinnamon P Carlarne and others (eds), *The Oxford Handbook of International Climate Change Law* (Oxford University Press 2016), Lavayana Rajamani, The United Nations Framework Convention on Climate Change: a framework approach to climate change. in Daniel A Farber and Marjan Peeters (eds), *Climate Change Law* (Edward Elgar Publishing 2016), Patricia Birnie and others, *International Law and the Environment* (3rd edn, Oxford University Press 2009), and Ross J Salawitch and others, *Paris Climate Agreement: Beacon of Hope* (Springer International Publishing 2017).
[145] UNFCCC (n 2) article 2.
[146] ibid article 2.
[147] Rajamani (n 144) 208.

coercing states into taking particular action through threats of sanction.[148] While not specifying state obligations in regards to mitigation measures, the Convention does establish general principles of the regime.[149] The general principles, particularly the principle of common but differentiated responsibilities and respective capabilities (CBDRRC) outlined in Article 3(1) FCCC, are of particular importance as they form the basis for all future action within the climate change regime. These principles will be considered in further detail in subsection 3.3. below.

The FCCC also establishes a regime infrastructure in terms of governing bodies.[150] The primary body is the Conference of Parties (COP), established by article 7 of the Convention. The COP has the authority to monitor Convention implementation by the state parties[151] and provides a discussion forum on the topic of climate change,[152] which can lead to development of amendments and protocols to the Convention.[153] The COP can take decisions which are not legally binding on the state parties but rather represent expressions of the will of the parties. The decisions are, however, backed by benefits to which parties are given access upon compliance with decisions.[154] The COP also has authority over the Framework's financial mechanism, the Global Environment Facility, in terms of determining the Facility's "policies, programme priorities, and eligibility criteria".[155]

Following the adoption of the UNFCCC in 1992, the Kyoto Protocol was adopted in 1997. The Protocol was the predecessor to the Paris Agreement, adopted in 2015, and its application period has accordingly expired.[156] While the Protocol no longer applies, a brief overview of the instrument will be provided as it was a significant step in the development of climate change law, given that it was the first set of legally binding obligations adopted within the regime. Only 40 states accepted binding greenhouse gas (GHG) emissions constraints and this excluded major emitting countries such as China, India, and the US.[157] The Protocol was far more detailed in terms of legally binding state obligations to reduce emission of GHGs than the UNFCCC. States were subjected to differentiated obligations depending on their categorisation as a developed or developing country, based on the CBDRRC principle established in the Framework Convention. Developed states were required to meet emissions

[148] ibid 207.
[149] UNFCCC (n 2) article 3.
[150] Rajamani (n 144) 207. UNFCCC (n 2) articles 7-11.
[151] UNFCCC (n 2) article 7(2), Rajamani (n 144) 211.
[152] UNFCCC (n 2) article 7, Carlane (n 144) 4.
[153] UNDCCC (n 2) articles 15 and 1, Rajamani (n 144) 211.
[154] UNFCCC (n 2) article 7(2), Rajamani (n 144) 213.
[155] Rajamani (n 144) 213.
[156] The original application period was between 2005 and 2012 which was subsequently extended by the Doha Amendment to the Kyoto Protocol (n 142).
[157] Quirico 2016 (n 16) 36.

reduction targets and subjected to specific obligations in view of meeting those targets within a particular timeframe, whereas developing states are placed under no obligation to meet emission reduction targets.[158] The Protocol further required a group of states, the Annex II countries,[159] to provide financial support to developing countries with the view of reducing emissions there.[160] The Kyoto Protocol can be said to reflect a "hard" approach to climate change, in that Kyoto was prescriptive and contains sanctions for failure to fulfil obligations.[161] The Protocol was backed by a compliance mechanism, unlike the FCCC, which determines the consequences for failure to fulfil obligations.[162] Pursuant to the achievement of emission reduction targets, the Kyoto Protocol established flexibility mechanisms by establishing emissions trading,[163] joint implementation,[164] and the clean development mechanism.[165] Thus, the Protocol was far more advanced in terms of detail in state obligations than the Framework Convention, although state acceptance of those obligations was precarious.

The Paris Agreement is the Kyoto Protocol's successor. It was adopted in 2015 and is the most recent instrument to be considered in the present subsection. The Agreement has been ratified by 160 parties as of yet and has as such entered into force, pursuant to the requirements of article 21 of the Agreement.[166] The Agreement, like the Kyoto Protocol, sets legally binding obligations on state parties, within the framework established by the UNFCCC. The Agreement identifies its aim as limiting the increase of the global average temperature to 1.5°C, with an increase of 2°C as the absolute upper limit of warming (comparative to the pre-industrial average global temperature).[167] This type of target setting represents a shift away from the approach adopted in the Kyoto Protocol, where no temperature increase limitation was included.[168] In order to ensure the limitation of the temperature increase, states have not been assigned particular emissions reductions within the Agreement, but were instead asked to submit intended nationally determined contributions (INDCs). The INDCs detail the state

[158] Carlane (n 144) 7-8.
[159] UNFCCC (n 2) Annex II.
[160] Kyoto Protocol (n 142) article 11, Salawitch (n 144) 117.
[161] Rajamani (n 144) 207.
[162] United Nations Framework Convention on Climate Change, 'An Introduction to the Kyoto Protocol Compliance Mechanism' (UNFCCC, 2014) <http://unfccc.int/kyoto_protocol/compliance/items/3024.php> accessed 22 April 2017.
[163] Established by Article 17 of the Kyoto Protocol (n 142).
[164] Established by Article 6 of the Kyoto Protocol (n 142).
[165] Established by Article 12 of the Kyoto Protocol (n 142).
[166] Paris Agreement (n 143) article 21: "This Agreement shall enter into force on the thirtieth day after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 per cent of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession."
[167] ibid article 2.
[168] Salawitch (n 144) 118.

parties commitments to reduce emissions[169] within their national contexts in a comprehensive manner. These INDCs are either unconditional or conditional upon financial and/or technological assistance. Generally, developing states tended to submit conditional INDCs.[170] INDCs are subject to updating, as new commitments in the form of INDCs are to be submitted to the COP every five years.[171] In terms of monitoring and continuity mechanisms, the Agreement implements a global stocktake to be carried out by the COP.[172] The stocktake encompasses submission of reports by states on their implementation progress and COP monitoring of such progress. Moreover the state parties committed themselves to not only undertaking mitigation action, but also adaptation action[173] and assistance for vulnerable states.[174] The details on adaptation are far more extensive than those in the Kyoto Protocol, where mitigation appeared to be the primary focus. Accordingly the Paris Agreement, while adopting a similar "hard" approach to climate change as that adopted in Kyoto, it appears to adopt an entirely different approach to the state obligations imposed, as targets are not assigned but rather voluntarily proposed and undertaken by the states themselves, which become legally binding under the Agreement.

3.3. General principles of international climate change law

International climate change law contains several principles which may form or impact state obligations in relation to water and/or small island states. The principles stem from the instruments discussed above, yet are not defined in the treaties. In order to provide clear definition of the general principles of climate change law, ILA studied the content of the principles as addressed by the instruments themselves but also in COP decisions and smaller climate change agreements as well as scholarly writings on the content of the principles.[175] The study led to the adoption of a number of draft articles outlining the content of the general principles. These principles are not legally binding upon states but given the comprehensive nature of the study conducted, the conclusions drawn by the ILA will be considered authoritative here. The ILA outlines eight principles integral to the climate change regime. Not

[169] The GHGs subject to limited emission are CO2, CH4, N2O, HFCs, PFCs, SF6, and NF3. See ibid 118-119.
[170] ibid 118-119.
[171] Paris Agreement (n 143) article 4(9).
[172] Paris Agreement (n 143) article 14.
[173] Paris Agreement (n 143) articles 2(b) and 7.
[174] Paris Agreement (n 143) articles 6(6), 6(8), 7 and 9(1).
[175] ILA Principles (n 15) 330-386.

all the principles are of great or direct relevance to water supply, small island states, or human rights and as such six selected principles will be considered below as they will inform the content of subsequent chapter in terms of parallels and conflicts between the international human rights and climate change regimes.

3.3.1. Equity

The principle of equity originates from article 3(1) of the UNFCCC, which establishes burden sharing for the protection of the climate system on the basis of equity and CBDRRC. The ILA identifies the notion of equity as one of inter-generational equity, stipulating that the present generation's access to sustainable development and the future generation's access to the Earth's resources must be balanced.[176] The content of the notion is based on the sustainable development principle, which demands that development for the present generation must not hamper the needs of future generations being met.[177] The ILA argues that the explicit reference to future generations in the FCCC indicates that those generations have a "legitimate expectation of equitable access to planetary resources" and when present generations limit those resources through climate change those legitimate expectations are quashed.[178] Thus in order to guarantee equity, the international community must mitigate the adverse impacts of climate change.[179]

When applying the principle of equity to water supply, it is clear that the issue of water supply has inter-generational concerns. The development of past generations which has resulted in climate change has already had adverse impact on the availability of fresh water for present generations, due to, *inter alia,* the change in rainfall patterns which is expected to continue. Given that water is an Earthly resource and is clearly impacted by climate change, the issue of water supply is undoubtedly linked with the notion of equity as defined by the ILA.

3.3.2. Common but differentiated responsibilities and respective capabilities

The principle of CBDRRC can be found in FCCC article 3(1), the preambles of the Kyoto Protocol and Paris Agreement, and in article 2(2) of the Paris Agreement. It has been

[176] ibid Draft Article 4(2).
[177] ibid 341.
[178] ibid 342.
[179] ibid 343.

considered a "major expression of equity in the climate change regime".[180] The combination of the equity and CBDRRC principles forms the basis for the burden sharing that pervades the climate change regime. The instruments contain no definition of the principle but the wording suggests that climate change is the common responsibility of the international community but that responsibility should be disaggregated between states according to their contribution to the problem and their capacity to respond.[181] The principle has been used as the basis for developing states to argue for lenient treatment due to their limited contribution to the problem whereas developed states promulgate the idea that the interpretation of the principle must be dynamic and done in light of changing national circumstances.[182] The lack of consensus on the content of the principle is problematic, as all present and future obligations within the regime must comply with the requirements of CBDRRC in order to satisfy the Convention requirements under article 3(1).[183] The ILA defines the principle through a set of obligations, namely to cooperate in achieving the FCCC objective and developing an equitable and effective framework to do so,[184] and through specifying the grounds for the principle. The grounds are identified as the differences in contribution to climate change, capabilities, economic resources, and other national circumstances.[185] Due to these differences, developed states are to adopt more stringent mitigation commitments and to assist developing states, particularly small island states, in their adaptation efforts,[186] while developing states, particularly small island states, are to benefit from assistance and are subject to less stringent mitigation requirements.[187] The commitments are however, not static. As developing states develop and their capabilities increase, possibly along with increase in contribution to the problem, their obligations will alter as when differentiation between states disappears, so should the differentiated obligations.[188]

3.3.3. Special circumstances and vulnerability

Articles 4(4) and 4(8) of the UNFCCC explicitly recognise that certain countries are particularly vulnerable to the adverse impacts of climate change, such as small island

[180] ibid 341.
[181] Carlane (n 144) 15.
[182] Rajamani (n 144) 209.
[183] ILA Principles (n 15) 345.
[184] ibid Draft Article 5(2).
[185] ibid Draft Article 5(3).
[186] ibid Draft Article 5(3)(a).
[187] ibid Draft Article 5(3)(b).
[188] ibid Draft Article 5(4) and corresponding commentary 350-351.

(developing) states and least developed states. The ILA thus adopted a draft article enunciating the following obligation: "States shall take full account of the special circumstances and needs of developing countries particularly vulnerable to the effects of climate change, specifically but not limited to the Least Developed Countries and Small Island Developing States."[189] The remainder of the paragraphs of the draft article articulate the rights of vulnerable states to less stringent climate change obligations and rights to assistance from develop states, reflecting the obligations under CBDRRC discussed in the previous subsection.

3.3.4. Prevention and precaution

The principle of prevention stems from customary international law[190] whereas precaution stems from the instruments of international climate change law.[191] Prevention obliges states to ensure that "activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction, including damage through climate change".[192] This definition of the principle is deemed a well-established principle of customary international environmental law and failure to satisfy this obligation gives rise to state responsibility for the action, which can be disaggregated between multiple responsible states where the damage is serious or irreversible.[193] The obligation contains a due diligence sub-obligation to prevent damage caused by climate change, particularly through the adoption of GHG emission reduction measures and adaptation measures.[194]

Precaution, while related to prevention, contains a different set of obligations. The obligation exists where "there is a reasonably foreseeable threat of serious or irreversible damage, including serious or irreversible damage to States vulnerable to the impacts of climate change, measures to anticipate, prevent or adapt to climate change shall be taken by States without waiting for conclusive scientific proof of that damage".[195] A threat will be deemed "reasonably foreseeable" when there are "plausible indications of potential risks", even when there is insufficient scientific evidence to prove such risks.[196] The notion of "serious or

[189] ibid Draft Article 6(1).
[190] ibid 356.
[191] UNFCCC (n 2) article 3(3).
[192] ILA Principles (n 15) Draft Article 7A(1).
[193] ibid 356-357.
[194] ibid Draft Article 7A(2).
[195] ibid Draft Article 7B(1).
[196] ibid 359.

irreversible damage" is not exhaustively defined but includes, *inter alia*, loss of human life and substantial property damage.[197] The precaution principle thus operates in advance of prevention, as it is anticipatory in nature with lower demands of scientific certainty.[198] Where the conditions of precaution are satisfied, states must take proactive measures to mitigate anthropogenic climate change.[199]

The chain of causation between climate change and water scarcity, while backed by scientific evidence, is a loose one and as such may not satisfy the requirements to trigger prevention obligations. The precautionary principle, however, demands that states take positive action to quash serious threats stemming for their actions through mitigation measures. The depletion of water resources in small island states may constitute serious damage, given the severe implications it has on human health and consequently the sustenance of human life. As such, major emitting states can be said to owe an obligation to SIDS and other affected states to mitigate their climate impact in view of securing water supply under international climate change law.

3.3.5. International cooperation

The international climate change regime contains an obligation of international cooperation derived from the notion that climate change is a common concern of humankind[200] and constitutes a general principle of international law[201] whereby states are to "cooperate with each other and competent international organisations in good faith to address climate change and its adverse effects".[202] This cooperation is to be undertaken where states are unable to address an issue, such as climate change, on their own.[203] When acting in international cooperation states must do so in good faith, in a manner that reflects the CBDRRC and other principles, on the basis of scientific knowledge, and with monitoring of obligation compliance.[204] States must particularly cooperate in disaster response where "a disaster attributable to climate change exceeds a state's response capacity".[205] Any response effort must

[197] ibid 359.
[198] ibid 355.
[199] ibid Draft Article 7B(2).
[200] UNFCCC (n 2) Preamble.
[201] ILA Principles (n 15) 362.
[202] ibid Draft Article 8(1).
[203] ibid 361-362.
[204] ibid Draft Articles 8(2)-(5).
[205] ibid Draft Article 8(6).

be in conformity with, *inter alia*, principles of non-discrimination and humanity.[206] States must also continue to develop international climate change law to ensure its adequacy in addressing climate change and its adverse impacts.[207]

Generally, the obligation of international cooperation can be expressed as recognition that individual states cannot, regardless of their ambition, resolve the climate change issue on their own. Should the mitigation and adaptation efforts under the current climate change regime fail in safeguarding the needs of humanity, the duty of international cooperation may guide the international community in how to approach concerted action to address the issue.[208] This is of particular relevance to the water issue, as water depletion in SIDS is one of the most imminent threats of climate change and, while participation of SIDS in international cooperation to mitigate the impacts of climate change might be minimal due to its limited contribution to the issue, the cooperation of the international community is vital for the prevention of the state becoming uninhabitable due to extreme water scarcity.

3.3.6. Inter-relationship

The final principle to be considered is that of inter-relationship between regimes between international climate change law and other relevant spheres of international law, which stems from UNFCCC Article 3(5).[209] The ILA holds that states must "formulate, elaborate and implement international law relating to climate change in a mutually supportive manner with other relevant international law"[210] and as such specifically attempts to prevent fragmentation of international law. The principle demands that, if possible, all complementary obligations should be interpreted so as to constitute one set of obligations, as well as requiring further elaboration of existing law in a manner avoiding norm conflict.[211] The inter-relationship between international climate change law and international human rights law is specifically mentioned in Draft Article 10(3)(b). The inter-relationship between them demands that

[206] ibid 365.
[207] ibid Draft Article 8(8).
[208] ibid 362.
[209] ibid 369.
[210] ibid Draft Article 10(1). The desirability of preventing fragmentation of international law and subsequent norm conflict is expressed in the Vienna Convention on the Law of the Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331, and has subsequently been subject to extensive study in UNGA International Law Commission 'Fragmentation of International Law: Difficulties Arising From the Diversification and Expansion of International Law - Report of the Study Group of the International Law Commission: Finalised by Martti Koskenniemi' (13 April 2006) UN Doc A/CN.4/L.682.
[211] ILA Principles (n 15) 369.

international human rights obligations are to be respected and all peoples' rights are to be protected when developing and implementing climate change policy and actions.[212] The inter-relationship is complex as GHG emissions can result in human rights interferences domestically but the causation is often indirect and the extra-territorial nature of human rights obligations are controversial.[213] Moreover, mitigation and adaptation actions themselves can lead to the interference with the enjoyment of human rights, including the right to water. This will be considered in further detail in chapter 4 below as it is indicative of norm conflict between the two regimes.

3.4. Water in international climate change law

This submission focuses on the overlap between international human rights law and climate change law through the lens of one particular resource, namely water. It is thus important to examine whether the climate change regime addresses water explicitly or adverse impacts of climate change which have implications for water supply in particular, such as drought or floods, rainfall or precipitation, sea level rise, or extreme weather events. This subsection will outline the provisions which explicitly mention any of the above or issues such as health or food, as these are intricately related with water supply.

It is noteworthy that the instruments only occasionally touch upon water as a resource explicitly. This is relatively striking given the severity of the impacts climate change is anticipated to have on water and the significance of water supply for the sustenance of human life. In fact, the word "water" itself is mentioned only once in the three agreements,[214] in article 4(1)(e) of the UNFCCC. The article obliges states to "[c]ooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for … water resources and agriculture". The article also explicitly mentions Africa as affected by drought and floods. Given that SIDS are also vulnerable to drought and floods and that this vulnerability is expected to be exacerbated by the adverse impacts of climate change, it is surprising the SIDS are not explicitly considered in the paragraph the way that Africa is. Nevertheless, the only obligation that arises in relation to water supply specifically in any of

[212] ibid Draft Article 10(3)(b).
[213] ibid 373.
[214] With the exception of the phrase "wastewater" in Annex A of the Kyoto Protocol (n 142).

the instruments is an obligation of cooperation in relation to adaptation effort, and is subject to the CBDRRC principle.

There are numerous articles which have implicit reference to water or water-related issues. In articles 4(8)(d) and 4(8)(e) UNFCCC explicit reference is made to natural disasters[215] and drought. These two issues have clear implications for water supply, as discussed in chapter 2. The articles oblige parties to the Convention to bear in mind what actions are necessary to meet the needs of developing parties, particularly in regards to, *inter alia*, drought and natural disasters, when implementing their commitments under the Convention. As discussed in the previous subsection, the Convention primarily contains obligations of effort rather than result, which is clearly reflected in the article 4(8) obligations. The provisions do not demand state action in relation to mitigating the effects of or adaptation to the impacts of climate change, but merely require parties to the Convention to give the needs of developing parties consideration, with particular concern for drought and natural disaster.

The Paris Agreement includes consideration of natural resources in a manner relevant to water supply. In article 7(9)(e) of the Agreement, parties are required to "engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions". This is phrased as an obligation. The article goes on to say that "[b]uilding the resilience of socioeconomic and ecological systems, including through … sustainable management of natural resources". Thus in order to fulfil the article 7(9) obligation, parties can sustainably manage natural resources, but are not required to do so and is as such optional.

What is noteworthy is the integral nature of the notion of health to the climate change regime. The UNFCCC definition of the "adverse effects of climate change" as "changes in the physical environment or biota resulting from climate change which have significant deleterious effects … on human health and welfare."[216] The Convention further states that parties are to aim to minimise the adverse impacts of climate change on public health when adopting relevant social, economic, and environmental policies and actions.[217] Furthermore, the right to health is explicitly recognised in the Preamble of the Paris Agreement, where the right to health obligations are to be promoted and respected when parties take action to address climate change.[218] It is thus clear that the international community recognises the importance

[215] No examples or definition is given in the provision itself, but this term is interpreted as encompassing floods.
[216] UNFCCC (n 2) article 1(1).
[217] ibid article 4(f).
[218] Paris Agreement (n 143) Preamble.

and relevance of health in the climate change context. The notion is not only acknowledged, but incorporated into the very definition upon which the Convention and consequently the entire regime is based. Given that health and water are inextricably linked, the inclusion of health in the instruments can be interpreted as a recognition of the relevance of water in the climate change context and that water supply is a common concern of humankind. The provisions in question do not set out specific state obligations, particularly not obligations of result, however all obligations based on the phrase "adverse effects of climate change" contain health considerations and consequently considerations of water.

Water is also intricately related to food supply.[219] It is noteworthy that food is, like health, ascribed particular importance under the climate change regime. This is particularly visible in Article 2 UNFCCC which outlines the objective of the regime, which is to stabilise GHG concentrations to ensure that "ecosystems to adapt naturally to climate change, to ensure that food production is not threatened".[220] The Paris Agreement further specifies that its aim to "strengthen the global response to the threat of climate change" by, *inter alia*, increasing climate resilience and adaptation ability "in a manner that does not threaten food production".[221] The Agreement also recognises that the adverse impacts of climate change are of particular concern to food production.[222] As with the inclusion of health in the regime, the provisions touching upon food do not contain substantive obligations. Nevertheless, ensuring food production is integral to the regime as it forms part of the long-term objective set out by the UNFCCC and the aim of the Paris Agreement. As such, all action taken within the international climate change framework should aim to secure the continuation of food production. Given that this issue, like health, has direct relation with water, these provisions can, by extension, be considered recognition of the importance of water and the vulnerability of water supply to climate change, albeit indirectly.

