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CLIMATE CHANGE LAW**

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HUMAN RIGHTS AND CLIMATE CHANGE LAW: ADDED VALUE TO PACIFIC ISLAND STATES

MARGARETHA WEWERINKE AND FITILAGI FA'ANUNU *

We're not talking about the growth [of] GDP, we're not talking about what it means in terms of profit and losses of the large corporations, we're talking about our survival.

Anote Tong, President of Kiribati¹

Climate change is often referred to as the defining challenge of our time, and it is well known that Pacific Island States are particularly vulnerable to the adverse effects of climate change. Indeed, these adverse effects are already very tangible for most communities across the region. Coastal features are visibly changing, with rising sea-levels, higher king tides and storm surges, saltwater intrusion and changing weather patterns posing an increasing threat to the livelihoods of Pacific Island communities. The threats are amplified by extreme weather events becoming more intense and more damaging as a result of climate change, with Cyclone Pam recently causing loss of human life and catastrophic damage in Vanuatu, and to a lesser extent in the Solomon Islands, Tuvalu and Kiribati.² While communities and governments—assisted by regional, international and non-governmental organisations—are proactively building resilience and adapting to climate change, there is a real risk of much more severe and damaging impacts materialising in the coming decades.³ The threats are so severe that most, if not all, Pacific Island States face the threat of losing some or all of their habitable territory as a result of climate change, with related risks of the loss of traditional livelihoods and large-scale involuntary displacement.⁴

This Special Issue of the *Journal of South Pacific Law* aims to provide insight into the role of international law in addressing the short-term and long-term challenges posed by climate change to Pacific Island States and their populations. It focuses on the two international legal frameworks that were designed to protect the Earth's climate system and the human person: international climate change law on the one hand, and international human rights law on the other. These two frameworks contain lofty principles with moral, political and indeed legal significance: the *United Nations Framework Convention on Climate Change* (UNFCCC) was adopted to 'prevent dangerous anthropogenic interference with the climate system [...] within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food security is not threatened'.⁵ International human rights law, on the other hand, aims to protect the human person against preventable interferences with a range of rights, and to provide victims of human rights violations

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¹ Interview with Radio Australia's Pacific Beat, 13 June 2014, available at <http://www.abc.net.au/news/2014-06-13/pacific-presidents/5521478> (accessed 29 October 2015).

² As discussed in detail by Calvy Aonima and Shivanal Kumar in their contribution to this Special Issue.

³ See Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Synthesis Report* (CUP, 2014) 67 (stating that some small island States 'are expected to face very high impacts that could have associated damage and adaptation costs of several percentage points of gross domestic product').

⁴ *Ibid* 65.

⁵ *United Nations Framework Convention on Climate Change*, opened for signature 9 May 1992, 1771 UNTS 107 (entered into force 19 June 1993) (UNFCCC), Article 2.

that have occurred with adequate and effective remedies.⁶ It is important to note that Pacific Island States first started raising concerns about climate change at international human rights forums more than a decade ago.⁷ This has not, of yet, resulted in the action and international cooperation needed to prevent climate change-induced interferences with human rights.

Understanding how the UNFCCC and international human rights law currently support Pacific Island States and local communities in the struggle against climate change is key to ensuring effective responses. In this regard, a key point to note is that existing international law not only requires that action to address the threats posed by climate change is effective, but also that it is equitable. The Nobel Peace Prize winning Intergovernmental Panel on Climate Change (IPCC) has stated unequivocally in numerous reports that human activities that produce greenhouse gases--especially the burning of fossil fuels--are the primary cause of climate change.⁸ We also know that the impacts of climate change that are being experienced today can be traced back to greenhouse gas-emitting activities that have fuelled the development of what are now high-income States.⁹ Their contributions to global emission stocks are in sharp contrast to those of Pacific Island States, which amount to less than 0.03% of the total.¹⁰ The region's contribution to emission flows remains extremely low.¹¹