3.5. SIDS in international climate change law

As will be discussed in Part Two below, Tuvalu is recognised as being particularly vulnerable to the adverse of impacts to climate change due to a number of national

[219] For an explanation of the relationship between water and food, see ECOSOC 2003/54 (10 January 2003) UN Doc E/CN.4/2003/54, particularly para 36-51.
[220] UNFCCC (n 2) article 2.
[221] ibid article 2(1)(b).
[222] Paris Agreement (n 143) Preamble.

circumstances that are common to SIDS generally, such as its small size and population, its vulnerability to extreme weather events, and its substantial reliance on weather to sustain life. The international climate change agreements do not consider individual states explicitly, yet they do include certain categories of states in some considerations. Given that the present submission includes study of Tuvalu as a representative of SIDS, the explicit consideration of SIDS in the UNFCCC, Kyoto Protocol, and Paris Agreement will be outlined here.

Small island states are mentioned repeatedly in the instruments. The UNFCCC explicitly recognises that "small island countries … are particularly vulnerable to the adverse effects of climate change" in its Preamble. It further specifies that the necessary actions to meet needs of developing state parties should be considered by Convention parties when implementing their commitment, with particular attention paid to small island countries.[223] Unsurprisingly, neither of the Convention provisions includes any substantive obligations in terms of the needs of small island states. No explicit references were made to small island states in the Kyoto Protocol. The Protocol does, however, include a provision ensuring financial assistance for "developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation".[224] Given that the UNFCCC classed small island states as particularly vulnerable to climate change impacts, the aforementioned provision is interpreted as intended to include small island states. The Paris Agreement makes numerous references to small island states by granting them flexibility in terms of their GHG emission development,[225] stating that their priorities and needs must be borne in mind when financing mitigation and adaptation measures,[226] and specifying that capacity-building should "enhance capacity and ability of … small island developing states, … to implement adaptation and mitigation actions. The "special situation/circumstances" of small island developing states are mentioned repeatedly in the Agreement and primarily specifies the relevant provisions primarily address adaptation assistance. These provisions, in contrast to the UNFCCC provisions, do contain legally binding obligations that states are to satisfy. The instruments never identify what makes small island developing states particularly vulnerable to climate change and as such it is presumed that one of the issues is the vulnerability of their water supply, given the problematic nature of the issue in a small island state like Tuvalu, which is discussed

[223] UNFCCC (n 2) article 4(8)(a).
[224] Kyoto Protocol (n 142) article 12(8).
[225] Paris Agreement (n 143) article 4(6).
[226] ibid articles 9(4) and 9(9).

in detail in Part Two below. As such, water can also be said to be considered by the international climate change regime through the recognition of the vulnerability of small island states.

Chapter 4. Regime Level Integration

4.1. Introduction

Upon considering the two regimes above it becomes apparent that the two regimes operate in isolation from each other. The two sets of laws hardly interact in their regulation of water. In regards to the right to water, climate change is mentioned only once. The CESCR recognizes that state parties should adopt strategies and programmes in order to secure water while taking into account the impacts of climate changes on water availability.[227] This recognition is couched in very loose terms and indicates that, while climate change will impact water, human rights law may be sufficient in addressing issues of scarcity on its own without including obligations relating to the adaptation to and mitigation of climate change. In more recent years, however, the human rights regime has begun recognising the impact that climate change will have on human rights generally as well as the right to water specifically.[228] There thus appears to be an increased recognition within the human rights context that there is overlap between the two regimes in subject and there should at least be recognition of climate change within human rights, if not closer cooperation between the regimes. Nevertheless, this recognition operates on a level that is not binding, although the documents in which the recognition of the relationship is done may amount to soft law and thus be, at least, influential on state action. This appears to be some attempt at integration but may also merely reflect an attempt to achieve coherence between the laws.

Despite this recognition of the interaction of the two regimes in the human rights field, the climate change regime has been less forthcoming. Human rights are mentioned only once in the major climate change conventions, in a preambular statement in the Paris Agreement. This inclusion was achieved following significant advocacy efforts to secure

[227] General Comment 15 (n 32) para 28.
[228] For example, Office of the High Commissioner for Human Rights, 'Understanding Human Rights and Climate Change' (*Office of the High Commissioner for Human Rights*, 27 November 2015) <http://www.ohchr.org/Documents/Issues/ClimateChange/COP21.pdf> accessed 20 May 2017, United Nations Human Rights Office of the High Commissioner 'Climate Change and the Human Rights to Water and Sanitation: Position Paper' (*United Nations Human Rights Office of the High Commissioner*, 2010) <http://www.ohchr.org/Documents/Issues/Water/Climate_Change_Right_Water_Sanitation.pdf> accessed 20 May 2017, Human Rights Council 'Human rights and climate change' (25 June 2014) UN Doc A/HRC/26/L.33/Rev.1, among others.

recognition of human rights in the climate change regime.[229] Despite massive advocacy efforts a binding obligation to secure the tripartite structure of human rights within climate change efforts was not secured, but was instead included as a preambular statement, without inclusion of the full tripartite structure of human rights obligations. While the statement does not create binding obligations, it does impact the interpretation and implementation of the Paris Agreement obligations.[230] This thus encourages congruency between regimes, but does not necessarily integrate them into each other.

It is clear that the two regimes operate in silos with the occasional recognition of the other. The limited interaction between the two regimes may call for closer integration between the two in order to achieve enjoyment of water. In order to consider this, this chapter will consider how the two regimes, international human rights and climate change law, interact with each other, thus reflecting the inter-relationship principle discussed above. Based on the ILA's interpretation of the general principles of international climate change law, the inter-relationship between the regime and other spheres of relevant international law is a general principle encouraging congruence in international legal obligations. The ILA specifically singled out international human rights law in its draft articles and stated that human rights law obligations are to be protected by states when acting under the climate change regime. The principle encourages congruence and the avoidance of norm conflict between obligations stemming from the two different regimes. This is, of course, significant. The two regimes will inevitably interact as they both address issues relevant to human life. Nevertheless, the principle may be of less importance for this submission than one can imagine. The principle merely demands that norms which can be interpreted in conformity with each other should be interpreted accordingly but does not demand any actual integration or greater cooperation between the two regimes. This principle thus merely reflects commitments under the Vienna Convention on the Law of Treaties (VCLT) to avoid norm conflict.[231] The discussion in the following subsections considers to what extent the inter-relationship principle appears to be adhered to in the respective regimes and how this can be supplemented by integration.

This examination will be conducted through the consideration of arguments in favour of integration by considering the benefits of adopting a human rights approach to climate

[229] Center for International Environmental Law, 'Hundreds of civil society groups demand human rights are enshrined in 2015 climate agreement' (*CEIL* , 10 December 2014)<http://www.ciel.org/news/hundreds-of-civil-society-groups-demand-human-rights-are-enshrined-in-2015-climate-agreement/> accessed 9 May 2017.
[230] By virtue of VCLT (n 210) article 31(2), originally found in Benoit Mayer, 'Human Rights in the Paris Agreement' [2016] 6 Climate Law 109-117, 113.
[231] VCLT (n 210) articles 30 and 31.

change regulation. This will be followed by a consideration of areas of conflict between the two regimes to highlight the need for closer integration. Subsequently each regime will be considered individually in order to highlight where principles from the other regime might have counterparts in the other. In order to consider the synergy, or rather lack thereof, between the two regimes, both explicit references to the other will be considered as well as provisions or principles which bear similarity to the other or open up for congruent interpretation of the principles from the different regimes. Similarities between the regimes indicate the possibility for increased integration, as the existence of similarity suggests that the two regimes are not so different so as to make closer integration impossible. It will be concluded that integration would be desirable in order to achieve clarity and congruence in the law which might facilitate state implementation of the law and consequent heightened enjoyment of water. Pursuant to this conclusion, the available means of integration and their effectiveness and likelihood of implementation will be considered.

Prior to the consideration of the interaction of the two regimes, it is noteworthy that there is an inherent difference in regards to the types of obligations imposed by the respective regimes. The international human rights law regime regulates the vertical relationship between individual and states, where the obligations are owed by the state to the individual. There are no individual beneficiaries under international climate change law who have standing to claim that obligations have been breached and consequently trigger responsibility for failure to fulfil obligations.

4.2. Benefits of integration: arguments for integration of the two regimes

This subsection will outline general arguments in favour of integration of the two regimes. Multiple benefits exist in terms of integrating human rights into the climate change regime. These are outlined aptly by the Special Rapporteur on human rights and the environment, John H. Knox.[232] He argues that the human rights regime contains an unparalleled level of detail that can guide the implementation and development of international climate change regulation in a more forceful manner than any other area of the law given that there is generally wide subscription to human rights among the international community and collectivity of states. Additionally the obligations and the interpretations of those legal norms

[232] See generally Knox (n 16).

are widely accepted by states and are integral to the UN system and are backed by accepted enforcement methods and as such their application in the climate change regime would provide multiple benefits in terms of state consideration for human dimensions of climate change law.[233] Moreover adopting a human rights approach to climate change law would give the cause a human face, triggering a sense of empathy among states and an increased desire to take action to prevent damage done to human life.[234] Further the human rights approach ensures the enhancement of the standard of living for all individuals, rather than the overall population or the collective.[235] Given that the human rights regime requires non-discrimination and equality in the pursuit of realisation of human rights, adopting a human rights approach to climate change would ensure that climate change action would leave no one behind in their vulnerability to climate change impacts. The adoption of a human rights approach to climate action could be done through integration of the human rights regime into the climate change regime by including right to water obligations into climate change mitigation and adaptation obligations. This would secure long-term water enjoyment, securing water availability in the future, as well as ensuring access to water for all immediately without discrimination.

Integration could also be conducted in the inverse, by integrating climate change obligations into the human rights regime. Given the general state and international acceptance and acknowledgement of the importance of human rights obligations as well as the constantly evolving nature of the content of the rights through interpretation methods, and the fact that the system is backed by enforcement mechanisms,[236] this option may in fact be more useful in practice in terms of state compliance. The pre-existing state acceptance of human rights may result in a greater desire for states to implement climate change obligations as it would merely form part of the system with which they have already been compelled to comply for approximately half a century.[237]

There are also particular benefits of adopting an integrated approach of the two regimes in regards to the situation of small island developing states. The existence of a human rights framework is weak in the Pacific region[238] and as such they have urged the international

[233] ibid 24-25.
[234] ibid 24.
[235] ibid 23.
[236] ibid 24.
[237] Of course the way in which states are or have been bound by international human rights obligations are individual depending on their ratification status, but essentially all states are bound by at least one human rights treaty. See United Nations Human Rights Office of the High Commissioner, 'Status of Ratification: Interactive Dashboard ' (*United Nations Human Rights Office of the High Commissioner*) <http://indicators.ohchr.org/> accessed 18 May 2017.
[238] Quirico 2017 (n 16) 32.

community to adopt climate change action in a manner including the "human dimension" of climate change.[239] This is, of course, significant as it is explicitly recognises the monumental impact that climate change is expected to have on human rights in their states in a way that has not been done by the international community or other states. The Malé Declaration on the Human Dimension of Global Climate Change advocates for the interaction of the two respective regimes by calling for the cooperation between the COP and the UN Office of the High Commissioner for Human Rights and the Human Rights Council in examining the impacts of climate change on human rights.[240] This is a significant step in two regards. Firstly, employing human rights terminology in its pleas for climate action could perhaps garner more state acceptance of a legal responsibility under human rights law, as opposed to only a moral responsibility for a "human dimension" of climate change. As Knox outlined, the human rights regime is widely accepted among the international collectivity of states and the UN system itself,[241] and as such appealing to states through the use of human rights terminology and advocating for the integration of the two regimes might garner a greater willingness of states to adopt a human rights approach to climate change action. Secondly, the Malé Declaration directly calls for an increased interaction between the two areas of law at the regime level. Allegedly this request is what triggered the Human Rights Council initiatives in delineating the connection between climate change in a number of resolutions and human rights as well as lead to the recognition of human rights in the Preamble of the Paris Agreement.[242] Thus there is a clear desire by small island states for there to be an increased integration of the two regimes and the call for such integration has indeed resulted in some positive action from the human rights bodies in particular. This indicates that there is a willingness among the human rights bodies to integrate the two regimes and potentially subsume climate change obligations into human rights obligations.

A penultimate benefit of the integration of the two regimes is that the adoption of a human rights approach to climate change action might make the climate change regime more effective. The release of GHG emissions by one state has implications on the enjoyment and realisation of rights for individuals within other state territory. Implementing a human rights approach to climate change could create a diagonal responsibility for such actions, creating a

[239] Small Island Developing States (SIDS) (14 november 2007), 'Malé Declaration on the Human Dimension of Global Climate Change' (*CIEL*, 14 November 2007)
<http://www.ciel.org/Publications/Male_Declaration_Nov07.pdf> accessed 14 May 2017, source found through ibid 32.
[240] Male Declaration (n 239) para 3.
[241] Knox (n 16) 24-25.
[242] Quirico 2017 (n 16) 36.

rights-duty relationship between individuals and third party states.[243] This would reinforce the notion of extra-territorial obligations under the human rights regime which remain controversial.[244] Adopting a human rights approach in the climate change legal field would necessitate the acceptance of horizontal obligations by states as the trans-boundary element of climate change is undeniable and of fundamental concern to the adoption of adaptation measures in particular. Should such horizontal obligations be enforced this would have the potential of having great impact of the realisation of rights to water for all, particularly in small island states where the states themselves are responsible for a negligible portion of GHG emissions[245] yet are disproportionately impacted by the adverse effects of climate change.

4.3. Need for integration: conflict between the international human rights and climate change regimes

This subsection highlights why integration between the two regimes is necessary at the regime level, namely to avoid norm conflict. There are areas of conflict between the two regimes, where fulfilment of an obligation in one may interfere with obligations in the other. This indicates norm conflict, where the two systems regulate the same subject matter incoherently, in a manner that makes satisfaction of both obligations simultaneously impossible.[246] This type of conflict is exemplified by three areas of the international laws considered in this text, namely the practice of carbon outsourcing, the production of biofuels to reduce GHG emissions, and the principle of inter-generational equity. These three issues will be considered in turn below.

4.3.1. Carbon outsourcing

The first area where inconsistency between the regimes is exemplified is in the phenomenon of carbon outsourcing. The practice entails developed states attempting to meet their climate change obligations under the Kyoto Protocol to reduce GHG emissions by

[243] Knox (n 16) 31.
[244] Skogly (n 128) and Cahill (n 128).
[245] Climate Analytics, 'Paris Agreement Ratification Tracker' (*Climate Analytics*, 7 May 2017) <http://climateanalytics.org/hot-topics/ratification-tracker.html> accessed 20 May 2017.
[246] ILC Fragmentation study (n 210) para 21-24.

outsourcing activity which represents a large portion of their carbon emissions to developing countries with less stringent emission reduction obligations, such as China and India.[247] This practice meant that developed countries met their obligations under the climate change regime as regulated by Kyoto, yet did not actually contribute to the mitigation of climate change whatsoever, as the carbon emissions would remain at the same levels totally and thus the adverse impacts would not be thwarted or warded off. This would mean that the fulfilment of human rights obligations to water would be made practically impossible in the future. Without appropriate mitigation measures being adopted by reducing GHG emissions in developed countries the exacerbation of water scarcity by climate change impacts in small island states is bound to continue, creating an inability for those governments to actually fulfil their rights obligations. Thus it is of crucial importance that states actually adopt mitigation measures which have the potential to actually reduce the adverse impacts of climate change.

The implementation of carbon outsourcing schemes has led directly to human rights violations in practice. One example from Uganda stands out in particular. In the 1990s and 2000s a Dutch electricity company implemented a programme which aimed to plant 25,000 hectares of trees in an area called Mount Elgon in Uganda under the carbon credits scheme. This programme led to the eviction of approximately 6,000 people, including indigenous peoples, from their homes in the area concerned. The evicted persons attempted to continue to use the land in question to continue their sustenance farming which led to the outbreak of violence between them and the park rangers.[248] Claims have been made that this activity violated the evicted persons' human rights, without specifying which rights in particular.[249] Presumably, given that they were evicted from their land the rights to housing, food, and by extension possibly water were likely interfered with. The violence that ensued may have also triggered rights violations related to rights to life and cruel, inhuman, and degrading treatment.[250] Thus the implementation of climate change obligations was conducted without consideration for related human rights concerns, resulting in serious issues arising with their

[247] Alex L Wang, 'Regulating Domestic Carbon Outsourcing: The Case of China and Climate Change' [2014] 61(6) UCLA Law Review 2018-2067.
[248] For more detail on the events, please see Melissa Checker, 'Double Jeopardy: Carbon Offsets and Human Rights Abuses' (*Carbon Trade Watch*, September 2006) <http://www.carbontradewatch.org/multimedia/video/carbon-connection/double-jeopardy-carbon-offsets-and-human-rights-abuses.html> accessed 18 May 2017, Michael Wambi , 'UGANDA: Carbon Trading Scheme Pushing People off Their Land' (*Inter Press Service: News Agency*, 25 September 2009) <http://www.ipsnews.net/2009/09/uganda-carbon-trading-scheme-pushing-people-off-their-land/> accessed 18 May 2017, and Chris Lang and Timothy Byakola, *"A funny place to store carbon": UWA-FACE Foundation's tree planting project in Mount Elgon National Park, Uganda* (World Rainforest Movement 2006).
[249] Lang (n 248) 31 and 40.
[250] Protected by articles 6 and 7 of the ICCPR (n 27) respectively.

enjoyment. As such, in practice, a conflict between the two obligations arose, as one could not be fulfilled upon the fulfilment of the other when the latter was fulfilled through carbon outsourcing.

The conflict here is traditional; the fulfilment of one obligation frustrates the fulfilment of another or even directly violates other obligations. When states fulfil their climate change obligations to reduce emissions through carbon outsourcing this perpetuates climate issues resulting in inability of other states to satisfy their human rights obligations. The conflict could also, of course, be avoided if mitigation obligations were complied with without the use of outsourcing in ways which actually have a positive impact on climate change. States were not required to carbon outsource as this was likely not the intended purpose of the carbon trading provision, yet that is how the fulfilment of the obligation partially manifested. This may or may not have been resolved under the Paris Agreement. The Agreement does not assign emission reduction targets and no emissions trading system is included. The Agreement rather allows countries to cooperate in meeting their respective INDC commitments. [251] Whether that cooperation will actually result in a second wave of outsourcing or some other form of compliance in contradiction with human rights obligations remains to be seen, as the Agreement is, at the time of writing, still relatively new and the first set of state reporting on their compliance has not yet been conducted or received.

4.3.2. Biofuel production

A second area in which norm conflict arises between the two regimes is through the production of biofuels. Biofuels are an alternative energy source to fossil fuels which are renewable and emit less GHGs.[252] Thus the production of such fuels has been sought by states wishing to meet their climate change obligations to reduce GHG emissions and hamper the adverse effects of global warming.[253] This results in a conflict with human rights, including the right to water as the production of biofuels has negative consequences for the enjoyment of human rights. The Special Rapporteur on the right to food highlighted the negative impact that biofuel production can have on the right to food, which included food prices rising, increased

[251] Paris Agreement (n 143) article 6.
[252] UNFCCC, 'Latest IPCC Science on Implications for Agriculture' (*UNFCCC*, 1 August 2014) <http://newsroom.unfccc.int/nature-s-role/latest-ipcc-science-on-implications-for-agriculture/> accessed 14 May 2017.
[253] Naomi Roht-Arriaza, '"First, Do No Harm": Human Rights and Efforts to Combat Climate Change' [2010] 38(3) Georgia Journal of International and Comparative Law 593-612, 599.

competition for land, and, most importantly for this submission, an increase in water scarcity.[254] The Rapporteur stated that "production of biofuels will require substantial amounts of water, diverting water away from the production of food crops".[255] If water becomes scarcer as a result of biofuel production, this would also frustrate the fulfilment of the right to water itself, as the availability component could not be met. This highlights the possibility for norm conflict between the two regimes. The meeting of one set obligations under the climate change regime would frustrate the satisfaction of obligations under the right to water emanating from the human rights regime.

Palm oil is one example of a biofuel and its use has been heavily criticised, recently by human rights NGOs in particular.[256] Amnesty International exposed issues regarding human rights violations in relation to unfair conditions of labour for women in particular as well as frequent use of child labour on palm oil plantations in Indonesia.[257] The demand for palm oil has also led to mass deforestation is being carried out in the Borneo rainforest, the home of Malaysian indigenous groups, thus interfering with the rights of indigenous people.[258] The implementation of climate change obligations can thus, in practice, result in an array of human rights violations when done in a manner that does not take into account the impact of biofuel production on local populations.

4.3.3. Intergenerational equity

Finally, the principle of intergenerational equity may be an area of contention. Arguments can be proposed that intergenerational equity is reflected in both the international human rights and climate change regimes and is as such a possible area of coherence (for a consideration of this argument see subsection 4.4.2.2 below) but the international legal

[254] UNGA 'Report of the Special Rapporteur on the right to food' (22 August 2007) UN Doc A/62/289 para 35-42. For in depth analysis of the relationship between biofuels and the human rights to water and food see Hans Morten Haugen, 'Human Rights Impact Assessment in the Context of Biofuels: Addressing the Human Right to Food and the Human Right to Water' [2010] 28(1) Nordic Journal of Human Rights 39-61, for further reading on human rights and biofuels generally see Roht-Arriaza (n 253) 599.
[255] SR on food (n 254) para 42.
[256] It should be noted that the three organisations consulted here, Amnesty International, Fair Finance Guide, and SwedWatch are a human rights NGOs and may as such have bias that should not be ignored, as they pursue a clear human rights-oriented agenda.
[257] Amnesty International, 'The Great Palm Oil Scandal: Labour Abuses Behind Big Name Brands – Executive Summary' (*Amnesty International*, 30 November 2016) <https://www.amnesty.org/download/Documents/ASA2152432016ENGLISH.PDF > accessed 18 May 2017.
[258] Frida Arounsavath, 'Silent approval: The role of banks linked to the crisis faced by Borneo's indigenous peoples and their forests' (*Fair Finance Guide*, 7 March 2017) <http://fairfinanceguide.se/media/373595/borneo-report_final.pdf> accessed 18 May 2017 26.

discourse on this is not settled. The applicability of intergenerational equity in human rights law remains contentious among scholars. The central argument against the applicability of intergenerational equity to human rights law is that the concept of rights cannot apply to future generations as members of those generations are not yet alive and as such cannot have rights conferred unto them.[259] The argument is aptly summarized by Joel Feinberg, who states that "[t]he rights that future generations certainly have against us are contingent rights: the interests they are sure to have when they come into being (assuming of course that they will come into being) cry out for protection from invasions that can take place now. Yet there are no actual interests, presently existent, that future generations, presently nonexistent, have now."[260] If this approach is adopted to human rights this may lead to norm conflict between the two regimes. Human rights would, under this approach, only demand that action taken aimed at the realisation of rights for current generations. In relation to the climate change phenomenon this would then primarily demand that adaptation measures are adopted rather than mitigation, as adaptation would have immediate effect on the rights enjoyment at present whereas mitigation measures primarily reduce of adverse impacts on future generations. Climate change law, on the other hand, primarily addresses issues of mitigation, although some adaptation concerns are also included. This creates a conflict as the actions states would be obliged to take within the climate change context would diverge, as one would essentially demand only adaptation action, unless mitigation action could be shown to remedy the adverse impacts of climate change for the present generation in their lifetime. The other set of obligations would however demand priority for future generations and thus mitigation measures is given priority over adaptation. States could, of course, take both adaptation and mitigation measures but given that states have limited resources allocated to their climate change action, it may be difficult to satisfy a heightened demand for adaptation action as well as complying with stringent mitigation obligations. Thus, while not necessarily leading to a norm conflict in theory, it might cause problems in practice in practice by inadvertently requiring states to choose which set of obligations to comply with.

[259] Wilfred Beckerman and Joanna Pasek, *Justice, Posterity, and the Environment* (Oxford University Press 2001) 14-16.
[260] Joel Feinberg, The Rights of Animals and Unborn Generations in William T Blackstone (ed), *Philosophy & Environmental Crisis* (The University of Georgia Press 1974) 66.

4.4. Possibility for integration: climate change principles in the international human rights regime

This and the following subsection (4.5.) will consider what similarities exist between the two regimes. Similarities are interpreted to indicate possibilities for integration as they suggest that the regimes are similar enough so as to allow integration. This subsection will consider to what extent principles emanating from the climate change regime are included in the international human rights law regime. This will include both explicit recognition and underlying similarities between the regimes which can be interpreted as indicating some form of synergy between them. The explicit recognitions will be considered first, followed by the similarities that might imply an underlying synergy between the approaches of the two regimes. The examination will primarily focus on what recognition of climate change is included in the human rights law discussed in the foregoing chapters in relation to the right to water.

4.4.1. Explicit recognition of climate change in the right to water

As discussed previously, the realisation of the right to water is dependent on the actual physical existence of the resource in the state territory in question. Water availability is anticipated to be impacted by climate change, particularly in small island states. Despite this actual interaction in the physical world, in the legal world there is little inclusion of climate change obligations under the human rights law applicable to the right to water. With the exception of the reports of the Special Rapporteur on the human rights to safe drinking water and sanitation, which feature heavily in Part Two given the country-specific focus, climate change is addressed hardly at all by the relevant bodies in their publications on the right to water.

In the documents considered in chapter 2, climate change was addressed only once. This recognition was discussed briefly in subsection 4.1. above. The concept was addressed in paragraph 28(e) of General Comment 15 by the CESCR. In the paragraph the committee specified that "[s]tates parties should adopt comprehensive and integrated strategies and programmes to ensure that there is sufficient and safe water for present and future generations".[261] The Committee went on to exemplify the types of strategies or programmes

[261] General Comment 15 (n 32) para 28.

that could be adopted and included the assessment of climate changes on water availability.[262] In specifying this the Committee also made explicit reference to the UNFCCC. Given that the climate change phenomenon will indeed entail changes in the climate, such as rise in average global temperature and subsequent changes in rainfall patterns, floods and droughts, etc., the plural "changes" employed by the CESCR will not be considered to have a meaning other than the traditional notion of climate change. Furthermore the reference by the Committee directly to the UNFCCC indicates the intention that this phrasing is intended to reflect the climate change phenomenon. The approach adopted here, with explicit reference to the UNFCCC, could be considered reflective of the inter-relationship principle stemming from international climate change law, possibly in an attempt to satisfy VCLT interpretation guidance. The paragraph thus indicates coherence between regimes by encouraging the right to water obligations to be read in light of UNFCCC obligations and may open up for the possibility of increased integration between the two regimes.

4.4.2. Elements of climate change reflected in human rights law

While the international human rights law applicable to the right to water mentions climate change as a part of human rights obligations only once explicitly, the regime does address matters directly related to climate change. This is done in two ways. First, pollution is explicitly deemed relevant to the right to water. Secondly, the approach taken to the right to water incorporates several of the general principles of international climate change law, namely the intergenerational equity, international cooperation, and the prevention principles.

4.4.2.1. Pollution

Water pollution has clear links to climate change in a number of ways. Firstly, the increase in "water temperatures, higher or lower groundwater levels, floods and droughts raise the threat of heightened micro-organisms, chemical substances and radiological hazards in drinking water".[263] Secondly, salinity intrusion in groundwater attributable to climate change induced sea-level rise is expected to increase bacterial and fungal content in groundwater and

[262] Ibid para 28.
[263] High Commissioner 2007 (n 57) para 20, itself referencing ibid para 5.

foster algal bloom.[264] Finally, droughts and floods are expected to "exacerbate many forms of water pollution such as sediments, nutrients, organic carbon, pathogens and pesticides, and may distribute human excreta".[265] Given that climate change is expected to increase the incidents of flood and droughts, increased water pollution is expected to follow.

The issue of pollution in relation to the right to water is brought up repeatedly in different sources delineating the content of the right to water, both in treaty form and in the form of documents intended to provide authoritative interpretation. The CRC includes the issue of pollution as a consideration inherent in the right to health. The article specifies that, in pursuing the realisation of the right to health, states must combat disease and malnutrition, which includes taking into consideration the dangers and risks posed to health by environmental pollution.[266] The state obligation to respect the right to water has also generally been considered to demand that states refrain from directly polluting water[267] or engaging in any activity that pollutes water.[268] Furthermore states must ensure that third parties do not pollute water resources as part of the obligation to protect the right to water.[269] States are also required to take positive action by adopting policies aimed at reducing and eliminating water pollution in view of minimizing environmental health hazards.[270]

Given the great deal of impact that climate change is expected to have on water quality through pollution, it seems logical to consider that the pollution-related provisions in human rights law contain considerations of climate change by extension. The content of the right to water discussed above are phrased in terms of obligations placed on the duty-holders, namely states. The various authorities consider that the obligations to respect and protect the right water demand that states refrain from pollution of water resources, either directly or indirectly through "any activity". These obligations should then extend to prevention of GHG emissions to an extent to prevent the adverse impacts of climate change, such as increased incidents of floods or doughts, as GHG emission should satisfy the "any activity" requirement. The emission of GHGs and water pollution may be considered a tenuous connection and not contain enough clear causality for the standards of human rights law, should human rights litigation be raised on this basis. Nevertheless, the link between climate change and water quality is significant and the inclusion of concrete state obligations in relation to prevention of

[264] High Commissioner 2007 (n 57) para 21.
[265] ibid para 20.
[266] CRC (n 19) article 24(2)(c).
[267] General Comment (n 32) para 21
[268] High Commissioner 2007 (n 57) para 36.
[269] General Comment 15 (n 32) para 23, Albuquerque handbook (n 20) 27.
[270] General Comment 14 (n 51) para 36.

water pollution within the human rights regime does appear to open up the possibility for greater integration between the two regimes.

4.4.2.2. Intergenerational equity

As discussed above, the applicability of intergenerational equity in human rights law is contentious. It is however arguable that the right to water does reflect considerations of intergenerational equity. The intergenerational equity principle is not explicitly recognised by the bodies issuing legal interpretations of the right to water, yet upon reading the comments, there are clear parallels between human rights obligations and the principle. The CESCR namely states that the realisation of the right to water for present generations, and the actions taken pursuant to that realisation, must not inhibit the realisation of the right in the future generally. This is of particular concern in relation to the availability component of the right to water.[271] Additionally the facilities used to satisfy current water availability requirements should also meet future needs.[272] By requesting that states take sustainable action which does not hamper future realisation of the right to water, the Committee implies that the principle of intergenerational equity is integral to the human right to water. It would be logical that these provisions indicate that any action taken to fulfil the right to water now should not result in GHG emissions which would result in exacerbation of water scarcity for future generations. This connection might be considered too tenuous to form part of the obligations to secure future availability of water, yet the convergence of the two regimes here does open up for the possibility of integration of the two regimes. However the causality issue here is a contentious area of international human rights law is and has not garnered consensus.[273] Moreover, as was illustrated by subsection 3.3., while this area might be one of convergence it may also be one of conflict. This dichotomy highlights the need for clarification of the relationship between these laws, as there is confusion as to the content and scope of the respective obligations. Such clarification could be achieved through integration.

[271] General Comment 15 (n 32) para 11 and 28.
[272] Albuquerque handbook (n 20) 33.
[273] Quirico 2016 (n 16) 27-30.

4.4.2.3. CBDRRC and international cooperation

Interestingly, the notion of international cooperation exists in both international human rights law and international climate change law. The content of the notion in international human rights law is reminiscent of both the CBDRRC and international cooperation principles in climate change law. In international human rights law the principle is considered, by the CESCR, to form the basis for extra-territorial obligations.[274] These obligations demand that states refrain from actions which interfere with the right to water in other states,[275] prevent third parties within their state from interfering with the right to water in other states,[276] and to provide water resources and assistance or aid when necessary.[277] These obligations form part of the obligations to respect, protect, and fulfil (facilitate) respectively. The fulfil (facilitate) obligation is that most similar to the notions of CBDRRC and international cooperation found in international climate change law, which demand that developed states assist developing states through the provision of financial and/or technical resources in adapting to the adverse impacts of climate change. This part of the CBDRRC and international cooperation principles thus appears to be mirrored by the human rights obligation to fulfil (facilitate) the right to water. It follows that there is, in fact, a congruent obligation in the two regimes in this regard. The content of the obligation to assist may differ slightly between the regimes, as the obligation under human rights law requires that the components of the right to water are prioritised in assistance budgets whereas the climate change obligation requires prioritisation of climate change adaptation and mitigation but does not adopt a human rights-based approach. This could be harmonised through integration.

Under international human rights law states are under an obligation to realise human rights with the maximum available resources. The notion of maximum available resources is considered to include an obligation on states to seek assistance in order to meet their obligations if necessary,[278] which stems from the international cooperation principle. This obligation appears to mirror the CBDRRC principle whereby developing states are to receive assistance under international climate change law. The human rights obligation expresses the requirement for states to seek such assistance, whereas the climate change obligation requires that such assistance is granted by developed states to developing states. It is presumed that the

[274] ICESCR (n 19) articles 2(1) and 11(1) and (23), General Comment 15 (n 32) para 30-31.
[275] General Comment 15 (n 32) para 31.
[276] Albuquerque handbook (n 20) 27.
[277] General Comment 15 (n 32) para 31.
[278] Albuquerque handbook (n 20) 26, High Commissioner 2007 (n 57) para 33.

human rights obligation applies to all states, although it will be practically applicable primarily to developing states that are subject to resource constraints. Thus these obligations can also be seen as running parallel to one another, providing opportunity for greater integration.

4.4.2.4. Prevention principle

The climate change principle of prevention is also reflected in the human right to water. The principle is echoed in the obligations to respect and protect the right to water. Under the human rights law regime, the obligations to respect and protect the right to water have an extra-territorial dimension, as states must themselves not interfere with the right to water of people in other countries as well as preventing third parties from interfering with the enjoyment of the right to water in other countries.[279] This notion is akin to the prevention principle under climate change law, whereby states must not cause environmental damage in the territory of other states. While the damage in question differs between the two obligations, the prevention of causing damage beyond one's borders is included in both regimes. Damage caused by climate change prevented by the prevention principle could very well relate to the right to water and as such fall within the both categories of obligations. The applicability of human rights obligations extra-territorially is debatable and remains a contentious issue in human rights law.[280] The congruence between the two regimes could reinforce the applicability of such obligations in international human rights law, as the prevention principle under international climate change law is less contested. Alternatively, integration of the human right to water as a consideration in the damage to be prevented under the prevention principle under climate change law could secure and safeguard the extra-territorial application of the human right to water which may ensure greater enjoyment of water.

4.4.2.5. Obligation to adapt to climate change

The obligation upon states to adapt to climate change is also reflected in the human rights law regime through the obligation to protect the right to water domestically. Under the UNFCCC states are expected to adapt to climate change, both through individual action and

[279] Albuquerque handbook (n 20) 27.
[280] Skogly (n 128) and Cahill (n 128).

through seeking assistance for adaptation.[281] Adaptation in regards to climate change effects on water ensures the inhabitability of the territory in question. Adaptation to climate change impacts essentially demands the protection of individuals from the impacts of climate change, partially or almost entirely caused by third party actors, depending on the state territory in question. This in akin to the obligation to protect the right to water which demands that states protect individuals from third party interference with the right in question. Inherent in both regimes is a notion that individuals are or the population overall is to be protected from the actions of others on their quality of life and the inhabitability of the state territory. This indicates further congruence and coherence between the two regimes.

4.5. Possibility for integration: human rights principles in the international climate change regime

This subsection will follow the format of the previous, by examining the explicit recognition of human rights principles in the climate change regime and subsequently the implicit similarities. The international cooperation principle will not be discussed individually below given that it is considered above. The examination will include general human rights considerations inherent in the right to water. It is noteworthy that the inclusion of human rights in the climate change regime is far less extensive than the inverse discussed above.

4.5.1. Explicit recognition of human rights in international climate change law

Human rights are explicitly mentioned only once in the climate change regime, namely in the Preamble of the Paris Agreement, as discussed in subsection 4.1. above. The preambular statement specifies that in taking action to address climate change, states should "respect, protect, and consider their respective human rights obligations".[282] This inclusion is significant, as it is the first and only recognition of the relevance of human rights to the work carried out to combat climate change in the major climate change agreements. The statement does not itself create binding obligations on the state parties, but does impact their interpretation

[281] See UNFCCC (n 2) articles 4(1)(b) and (n 143) 4(1)(e), Paris Agreement (n 143) and articles 6(6), 6(8)(a), and 7.
[282] Paris Agreement (n 143) Preamble.

and implementation of the obligations imposed by the Agreement.[283] Furthermore, the Preamble specifically states that the right to health is to be respected, protected, and considered in taking action aimed at combating climate change. This is of particular significance for the right to water, as it has its original legal basis as a component of the right to health. As such the obligations imposed under the Paris Agreement must be complied with in a manner which does not violate human rights obligations.

It is noteworthy that the tripartite structure of rights obligations was not included as the traditional "fulfil" was replaced with "consider". This may indicate an unwillingness to include obligations of a far-reaching nature as the obligation to fulfil is arguably the most demanding since it requires states to provide resources if individuals are unable to enjoy their rights without such provision. If the language used in the Preamble, particularly the words "respect" and "protect", are interpreted through a human rights lens, these have particular implications for state action. If states are to respect human rights and the right to health in their climate change action, they must ensure that they do not interfere with those rights, including the right to water, either domestically or extra-territorially. The obligation to protect human rights and the right to health demands that states ensure that third parties do not interfere with enjoyment of rights, including the right to water, when taking action aimed at addressing climate change. Thus the inclusion of human rights in the Preamble may indicate the beginning of an increased integration between the two regimes. However, given that, at the time of writing, the instrument is still relatively new, whether or not human rights will be incorporated to any greater extent remains unknown and uncertain, particularly given that the provision in which the notion was included does not contain any legally binding obligations by itself. As such the provision is reservedly promising in that it indicates a possibility for greater integration between the two regimes but does not create any binding obligations including both human rights and climate change concerns, particularly in relation to the water issue.

4.5.2. Elements of human rights reflected in climate change law

4.5.2.1. Food and health

The significance of the inclusion of food and health in the climate change regime in relation to the right to water was discussed briefly in chapter 3. The human right to water has

[283] By virtue of VCLT (n 210), originally found in Mayer (n 230) 113.

its origins in the right to health in terms of recognition as a legally enforceable right and is considered fundamental to the right to food. The climate change regime recognizes the importance of food by specifying that part of the objective of mitigation of climate change impacts is securing future food production.[284] The importance of health is recognised in the definition of "adverse effects of climate change" which includes considerations of the impacts of climate change on human health.[285] The inclusion of food and health are not couched in human rights terminology, except for the Paris Agreement provision,[286] but their importance is still recognised and as such displays at least an acknowledgement of the adverse impacts that climate change is anticipated to have human wellbeing and life and that such impacts should be avoided. This suggests that there is possibility for human rights to be integrated into the climate change regime in the future in view of securing the overall objective of the battle against climate change.

4.5.2.2. Non-discrimination and attention to vulnerable groups

The principle of non-discimination is integral to the human rights system and pervades all components and obligations of the right to water. Related to this principle is the idea that attention should be paid to vulnerable groups when attempting to satisfy rights obligations.[287] These principles are arguably reflected in the climate change regime as the climate change regime does include considerations akin to these principles. This is particularly the case in the international cooperation principle in relation to disaster response, where any response effort must be in conformity with principle of non-discrimination.[288] This indicates an opening for interpretation of the obligation in conformity with human rights principles in case of disaster. The notion is also reflected in the recognition of the importance of gender sensitivity in relation to adaptation action and capacity building in the Paris Agreement.[289] Gender

[284] Paris Agreement (n 143) article 2 UNFCCC, article 2(1)(b).
[285] UNFCCC (n 2) article 1.
[286] Paris Agreement (n 143) Preamble.
[287] Reference made to the consideration of vulnerable groups in *inter alia* UN Committee on the Rights of the Child 'Report of the Thirty-Second Session' (23 June 2003) UN Doc CRC/C/124 para 306-307 and UN Committee on the Rights of the child 'Report of the Thirty-Third Session' (23 October 2003) UN Doc CRC/C/132 para 198, Office of the United Nations High Commissioner for Human Rights , 'Frequently Asked Questions on a Human Rights-Based Approach to Development Cooperation' (OHCHR, 2006) <http://www.ohchr.org/Documents/Publications/FAQen.pdf> accessed 14 May 2017, 7 and 28.
[288] ILA Principles (n 15) 365.
[289] Paris Agreement (n 143) articles 7(5) and 11(2), Mayer (n 230) 115-116.

perspectives are integral to the notion of non-discrimination[290] and as such there does appear to be an overlap in terms of the approaches adopted by the two regimes respectively.

A possibly more tenuous parallel between approaches is reflected by the special treatment afforded to SIDS under international climate change law. The special circumstances of small island states are repeatedly mentioned in the climate change agreements and have even resulted in a separate principle of the law. This special treatment is akin to the aspect of the non-discrimination principle regarding paying attention to vulnerable groups. Small island states and least developed states are considered those most vulnerable in relation to the adverse impacts of climate change and as such they are given special treatment, in that they have more lenient mitigation commitments and are to receive adaptation assistance from developed states. This treatment is similar to the notion in international human rights law, where, when realising rights, states are to pay special attention to those most vulnerable in society to ensure that also their rights are realised. Thus while the special treatment of small island states does not include human rights obligations or principles explicitly, there does appear to be an overlap in terms of attention that is to be paid to vulnerability and addressing such vulnerability.

4.6. Reasoning in favour of integration in light of subsections 4.2. to 4.5.

In light of the above it is apparent that the two regimes both run parallel to each other in congruence as well as conflict. There appears to be a need for greater harmonization between the two regimes. The two regimes both dictate what states are to do in relation to water supply. One focuses directly and indirectly on water through the right to water and other related rights, dictating what components are relevant for the resource as well as specifying a tripartite structure of obligations states owe to their populations in relation to the resource. The other discusses matters relating to water supply indirectly, as it focuses on the climate change phenomenon which is expected to negatively impact water supply, particularly in small island states, and imposes obligations on states aimed at ultimately preventing the adverse impact of the phenomenon on food availability, which itself is connected with water. The obligations which conflict cause issues in relation to state action as they demand two different courses of action, where complying with one obligation may interfere with or violate obligations stemming

[290] Discrimination on the basis of sex is prohibited in the non-discrimination articles found in the core human rights treaties, see for example ICESCR (n 19) article 2(2), CRC (n 19) article 2(1), and CEDAW (n 19) article 2, among others. Albuquerque handbook (n 20) 29.

from the other regime. In order to avoid such norm conflict, there must be increased harmonization between the two regimes. This harmonization could be achieved through greater integration of the two regimes. If one set of water-related obligations were integrated into the other, the conflicting components would need to be addressed through interpretation of the content of one consistently with the content of the other. This would thus both resolve norm conflict as well as facilitate adherence to the systems as this might create greater clarity in terms of the normative content of obligations.

Areas of coherence could also be ones of conflict, such as the notion of intergenerational equity, due to a lack of clarity of the obligations under the human rights regime in particular. Nevertheless there is indeed some congruency between the two regimes in terms of foundational principles and attached obligations. This compatibility indicates that there is definite possibility for integration of the two regimes into each other, one into the other, or the creation of a new regime composed of both sets of obligations. In light of the existing compatibility and the obligations running parallel to one another, it appears that integration of the regimes would be beneficial given that it would streamline the obligations placed on states and may provide clearer guidance on how they are to be implemented in practice. Given that the laws converge and govern the same issue, namely water supply, creating a streamlined, single set of obligations in this regard would allow states to take concerted action, satisfying multiple obligations simultaneously as opposed to taking several actions under each individual obligation. Integration would create a greater degree of clarity in regards to the content of the respective obligations as any process of integration would likely demand the issuance of authoritative interpretation guidance on the content of climate change and human rights obligations by the respective authoritative bodies.[291] Given that both systems address the issue of water, integrating the two systems even where they are already congruent, would create one single set of state obligations aiming to secure water supply rather than multiple and would as such allow states to take concerted action to satisfy all obligations relating to water at once rather than separate action under each regime.