The disparities in responsibility for climate change and capacity to address it have both practical and legal implications for climate change action. Practically speaking, a result of the economic benefits reaped from high-carbon industrialisation, developed States still have the greatest capacity for (i) making deep cuts in their domestic emissions of greenhouse gases; and (ii) supporting developing States in achieving a transition to sustainable and inclusive development.¹² For this reason, the UNFCCC prescribes climate action in accordance with the principle of common but differentiated responsibilities and respective capabilities (CBDRRC).¹³ More specifically, the UNFCCC requires that developed States take the lead in combating climate change and the adverse effects thereof, including by sharing technologies and providing financial support to developing states in a manner that promotes the right to sustainable development.¹⁴ The UNFCCC also requires developed States to support developing States in building local capacities,¹⁵ and to provide finance for adaptation in developing States that are particularly vulnerable to the adverse effects of climate change.¹⁶

⁶ See, for example, *Airey v Republic of Ireland* (1979) 305 Eur Court HR (ser A) 2 [32] (where the European Court of Human Rights found that the provisions of human rights treaties should be interpreted and applied in a way that makes its safeguards practical and effective).

⁷ See, for example, Initial Report of Kiribati under the *Convention on the Rights of the Child* submitted to the UN Committee on the Rights of the Child, UN Doc. CRC/C/KIR/1 (7 December 2005).

⁸ See, for example, IPCC (2014), above n 3, 40.

⁹ Ibid 44. See also Climate and Development Knowledge Network (CDKN), (2014), *The IPCC's Fifth Assessment Report: What's in it for Small Island Developing States?* 6 http://cdkn.org/wp-content/uploads/2014/08/IPCC-AR5-Whats-in-it-for-SIDS_WEB.pdf (accessed 23 November 2015).

¹⁰ Secretariat of the Pacific Regional Environment Programme (SPREP), (2014), *Climate Change* <https://www.sprep.org/international/climate-change> (accessed 23 November 2015). See also the United Nations Permanent Forum on Indigenous Issues, (2015), *The Pacific Region 1* <http://www.un.org/esa/socdev/unpfii/documents/2015/media/pacific.pdf> (accessed 23 November 2015).

¹¹ SPREP, (2014), above n 10.

¹² CDKN (2014), above n 9, 28.

¹³ UNFCCC, Preamble and Article 3(1).

¹⁴ UNFCCC, Article 3(1), 3(4), 4(4) and 4(5).

¹⁵ UNFCCC, Article 4(5) and 5.

¹⁶ UNFCCC, Article 4(3).

The contributions to this Special Issue demonstrate, amongst other things, that international human rights law underscores rather than replaces the need for compliance with the principle of CBDRRC and the above-mentioned obligations: non-compliance with these obligations not only increases the threats to the enjoyment of human rights caused by the adverse effects of climate change, but also perpetuates historical inequities that continue to hamper the full and non-discriminatory realisation of human rights across the globe. As international human rights law is based on the premise that all human beings are equal in dignity and rights, action to correct, rather than perpetuate, historical inequities is required. This mutually reinforcing nature of UNFCCC principles and commitments and human rights obligations is apparent from all contributions to this Special Issue.

This Special Issue is launched ahead of the 21st Conference of the Parties to the UNFCCC (COP21) from 30 November to 11 December 2015 in Paris.¹⁷ As the contributing authors demonstrate, the inter-relationship between climate change law and human rights law has important implications for negotiations towards a new legally binding agreement under the UNFCCC, which is expected to be adopted at COP21. At the same time, however, the comprehensive legal framework discussed in this Special Issue is comprised of existing international laws. As such, it could be relied upon by Pacific Island States and beneficiaries of human rights obligations in legal action outside the UNFCCC process, including in climate change litigation. This realisation is important as it signals the existence of multiple strategies to address climate change through the invocation of international laws; a reality that could inform Pacific Island States' negotiating positions and strategies.