Under the current approach the two systems must mutually accommodate each other[292] which may result in neither set of obligations being implemented in full force and thus diluting the effect of the law. If the Paris Agreement and principles of prevention and precaution

[291] This could, of course, also be the case for other areas of international law and their inter-relation with the two regimes in question, however only human rights and climate change law are within the scope of the present submission.
[292] ILC Fragmentation study (n 210) para 229.

do imply deference to human rights law in cases of conflict, this would necessarily entail the prevention of full implementation of climate change obligations. Given that the fulfilment of climate change obligations in view of mitigating the adverse impacts of climate change are crucial for the future fulfilment of human rights obligations, such deference is a double edged sword since it may secure human rights in the short term but not the long term. As such to ensure the realisation of rights, climate change obligations must be complied with, yet not in a way which itself interferes with human rights. An integrated system of regimes would likely resolve this issue, as consistency would be read into the system itself explicitly. Thus an integrated system at the regime level may allow for greater congruency and ease in implementation for states.[293] Methods of achieving such integration are considered in the following subsection.

4.7. Prospective means of integration

4.7.1. A new treaty

One possibility for integration is the adoption of a new treaty integrating the two systems at the regime level. This would allow states to adopt an entirely new convention, creating a single set of obligations integrating the two sets of law. Given that states would still be bound by their pre-existing obligations under international human rights and climate change law respectively, the new treaty would need to respect both sets of laws.[294] This would encourage the resolution of norm conflicts at the drafting stage in order to ensure the coherence of the treaty itself and would ensure state acceptance of the selected norm interpretation. This would be an ideal solution in terms of resolving the norm conflict at the regime level. The content of a treaty might take three forms within this field. First, the treaty might address integration of the two regimes in general. This would require all human rights to be considered in light of all climate change obligations and all climate change obligations to be considered in light of all human rights obligations. This would require extensive consideration similar to that

[293] It is stressed that this submission only examines these two areas of the law in relation to their discussions of water and as such the arguments for or against integration might vary in relation to other aspects of the laws where they interact and as such the integration may only be appropriate for those regulations relating to water. Whether integration would facilitate the realisation of other rights as well is beyond the scope of this submission.
[294] VCLT (n 210) article 30 particularly (3) and (4).

done above, but examining all rights rather than just one. This could prove to be a demanding process as, if the water issue considered above is indicative of the status of the law in terms of congruency between the regimes, there will likely be many other norm conflicts or possibilities for conflict between the two. In order to resolve such incongruence states would need to reach agreement on what the meaning and content of the obligations are in their treaty negotiation in order to resolve norm conflicts at the regime level. An analysis of how the two regimes might be integrated in whole is beyond the scope of this submission and as such it is merely noted that this is a possible option when integrating the principles emanating from the two regimes in relation to water supply. Nevertheless, the adoption of a treaty integrating the two systems may prove beneficial in terms of practicality as it would ensure coherence between the two regimes in their totality and avoid norm conflict between the two regimes in any regard. It would further streamline the obligations stemming from the two regimes even in areas where the obligations do not necessarily conflict.

Such a treaty could also integrate rules relevant to water supply alone. This would require the issues outlined above in terms of norm conflict in relation to water to be addressed in the new treaty. This may be beneficial in two regards. Firstly, as with the first option outlined above, it would ensure greater cohesion between the two regimes, avoiding norm conflict and creating a single set of obligations calling for concerted rather than separate action. Secondly, this approach would be particularly beneficial in relation to water as it would grant the right a solid legal basis that currently does not exist under international law. It would enshrine the right to water in hard law in the form of a treaty, confirming its legal status which is currently somewhat uncertain as it is partially recognised in treaty law in relation to particular groups of beneficiaries and partially in soft law in relation to all humans. The adoption of a treaty with an integrated human rights and climate change approach on the right to water itself would create both norm coherence and streamlined obligations as well as establishing a hard law basis for the human right to water. This could, of course, also be done through the first approach integrating all obligations in human rights and climate change law, provided that the right to water would be explicitly included in such a treaty, rather than subsumed by the rights to food, health, and housing. This approach might thus prove beneficial both in terms of greater integration between regimes as well as creating greater clarity on the content and legal basis of the human right to water.

The third approach that could be envisaged is through the creation of a new right altogether encompassing the integration of the two sets of obligations relating to water, as well

as obligations relating to other relevant issues. This might be done through the development of a human right to environment. This would necessarily enshrine both components in question, human rights law by virtue of the creation of a new right, and climate change by virtue of the content of the right relating to environment. The existence or creation of such a right has been a topic of debate in the past. In the hard, black-letter international human rights law under the core human rights treaties no substantive right to environment is explicitly included as a free-standing right. References to the natural environment do exist in the treaties, yet none explicitly establish a free standing right to environment.[295] A substantive right to a clean environment can be seen in some regional treaty law as well as in individual national legislation, indicative of willingness of at least some states to recognise such a right as forming part of the human rights structure.[296] Generally three camps can be said to exist in this regard. The first position is that there is a right to environment under human rights law or at the very least that human rights law contains environmental obligations. A number of obligations have been set out and are considered to apply to all types of damage caused to human rights by environmental harm.[297] The second position adopted is that there is no human right to environment in international law itself, but that there might be one in theoretical or moral terms and therefore there should be one in the law itself. In purporting this argument Ken Conca postulates that a healthy environment is fundamental to sustainable livelihoods and adopting a human rights based approach to environment would ensure access to resources, securing equality in that access, and providing a method of holding states accountable for their actions.[298] The third and final camp adopts the approach that there is no right to environment and/or that one should not exist. Malgosia Fitzmaurice adopts this position and argues that, while regional laws may include a substantive human right to environment, these are not implemented or complied with by states, thus their limited use is argued to represent a non-existence of the right in reality. Further

[295] See ICESCR (n 19) article 12(2)(b), CRC (n 19) articles 24(2)(c) and 29(1)(e).
[296] Regional treaty recognition of the right includes African Charter on Human and Peoples Rights (adopted 27 June 1981, entered into force 21 October 1986) OAU Doc. CAB/LEG/67/3 rev 5, 21 ILM 58 Article 24, Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights "Protocol of San Salvador" (adopted 17 November 1988, not yet in force) A-52 Article 11, and the Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (adopted 4 November 1950, entered into force 3 September 1953) Articles 2, 8, 10, and 1 of Protocol 1 through the interpretation of those rights by the European Court of Human Rights. These are derived from Malgosia Fitzmaurice, A Human Right to a Clean Environemnt: A Reappraisal. in Giuliana Ziccardi Capaldo (ed), *The Global Community Yearbook of International Law and Jurisprudence 2015* (Oxford University Press 2016) 222-223. For explanation of the right to environment under regional and national law, please see pages 222-225 of Fitzmaurice.
[297] Knox (n 16) 29.
[298] Ken Conca, 'A healthy environment is a human right' (*The Guardian*, 1 October 2015) <https://www.theguardian.com/commentisfree/2015/oct/01/a-healthy-environment-is-a-human-right> accessed 9 May 2017.

Fitzmaurice argues that, even if such a right does exist, it is ineffective in securing human rights in relation to environmental harm as very restrictive approaches are adopted by the regional judicial authorities.[299] Thus whether a right to environment does or does not already exist under international human rights law remains a topic of debate, as does the desirability of the adoption of such a right, should it not exist. Nevertheless, the integration of the human rights and climate change regimes in regards to water could, in theory, be done through the creation of a new right, adopted in treaty form. This would allow states to resolve the norm conflicts discussed above while taking a human rights based approach explicitly and would thus serve as integration of the climate change regime into the human rights regime, thus forming part of the human rights framework and its accountability mechanisms. Integration of climate change into the human rights framework has been attempted to a degree previously through the issuance of authoritative statements by human rights bodies,[300] yet apparently with little effect in light of the considerations outlined in above. This indicates that the employment of climate or environmental considerations in the human rights regime may indeed be ineffective.

The question does arise as to whether there would in fact be negative impact on rights enjoyment as a result of a new human right to environment or any other form of integration at the treaty level. Fitzmaurice outlines the regional approaches to human rights and environment and considers their effectiveness and concludes that the provisions themselves are ineffective,[301] yet does not conclude that they are in fact harmful to or undermine the enjoyment of rights. Given the potential benefit of regime congruency stemming from integration at the regime level it is difficult to envisage a scenario where integration would harm or undermine the enjoyment of rights, unless the interpretation of the new right dilutes the content of the right to water so as to offer less protection, codified in hard international law. This would, of course, depend on the actual outcome of any new treaty negotiation. Thus the appropriateness of the integration at the regime level in terms of securing greater realisation of the right to water would depend on the content of the new treaty. As such, while there may be benefits of formal measures of integration through treaty adoption, such an approach would need to be adopted with caution, ensuring that the high standard of human rights protection read in to the right to water is maintained.

[299] Fitzmaurice (n 296) 222-224.
[300] For example, High Commissioner 2015 (n 228), High Commissioner 2010 (n 228), HRC A/HRC/26/L.33/Rev. (n 228), among others.
[301] Fitzmaurice (n 296) 222-224.

Regardless of the possible benefits and drawbacks of the adoption of a new treaty integrating the two regimes, the likelihood of such adoption should also be considered. States are encouraged to adopt international agreements securing the right to water under the human rights regime[302] which may provide an impetus to adopting a new treaty. While the explicit recognition of human rights in the climate change regime itself is limited to the preamble of the Paris Agreement, even achieving this recognition was in and of itself, a challenge. As previously discussed, the Paris Agreement was the first explicit recognition of the notion of human rights in the climate change regime and was the result of long-term advocacy of academics and international organisations.[303] Civil society has advocated not only for the use of stronger human rights language in the climate change framework generally but also, *inter alia*, the right to water specifically. [304] This advocacy has been massive, with over 200 groups joining forces to advocate for human rights inclusion.[305] The international human rights bodies also called upon a greater recognition of human rights in the new agreement[306] and have generally themselves been recognising the correlation between the two regimes.[307] This advocacy preliminarily appeared to have significant impact as the draft version of the treaty contained reference to the tripartite structure of human rights for all in article 2. This was later deleted during negotiations, leaving only the preambular reference to human rights representing the relationship between the two spheres.[308] This dilution of the human rights recognition within the regime despite the massive concerted efforts between civil society actors is indicative of the resistance existent in the international community to additional human rights influence. There appears to be a desire to limit the application of human rights obligations to the international human rights legal regime itself. Thus while the above methods of treaty adoption may be beneficial in terms of coherence and rights realisation, the likelihood of such an integrated treaty being adopted and universally ratified, with high human rights and climate change standards

[302] General Comment 15 (n 32) para 35.
[303] Sumundu Atapattu, 'Climate Change, Human Rights and COP 21: One Step Forward and Two Steps Back or Vice Versa?' [2016] 17(2) Georgetown Journal of International Affairs 47-55, 49.
[304] CIEL (n 229), Megan Rowling, 'Lima marchers, experts want climate deal to respect rights' (*Reuters*, 10 December 2014) <http://www.reuters.com/article/us-climatechange-rights-idUSKBN0JP00320141211> accessed 9 May 2017.
[305] CIEL (n 229).
[306] United Nations Human Rights Office of the High Commissioner, 'Statement of the United Nations Special Procedures Mandate Holders on the occasion of the Human Rights Day Geneva, 10 December 2014: Climate Change and Human Rights' (*OHCHR*, 10 December 2014) <http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=15393&LangID=E;> accessed 9 May 2017.
[307] Mayer (n 230) 110, see for example Office of the United Nations High Commissioner for Human Rights, 'The Effects of Climate Change on the Full Enjoyment of Human Rights' (*Climate Vulnerable Forum*, 30 April 2015) <http://www.thecvf.org/wp-content/uploads/2015/05/humanrightsSRHRE.pdf> accessed 14 May 2017.
[308] Atapattu (n 303) 49.

appears slim. Given that states have recently resisted the integration of human rights into the climate change regime despite significant pressure from civil society in a way that creates binding obligations, this indicates that states would also be unwilling to adopt any other hard law integrating the two systems in a way preserving meaningful content of both regimes.

4.7.2. Soft law methods

Given the challenges of introducing hard law integrating the two regimes and the potential drawbacks of such integration, adopting a soft law approach might be more plausible as well as effective. This could be done through the issuance of statements containing authoritative interpretation of the laws, which has been done previously by human rights bodies, by outlining the correlation between human rights and climate change.[309] This has even extended to the establishment of a Special Rapporteur mandate on human rights and environment who issues reports on the inter-relationship between the spheres.[310] Special Rapporteurs with a particular thematic focus or on specific geographical areas also integrate climate change considerations into their reports.[311] It is thus clear that there is consideration of the relationship between human rights and climate change in soft law instruments, yet these do not appear to integrate the actual obligations of the climate change regime into the human rights obligations. Furthermore the climate change regime seems to look past the issue of human rights and focuses solely on climate change obligations in isolation from rights. In order to achieve integration of the two regimes on a soft law basis the respective authoritative bodies, primarily the COP and the CESCR (in the water context), could issue decisions or reports on the relationship between the two sets of obligations, reading one set into the other. The preambular statement of the Paris Agreement explicitly recognising human rights and their relevance to the climate change regime might serve as a legal basis for the COP issuing an interpretation of the climate change obligations containing human rights obligations. The relevant human rights bodies, such as the CESCR, could also issue reports on the matter, similar to those that have been adopted in the past but with greater focus on the content of climate change obligations and how they might form part of human rights obligations, rather than climate change generally

[309] For example, High Commissioner 2015 (n 228), High Commissioner 2010 (n 228), HRC A/HRC/26/L.33/Rev.1, among others.
[310] Special Rapporteur mandate on human rights and environment currently held by John H Knox.
[311] For example in SR Tuvalu (n 10).

affecting or impacting human rights enjoyment and realisation. Alternatively, the bodies from the respective regimes could attempt to issue a joint statement on the interpretation of the law. The issuance of joint statements on human rights matters from bodies with mandate emanating from two separate systems has taken place at the regional[312] and international[313] levels, with recommendations as to future action in relation to particular legal issues. Such a joint statement, between the COP and the CESCR for example, could be released addressing how the two sets of obligations are to inform each other or how one informs the other.

Three issues arise in regard to these possibilities. Firstly, this approach employs soft law methods and would as such not be legally binding on states. The statements would be influential on the interpretation and application of the legal norms, perhaps particularly so if a joint statement were released as this may hold unique significance given that such a statement would emanate from two entirely separate disciplines and would represent a significant development in the law and perhaps indicate an increased likelihood of formal integration of the regimes. Nevertheless, without being formally adopted as a new treaty or protocol to their respective treaties or crystalising into customary international law, the integration advocated for by the authoritative interpretations would not form part of binding law on states. Furthermore it may not be a particularly effective method. This is exemplified by the outcomes, or lack thereof, of the human rights bodies and their attempt at limited integration of climate change into the human rights regime. This does not appear to have had great impact in terms of state acceptance of integration, as further integration in terms of normative obligations was resisted during the Paris negotiations so as to prevent such integration being included in the Agreement itself.

Secondly, the likelihood of the above approaches being adopted appears low. As discussed, there appears to be an unwillingness among states to formally include human rights obligations under the international climate change regime which is reflected by the international laws themselves. This has resulted in the climate change regime, and thus the COP, essentially looking past relevant human rights and addressing only environmental considerations with

[312] For example the joint statement on EU accession to the ECHR by the respective presidents of courts, Jean-Paul Costa and Vassilios Skouris, 'Joint communication from Presidents Costa and Skouris' (*ECHR COE*, 27 January 2011) <http://www.echr.coe.int/Documents/UE_Communication_Costa_Skouris_ENG.pdf> accessed 14 May 2017.

[313] For example the joint statement of the United Nations High Commissioner for Refugees and the International Organization for Migration, United Nations High Commissioner for Refugees, 'Joint UNHCR and IOM statement on addressing migration and refugee movements along the Central Mediterranean route' (*UNHCR*, 2 February 2017) <http://www.unhcr.org/afr/news/press/2017/2/58931ffb4/joint-unhcr-iom-statement-addressing-migration-refugee-movements-along.html> accessed 14 May 2017.

human corollary but not concerning itself with the human aspects directly. It appears unlikely that the COP would change its course of direction suddenly, particularly so soon after the adoption of the Paris Agreement where formal integration of human rights obligations was resisted by states. Such a change of approach would likely be controversial among state parties given this recent history. Thus it appears that the chances of COP recognition of human rights obligations either through an individual or a joint statement with human rights bodies are slim.

Finally, the adoption of a joint statement in particular appears slim, especially if it would include the integration of one regime into the other as this would require the regime becoming integrated essentially subordinating itself, and thus subordinating its governing bodies, to the other. This would likely be considered undesirable for the bodies themselves as it would entail a loss of at least a degree of autonomy. Furthermore such subordination may not be compatible with the mandates of the respective bodies as this would impact the accountability structure of the respective regimes in a way which was not provided for by the treaties from which their mandate stems. An alteration of this nature would likely require more thought and analysis in terms of the repercussions on the organisational structures in place. As such, even if this would be an effective method of integration, which it does not appear to be, the likelihood of the adoption of soft law measures to integrate the obligations appears unlikely, at least in relation to the COP itself or jointly between the two regime bodies.

4.8. Conclusion

At the regime level there does appear to be benefits of, a need, and possibility for a greater integration between international human rights and climate change law. There appears to be benefits to be gained from integrating the two regimes given the significant advantages offered by the human rights system, given that it has an unparalleled level of detail that can guide implementation and development of climate change law. Furthermore the human rights approach is generally accepted by the international community and an integrated approach is already being advocated for by SIDS. As such, integration of the two regimes may garner more enthusiasm by states to implement climate change obligations as most states are bound by human rights to at least some degree. Adopting an integrated approach might reinforce the

notion of extra-territorial obligations, making the two regimes more effective in addressing water scarcity exacerbated by climate change on the ground.

Integration also appears to be needed. This is indicated by the norm conflict that arises between the two sets of obligations. The opportunity for norm conflict in practice is exemplified by the phenomena of carbon outsourcing/emissions trading and biofuel production. There are also fundamental differences between the two regimes in terms of the application of intergenerational equity, given that the human rights law approach to the principle is not settled. Integration of the two regimes would resolve the norm conflict and clarify the content of the obligations which might facilitate state implementation of the laws in practice. Should integration be pursued, the potential norm conflicts would have to be addressed at the stage of integration through congruent interpretation of the normative content of the respective obligations in question. This would ensure that human rights violations like those experienced in relation to carbon outsourcing in Uganda and biofuel production in Indonesia and Borneo would be avoided.

The two regimes both regulate water supply and frequently overlap in that regulation. The instances in which they overlap in congruent manners and consequently impose coherent obligations indicate that there is the possibility for integration of the two regimes. In other words, the coherence of some obligations indicates that the two regimes are not so fundamentally different so as to clash to such a great degree that integration would be made impossible. Integration of the coherent obligations may facilitate state implementation of the obligations in question, as the two sets of obligations would be streamlined into one which could allow for concerted action in implementation. Integration would also require some issuance of interpretative guidance on how the two sets of obligations influence each other and how they are to be interpreted in light of their inter-relationship.

As such, there are clear benefits of, need, and possibility for integration of the two regimes. Integration at the regime level could be achieved through two methods, the adoption of a new treaty or through the issuance of authoritative interpretative guidance. In light of the struggle to achieve inclusion of human rights at all in the Paris Agreement, the adoption of a new treaty integrating the two regimes into one appears unlikely. It also raises concerns regarding effectiveness given historical reluctance among states to accept integrative efforts derived from the international human rights framework. The issuance of authoritative guidance on this issue, however, may be preferable. Such authoritative guidance would not be legally binding on states and may not result in a great degree of implementation, if the previous acceptance of such guidance in regards to human rights and climate change is any indication.

Furthermore, while the adoption of this method appears somewhat more likely than the treaty option, the likelihood still appears relatively slim. Thus integration is certainly beneficial, needed, and possible, yet may be a struggle to achieve in practice in terms of regime-level adoption.

Part Two. Implementation Level

This part of the submission aims to answer the implementation-level aspect of the research question. It is clear from the foregoing considerations in Part One that there is disconnect between human rights and climate change laws and that this results in an overlap between the laws, which creates similarities as well as possibilities for conflict between the two regimes. The question arises as to whether this disjointed quality of the law impacts the enjoyment of water on the ground level. Both human rights and climate change law attempt to address the issue of water scarcity, either directly or indirectly. As such if the two regimes are functioning properly at the ground level there should be universal enjoyment of water. In order to examine whether or not this is in fact the case, the national situation of Tuvalu will be considered. Adopting a country-specific lens allows one to not only see how climate change can exacerbate the physical issue of water scarcity, but also how this impacts human life through the lens of human rights components and obligations in practice. The country context also illustrates how the state itself and external actors attempt to address water scarcity through the implementation of various projects. When examining the projects implemented in Tuvalu, consideration will be made of to what extent human rights and climate change obligations are implemented. Whether or not the obligations are actually implemented through the programmes indicate whether or not a regime-level integration solution as that discussed in Part One above would also resolve the water scarcity problems on the ground in Tuvalu. If the laws are not actually being implemented in the national context, this suggests that regime-level integration would not create any greater enjoyment of water on the ground level. It will be concluded that the majority of the implementation level work being carried out focuses on development commitments as opposed to the fulfilment of either human rights or climate change obligations. As such solutions aimed at human rights and climate change integration into development methods might be more appropriate in terms of securing actual enjoyment of water for Tuvaluans. Part Two concludes with discussions of what types of development measures might be most appropriate in attempting to address the water scarcity issues experienced on the ground in Tuvalu.

Chapter 5. Country Context: Water Supply in Tuvalu

5.1. Introduction

Water scarcity is not a new phenomenon in Tuvalu but the consequences of climate change such as changes in rainfall patterns and sea level rise are expected to place additional stress on the water supply. This chapter is divided into several subsections which will outline country information, an overview of the current state of freshwater availability, the anticipated exacerbation of climate change on water scarcity, and an interpretation of the situation in Tuvalu from a human rights perspective. It will be concluded that the already stressed water supply in Tuvalu will worsen with the onset of climate change impacts. The current state of water shortage combined with the exacerbation of the issue by climate change poses serious challenges to Tuvalu in terms of the state satisfying its human rights obligations in ways that actually realise the right to water for those living in the state.

5.2. Tuvalu: country information

Tuvalu is a small sovereign state in the South Pacific made up of nine small islands. The estimated population is just under 11,000 and the majority of these people live either on the islands Funafuti or Vaitupu,[314] with approximately 42% of the population residing in Funafuti, the state's capitol and only urbanized area.[315] Given the state's small physical size the population invariably lives in coastal areas.[316] Tuvalu is among the smallest sovereign nations in the world, being third smallest by population and fourth smallest by land area,[317] with its total land area measuring at approximately 26 km^2.[318] The small physical size has resulted in overpopulation and crowding.[319] The state is deemed "extremely vulnerable to the adverse

[314] AC (Tuvalu) [2014] NZIPT 800517-520 para 6-8.
[315] McAdam (n 11) 125.
[316] AC Tuvalu (n 314) para 7.
[317] SR Tuvalu (n 10) 3.
[318] Government of Tuvalu, 'Intended Nationally Determined Contributions' (UNFCCC, 27 November 2015) <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Tuvalu/1/TUVALU%20INDC.pdf> accessed 2 April 2017 5.
[319] McAdam (n 11) 124.

impacts of climate change, variability, and extreme weather events",[320] partially due to its small size but also its low level of land elevation. The highest point of elevation is 4.6 metres above sea level.[321] These physical features make the state particularly vulnerable to sea level rise, as it poses threats of inundation and saltwater intrusion.[322] The threat is so significant that the Intergovernmental Panel on Climate Change (IPCC) and other experts have concluded that with the current rate of rising sea levels, Tuvalu might disappear entirely within the coming 50 years and will likely become uninhabitable before then, partially due to lack of potable water sources.[323]

The population's livelihood is intimately linked to the physical attributes of the territory, as the country experiences a wet season, which causes damage to agriculture and food sources, and a dry season, which has negative implications on freshwater resources.[324] The state also has the smallest gross domestic product (GDP) of any sovereign state[325] and is categorized as a least developed country.[326] Unemployment is rampant among the population, with only approximately 30% being employed.[327] Tuvalu relies heavily on imported fuel and food, which makes the country vulnerable to price fluctuations on those goods.[328] Furthermore, it relies on foreign aid to a great degree, partially due to the low employment rates[329] and partially given that the primary economic activities are fishing and subsistence farming,[330] which are impacted by environmental variability. Given this limited economic capacity, Tuvalu is vulnerable to adverse impacts of climate change that have economic repercussions, such as damage to infrastructure due to climate change-related cyclones. Thus, Tuvalu is dually vulnerable to climate change, both to the likelihood of severe impacts of climate events due to its small size, low level of land elevation, and heavy dependence on weather for the sustainability of life, but also to economic repercussions of climate events. Ironically, despite being particularly vulnerable to the adverse impacts of climate change, Tuvalu makes a negligible contribution to the phenomenon, as it is reportedly responsible for less than 0.000005% of global GHG

[320] UNDP, 'Tuvalu National Adaptation Programme of Action (NAPA)' (*UNDP*) <http://adaptation-undp.org/projects/tuvalu-napa> accessed 3 April 2017.
[321] SR Tuvalu (n 10) 3.
[322] INDC Tuvalu (n 318) 4.
[323] SR Tuvalu (n 10) 15.
[324] UNDP NAPA Tuvalu (n 320).
[325] INDC Tuvalu (n 318) 5.
[326] SR Tuvalu (n 10) 3.
[327] McAdam (n 11) 125.
[328] INDC Tuvalu (n 318) 5.
[329] McAdam (n 11)126.
[330] UNDP NAPA Tuvalu (n 320).

emissions.[331] The particular vulnerability of Tuvalu in regards to climate change, particularly concerning freshwater resources, will be considered in further detail in section 5.4. below.

In regards to international commitments, Tuvalu is a UN member. However, of the core human rights treaties Tuvalu has only ratified the CEDAW and the CRC. As such the state has refrained from ratifying the core covenants[332] but is bound human rights norms which form part of customary international law and must respect the Universal Declaration of Human Rights.[333]

5.3. Freshwater in Tuvalu at present

Availability of freshwater is vital for the sustenance of life in any nation. It is crucial not only for purposes of direct consumption but also for hygiene and food production and preparation, among others. Tuvalu experiences significant challenges in regards to freshwater availability, particularly in terms of quantity and quality. This sub-section will provide an overview of what these challenges are and the reasons behind their existence.

Tuvalu has not been naturally gifted in terms of freshwater resources. The state has no surface water whatsoever[334] and as such the main source of freshwater is rainwater.[335] The reliance on rainfall makes the country vulnerable to prolonged periods of low rainfall days or drought, as this impacts the quantity of freshwater available. This vulnerability to weather patterns is problematic, as droughts of up to three months or longer are not rare, particularly in the northern Tuvaluan islands.[336] Not only are droughts not uncommon, but they have in the recent past formed the basis for the government issuing declarations of state of emergency. Groundwater was previously used a secondary source of non-potable freshwater, however saltwater intrusion caused by rising sea levels[337] and pollution from poor waste management[338] has spoiled the groundwater as a viable alternative. Unfortunately this means that rainwater now constitutes the only viable source of freshwater directly available to the Tuvaluans. The depletion of the groundwater source is problematic for direct consumption as well as food

[331] INDC Tuvalu (n 318) 4.
[332] Namely the ICCPR (n 27) and ICESCR (n 19).
[333] SR Tuvalu (n 10) 4.
[334] Department of Environment: Ministry of natural resources, environment, agriculture and lands, 'Tuvalu's National Adaptation Programme of Action' (SIDS 2014, May 2007) <http://www.sids2014.org/content/documents/162NAPA.pdf> accessed 2 April 2017 19.
[335] UNDP NAPA Tuvalu (n 320).
[336] NAPA Tuvalu (n 334) 12.
[337] UNDP NAPA Tuvalu (n 320).
[338] SR Tuvalu (n 10) 7.

availability and related economic opportunity in the state as groundwater is the primary freshwater source for agricultural activity.[339] The limitation placed on food productivity in this regard has led to greater reliance on food import, which again makes the state vulnerable economically to price fluctuation.[340] The availability of freshwater is also negatively impacted by cyclones and hurricanes, which are not uncommon in the state.[341]

The freshwater facilities on Tuvalu are not centralized. Harvesting and storing freshwater is the responsibility of individuals themselves and is done by private households for their own consumption.[342] Water is collected through catching systems installed on iron house roofs and stored in external tanks.[343] The harvesting and storing is done either privately per household or communally, but is arranged by individuals themselves regardless.[344] The harvesting system is problematic in a number of ways. Firstly, the success of the system in providing individuals with a sufficient quantity of freshwater depends entirely on the amount of rainfall in a given period. Secondly, the method cannot be used on outer islands where thatched roofs as opposed to iron roofs are used, which makes them unsuitable for harvesting potable water,[345] thus the outer islands struggle with low capacity to harvest and store water.[346] Furthermore, given that the harvesting and storing system is not centralized, maintenance of the systems is an individual responsibility. Maintenance of the system demands funds which may exceed the financial capacity of many, which in turn leads to the mechanisms breaking and not being fixed, being disconnected, or being mounted improperly.[347] The harvesting system also results in unequal enjoyment of freshwater as the harvesting system depends on roof size. This essentially results in poorer persons who tend to live in smaller houses in larger numbers are able to harvest less water than richer persons who tend to live in bigger houses in smaller numbers, as the size of the roof depends on the size of the house.[348] As such, the system currently in place results in inequality due to economic circumstance or geographical residence (outer or inner islands) in practice. Moreover, the water collected and stored is not directly potable, but must be boiled in order to be appropriate for consumption.[349] This also has economic implications as not everyone has the financial resources to pay for fuel or wood to

[339] ibid 27.
[340] ibid 28.
[341] ibid 13.
[342] ibid 19.
[343] ibid 32.
[344] SR Tuvalu (n 10) 6.
[345] NAPA Tuvalu (n 334) 32.
[346] SR Tuvalu (n 10) 7.
[347] ibid 8.
[348] ibid 7.
[349] ibid 8.

boil the water collected.[350] Finally, the system is reportedly not at full capacity and as such people's needs are not being fully met, even when there is sufficient rainfall in Tuvalu to meet those needs.[351]

The harvesting and storing system currently in place is vulnerable to a heightened demand for water resources, as the system itself is flawed in a number of ways and an increased demand would stress the already pressured system. Population growth would increase the demand on the already limited supply of freshwater in the state.[352] Unfortunately, the state is indeed experiencing an increase in public need due to population growth, with an annual population growth of 0.2%.[353] Not only does population growth increase demand for freshwater but also results in the "over pumping of groundwater, excessive damming … and increasing pollution" which increases the strain placed on the resources.[354] Water quality, as well as quantity, might also be impacted by population growth as this leads to an increase in waste production, which might contaminate the available freshwater. Poor water quality in turn leads to health risks as it contributes to water-borne illnesses.[355] Funafuti experiences water scarcity both in the wet and dry season,[356] thus the demand there is particularly high. Unfortunately the demand is further exacerbated by population drift[357] which is currently taking place due to limited agricultural opportunities and consequentially increased reliance on imported foods,[358] resulting in persons moving from the outer islands to Funafuti. This has resulted in overcrowding and an increase in squatter settlements in the capitol and consequent stresses on water resources.[359] This issue is difficult to address as there is reportedly no spare space on Funafuti to install more water tanks and as such the city is at maximum capacity in physical terms.[360] The state does have water reserves which are stored in major public buildings, however due to the public demand and the failure of the harvesting and storing systems to adequately meet people's needs, these reserve resources are distributed daily.[361] Furthermore,

[350] ibid 9.
[351] ibid 9.
[352] Mary-Elena Carr and others , Sea Level Rise in a Changing Climate: What Do We Know? in Michael B Gerrard and Gregory E Wannier (eds), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge University Press 2013) 49.
[353] The World Bank, 'Population growth (annual %) ' (The World Bank, 2016) <http://data.worldbank.org/indicator/SP.POP.GROW> accessed 2 April 2017.
[354] Carr (n 352) 47.
[355] ibid 49.
[356] NAPA Tuvalu (n 334) 19.
[357] Carr (n 352) 47.
[358] McAdam (n 11) 125.
[359] SR Tuvalu (n 10) 7.
[360] ibid.
[361] NAPA Tuvalu (n 334) 19.

desalinsation technology was introduced in the country in order to address drought disasters, which was effective in meeting the public need previously, but with the increasing urbanization of Funafuti, this will be insufficient in meeting the increased demand.[362] An additional issue in this regard is that the desalinated water is sold by the Ministry of Public Utilities at United States Dollars (USD) $15 for 10,000 litres,[363] which may not be affordable to all.

It is clear that there are multiple issues in regards to the availability of freshwater in Tuvalu. These issues partially stem from the physical attributes of the country in that the state has no surface water and salinity intrusion and other pollution depletes groundwater resources, resulting in dependence on rainwater. However, some issues are governance-related. By not having a centralized water system, poor waste management resulting in contaminated groundwater, and failure to secure a harvesting and storing system that satisfies public need, there are significant gaps in Tuvaluan governance which negatively affect the availability and quality of the freshwater resources.

5.4. Exacerbation of water scarcity by climate change

Water scarcity already constitutes a significant challenge in Tuvalu and any additional stress on the resource is likely the last thing that the country needs. Nevertheless the state's particular vulnerability to climate change will likely exacerbate the situation. While not all the challenges posed to water availability are attributable to physical attributes of the state territory, some are, and these will likely be impacted by climate change. Due to the natural aspect of water shortage in Tuvalu, this section will consider what the future is expected to hold for Tuvalu in light of climate change impacts. Many of the impacts will affect water scarcity directly, in terms of physical phenomena such as drought or extreme weather events, but some will also affect water scarcity indirectly by impacting the state's adaptability to new environmental circumstances. Thus, both physical and governance-related impacts of climate change on water availability will be considered below.

Tuvalu is "extremely vulnerable to the adverse impacts of climate change, variability, and extreme weather events".[364] A number of aspects make the state particularly vulnerable, including growing population, depletion of groundwater as a freshwater source, and the

[362] ibid 28.
[363] SR Tuvalu (n 10) 9.
[364] UNDP NAPA Tuvalu (n 320).

inadequacy of water services.[365] The state is additionally vulnerable due to its small physical size and low level of land elevation of the islands. This results in a threat of a fundamental nature to the actual existence of the state territory, as rising sea levels threatens complete submergence of the state territory. As such climate change is identified by the state as "the greatest threat to the physical state and its population".[366] The grave nature of the threat is also acknowledged by the IPCC, by recognising the real risk of physical state disappearance within 50 years.[367] Given the nature of the threat, the government identifies mitigation as their primary interest in climate change work.[368] In working with climate change mitigation, reaching an international agreement to cut GHG emissions is identified as pivotal in securing Tuvalu's development and ability to survive.[369] As such, Tuvalu acknowledges the pressing need for mitigation measures to be adopted, both by the state itself and by the international community and collectivity of states.

Despite the emphasis placed on mitigation, the state recognizes the need for adaptation measures given the significant threat of climate change on the inhabitability of the state. One of the key areas of vulnerability for Tuvalu in regards to inhabitability is the already limited freshwater supply. The limited water supply will likely be exacerbated by the impacts of climate change[370] and, given the crucial importance of freshwater availability to human life, this poses a significant challenge in terms of climate change adaptation for the state. The seriousness of the threat to freshwater availability is reflected by the fact that water quality is categorized as a priority area for climate change adaptation in Tuvalu.[371] The state calls for international cooperation in regards to adaptation, as well as mitigation, by arguing that the state needs help in becoming resilient to climate change and achieving sustainable development in light of the challenges of climate change,[372] but does not specify what particular support is needed from the international community.

As stated above, Tuvalu will be impacted in a number of ways by climate change. One impact is the depletion of freshwater resources due to physical attributes of the nation rendering the state vulnerable to climate change. It is noteworthy that it has been recognized by Tuvalu that the effects of climate change need to be studied further in order to be certain of the expected

[365] McAdam (n 11) 126.
[366] INDC Tuvalu (n 318) 9.
[367] SR Tuvalu (n 10) 15.
[368] INDC Tuvalu (n 318) 2 and 4.
[369] ibid 10.
[370] UNDP NAPA Tuvalu (n 320).
[371] ibid.
[372] INDC Tuvalu (n 318) 9.

impacts of climate change on the territory, but from current predictions the consequences of climate change on freshwater availability outlined below can be deduced.[373] There are two ways in which freshwater availability will be impacted in the state, namely by impacts on rainwater and impacts on groundwater. As such the effects of climate change on the two sources will be considered in turn.

Rainwater is the primary source of freshwater in Tuvalu. As discussed in subsection 5.3. above, individuals harvest and store rainwater for personal use, primarily for direct consumption, cooking, and hygiene-related needs. Due to the reliance on rainwater any fluctuation in weather patterns resulting in variation in the number of rainfall days will have a negative impact on water availability in the country. Climate change is anticipated to increase precipitation variability.[374] This increase in variability is expected to result in increased incidents of flooding in some parts of Tuvalu and droughts in others which will threaten freshwater supply.[375] Funafuti currently experiences drought periodically. Climate change is expected to exacerbate this, as Funafuti is anticipated to experience an increase in low rainfall days and prolonged drought.[376] This will have a significant impact on the population as a large portion of the population resides in the capitol. Not only those living in Funafuti will be affected as the severity and frequency of drought is expected increase in Tuvalu generally as a result of climate change,[377] particularly for the northern islands.[378] Of particular concern is the anticipated coincidence of climate change-induced drought and the El Niño period. Tuvalu frequently experiences water shortage during the El Niño period, which has resulted in droughts so severe so as to warrant declarations of national emergencies in the past.[379] The exacerbation of climate change on the limited rainfall of said period will likely result in prolonged and severe water shortage in the nation.[380] Furthermore the rainfall patterns are expected to become more inconsistent with climate change which will adversely impact the ability of individuals to plan their freshwater consumption and use.[381] This unpredictability will undoubtedly have negative impacts on availability of freshwater.[382] Furthermore cyclones can have adverse impacts on freshwater quality which poses a significant threat to freshwater supply in Tuvalu, as the

[373] NAPA Tuvalu (n 334) 24.
[374] Zbigniew W Kundzewicz and Luis José Mata, Freshwater resources and their management in Martin Parry *et al* (ed), *Climate Change 2007: Impacts, Adaptation and Vulnerability* (Cambridge University Press 2007) 180.
[375] McAdam (n 11) 126.
[376] NAPA Tuvalu (n 334) 21.
[377] ibid 24.
[378] ibid 32.
[379] Once in 1999 (see NAPA Tuvalu (n 334)) and once in 2011 (see SR Tuvalu (n 10) 13).
[380] NAPA Tuvalu (n 334) 25.
[381] ibid 22.
[382] ibid 25.

frequency and severity of cyclones is expected increase as a result of climate change.[383] These predicted impacts of climate change will, in sum, have serious consequences on the availability and quality of freshwater in the state, which is stressed even without climate change exacerbating the issue. A decrease in rainfall and consequently freshwater supply will have negative impacts on, *inter alia,* human health and agriculture and food security.[384]

Groundwater has previously been used as a secondary source of non-potable groundwater and as the primary water source in agriculture.[385] As discussed above, groundwater has been spoiled as a freshwater source due to saltwater intrusion in the soil and pollution from poor waste management. The saltwater intrusion and consequent depletion of the freshwater lens is linked to rising sea levels as an adverse consequence of climate change.[386] It is anticipated that this intrusion will continue to accompany rising sea levels.[387] This intrusion has negative impacts on food productivity in the state, due to the challenges that saltwater intrusion in groundwater and soil pose to agriculture,[388] and consequently leads to heavier reliance on imported food.[389] An additional stress on groundwater as a source for freshwater is the increase in seriousness and danger of storm surges which appears to be occurring, which leads to groundwater contamination.[390]

Weaknesses in the economic and institutional capacities of the state will likely worsen the effect of the physical adverse impacts of climate change in the state. As stated above, more severe weather events, such as cyclones, are expected to occur as a result of climate change. These weather events are expected to stress water infrastructure.[391] Infrastructure in the state was, for example, severely damaged as a result of Cyclone Pam in early 2015.[392] Addressing the damage caused by such events is costly, as illustrated by the cost of the damage done by Cyclone Pam which was estimated to amount to 30% of Tuvalu's GDP.[393] It is clear that the state would be unable to cover such costs repeatedly with more frequent occurrences of extreme

[383] McAdam (n 11) 126, SR Tuvalu (n 10)14.
[384] Carr (n 352) 44.
[385] NAPA Tuvalu (n 334) 27.
[386] UN Human Rights Council: Working Group on the Universal Periodic Review, *Compilation prepared by the Office of the High Commissioner for Human Rights in accordance with paragraph 5 of the annex to Human Rights Council resolution 16/21: Tuvalu* 22 April-3 May A/HRC/WG.6/16/TUV/2, 11.
[387] NAPA Tuvalu (n 334) 27.
[388] McAdam (n 11) 126.
[389] NAPA Tuvalu (n 334) 24 and 28.
[390] ibid 32.
[391] ibid 24.
[392] The World Bank, 'Tuvalu Gets Continued Support for Cyclone Pam Recovery' (*The World Bank*, 15 September 2015)<http://www.worldbank.org/en/news/press-release/2015/09/15/tuvalu-gets-continued-support-for-cyclone-pam-recovery> accessed 27 March 2017.
[393] ibid.

weather events, given that the state was unable to cover the cost of just one extreme event themselves and was as such awarded a USD $3 million grant by the World Bank to address the damage done by Cyclone Pam.[394] Furthermore, individuals would likely be unable to address their personal costs of repairing and damage done to private infrastructure, given that many people already struggle with maintaining and repairing their water harvesting and collecting systems due to financial limitations. The state's approach to water availability as a private rather than public responsibility may furthermore be a sign of limited institutional capacity in the country, which is identified as one of the key vulnerabilities of Tuvalu to climate change.[395] An additional, related key vulnerability is limited national economic resources.[396] Heavy reliance on natural resources, high unemployment rates, and income inequality have been identified as factors which render economies vulnerable to natural disasters,[397] all of which are attributes of Tuvalu. The magnitude of costs of infrastructure repair and settlement protection which will be needed as a result of climate change impacts will pose significant challenges for Tuvalu due to these limited economic resources.[398] The combination of limited economic resources and limited institutional capacity will likely make it difficult for the state to adapt to climate change and address damage done by weather events, as it will be too costly and difficulties will arise in terms of organizing response. Furthermore development in the country, which would address the issue of limited national economic resources, will likely be hampered by climate change.[399] The issues faced are therefore cyclical. Measures aimed either at adaptation or at mitigation might help break the cycle and allow the state to escape its economic and institutional vulnerability to climate change. However, it appears that Tuvalu cannot adopt these measures on its own but needs assistance from the international community. To what degree helpful assistance is being provided will be discussed in the following chapter.