Each of the contributions to the Special Issue sheds light on a different aspect of the UNFCCC, international human rights law and/or the inter-relationship between these frameworks. The first article by Dr. Curtis Doebbler, 'Ensuring Consistency with Existing International Law of Another Climate Change Agreement', provides insight into legal challenges arising in the context of negotiations to strengthen ambition in the pre-2020 period and to agree on a new climate change agreement under the UNFCCC that would enter into force in 2020. The latter agreement is expected to replace parts of the *Kyoto Protocol*—which sets legally binding quantified emission reduction targets for developed country Parties—and contribute to the implementation of the UNFCCC. Doebbler analyses the Draft Agreement and accompanying Draft Decision that form the basis for negotiations under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) in Paris, focusing on the key elements of the COP21 outcome: (1) the Preamble; (2) Definitions (Art. 1); (3) General (Art. 2 and 2bis); (4) Mitigation (Art. 3); (5) Adaptation and loss and damage (Arts. 4 and 5); Finance (Art. 6); Capacity building (Art. 8 and 8bis); (9) Transparency (Art. 9); (10) Timeframes and implementation (Arts. 10 and 11); (11) Procedures, institutions and decision-making (Arts. 12-15 and 22) and Other provisions (Arts. 16-21 and 23-26). Although the structure of the Draft Agreement resembles that of a treaty, its draft provisions remain more of a compilation of options reflecting the widely diverging views of States than a blueprint for a new treaty. Hereby, many articles include 'no text' options or options that would, when adopted and implemented, be insufficient to achieve the full, effective and sustained implementation of the UNFCCC itself. Moreover, the texts contain options that seem aimed at blurring the distinction between developed and developing States, which could undermine both the fairness and the effectiveness of the climate change regime. It is therefore perhaps not surprising that even the reiteration of existing principles has become controversial, as is clear from brackets around a provision in the 'Purpose' section of the Draft Agreement (Art. 2) that highlights the principle of CBDR; the (bracketed) addition of 'in

¹⁷ See COP Decision 1/CP.17, UN Doc. FCCC/CP/2011/9/Add.1 (15 March 2012), establishing a negotiation process with a mandate to "develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties." COP21 also serves as the 11th Meeting of the Parties to the Kyoto Protocol (CMP11).

the light of national circumstances’; a bracketed reference to ‘the principles and provisions of the Convention’; and a ‘no text’ option for this same article.¹⁸

As far as human rights are concerned, it is worth recalling that the link between climate change and human rights has been recognised in a series of resolutions of the UN Human Rights Council, all of which build on the recognition that climate change ‘poses an immediate and far-reaching threat to people and communities around the world and has implications for the full enjoyment of human rights’.¹⁹ The link between climate change and human rights has also been set out in an analytical report produced by the UN Office of the High Commissioner for Human Rights (OHCHR) at the request of the Council²⁰; and in statements and press releases from human rights treaty bodies.²¹ Moreover, all 194 State Parties to the UNFCCC acknowledged in a 2010 decision of the Conference of the Parties (COP) that ‘States should, in all climate change-related actions, fully respect human rights’.²² However, the references to human rights in the operative part of the Draft Agreement are all bracketed—indicating a lack of consensus on their inclusion. In his discussion of cross-cutting issues in the Draft Agreement, Doebbler attributes this lack of consensus to a division amongst States between two human rights visions, with the first emphasising participatory civil and political rights and the second insisting on a broader perspective that includes economic, social and cultural rights and the right to development.²³ This division is just one out of many that would need to be overcome in order to achieve an outcome in Paris that is fully consistent with existing international law. More generally, the draft Agreement and Decision reflect a risk that the Paris outcome could downgrade and weaken existing international laws rather than strengthening and implementing it.

Following Doebbler’s analysis of the Draft Agreement and Draft Decision, Calvy Aonima and Shivanal Kumar provide a comprehensive analysis of the potential implications under international law of Cyclone Pam, a category 5 cyclone which hit Vanuatu, Tuvalu, Kiribati and the Solomon Islands in March 2015. As mentioned above, Vanuatu was particularly badly affected, as the cyclone—dubbed ‘a monster’ by Vanuatu’s President Baldwin Lonsdale—claimed at least 15 human lives, destroyed thousands of homes, crippled much of Vanuatu’s infrastructure and left some of the outer islands almost completely without food sources. The estimated damage and loss caused to Vanuatu’s social, infrastructural and economic sectors exceeds \$US443 million, equivalent to around 64% of the country’s gross domestic product (GDP).²⁴ For meeting these costs, Vanuatu relied primarily on its own resources, supplemented by humanitarian aid provided by other governments and non-governmental organisations on a charitable basis.

¹⁸ *Draft Agreement and Draft Decision on Workstreams 1 and 2 of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP): Work of the ADP Contact Group* (edited version of 6 November 2015).

¹⁹ *Human Rights and Climate Change*, UN Human Rights Council Resolution 7/23, UN Doc A/HRC/7/78 (14 July 2008).

²⁰ *Report of the Office of the United Nations High Commissioner for Human Rights on the Relationship between Climate Change and Human Rights*, UN Doc A/HRC/10/61 (15 January 2009).

²¹ See, for example, *Statement of the CEDAW Committee on Gender and Climate Change*, adopted at 44th mtg, NY (7 August 2009).

²² *The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention*, FCCC/CP/2010/7/Add.1, Decision 1/CP.15 (2010), para. 8. The UNFCCC has since been ratified by South Sudan, which brings the number of state parties to 195.

²³ Curtis Doebbler, ‘Ensuring Consistency with Existing International Law of Another Climate Change Agreement’ (2015) 1 *JSP*, n 172-176 and accompanying text.

²⁴ See Global Facility for Disaster Reduction and Recovery, *Supporting Resilient Recovery in Vanuatu after Cyclone Pam* (2015), available at https://www.gfdr.org/sites/default/files/publication/Vanuatu_SoI.pdf (accessed 22 November 2015).

This factual situation offers a case study to examine the relevance of existing international climate change law for Pacific Island States that are already feeling the effects of dangerous climate change. The most pertinent question here is whether Vanuatu would have legal grounds under international law to claim reparations for the loss and damage caused by Cyclone Pam from a State or States that indirectly contributed to this damage. This question is particularly relevant in light of ongoing negotiations on a framework for addressing Loss and Damage under the UNFCCC, as it involves the important question of whether Pacific Island States already have a right to reparations for climate change-induced loss and damage under international law, *irrespective* of provisions on Loss and Damage that might be included in a new Agreement under the UNFCCC. Aonima and Kumar suggest that the answer to these questions is affirmative. Following an explanation of the correlation between Cyclone Pam and climate change, the two authors discuss how the UNFCCC itself, as existing international law, can already be used as a legal basis for a State responsibility claim against one or several States that have made material contributions to the accumulated emissions in the global atmosphere. It is legally significant that these emission stocks have in turn increased the likelihood that ‘super cyclones’ such as Cyclone Pam may occur. However, there are significant obstacles to enforcing the right to reparations for internationally wrongful acts that indirectly led to Cyclone Pam. Aonima and Kumar note that there are several avenues to invoke State responsibility, each of which might have its own obstacles, but focus their analysis on the possibility of bringing a contentious case before the International Court of Justice (ICJ). For Vanuatu, one of the greatest obstacles to bringing a case before the ICJ is that Vanuatu has not recognised the jurisdiction of the ICJ as compulsory. Accordingly, Aonima and Kumar recommend that Vanuatu—and any State in a similar position—makes a declaration to recognise the jurisdiction of the ICJ as compulsory in order to overcome this obstacle.