It should be noted that climate change is not only viewed as a threat to the future of Tuvalu by the state and the stakeholders, but it is also considered a present reality.[400] Although stakeholders in the state tend to have limited knowledge of climate change itself, they report that climate change is a reality in Tuvalu at present and that the impacts are worsening.[401] They report that they have experienced changes in rainfall patterns which has led water shortage,[402]

[394] ibid.
[395] NAPA Tuvalu (n 334) 21, Carr (n 352) 52.
[396] NAPA Tuvalu (n 334) 21.
[397] Carr (n 352) 51-52.
[398] SR Tuvalu (n 10) 14.
[399] ibid.
[400] INDC Tuvalu (n 318) 9, NAPA Tuvalu (n 334) 23.
[401] NAPA Tuvalu (n 334) 33.
[402] ibid 33.

food shortage, and land loss.[403] Stakeholder accounts also highlight the increase in prevalence and frequency of extreme weather events, such as drought.[404] There appears to be a consensus in the country as a whole, both among the population and the state, that climate change is a real, present, and pressing threat, and that it has serious impacts on freshwater supply. The state's approach in its National Adaptation Programme of Action (NAPA) reflects this acknowledgment, as it identifies water shortage as a vital climate change vulnerability and sea level rise and saltwater intrusion as the key stresses and risks in this regard.[405] Additionally, while the state identifies mitigation as its primary priority,[406] it stresses the need for adaptation measures in light of the climate change threat to, inter alia, freshwater sources.[407] In light of the foregoing it is clear that climate change poses a significant threat to not only to the continued existence of the nation's territory, but to the inhabitability of the country. It is also clear that this threat is not abstract and distant but real and current.

5.5. The human rights lens: human rights applied to water in Tuvalu

If states comply fully with their obligations under international human rights law, in theory there should be universal enjoyment of all components of human rights. Whether this is in fact the case in light of the new circumstances emanating from the adverse impacts of climate change will be examined through a consideration of the realisation of the right to water in Tuvalu. Should the right to water not be realised in Tuvalu partially due to the adverse impacts of climate change, this may be an early indication of the failure of the two regime's abilities to protect individuals from dangerous interference with the sustenance of life. This subsection will examine whether Tuvalu is complying with its human rights obligations and what the consequences are of the obligations not being satisfied. This consideration is being carried out as the application of a human rights approach to country contexts can highlight fundamental issues in terms of human life that other approaches may not. It highlights, in particular, issues of *de facto* discrimination and inequality in the enjoyment of water. Furthermore the human rights framework is a generally accepted approach of understanding the

[403] SR Tuvalu (n 10) 14.
[404] NAPA Tuvalu (n 334) 33.
[405] ibid 19: Table 4. Climate change vulnerabilities in several sectors in Tuvalu.
[406] INDC Tuvalu (n 318) 2 and 4.
[407] UNDP NAPA Tuvalu (n 320).

nuances of human existence, given its level of detail in terms of content and the almost universal acceptance of at least some human rights obligations.[408] Thus the text below is intended to highlight the issues in regards to Tuvaluan water scarcity as exacerbated by climate change as they affect human life.

One of the primary concerns in relation to the right to water in Tuvalu is the availability of freshwater. As discussed above, freshwater is a scarce resource in the state. The ability of the Tuvaluan government to satisfy the availability requirement, which demands a sufficient quantity and continuity of water for personal and domestic uses, is being quashed by climate change. Changes in rainfall patterns as well as sea level rise, believed to be caused by climate change, and related internal migration has led to an increased burden placed on freshwater resources which have consequently been depleted in the state overall but particularly in Funafuti. This will have impacts on the enjoyment of the right to water in the state among individuals as the quantity of water is being depleted, which will frustrate the state's ability to fulfil the quantity component of the right to water.

The quality of the right to water is also being severely impacted by climate change. Sea level and temperature rise is expected to detrimentally impact the quality of water in Tuvalu as it is anticipated that these will result in increases in water- and vector-borne diseases.[409] As discussed previously water quality is expected to worsen due to pollution stemming from increase in floods, droughts, and salinity intrusion into groundwater as climate change progresses.[410] As such climate change threatens not only availability of water but also the quality of water in Tuvalu.

The depletion of quantity and quality of water resulting from climate change raises concerns in relation to the state's ability to satisfy its obligations to protect and fulfil the right to water. Climate change can be attributed primarily to third parties, as Tuvalu itself contributes only marginally to the climate change phenomenon.[411] Given that climate change is exacerbating the water scarcity already prevalent in Tuvalu, as well as threatening the water quality in the country, it appears logical that the Tuvaluan state has an obligation to prevent third parties from contributing to climate change. Tuvalu can itself, of course, not prevent anthropogenic climate change from taking place as this is entirely beyond any one nation's control. As such if the obligation to protect the right to water is to apply in light of climate

[408] Knox (n 16) 24-25.
[409] SR Tuvalu (n 10) para 14.
[410] High Commissioner 2007 (n 57) para 20-21.
[411] INDC Tuvalu (n 318) 4.

change circumstances, the state must attempt to prevent third parties, such as other states and private parties, from contributing to climate change. This is, of course, also beyond the control of a third party state, as it does not have the mandate to dictate what other states can and cannot do. As such, the obligation to protect the right to water in light of climate change must be interpreted to demand that Tuvalu attempts to use its influence to encourage other states to mitigate their release of GHG emissions. Tuvalu's attempt to do so is indicated by its membership in the international climate change instruments. It is furthermore indicated by Tuvalu's membership to the Alliance of Small Island States which has traditionally advocated for the goal of climate change mitigation to be limiting global warming to 1.5° Celsius above pre-industrial levels as an absolute maximum.[412] Additionally the state's call for international cooperation in regards to adaptation and mitigation in its INDC[413] indicates an attempt to satisfy the obligation to protect the right to water. Whether or not the commitments undertaken by the parties to the instruments will be successful in minimising the adverse impacts of climate change on water scarcity in Tuvalu is yet unknown.

The success of the Tuvaluan state in satisfying the obligation to protect the right to water depends on whether the obligation is considered an obligation of conduct or result. The obligation of conduct is satisfied given the effort to secure mitigation and adaptation exercised by the Tuvaluan state. Nevertheless, climate change is currently impacting the realisation of the right to water in terms of depletion of the freshwater resource in terms of quantity and quality. Thus, despite the state taking steps to ensure that GHG emissions are reduced, water is still not being enjoyed fully by Tuvaluans. Thus it appears that should the climate change regime be unsuccessful in mitigating the adverse impact of climate change, Tuvalu will be unable to fulfil its obligation to protect the right to water in its territory rendering individuals unable to access sufficient quantity of water of an acceptable quality.

Tuvalu further has an obligation to fulfil the right to water in the state. The obligation can be disaggregated into three sub-obligations, namely to facilitate, promote, and provide. The obligations to facilitate and provide are arguably of the greatest importance in the Tuvaluan context in light of climate change. The obligation to facilitate demands that positive

[412] Thoriq Ibrahim, 'UN General Assembly offers 'last chance' for climate leadership' (*Alliance of Small Island States*, 28 September 2015) <http://aosis.org/un-general-assembly-offers-last-chance-for-climate-leadership/> accessed 14 May 2017, also seen in Tuvalu's declaration upon ratification of the Paris Agreement which stated that " [t]he Government of Tuvalu further declares that, in light of the best available scientific information and assessment on climate change and its impacts, it considers the emissions reduction obligations in the aforesaid Paris Agreement to be inadequate to prevent a global temperature stabilisation level at or above 1.5 degrees Celsius relative to pre-industrial levels and as a consequence, such emissions will have severe implications for our national interests", source: Climate Analytics (n 245).
[413] INDC Tuvalu (n 318) 9.

measures are taken to ensure that individuals and communities gain access to water, for example by building appropriate infrastructure.[414] Given that climate change has resulted in the depletion of groundwater as a viable source of freshwater, the Tuvaluan population now relies solely on harvesting rainwater. As such water harvesting systems are needed in order to secure the availability of water. With the assistance of the international community, water harvesting systems were installed. Issues arose in their installation as it resulted in *de facto* inequality, as poorer households, who tend to live in smaller houses in greater numbers, are unable to harvest as much water as richer households, as harvesting was based on house and roof size.[415] Additionally those living on the outer islands were unable to enjoy the harvesting systems due to a difference in material used between the inner and outer islands, resulting in a *de facto* inequality of water enjoyment between rural and urban dwellers.[416]

Issues also arose in relation to the affordability of the water harvesting systems in relation to both water availability and quality. The maintenance of the systems was left to individuals, who cannot always afford to repair the systems when they break, resulting in an inability to harvest water through the system at all.[417] Furthermore, the tanks provided do not sanitise the water harvested and the water must, as such, be boiled prior to consumption. The resources necessary for boiling the water are not always available to individuals, resulting in their ability to harvest water but not being able to boil it to make it potable.[418] As stated in chapter 2 above, under international human rights law inequality in enjoyment of the right to water due to housing or land status, including due to financial considerations and location (i.e. rural vs urban) is to be avoided.[419] These issues that arose highlight the importance of a comprehensive plan taking into account all aspects of the right to water when implementing assistance projects. Without taking into consideration those most vulnerable in society, such as the poor or those living in rural settings, when designing and implementing a strategy aimed at securing water supply, issues of inequality are bound to arise. Adopting a human rights-based approach in project planning would resolve such concerns and ensure that water supply is made available to all.

The obligation to provide also raises concern in relation to water scarcity in Tuvalu. Generally the obligation to fulfil does not demand that states provide services directly,

[414] High Commissioner 2007 (n 57) para 40, General Comment 15 (n 32) para 25.
[415] SR Tuvalu (n 10) para 16.
[416] NAPA Tuvalu (n 334) 32 and UN Human Rights Council, SR Tuvalu (n 10) 7.
[417] SR Tuvalu (n 10) para 22.
[418] ibid.
[419] General Comment 15 (n 32) para 16(c).

but if individuals are unable to access safe drinking water for reasons beyond their control states have an obligation to provide access to safe drinking water by using the means at their disposal.[420] This is not too problematic at present, however it is not difficult to envision a future where it will be. Should the adverse impacts of climate change persist and worsen, it is entirely possible that Tuvalu will periodically experience droughts resulting in no rainwater being available whatsoever, as well as sea level and temperature rise and flooding polluting groundwater. This would mean that, within the state territory itself, no freshwater would be available to provide to the population. As such, the government would need to request international assistance periodically in order to satisfy the obligation to fulfil the right to water. The provision of resources by the international community is, however, entirely subject to their own volition. The third party states are said to have human rights obligations that apply extra-territorially, yet their applicability remains contested.[421] Thus Tuvalu could argue that it is entitled to assistance from the international community by virtue of the extra-territorial applicability of the obligation to fulfil the right to water, whereby the collectivity of states must provide water resources and other assistance when necessary.[422] Given the contested nature of such obligations, the success of such an argument is questionable. As will be discussed in the following chapter, states have a tendency to prefer provision of assistance under their development commitments rather than their human rights or climate change obligations. As such Tuvalu could request development assistance in view of satisfying its obligations to provide the right to water. This would render Tuvalu and its population entirely dependent on third party states willingness to assist them and might, if a human rights approach is not adopted to non-discrimination and attention to vulnerable groups, result in perpetuation of the unequal enjoyment of water. Such dependence would make the state vulnerable to the whims of others and there would be no guarantee that water would be made available to the Tuvaluan people, leaving their right to water unrealised.

5.6. Conclusion

Water scarcity is an ongoing problem in Tuvalu. This scarcity stems primarily from environmental factors, namely the non-existence of surface water on the state territory as

[420] High Commissioner 2007 (n 57) para 40, General Comment 15 (n 32) para25.
[421] Skogly (n 128) and Cahill (n 128).
[422] General Comment 15 (n 32) para25 para 31.

well as limited rainfall and saltwater intrusion in groundwater. However, the scarcity also partially stems from the limited water infrastructure in place in the country. The water supply is not centralised but water is collected on a private basis through harvesting and storing systems based on roof size and building material. The maintenance of the systems is subject to individual responsibility, which results in sub-par maintenance due to limited financial and skill capacity. Climate change is anticipated to exacerbate water scarcity through greater uncertainty regarding rainfall patterns, flooding and inundation, sea level rise resulting in saltwater intrusion in groundwater, and an increase in incidents of extreme weather events which adversely impacts water supply itself and water availability by causing damage to infrastructure. Tuvalu itself contributes only marginally to anthropogenic climate change yet is experiencing the adverse impacts of the phenomenon already and this is anticipated to worsen in time. Despite its marginal contribution to climate change, the impacts of the phenomenon are already posing serious challenges as to the satisfaction of its obligations under the right to water and these are expected to persist and worsen over time. The quantity and quality of water in Tuvalu is expected to be depleted by climate change, making it essentially impossible for the Tuvaluan government to protect and fulfil the right to water. If the ability of the state to satisfy its obligations under the right to water is rendered impossible due to climate change impacts, the right to water cannot be enjoyed by the individuals residing in Tuvalu. This leaves the population in a precarious position as the state is unable to meet its obligations without external assistance and thus cannot be considered to have breached its human rights obligations due to impossibility, yet individuals will still not enjoy water. Provided that assistance is granted by the international community, this precarious situation can be avoided, however this is not guaranteed. This raises the question as to whether greater integration of climate change laws into the human right to water obligations at the regime level might address the water scarcity issues experienced in Tuvalu. Consideration of this issue is done in the following chapter in light of the activities carried out by Tuvalu itself and external actors in Tuvalu aimed at addressing water scarcity.

Chapter 6. Implementation Level Integration

6.1. Introduction

In light of the information outlined in the foregoing chapter, it is clear that measures must be adopted in order to secure freshwater supply in Tuvalu. It is also clear that Tuvalu cannot address this issue on its own given that it needs assistance in getting access to great enough quantities of water to meet the needs of the population. This chapter will provide an overview of which measures are being adopted by national and external actors in addressing freshwater shortage in Tuvalu. It will further examine to what extent human rights and climate change considerations, particularly in relation to water are acknowledged in the assistance work in question. Presumably the reasoning behind adopting international laws on rights and climate change generally, and water in particular, stems from a common concern for humanity and a desire to safeguard human wellbeing in practice. As such this chapter considers whether those laws are being applied in practice by considering the activities undertaken in the Tuvalu context or if a different approach is adopted in the projects. Upon examination of the activities it will be clear that there is a tendency among actors to implement their activities under the development category as opposed to either the human rights or climate change regimes. It will be concluded that this tendency indicates that the laws themselves are actually not being implemented at all on the ground level and consequently an increased integration at the regime level discussed in Part One above would not alleviate the concerns currently prevalent in Tuvalu in relation to water supply. Instead alternative courses of action could be adopted to address the current inadequacy of the methods adopted by the external actors, namely through the integration of human rights and climate change principles into development sector methods.

6.2. Activities adopted by Tuvaluan state

First the measures adopted by Tuvalu itself will be considered. It is noteworthy that much of the available information on measures adopted by Tuvalu stems from the country's NAPA, which was adopted in 2007. A new NAPA was intended to be released in 2016 but this has not yet been issued. As such, new projects in mitigation and adaptation may be adopted soon. Nevertheless, the 2007 NAPA provides an insight into what measures have been adopted

to address the water scarcity experienced by the state and is as such still of value in giving insight into the type of activities implemented.

6.2.1. Mitigation measures

Tuvalu has committed itself to the battle against climate change under the Paris Agreement by submitting an INDC. The INDC focuses on mitigation action, to which Tuvalu can, in the grand scheme of the issue, not contribute a great deal given its limited current and historical contribution to the climate change phenomenon itself.[423] The emissions of GHGs by Tuvalu stem primarily from the energy, waste, and agriculture sectors.[424] In relation to mitigation Tuvalu has committed itself to energy-sector related contributions alone. The stated mitigation aim is to replace current energy source, imported petroleum products,[425] with renewable energy sources entirely by 2025.[426] In order to achieve the aim the state implemented the 1000 Solar Roof Programme in 2011 which aims to secure electricity generation through renewable sources.[427] This is to be done through the installation of photovoltaic arrays on roofs in Funafuti and on the ground as well as roofs on the outer islands, as well as the installation of wind turbines to secure energy stemming from wind generation.[428] The renewable electricity project is discussed in further detail in 6.3.1. since the project was donor funded.

The country further aimed to secure energy efficiency through introducing national legislation to that effect,[429] which was done in 2016.[430] The Act's stated purpose is to "promote, in Tuvalu, energy efficiency, energy conservation and to give effects to certain obligations that Tuvalu has under the Climate Change Conventions and related conventions."[431] This is done primarily through regulating electrical appliances in regards to the standards which they must meet, in view of fulfilling the country's obligations under the international climate change framework.[432] The Act does not address human rights at all, but does demand that the precautionary approach is applied by persons with obligations under the Act in view of

[423] Tuvalu's emissions are said to make up less than 0.000005% of global emissions, see INDC Tuvalu (n 318) 4.
[424] ibid 5.
[425] ibid 5.
[426] ibid 4.
[427] ibid 7.
[428] ibid 7.
[429] ibid 9.
[430] Energy Efficiency Act, Act No.0003 of 2016.
[431] ibid article 5.
[432] ibid article 5.

safeguarding Tuvalu's natural resources and human health.[433] This phrasing accordingly indirectly takes into account issues of water supply, as water is a natural resource and is integral to the sustenance of human health. This does not, however, indicate an inclusion of human rights obligations or considerations, but merely addresses issues of common concern to both human rights and climate change. Given that the climate change regime also addresses natural resources and human health, the provision is likely simply a reflection of climate change obligations to adhere to the precautionary principle in order to secure the objective of the climate change regime, rather than a reflection of human rights obligations. Furthermore the effectiveness of the legislation overall in securing water supply for citizens does appear relatively low as the Act addresses standards of electrical appliances and as such its link to water supply is tenuous at best. As such there is explicit implementation of climate change obligations but no implementation of human rights obligations under the right to water.

6.2.2. Adaptation measures

Despite the state identifying mitigation as its primary priority, Tuvalu has also adopted plans for adaptation projects. In the 2007 NAPA the state adopted a project profile aimed at reducing water shortages "through increasing household water capacity, water collection accessories, and water conservation techniques".[434] The project identifies two objectives. Firstly, to increase "household water storage capacity and water collecting accessories" and secondly, to increase "use of water conservation technologies".[435] The objectives are intended to be achieved through capacity building, both through training plumbers in fixing water infrastructure and training experts in conservation technologies.[436] Furthermore, material help in terms of providing water harvesting and storing structures and distribution of those structures will be used in order to achieve the objectives.[437] The plan does not address either human rights or climate change at all, either in general terms or in terms of obligations. As such the project does not appear to implement either set of international laws.

[433] ibid article 6.
[434] NAPA Tuvalu (n 334) 45.
[435] ibid 45.
[436] ibid 45.
[437] ibid 45.

6.3. Mitigation and adaptation measures adopted by external actors

In this context, "external actors" is defined as any actor which is not the Tuvaluan state itself, and as such includes *inter alia* NGOs, other states, or intergovernmental bodies. It should be noted that only activities relating to freshwater supply will be outlined, however given that mitigation activities will by extension positively impact freshwater supply, some mitigation measures will be outlined as well. The activities of the national and external actors will be considered in turn below followed by reflection on whether human rights and climate change considerations are included in the activities implemented by the actors.

6.3.1. World Bank

While the Tuvaluan state does take action to address water shortage itself, this is done with a budget that is primarily donor funded.[438] The state itself specifies that the plans require international support[439] and external actors have been forthcoming in providing support, primarily in regards to adaptation and emergency response funds. For example, following the devastation caused by Cyclone Pam in 2015 the World Bank granted the state USD $3 million for recovery efforts.[440] The World Bank has also been active in providing financial support outwith the context of disaster response, through providing Development Policy Operations (DPOs) funds which are designated for the improvement of essential services, including water supply.[441] Climate change considerations are included in the project documentation as strategic focus areas.[442] Human rights, on the other hand, are left out of the documentation entirely, as is the right to water specifically. However the DPOs fall under the development category rather than climate change or human rights and does accordingly not emanate from either of those regimes.

The implementation of the 1000 Solar Roof Programme is being carried out in conjunction with the World Bank, New Zealand, the European Union, and the United Arab

[438] UPR Tuvalu (n 386) 9.
[439] INDC Tuvalu (n 318) 10.
[440] WB Cyclone Pam (n 392).
[441] ibid.
[442] The World Bank, 'Report No 108535-TV: Program Document for a Proposed Development Policy Grant in the Amount of Equivalent to US$33 Million to Tuvalu for the Third Development Policy Operation' (*The World Bank*, 10 November 2016) <http://documents.worldbank.org/curated/en/787411481770846487/pdf/1481770841589-000A10458-PD-Tuvalu-SECPO-Edit11-10-16-11162016.pdf> accessed 15 May 2017 para 24, Box 2 point 1.

Emirates.[443] While the project forms part of the INDC, its implementation began prior to the adoption of the INDC. The INDC does not address human rights generally or the human right to water specifically, it focuses only on actual action to be taken rather than the consequences of inaction on water supply. While the energy project itself adopts a gender mainstreaming approach by acknowledging the importance of electricity in achieving gender equality[444] and includes a Gender Action Plan,[445] it does not explicitly recognise human rights. As such there is similarity in regards to approaches between that adopted by the external actors here and that demanded by human rights in terms of attention to vulnerable groups and gender equality, yet there is no actual implementation of human rights obligations. The project does, conversely, implement climate change obligations as the project forms part of Tuvalu's INDC under the Paris Agreement. As such there is implementation of one of the regimes (climate change) but not the other (human rights) in the renewable energy plan.

The World Bank also works with the Pacific Islands generally through the Pacific Possible programme, which encompasses Tuvalu. The programme consists of multiple components, one of which relates to climate change preparedness, but none specifically relate to human rights. The programme analyses vulnerabilities of the pacific countries and issues recommendations for SIDS action to address future risks of adverse impacts on the region within the context of climate change and disaster response. Freshwater availability was included within the programme, as were considerations relevant to Tuvalu specifically.[446] The programme does not appear to implement climate change obligations under the UNFCCC but rather focuses on climate change as a scientific phenomenon which must be adapted to and as such sets out a platform of action upon which SIDS like Tuvalu can base their future adaptation plans. While the programme does not recognise human rights, it does discuss the impact that climate change has on water as well as human health.[447] As with the energy plan discussed above, there are overlapping concerns between the World Bank approach and human rights law,

[443] The World Bank, 'Tuvalu Set for More Efficient and Renewable Energy' (*The World Bank*, 26 January 2015) <http://www.worldbank.org/en/news/press-release/2015/01/26/tuvalu-efficient-renewable-energy> accessed 20 March 2017.
[444] The World Bank, 'Report No: PAD662: Project Appraisal Document on a Proposed Grant in the Amount of SDR 48 Million (USD 7 Million Equivalent) and a Proposed Small Island Developing States Initiative Grant in the Amount of USD 21 Million to Tuvalu for an Energy Sector to Tuvalu for an Energy Sector Development Project ' (*The World Bank*, 30 December 2014) <http://documents.worldbank.org/curated/en/519561468102907968/pdf/PAD6620PAD0P140010Box385398B0OUO090.pdf> accessed 15 May 2017 6.
[445] ibid Annex 9.
[446] The World Bank, 'Climate and Disaster Resilience: Pacific Possible' (*The World Bank*, July 2016)<http://pubdocs.worldbank.org/en/720371469614841726/PACIFIC-POSSIBLE-Climate.pdf> accessed 3 April 2017.
[447] ibid 15.

yet the organisation does not implement human rights law in the Pacific Possible programme. As such the World Bank does not attempt to implement either human rights or climate change law through the Pacific Possible programme, but appears to consider issues relevant to both topics as part of development work.

Interestingly, the World Bank, at the time of writing, has an active programme named the Pacific Resilience Programme under which the Pacific Islands Forum Secretariat loaned $2.2 million USD from the Bank. No documents are available under the programme so what is actually being carried out and if Tuvalu is one of the countries involved remains unknown, although it is presumed that Tuvalu is involved given that it is a member of the Forum. In light of the limited information available, it is not possible to examine the inclusion of any human rights or climate change obligations concerns in the project. Nevertheless, if the projects considered above are any indication, the project likely also does not contain any reference to human rights in particular. Should references be made to climate change these likely relate more to the phenomenon of climate change rather than the obligations imposed by the UNFCCC. The project does, however, appear to focus on the water, sanitation, and food protection sector, as 42% of the funds are placed within that sector.[448] As such the project will likely have at least some positive impact on water supply in the Pacific island countries like Tuvalu. The content and impacts of the project will nevertheless remain unknown until further documentation is released and as such the interaction of the project with human rights and climate change obligations cannot be assessed.

6.3.2. Australia

Individual states have also supported Tuvalu in securing freshwater supply through their aid programmes. Australia has been particularly active in supporting Tuvalu both in terms of development assistance but also directly in relation to adaptation capacity in securing freshwater supply through their AusAid programme. As to the development assistance, approximately $2.5 million Australian dollars were granted to Tuvalu for an environment and climate change initiative between 2011 and 2016.[449] Moreover in 2016 and 2017 an estimated

[448] The World Bank, 'Pacific Resilience Program' (*The World Bank*, 19 June 2015) <http://projects.worldbank.org/P156335/?lang=en&tab=overview> accessed 15 May 2017.
[449] Australian Government, 'Environment and Climate Change in Tuvalu' (*Department of Foreign Affairs and Trade*) <http://dfat.gov.au/geo/tuvalu/development-assistance/Pages/objective-3-environment-and-climate-change.aspx> accessed 3 April 2017.

$9.2 million Australian dollars will be granted in official development assistance (ODA), where approximately 4% will go towards the agriculture, fisheries and water sectors.[450] The 2016-2017 grant targets three SDGs but fails to include SDG 6 on water. SDG 13 on climate resilience and disaster risk management is however a prioritised area which is, in Tuvalu's case particularly, intimately linked with freshwater scarcity. Australia also provides financial assistance by contributing significantly to the Tuvalu trust fund which enables the government to fund the gap between state's available financial resources and its expenditure and enables the state to undertake development projects.[451]

In terms of increasing Tuvalu's adaptation capacity, Australia funded Tuvalu's NAPA, which was also supported by the United Nations Development Programme (UNDP). The NAPA prioritised water resource management and its implementation has lead to an increase in water storage capacity on four Tuvaluan islands.[452] The state has also directly supplied water infrastructure. In conjunction with the European Commission, Australia provided individual households and schools with rainwater tanks, which ensured that all households on Funafuti were provided with one 10,000 litre tank each.[453] Pursuant to the maintenance of the water tanks, Australia also funded a review of the water tanks on Funafuti which formed the basis upon which subsequent maintenance and purchase of additional equipment could be undertaken.[454] Furthermore Australia funds the maintenance of three desalination plants and the training of local staff to increase capacity to carry out maintenance themselves in cooperation with the UK and US.[455] In addition to development and adaptation support, Australia has also been supportive in providing funds for disaster response. For example, following Cyclone Pam Australia granted approximately $1 million Australian dollars and collaborated with the Red Cross by directly providing water supplies, deploying experts in water sanitation, and has supported long-term recovery efforts.[456] In 2011 Australia was also

[450] Australian Government: Department of Foreign Affairs and Trade, 'Tuvalu: Aid Fact Sheet' (*Australian Government: Department of Foreign Affairs and Trade*, October 2016) <http://dfat.gov.au/about-us/publications/Documents/aid-fact-sheet-tuvalu.pdf> accessed 3 April 2017.
[451] Australian Government, 'Tuvalu Country Brief' (*Department of Foreign Affairs and Trade*) <http://dfat.gov.au/geo/tuvalu/Pages/tuvalu-country-brief.aspx> accessed 3 April 2017.
[452] Yusuke Taishi, 'Adapting to Climate Change in Tuvalu' (*UNDP*, 11 September 2013) <http://www.undp.org/content/undp/en/home/ourperspective/ourperspectivearticles/2013/09/11/adapting-to-climate-change-in-tuvalu-yusuke-taishi.html> accessed 3 April 2017, Australian DFAT (n 449) 7.
[453] SR Tuvalu (n 10) 7.
[454] Australian DFAT (n 449).
[455] ibid.
[456] ibid.

helpful in providing water tanks to the outer islands, in response to the drought which triggered the declaration of a state of emergency.[457]

The assistance provided by Australia stems from development assistance rather than any funds explicitly set aside for satisfying climate change or human rights obligations.[458] Climate resilience is identified as a strategic objective in the assistance provided, yet this identification stems from the commitments under SDG 13[459] rather than any obligations stemming from the climate change regime. Human rights are not addressed anywhere in the documents issued by the Australian government on the assistance provided to Tuvalu. Water is generally recognised as a key concern in development assistance,[460] but it is not couched in human rights terms. The Australian government's contributions to the Tuvaluan NAPA focused primarily on water management and food security, which does indicate prioritization of the water scarcity issue. Nevertheless, this was done within the context of the UNDP initiative, which of course has a specific development focus rather than a human rights focus. The NAPA does prioritise a number of climate change concerns yet these appear to stem from development considerations as well as opposed to obligations under the UNFCCC. As such it does not appear as though the Australian government intended to satisfy obligations stemming from either the human rights or climate change regimes in the development assistance granted to Tuvalu. As such Australia does not seem to be implementing either set of law in its development work. The development approach is inextricably linked with similar considerations as the climate change and human rights regimes[461] and as such allows for the implementation of projects that facilitate the enjoyment of water but the adoption of the development approach does not entail the implementation of human rights or climate change laws.

6.3.3. New Zealand

New Zealand has also been a major contributor to Tuvalu's development, adaptation, and disaster response capacities. The New Zealand and Tuvaluan government have an intimate

[457] SR Tuvalu (n 10) 13.
[458] Australian Government: Department of Foreign Affairs and Trade, 'Australia and Tuvalu' (*Australian Government: Department of Foreign Affairs and Trade* (DFAT), 2015) <http://dfat.gov.au/about-us/publications/Documents/bilateral-relationship-at-a-glance-tuvalu.pdf> accessed 15 May 2017 and Australian DFAT Fact Sheet (n 450).
[459] Australian DFAT Fact Sheet (n 450).
[460] ibid.
[461] UNGA Res 70/1 'Transforming our world: the 2030 Agenda for Sustainable Development' (21 October 2015) UN Doc A/RES/70/1 para 10, para 19, and SDG 13.

link in terms of development assistance, as they have signed a Joint Commitment for Development, upon which ODA between the states is based. The agreement outlines the priority areas of the aid programme and details the type of assistance that New Zealand will grant. Generally New Zealand commits itself to supporting the development of Tuvalu in terms of prosperity, resilience, health, and education. One of the identified priority areas is strengthening water security by improving "access to safe, reliable and affordable water" and improving "resilience to the adverse impacts of disaster risk, climate vulnerability and climate change".[462] In order to achieve the outcomes, the two states committed themselves to taking cooperative action. New Zealand committed itself to supporting Tuvalu's "efforts to manage its water resources sustainably" and investigating "options for rehabilitation of Tuvalu's Borrow Bits".[463] Tuvalu's responsibilities were identified as leading "the coordination of donor support for water security projects and [developing] strategies for the improved maintenance by communities and households of existing water systems" and adopting appropriate management plans and policies aimed at proactively managing water.[464] Thus the Joint Commitment does specifically address water supply in Tuvalu and details that support ought to be provided in regards to access to water and sustainability of such access. However, details on exact funds are not included, nor the particular activities which will be undertaken. Nevertheless, it is apparent that New Zealand is granting significant support to Tuvalu, as $15 million New Zealand dollars were granted to Tuvalu in assistance in 2015 and 2016. The improvement of water and sanitation was included as a priority in the aid programme.[465] New Zealand is also a major contributor to the Tuvalu trust fund, along with Australia and the UK, which, as discussed above, enables development programmes to be implemented in the state. Japan and the Republic of Korea have also been smaller contributors to the trust fund. New Zealand has also been active in disaster response, as it provided a desalination plant and containers of freshwater to Funafuti in response to the 2011 drought emergency.[466]

As the name suggests, the Joint Commitment for Development falls under the development assistance category and as such appears not to stem from climate change or human rights obligations. The agreement does not discuss human rights explicitly, but does identify

[462] Joint Commitment (n 23).
[463] ibid.
[464] ibid.
[465] Government of New Zealand, 'Aid Partnership with Tuvalu' (*New Zealand Ministry of Foreign Affairs and Trade*) <https://www.mfat.govt.nz/en/aid-and-development/our-work-in-the-pacific/tuvalu/> accessed 3 April 2017.
[466] SR Tuvalu (n 10) 9 and 13.

access to safe, reliable, and affordable water.[467] While not phrased in human rights terms, it does include aspects of the right. The term "safe water" figures frequently in the human rights regime and could be interpreted to imply the quality component of the right to water. The reliability mentioned in the agreement is reminiscent of the availability component of the human right to water whereas the affordability requirement suggests connection with economic accessibility under the right to water. Thus while not explicitly referring to realizing the right to water as a priority in the agreement, the wording indicates some overlap or similarities between the approach adopted by New Zealand in its development assistance and the human rights regime. Accordingly there seems to be similarity rather than implementation of human rights laws in New Zealand's activities, and as such the Joint Commitment for Development can likely not be interpreted as a method of implementation of human rights obligations.

In view of strengthening water security, the agreement also addresses climate change concerns as securing resilience to the impacts of climate change is identified as a priority. The agreement does not specify how this will be done other than through New Zealand's financial support and Tuvalu's effort to develop and implement national plans to achieve the priorities. As such whether the commitments in question can be traced to the fulfilment of the state's climate change obligations is unknown. Given that New Zealand is an Annex I country and is as such required to assist developing states, such as Tuvalu, in their adaptation efforts to climate change, this commitment may indeed fulfil those obligations with or without the intention for them to be satisfied through the agreement. However considering that the projects explicitly fall within the Joint Commitment for Development, this indicates that the projects are adopted in pursuit of the satisfaction of development commitments rather than the implementation of climate change law. In light of the foregoing it appears that New Zealand certainly is not implementing human rights law in its development work and is likely not directly implementing climate change law either.

6.3.4. Other actors

Other external actors have also been forthcoming in supporting Tuvalu in terms of adaptation and disaster response. For example, the 10th European Development Fund

[467] Joint Commitment (n 23).

enabled the distribution of 10,000 litre tanks in Funafuti in 2009.[468] In response to the 2011 drought emergency the Japan International Cooperation Agency provided desalination plants to the state.[469] The European Union simultaneously provided additional water tanks to the outer islands in response to the drought.[470] These projects were adopted primarily in relation to disaster response rather than any right to water or climate change obligations and as such cannot be considered to implement either sets of the law.

6.4. Would integration at regime level facilitate enjoyment of water in Tuvalu?

In light of the foregoing, it is clear that external actors have been active in assisting Tuvalu with securing water supply. The approaches adopted range from direct intervention through provision of supplies to financial aid or development assistance, where funds are supplied generally or for specific projects. The approach of external actors in their aid programmes has been criticised by the Special Rapporteur on the right to water and sanitation, as the assistance projects were deemed to be off-budget. The Special Rapporteur argued that providing on-budget funds would support sustainable development and human rights realisation in a way that would create ownership of the solutions[471] and would have real impacts on everyday life in Tuvalu.[472] As such, she argued, the assistance provided is necessary but could be optimized in order to secure freshwater supply and actual realisation of the right to water. [473] External actors are attempting to assist Tuvalu and its people but are doing so under a development assistance approach rather than either a climate change or human rights approach. This has resulted in a *de facto* inequality in the enjoyment of the right to water for the poorer people in Tuvaluan society as they are unable to maintain and repair their harvesting systems and cannot make the water potable due to the cost of boiling materials. Furthermore outer islanders are unable to benefit from the water harvesting systems implemented due to their use

[468] Government of Tuvalu, 'Tuvalu Millenium Development Goals: Progress Report 2010/2011' (*UNDP*, May 2011)<http://www.undp.org/content/dam/undp/library/MDG/english/MDG%20Country%20Reports/Tuvalu/MDG(tuvalu)%202010.pdf> accessed 3 April 2017 2.
[469] SR Tuvalu (n 10) 9 and 13.
[470] ibid 13.
[471] ibid 6.
[472] UPR Tuvalu (n 386) 9.
[473] SR Tuvalu (n 10) 6.

of different building materials, creating an urban versus rural divide in terms of water enjoyment.

It is noteworthy that the implemented programmes tend to refrain from addressing human rights at all in their documentation. In regards to water supply specifically, the actors tend to avoid referrals to water as a human right and only refer to human need or public demand for freshwater peripherally. This is exemplified through the World Bank's approach in the Pacific Possible programme in particular, where the analysis and suggested actions taken are primarily based upon financial and scientific considerations, with no reference to the human element of climate and disaster resilience.[474] This indicates that there is reluctance among actors to carry out the actions in question with explicit recognition of human rights or climate change obligations. What the reluctance stems from is unknown. A few possibilities seem to exist in this regard. Firstly, the reluctance may stem from a perceived inability to implement human rights and climate change obligations due to the risks posed by the potential norm conflicts at the regime level highlighted in chapter 4 above. A second explanation might be that there is a perceived lack of clarity in terms of what the climate change and human rights obligations entail or demand at implementation level. Thirdly there might be state refusal to accept the existence of extra-territorial human rights obligations and as such, while states might be willing to assist Tuvalu in their struggle they may not want to do so in a manner that legally binds them to carry out such assistance in the future. Finally, the explanation may be that the actors do not find the respective laws helpful in guiding their assistance efforts.

Without consultation with the relevant actors, the reasoning behind the non-implementation remains unknown and this submission will not carry out a speculative exercise in order to gauge this reasoning. Instead it is merely concluded that there is no real implementation of the two regimes in the Tuvalu context by external actors and, to an extent, even by the Tuvaluan government itself. Almost all the activities undertaken which address water scarcity in Tuvalu are adopted under development commitments and do not purport to implement the international human rights or climate change laws. Many of the activities reference climate change as relevant considerations or aim to combat the impacts of climate change, as well as addressing the issue of water scarcity in some capacity. This is unsurprising given that both climate change and water are intricately linked with development, as reflected by the fact that there are individual SDGs for both issues, namely SDGs 13 and 6 respectively.

[474] For the methods used by the World Bank in the Climate and Disaster Resilience component of the Pacific Possible programme, see page 4 of the document (Pacific Possible (n 446)).

This indicates an overlap between the three areas in question, as all the spheres attempt to address concerns of water scarcity and climate change but through the adoption of somewhat different approaches. This overlap does not necessarily mean that the external actors are implementing either human rights or climate change law but rather that they are merely implementing their respective development commitments. As such it seems that there is actually little to no implementation of the climate or human rights regimes by the external actors in Tuvalu.

The limited implementation of the two regimes in Tuvalu indicates that the discordance between laws at the regime level is not the root cause of the limited enjoyment of water in Tuvalu. Given that the laws are not being implemented almost whatsoever in the projects attempting to address water scarcity, creating a greater synergy between the two regimes will likely not have any tangible effect on the enjoyment of water for those residing in Tuvalu. While the increased synergy between the two regimes may be beneficial for the general project of international law as the existence of coherent as opposed to contradictory obligations is generally desirable, as discussed in Part One, such a synergy would likely not have much effect on those living in Tuvalu in terms of water supply. It may, rather, be more beneficial in terms of actual enjoyment of water to seek integration of the two regimes into implementation-level methods rather than regime-level integration. Given the heavy focus of the actors on development as opposed to either human rights or climate change, integrating principles from the two sets of laws into development methods might be more effective in practice. The possibilities in this regard are considered below.

6.5. Prospective means of integration

Given that external actors tend to act under the development umbrella when assisting Tuvalu with their water supply, it appears that integrating the human rights and climate change obligations into development commitments might be the most effective in terms of integration at the implementation level. If states are bound both by international climate change and human rights law, implementing them simultaneously through their pre-existing development commitments would simplify the satisfaction of a multitude of obligations through coordinated action addressing obligations stemming from both regimes. This would result in greater

integration between the two sets of obligations at the implementation level, although it would leave the regime level fragmented. In order to consider the possibilities for integration within the development field, three options in this regard will be considered below, namely integration through the right to development, the human rights based approach to development (HRBAD), and the SDGs. These will be considered in terms of effectiveness and likelihood, as the options considered in chapter 4.7.

Prior to the consideration of the integration possibilities in the development field, a question must first be answered. Namely, does fragmentation at regime level matter if the implementation level is coordinated and coherent? Fragmentation at the regime level may confuse states in their implementation activities given the potential for norm conflict. The areas in which norm conflict might arise identified in Part One above certainly have the potential for causing issues at the implementation level, but the materialization of a conflict could also be avoided through strategic implementation. For example, neither carbon outsourcing nor biofuel production is demanded by the climate change regime. Carbon outsourcing is a GHG emission reduction strategy adopted by states aimed primarily at formally meeting GHG reduction targets rather than actually mitigating climate change impacts. The production of biofuels, however, does actually have a positive impact on GHG emissions given that it emits far less GHGs than fossil fuel use. Biofuels fall within the category of renewable resources, which are demanded to make up part of new energy strategies by Annex I countries.[475] These strategies have the potential of adversely impacting human rights realisation and interfering with human rights obligations. Should states cease their use of such strategies and adopt strategies coherent with the ultimate goal of the climate change regime and their obligations under international human rights law in relation to the right to water, the conflict could be avoided at the implementation level. While the use of fossil fuels is to be replaced through the use of renewable resources, states are not required to use biofuels as their renewable resource and as such research could be done on other resources which have smaller impact on the right to water which could then be produced. It thus appears that these two conflicts in particular arise more at the implementation level rather than the regime level.

The conflict in relation to inter-generational equity, however, stems from a fundamental difference in approach as well as long-term goals of the respective regimes. The human rights regime aims to secure the dignity and welfare of people existing on the planet

[475] Roht-Arriaza (n 253) 599.

now rather than future generations, whereas climate change law has a longer term perspective as the repercussions of climate change will only intensify over time and likely create very difficult conditions of life for future generations. In practice this may manifest in a conflict at the implementation level in regards to prioritization of resource allocation. The human rights regime would call for the prioritization of adaptation efforts and primary resource allocation to such measures in order to immediately secure and realise rights for all. The climate change regime does not look past adaptation efforts as it does contain obligations in relation to international cooperation in adaptation assistance, but the focus is clearly placed on mitigation. This calls for the prioritization of resource allocation to mitigation efforts as opposed to adaptation, as that required by the human rights regime. As such implementation-level conflicts may arise when states allocate their resources, which must be resolved at the regime level. The question arises as to whether states would be considered to have violated their obligations under either regime should they prioritise mitigation over adaptation or vice versa, given that both form part of the climate change regime and will likely impact the realisation of the right to water positively. Thus formally there is the potential for conflict but resource allocation may not be all too contentious in practice, provided that there is some balance between mitigation and adaptation measures.

6.5.1. The right to development

The right to development originates from the Declaration on the Right to Development (DRD or 'the Declaration'), adopted by the General Assembly in resolution 41/128.[476] The content of the right itself will not be considered in too much detail here but overall it can be said to attempt to address the unfairness of the international economic order, the difference in state resources, and imposes an obligation on the collectivity of states to ensure that the development of some states does not hamper the development of others. The right attempts to address unfairness by creating a collective responsibility for development of developing countries, essentially imposing extra-territorial human rights obligations in this context. The right forms part of the human rights regime and as such demands that human rights are integrated into all development efforts.[477] The Declaration is a soft law instrument; it is not

[476] UNGA Res 41/128 (4 December 1986) UN Doc A/RES/41/28.
[477] Stephen P Marks, Human Rights and Development. in Sarah Joseph (ed), *International Human Rights: A Research Handbook* (Edward Elgar Publisher 2010) 169.

unanimously adopted by states and does not legally bind them as it is merely a declaration rather than a treaty. The right itself, however, has contested legal validity as some states consider that it is a core human right whereas others refuse to accept its status as a right at all.[478] Furthermore the fact that states and UN bodies repeatedly reference the right to development or the DRD suggests that there is at least some level of acceptance of such a right in the international community. Some argue that this repeated reference to the right is indicative of the right becoming a norm of customary international law, however there is no consensus in this regard.[479]

Given the heavy focus of external actors in their assistance efforts in Tuvalu on development assistance, it is relevant to consider whether integration of the international human rights and climate change regimes could be done through the use of development mechanisms. The right to development might be a useful avenue in this regard. The right to development already adopts a human rights approach and as such integration of the right to water would likely not require particularly extensive or strenuous effort. The focus in terms of integration would instead be on the integration of climate change obligations into the right itself. The question does, however, arise whether or not this method would be effective in securing water supply. In their development assistance documentation in the Tuvalu context the external actors tend to not refer to the right to development specifically. Instead the actors tend to class the assistance as 'official development assistance' but do not relate this to the right to development explicitly. Furthermore given the uncertain legal status of the right and the soft law nature of the DRD, its use in reinforcing another soft law construction, namely the right to water, appears somewhat weak, particularly given the resistance that some states express to the existence of a right to development. This avenue may as such not have much effect in practice as states do not seem to tend to concern themselves with the right to development when implementing their development assistance programmes.