The potential relevance of climate change litigation under international law is also apparent from Fitolagi Fa’anunu’s contribution, ‘A Breach of Fundamental Rights as the Legal Basis for Reparations for Climate Change Damages and Injuries under International Law: Case Study of Ha’apai Islands (Tonga) Following Cyclone Ian’. This article draws on the legal implications of Cyclone Ian, which hit Tonga in January 2014 and affected the communities of the small Ha’apai Islands in particular. These communities maintain a distinct cultural identity and rely primarily on subsistence agriculture and fishing for sustenance. Fa’anunu sets out to demonstrate how these communities can rely on international human rights law to secure remedies for the loss and damage suffered as a result of Cyclone Ian.

Mirroring the discussion of the link between Cyclone Pam and climate change by Aonima and Kumar, Fa’anunu first sets out how Cyclone Ian can be attributed to climate change from a factual and a legal human rights perspective. Her contribution demonstrates how Cyclone Ian has interfered with a range of human rights to which the Ha’apai communities are entitled, including the right to life, the right to an adequate standard of living, the right to food, the right to health, and the right to self-determination. As these rights are legally entrenched in a range of treaties which States have voluntarily signed and ratified, as well as in customary international law, it is virtually undisputed that these rights give rise to legal obligations for all States under international law. However, there is insufficient attention for the inter-relationship between these obligations on the one hand and obligations under the UNFCCC on the other. Fa’anunu takes the position that human rights obligations reinforce the provisions under the UNFCCC that are aimed at preventing dangerous anthropogenic interference with the climate system. Both legal frameworks provide a legal basis for State responsibility claims for internationally wrongful conduct that has contributed to climate change damage. Apart from adding an important moral dimension, international human rights law adds value to climate change law by recognising individuals and peoples as beneficiaries of international obligations. The rights of individuals (and, in some instances, peoples) could be

enforced by States on their behalf. However, members of the Ha'apai communities also have access to international human rights mechanisms, such as the Special Procedures of the UN Human Rights Council, to raise concerns about interferences with human rights resulting from Cyclone Ian or other extreme weather events attributable to climate change.

While observing that climate change already causes human rights violations, we must recall that manifestations of climate change that are being experienced today are the result of a mere 0.85°C of warming since pre-industrialisation.²⁵ The contribution of Dr. Flavia Bustreo, 'Health and Our Shared Responsibility to Deal With Climate Change: a WHO Perspective' underscores the need for urgent action, in accordance with the precautionary principle enshrined in Article 3 of the UNFCCC, to prevent even more pervasive and severe effects of climate change in the coming decades. This imperative for action also follows from international human rights law: as Bustreo points out, an overwhelming body of evidence suggests that climate change has adverse effects on the enjoyment of the right to the highest attainable standard of health. The most vulnerable segments of populations are most severely affected. As developing countries that are particularly vulnerable to the adverse effects of climate change, Pacific Island States bear a disproportionate burden of these health impacts, while being most likely to lack the resources to adequately address these impacts.

Bustreo's contribution is a strong call for a response to climate change that is grounded in human rights standards, including the right to the highest attainable standard of health. Noting that the right to health is protected under the constitution of the World Health Organization (WHO) and a range of human rights treaties, she explains how the WHO can serve as a forum for action on health and climate change. Much like human rights, health is a cross-cutting issue in the negotiations under the UNFCCC which has its own expert forum for discussion and action. And while the UNFCCC is the central forum for international action on climate change, utilising the expertise of forums and mechanisms focused specifically on health and human rights is paramount to ensuring that individual and joint climate action is taken in accordance with human rights standards, including the right to health. One step that could be taken at COP21 in Paris is to include explicit references to the right to health in the Purpose and Adaptation sections of the Paris Agreement, in a manner that demonstrates States' shared commitment to make health a priority in responses to climate change. As Bustreo notes, prioritising health requires mobilising adequate resources to address the adverse effects of climate change on the right to health, with specific attention to the most vulnerable. There is also a need to recognise the synergies between different sectors that help build people's resilience to deal with the increased shocks and disease exposure resulting from climate change. This brings us back to the need for equitable responses to climate change that promote, rather than undermine, the realisation of the right to sustainable development in Pacific Island States and across the globe.