The likelihood of this approach being adopted also seems minimal. The DRD was adopted in 1986, just over 30 years ago, and the right still does not appear to have taken off in terms of state acceptance of the right and its implementation. Other avenues in terms of development have been pursued since the adoption of the DRD which appear to be accruing greater success. These methods will be considered in the following subsections. In light of the limited legal validity and its consequent limited effectiveness in integration at the

[478] ibid 170.
[479] ibid 170.

implementation level in conjunction with the low likelihood of its employment, the right to development is likely not an optimal opportunity for integration of the two regimes.

6.5.2. Human Rights Based Approach to Development

A second option for integration in the development field is integrating climate change into the HRBAD. The approach attempts to move from a needs and charity approach to development to an approach based on right claims and corresponding duties and creating accountability for the satisfaction of those duties.[480] The approach further advocates for any development work to be adopted in light of human rights principles such as participation in decision-making, non-discrimination, and equitable distribution of development project gains.[481] The reasoning behind the adoption of the approach is that human rights law provides a set of principles which can create coherence in and guide development assistance in terms of priorities, obligations, and evaluation.[482] The HRBAD has become popular among NGOs and donor countries[483] as well as becoming the default approach adopted by the UN itself. The UN has adopted a common understanding of the meaning of the HRBAD, setting out that development programmes should aim to further the realisation of human rights, that such programmes should be guided by human rights standards and principles, and that the duty-bearer and rights-holder dynamic also applies in development co-operation.[484] This approach is, as such, widely used in regards to development and may provide a viable avenue for the integration of climate change obligations at the implementation level of development assistance. Human rights is already inherent in the human rights based approach and right to water considerations should thus be firmly taken into consideration in any development assistance adopted employing the HRBAD.

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[480] Peter Uvin, ' From the right to development to the rights-based approach: how 'human rights' entered development' [2007] 17(4/5) Development in practice 597-606, 603.
[481] ibid.
[482] Definition originally found in The Human Rights Council of Australia, *The Rights Way to Development: A Human Rights Approach to Development Assistance* (HRCA 1995), but read in Marks (n 477)179.
[483] Uvin (n 480) 602.
[484] United Nations Development Group, 'The Human Rights Based Approach to Development Cooperation Towards a Common Understanding Among UN Agencies' (*UNDG*, 5 May 2003) <https://undg.org/wp-content/uploads/2016/09/6959-The_Human_Rights_Based_Approach_to_Development_Cooperation_Towards_a_Common_Understanding_among_UN.pdf> accessed 14 May 2017.

The ODA documentation considered in subsection 6.3. above in relation to assistance in Tuvalu does not tend to discuss the HRBAD or human rights whatsoever. As such, the question does arise as to whether such an approach is indeed adopted by the external actors involved in Tuvalu. It is possible that the actors adopt an HRBAD when planning, implementing, and evaluating the projects themselves but that this is not explicitly reflected in the documents outlining the assistance to be granted. The application of a HRBAD would likely not result in inequality in water provision, which has been prevalent in Tuvalu, and as such it appears somewhat unlikely that a comprehensive HRBAD has been adopted in the country context, at least in the past. However, given that there does appear to be enthusiasm regarding the approach from NGOs, states, and UN agencies, this might prove an optimal integration avenue. This method would only require the integration of the climate change obligations, rather than both human rights and climate change obligations, and would as such likely require less effort than the creation of a new integrated regime or treaty for example. This approach has the same benefits as those outlined in relation to the right to development, as both adopt a human rights perspective. Contrary to the right to development, however, the HRBAD appears to have garnered greater enthusiasm among development donors and recipients. As such integration of the regimes in the HRBAD appears to be both more likely to gain state acceptance as well as being more effective in terms of implementation.

6.5.3. Sustainable Development Goals

The third and final integration method under the development umbrella to be considered is through the SDGs.The 2030 Agenda and its SDGs is the successor of the Millennium Development Goals (MDGs). The SDGs set out 17 development goals on various thematic areas, including clean water and sanitation (SDG 6) and climate action (SDG 13). Each individual goal delineates a set of specific targets, with 169 targets in total, all attached to indicators measuring the progress of the fulfilment of targets. While the 2030 Agenda is not necessarily a human rights agenda in its entirety, there are certainly human rights influences throughout the Agenda in terms of what issues are addressed such as food, health, education, and, as mentioned above, water. The Agenda also addresses human rights explicitly by recognising the realisation of human rights as the ultimate objective of the goals and targets,[485]

[485] 2030 Agenda (n 461) Preamble.

holding that human rights are to be protected,[486] and specifying that the Agenda is guided by human rights principles and standards,[487] among other human rights-related provisions.[488] This approach essentially utilizes human rights as a yard stick for interpretation, as the Agenda must be implemented in line with international law and human rights, demanding that states realise and do not violate human rights when implementing the Agenda.[489] The Agenda also addresses issues traditionally considered human rights concepts such as equality and non-discrimination, particularly in regards to gender[490] and inequality in and between countries.[491] Given the heavy feature of human rights throughout the Agenda, it is gathered that the human right to water is integrated into the Agenda itself.

The climate change regime also features in the 2030 Agenda, albeit to a lesser degree than the human rights regime. SDG 13 specifically outlines the importance of climate action in terms of resilience and adaptation in particular. The Agenda primarily refers to climate change in terms of adaptation and less in terms of mitigation, although it does refer to "climate change measures",[492] which presumably also encompasses mitigation measures. The Agenda also defers to the authority of the UNFCCC in SDG 13, recognising that it is the "primary international, intergovernmental forum for negotiating the global response to climate change".[493] Despite this deference, SDG 13 requires implementation of climate change obligations in accordance with the human rights principles under which the entire Agenda is bound. This accordingly provides an authoritative source of soft law which integrates human rights obligations into climate change obligations. State action under SDG 13, which focuses on climate change action, must aim to realise human rights and must not violate human rights, as that is a condition for the application of the Agenda in general. The Agenda as such provides an optimal method of implementation of human rights and climate change simultaneously as it is written into the instrument itself, which states have voluntarily acceded to. Moreover given the heavy focus on development programmes in Tuvalu, the adoption of such programmes may be done under the SDGs in the future, which would require adherence to human rights and climate change principles, particularly when implementing SDG 13.

[486] ibid para 3.
[487] ibid para 10.
[488] ibid, see for example para 8, 19, 20, 29, 35, SDG 4.7.
[489] ibid para 18-19.
[490] ibid SDG 5, for example, is entirely dedicated to gender equality.
[491] ibid SDG 10, for example, is entirely dedicated to inequality within and between countries.
[492] ibid SDG 13.2.
[493] ibid SDG 13*.

Interestingly SDG 6 on water and sanitation does not contain any reference to climate change in particular and as such it appears that climate change obligations are not integrated into human rights notions through the Agenda. Thus when implementing SDG 6 states are not explicitly required to take climate change action in pursuit of the mitigation of water scarcity. Reference is made to the prevention of pollution of freshwater resources in SDG 6.3, which, as discussed above, has clear linkages with climate change. As such there may be some inherent climate change obligations in the pursuit of enhanced water availability under the Agenda. Furthermore the SDGs are inter-connected[494] and as such the implementation and fulfilment of SDG 13 targets will likely also have positive impacts on the SDG 6 concerns and consequently the right to water.

The use of the SDGs to implement human rights and climate change might, in light of the above, be the avenue available to states which entails the least amount of work in terms of integration. Both sets of obligations are accounted for in the SDGs and as such concerted action under the SDGs would likely satisfy both human rights and climate change obligations. Adopting development assistance under the SDGs in accordance with human rights principles, as required by the Agenda itself, would likely prevent many of the issues faced by Tuvaluans following the development assistance previously provided, such as those issues which arose in relation to equality in rights enjoyment. States would also be able to go further than the SDG demands should they so please so as to ensure satisfaction of their obligations under the human rights and climate change regimes, as this is not prevented by the Agenda. States would likely need to take action beyond that demanded by the Agenda to satisfy their obligations under the other two regimes, but that action could be concerted under their action adopted in pursuit of satisfaction of the SDGs, particularly in regards to developed states in their assistance efforts carried out in Tuvalu.

The 2030 Agenda does not resolve the norm conflict at regime level; however the question arises as to whether this would matter in relation to the situation in Tuvalu. As discussed above, should states refrain from carbon outsourcing and biofuel production as well as balancing mitigation and adaptation resources, the potential conflict could be avoided. If states avoid such action and implement the SDGs as they are outlined in the Agenda itself and the respective regimes, then the enjoyment of the right to water would likely increase in small island states like Tuvalu regardless of the existence of a potential conflict at the regime level.

[494] ibid para 17.

Moreover there appears to be no production of biofuels or any GHG trade programmes underway in Tuvalu and as such the likelihood of these conflicts arising on the ground in Tuvalu seems low. Ultimately human rights are intended to secure human welfare and if water scarcity is adequately addressed through the SDGs and water supply is secured for all, then the existence of a theoretical norm conflict will not matter in practice. As such, the implementation of the SDGs along with compliance with human rights and climate change obligations may indeed be the optimal solution in terms of water scarcity in Tuvalu and likely other similar SIDS.

The likelihood of states adopting the SDG approach appears relatively high. The MDGs were overall considered very successful[495] and given that the SDGs are the intended to replace the MDGs, it does appear likely that the new Agenda will encourage mobilization of states in their development efforts. The Agenda is not legally binding and as such states cannot be held legally accountable for their failure to satisfy the SDGs, but such failure might warrant social and political pressure or criticism. The MDGs were not legally binding either, as they also stemmed from a Declaration like the SDGs, yet their implementation was generally successful in terms of states rallying behind them. This indicates that states may be equally enthusiastic regarding the SDGs. The SDGs also appear to be an optimal method of integration as there is already some integration read into the Agenda which indicates the level of integration that states are currently willing to accept and implement. It may further act as a stepping stone to further integration of obligations as one single set of obligations in the future rather than two sets of obligations influencing a third genre.

6.6. Conclusion

It is clear that Tuvalu suffers in a particularly challenging way from water scarcity due to its limited availability of water and that this challenge will be exacerbated by climate change. It is moreover apparent that something must be done in order to ensure the enjoyment of water for all in Tuvalu regardless of economic status or place of residence. Many actors, including the Tuvaluan state, have attempted to address the issues of water scarcity in the state

[495] United Nations (multiple agencies), *The Millennium Development Goals Report 2015* (United Nations 2015) 3.

territory through the adoption of adaptation projects as well as assisting Tuvalu in its mitigation efforts. These have nonetheless not resolved the issues of inequality, nor have they actually secured a physical increase in water availability in the state. This may be attributed to the fact that the actors have not taken a human rights approach or adopted their activities under the human rights regime, but have rather adopted them under development commitments. Tuvalu clearly needs assistance at present in resolving its struggle in ensuring sufficient water quantity, however this assistance could be optimized so as to ensure equal enjoyment of benefits of the projects, which could be done through the adoption of a human rights approach which places significant weight on non-discrimination and attention to vulnerable groups. Nevertheless the obligations stemming from international human rights law are not being implemented in the assistance provided by the external actors. Climate change obligations, which partially seek to secure water supply in the long-term, are not being implemented to a great degree either. The lack of implementation of the two laws indicates that an enhanced synergy of the two regimes would have little impact on the actual enjoyment of water in Tuvalu and as such may not be a worthwhile avenue to pursue, if the ultimate objective is indeed to secure water enjoyment in Tuvalu and other SIDS. Rather a greater human rights and climate change focus could be adopted in development work, to ensure both long-term and short-term solutions for securing water supply in Tuvalu for all without inequality. This could be done through a variety of avenues, although the SDGs in particular appear to encapsulate these concerns to a relatively extensive degree. As such, in future development assistance work, external actors could adopt the SDG approach by adopting human rights-oriented goals, ensuring that indeed no one is left behind.[496]

[496] "No one left behind" is the slogan of the SDGs and can be found in Preamble UNGA Res 70/1 'Transforming our world: the 2030 Agenda for Sustainable Development' (21 October 2015) UN Doc A/RES/70/1.

Chapter 7. Conclusion

In light of the foregoing discussion, we must now turn back to the research question itself and consider its answer. So, in what ways might a closer integration of the international human rights and climate change legal fields facilitate the enjoyment of water in an era of climate change impacts? The answer to this is, as displayed by the above, complex. It seems that the question must be answered in two ways: through integration at the regime level and integration at the implementation level. However, this integration does not look the same at both levels and the avenues of integration would need to be different at the respective levels to facilitate enjoyment of water.

Integration of the two fields at the regime level may be beneficial, necessary, and possible. Integration would be beneficial as it would adopt a human rights approach to climate change which may result in greater implementation of climate change law as well as guiding the adoption and implementation of such law in a way that benefits individuals, rather than overall populations. Human rights law focuses on the individual in a way that many other areas of the law might fail to do. Adopting a human rights approach to climate change law would allow states to hear from stakeholders through principles of participation, ensuring that the ground-level issues is that which is addressed through the laws. Moreover it would secure considerations of non-discrimination and inequality, allowing the laws to address issues that may go unnoticed under the radar as disadvantaged groups might not be seen by other approaches in the same way. Moreover human rights law has appeared to have coded the sense of morality and entitlement/duty into a set of defined and detailed laws given the massive acceptance of the regime by the international collectivity of states.[497] Integration of the two regimes would also allow for the avoidance of norm conflict, a few examples of which are already apparent.[498] This is beneficial for the general project of international law as the avoidance of fragmentation of the law is desirable. This is expressed not only in the VCLT but has been subsequently studied by scholars.[499] As such the avoidance of norm conflict appears to indicate a need for integration. Furthermore integration would create a unified set of obligations which already address the same issue, namely that of water scarcity, in a coherent manner. The coherent overlaps between the regimes indicates that there is the possibility for

[497] See discussions in chapter 4.2.
[498] See discussions in chapter 4.3.
[499] ILA Principles (n 15) 371-374 and ILC Fragmentation study (n 210).

closer integration of the two regimes as the two do not appear to be so fundamentally at odds with each other, that those differences which do exist cannot be overcome.[500]

The advantages of integration at the regime level thus suggest that perhaps this is the fundamental issue in regards to the right to water not being enjoyed in SIDS. As such considerations were made regarding the possible means of integration. The adoption of a new treaty would be very beneficial in this regard. A treaty would require that states agree on the interpretation and contents of the respective obligations from the two regimes which conflict or run parallel to each other but do not actually interact. Moreover it would provide the right to water with a solid treaty basis, with the right conferred to all rather than specified beneficiaries like the approach of the CEDAW, CRC, and CRPD. The likelihood of such a treaty being adopted, however, appears low. In light of the intense and large scale advocacy that went into the achieving the inclusion of the 'human rights' references in the Paris Agreement, which does not impose legally binding commitments, it appears unlikely that states would be willing to adopt a treaty solidifying state climate change obligations owed to individuals in the form of a human right.[501] A second option for further integration is through the issuance of authoritative interpretation of the obligations. This could be done in conjunction between the bodies of the two regimes or separately. The human rights regime has already pursued and issued such interpretations, yet with what appears to be little state heed. This option appears to have some advantages to the treaty-option, as it requires less effort in terms of negotiation and gaining state acceptance. However, it is not an ideal solution as it would not grant the right to water a more solid legal basis under international law as it would merely be reinforced by additional soft law instruments. Moreover the likelihood of the adoption of such an approach seems low. Again, in light of the state resistance to integration in the Paris Agreement, the COP would likely be wary of issuing such an interpretation as it may cause upset among the collectivity of states. Furthermore, such an approach might require one of the authorities to subordinate itself to the other which might entail an undesirable loss of power.[502] As such it appears that, while regime level integration is desirable for the general coherence of international law achieving such integration would be challenging. Such integration depends on the good will of states to achieve coherence and is by any means not impossible, but does seem unlikely in light of the recent developments in relation to the Paris Agreement.

[500] See discussions in chapter 4.4. and 4.5.
[501] See discussions in chapter 4.6.1.
[502] See discussions in chapter 4.6.2.

While these limited actual possibilities for integration are disadvantageous at regime level, it appears to have little impact on the implementation level. In examining the situation of water scarcity in Tuvalu as an example of the situation of SIDS at present it became clear that, while human rights are being and will be seriously affected by the adverse impacts of climate change, the two sets of laws are not being implemented almost whatsoever. This is striking given that the two regimes are intended, in part, to address issues of water scarcity, yet in a country context like Tuvalu where water scarcity is a significant challenge the laws are not being implemented. This indicates that there is some issue in relation to the laws overall, be it the fragmentation, that they are not considered helpful in addressing water scarcity in Tuvalu, resistance to extra-territorial obligations, or something else. What the issue is remains unknown without consultation with the relevant actors. Regardless, given that the laws are not being implemented, this suggests that regime level integration, as was argued for in Part One, would not actually facilitate the enjoyment of water in practice. Instead it appears that the integration of human rights and climate change into development commitments may be more beneficial in terms of practical enjoyment of water. In this regard more options are available than for regime level integration, as it could be achieved through integration in the right to development, the HRBAD, or the SDGs. The SDGs appear to be an optimal avenue to pursue in this regard, as a great deal of both climate change and human rights considerations have been included throughout the SDGs, as well as specific considerations on water supply. As such, when states undertake development projects in Tuvalu in the future, implementing these through the SDG approach could prevent issues of inequality arising again. Adopting the human rights approach of the SDGs would encourage states to focus on the individual in their development programming in a way that has not been done in Tuvalu previously. This has resulted in inequality in enjoyment of water in the state, with differences in financial status as well as residence location determining the individual level of rights enjoyment. Adopting a human rights approach could circumvent the perpetuation of these issues, as the populations would be consulted regarding the primary issues in relation to water supply in a way that might not be apparent to states. This would ensure that water could be enjoyed equally by all, regardless of any differentiating qualities. Moreover, states could go beyond the requirements set out by the SDGs and implement the extra-territorial aspects of their human rights obligations under the same programmes. It is thus determined that in order for there to be realisation of the enjoyment

of water in Tuvalu, a human rights approach to development must be adopted in a way which takes climate change impacts into consideration, as that done by the SDGs.[503]

In order to facilitate the enjoyment of water in practice, then, implementation-level integration must be adopted. This is at least the case in Tuvalu, which one may be able to extrapolate to other SIDS and even other climate vulnerable states, although further study is required to know this definitively. The pursuit of regime level integration is nevertheless not futile. Coherence at the regime level has significant advantages for the implementation of law as it would clarify the content of obligations, ensuring that states do not avoid implementation due to confusion or concerns of norm conflict. Given that the reason behind the lack of implementation of the laws in Tuvalu remains unknown, it is possible that the fragmentation of international law on this topic is one of the reasons. Regardless, for the general project of international law, coherence is something to be strived for, as displayed by its inclusion in the VCLT. Yet, if one turns back once again to the research question itself, we must conclude that implementation-level integration is the key way in which greater enjoyment of water can be secured. This should be achieved through the implementation of development programmes through human rights and climate change lenses. This is, at the very least, what would likely facilitate the enjoyment of water for those living in Tuvalu at present. Regime level integration also has significant benefits and may resolve issues of water scarcity in other national contexts. However, in light of the focus of this thesis, one can only answer that closer integration at the regime level might facilitate greater enjoyment of water, but this remains unknown and appears somewhat unlikely in the Tuvaluan context.

In light of these conclusions one can turn back to the Atlantis analogy and consider whether its cautionary tale can be one to guide the ways in which the plight of SIDS in an era of climate change is to be dealt with. The tale tells of a utopian and powerful civilisation that disappears into the sea following the onset of natural disasters. Whether or not an Atlantis-like scenario materialises in SIDS in the future could be avoided should the impacts of climate change be sufficiently mitigated so as to prevent such great sea level rise, ensuring that state territories are not entirely submerged. This may be avoidable, should climate change mitigation efforts be achieved. However, this may not mean that civilisations will not necessarily be lost. Prior to entire submergence of SIDS, the states risk becoming uninhabitable due to the adverse impacts that climate change will have on water scarcity. Thus if states are

[503] See discussions throughout chapter 6.

unable to adapt to the adverse impacts of climate change and secure water supply the populations residing there will have to abandon the territory. This may, depending on the nature of resettlement, lead to the loss of the characteristics that made up those civilisations, such as culture and language. The impacts of climate change that affect water supply in SIDS are not entirely sudden, like those which destroyed Atlantis, and as such may allow populations on SIDS to adapt, and in the worst case scenario where the territory becomes uninhabitable, relocate. There appears to be a slew of issues in regards to inhabitability that will arise and must be addressed prior to concerns of territory disappearance. Thus, while the story of Atlantis itself may not be repeated in relation to SIDS, there may still be disappearance of civilisation akin to that exemplified by the tale of Atlantis should the adverse impacts of climate change not be addressed and adapted to, possibly through integration of the international human rights and climate change legal fields.

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8.1. International treaties/conventions:

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Convention on the Rights of the Child (adopted 20 November 1989, entered into force 2 September 1990) 1577 UNTS 3

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