²⁵ IPCC, 'Contribution of Working Group I to the IPCC Fifth Assessment Report' in Thomas F Stocker et al (eds), *Climate Change 2013: The Physical Science Basis* (CUP 2013) 12.

ENSURING CONSISTENCY WITH EXISTING INTERNATIONAL LAW OF ANOTHER CLIMATE CHANGE AGREEMENT

CURTIS DOEBBLER*

We in the Pacific are innocent bystanders in the greatest act of folly of any age.
Unless the world acts decisively in the coming weeks, the Pacific as we know it is doomed.

Fiji Prime Minister Frank Bainimarama¹

INTRODUCTION

Climate change is perhaps the greatest threat facing humanity and the planet Earth today and it is likely to remain so until human beings take adequate action to address the adverse effects of climate change. Such action can only be taken jointly. Even if every Pacific Island State took several times the action each has capacity to take in terms of mitigation and adaptation, it would have little impact on the adverse effects of climate change for these States in the medium and long-term. Some of the most vulnerable States in the world are simply unable to protect the most fundamental human rights of their people without assistance and action by the States that have been disproportionately exploiting the atmosphere for centuries. To achieve the needed action States have entered into a legally binding treaty, the United Nations Framework Convention on Climate Change (UNFCCC),² which has been ratified by more States than the Charter of the United Nations. This treaty sets out the basic contours of the needed action and provides legal obligations to address climate change in accordance with the principle of common but differentiated responsibilities and respective capabilities (CBDRRC). However, as it lacks a mechanism for enforcement, its implementation remains dependent on the will of States.³ Unlike some other processes,⁴ time is of the essence. The global efforts to address climate change are fighting a ticking clock set in motion by nature.

After more than half a decade of discussions, negotiations began in October 2015 on a new climate change agreement to complement and replace provisions of the Kyoto Protocol⁵ and to enhance the UNFCCC. The current text⁶ (“Draft Agreement” or “23 October text”) of this new treaty and the accompanying decisions of the Conference of the Parties (COP) to the UNFCCC (the main one referred to here as the “Draft COP21 Decision”) will be worked on during the first week of COP21

* Dr. Curtis Doebbler is an international human rights lawyer; visiting professor of law at the University of Makeni in Sierra Leone; and representative of International-Lawyers.org, an NGO accredited to the United Nations and the African Union.

¹ Quoted in Milman, O., “Pacific islands make last-ditch plea to world before Paris climate talks, *the guardian* newspaper (1 November 2015) accessed at <http://www.theguardian.com/environment/2015/nov/02/pacific-islands-make-last-ditch-plea-to-world-before-paris-climate-change-talks> (on 1 November 2015).

² 1771 UNTS 107 (1992).

³ See below n 15en page 16.

⁴ The drawn out negotiations of the Doha Round of international trade negotiations, for example, do not have the same urgency of timeliness, and global trade has not diminished as a result of the slow pace.

⁵ 2303 UNTS 162 (1997).

⁶ The Draft agreement and draft decision on workstreams 1 and 2 of the Ad Hoc Working Group on the Durban Platform for Enhanced Action version adopted by Member States at the Plenary held around 18:00 hours and released by the Secretariat at 23:00 hours on 23 October 2015. On 6 November 2015 and edited and slightly revised version was released and on 15 November 2015 the edited version was re-issued.

by the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP)⁷ before being adopted by the COP and opened for signature and ratification by States at the same meeting in Paris, France in December 2015.

This contribution describes and analyses some of the most important parts of the Draft Agreement (part II) and three cross-cutting issues (part III). It then ends with some concluding remarks about where we may be after COP21 (part IV). It is hoped that the descriptions and analysis might contribute to better understanding of what is at stake at COP21 from the perspective of international climate change law and international human rights law.

THE COP21 OUTCOME (DRAFT AGREEMENT)⁸

The 23 October 2015 text is the negotiating text that States take with them to Paris when the last ADP session will take place and then the COP21 will consider the text for adoption. It is a text based on the negotiations between States, from which civil society was largely excluded and in which suspicions of all State Parties were heightened. As a result, there was an atmosphere of mistrust among State Parties, observers, and even co-chairs even as the negotiating text emerged from the spin-off groups late in the evening of 23 October 2015. This text rather than being the text of a draft treaty harkens back to the Geneva Draft of February 2015. Like the Geneva Draft, the text is a compilation of the different proposals of States. The text of the Draft Agreement contains 26 articles and a preamble spread over 29 pages with more than 2500 brackets and almost 30 “no text” options. The co-chairs’ 5 October effort to streamline the text had failed and States’ efforts to do so were marginal as most of the differences remain. Nevertheless, the G77 recognised the text as “a basis and a starting point for negotiations during the next session”⁹ and the European Union referred to it as “Party-owned with a clear structure.”¹⁰ It is the 23 October text of 23:30 (Draft Agreement) that States will be studying as they prepare for COP21. It is this text that is described and evaluated below.

Preamble

The preamble has been expanded from the six preambular paragraphs in the 5 October text back to 15 paragraphs. Preambular paragraphs 1-3 stress that the Draft Agreement is in “furtherance” of the UNFCCC’s objective, but a reference to its principles and provisions remains in brackets. No mention is made of the Draft Agreement being intended to implement the UNFCCC nor is there an express statement acknowledging that the Draft Agreement is under the UNFCCC.¹¹ The mandate of the ADP is recalled by a reference to four COP decisions in the preambular paragraph 3.

Preambular paragraph 4 stresses the special vulnerabilities of some States¹² and the potential list of especially vulnerable States is more limited and different than the list in article 4(8) of the

⁷ COP Decision 1/CP.17, UN Doc. FCCC/CP/2011/9/Add.1 (15 March 2012). The mandate of the ADP which has functioned since 2012 is to “develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties.”

⁸ The following section reflects a preliminary evaluation of the 23 October text or the Draft Agreement done immediately after the adoption of the text at ADP2.11.

⁹ Bose, I., “TWN Bonn Climate News Update No. 8: Balanced ‘Party-owned’ text as basis for Paris negotiations,” p. 1 Third World Network: Malaysia (23 October 2015) *accessed at* http://www.twn.my/title2/climate/news/Bonn17/TWN_update8.pdf (23 October 2015).

¹⁰ *Ibid* at p.2.

¹¹ Art 2, Draft Agreement.

¹² These States refer to developing countries, least developed countries, small island developing States, small mountainous developing States, Africa States, and States of the Central American isthmus.

UNFCCC.¹³ The States whose economies are highly dependent on fossil fuels appear no longer to be considered vulnerable.¹⁴

Preambular paragraphs 5, 10 and 11 seem to be a collection of thoughts for a diverse group of interests¹⁵ and paragraphs 6 and 7 state what would seem to be obvious, which is that urgent and sustained action is needed to address the adverse consequences of climate change and that the impacts of climate change are already being felt.

In addition, the 15 preambular paragraphs in the 23 October text now contain references to the inter-sectoral nature of climate change action,¹⁶ note that the “largest share of historical global emissions” occur in developed countries but the emissions of developing countries are growing,¹⁷ recognise that future action should depend on economic and emissions trends,¹⁸ and reaffirm the importance of education.¹⁹ The importance of sinks²⁰ and land use in relation to food security is also emphasised.²¹ Finally, carbon pricing is considered important for the cost-effective cutting of emissions.²² This last is somewhat controversial realising as Frank Ackerman of the Stockholm Environment Institute and Tufts University does, that “[w]hile carbon prices will change energy costs, energy consumption and carbon emissions, relying on this mechanism alone would be both ineffective and inequitable.”²³

Definitions (art. 1)

The 5 October text limited definitions to the parties to the agreement and “the COP serving as the meeting of the Parties to this Agreement (CMA)”.²⁴ Although the co-chairs’ tool did not suggest that a new governing body would need to be created, the earlier 24 July 2015 text did appear to make such a suggestion. The 23 October text again introduces the CMA in Article 1, paragraph 3 as is likely legally necessary until all the Parties to the UNFCCC have ratified the Draft Agreement. While this is necessary it will likely further deplete the already dangerously weak authority of the COP under the UNFCCC.

The 23 October text also suggests a vague definition of developing and developed countries; however, reaching meaningful agreement on this definition will not be easy. Article 2, paragraph 1, clearly anchors the Charter of the United Nations in the sovereign equality of all its Member States. This equality does not mean treating countries equally in relation to matters in which they are unequal.²⁵ The UNFCCC contains two annexes, the first including both developed countries and

¹³ Art. 4(8), UNFCCC. A list of vulnerable States as stated in art. 4(8) includes those that are small islands; low-lying coastal; arid and semi-arid; liable to floods and forest decay; prone to natural disasters, drought and desertification; have fragile mountainous ecosystems; are landlocked, or, are highly dependent on fossil fuel.

¹⁴ Compare preambular paragraph (Pp.) 20 and art. 4(8)(h), UNFCCC.

¹⁵ The diverse group of interests range from poverty reduction, health, and sustainable development to ecosystem integrity and human rights, including food security and the rights of indigenous peoples, women, children and persons with disabilities.

¹⁶ Pp. 5, Draft Agreement (23 October 2015).

¹⁷ Ibid, pp. 8.

¹⁸ Ibid, pp. 9.

¹⁹ Ibid, pp. 14.

²⁰ Ibid, pp. 13.

²¹ Ibid, pp. 13.

²² Ibid, pp. 15.

²³ See Ackerman, F., “Carbon Markets are Not Enough (Chap. 3),” at 26 in UNCTAD, *Trade and Environment Review 2009/2010: Promoting poles of clean growth to foster the transition to a more sustainable economy* (2010).

²⁴ Art. 1(1-3), Draft Agreement.

²⁵ By way of example, as in 1992, today there are a relatively small number of countries that are high income countries having a Gross National Income (GNI) per capita of over US\$12,746. Most people in the world live on less than US\$12,746. According to the World Bank in 2008 more than 80% lived on less than US\$10 per day or less than US\$3650 per

countries in transition and the second only the former, which are given more responsibilities for cutting back their emissions as well as assisting non-Annex I States. The references to developed and developing countries in the UNFCCC are linked to Annex I. “Party included in Annex I” is defined in the UNFCCC.²⁶

An effort is also made to define REDD+,²⁷ JMA (as an “alternative to REDD+”),²⁸ results-based payments,²⁹ climate forcers,³⁰ and emissions reductions,³¹ which appears to assume carbon trading.³² An article devoted to defining the controversial REDD+ mechanism has also been added in article 3bis in terms of COP19 decisions³³ and states the purpose of the REDD+ mechanism.³⁴

Surprisingly, there is no definition of nationally determined mitigation commitments or contributions (NDMCs), which are instead defined in the options for article 3, paragraph 2. Finally, every word in Article 1 after the chapeaux and definitions of “Parties present and voting,”³⁵ “Party,”³⁶ and “CMA” has been placed in brackets.

General (art. 2 and 2bis)

Article 2 states the purpose of the agreement. Options for the first of two paragraphs range from merely repeating the objective of the UNFCCC from its article 2³⁷ to defining that article in terms of different versions of a 2°C or 1.5°C limit on global temperature rises.³⁸ Despite calls by leading climate experts for keeping global warming under 1°C, there is no such option in the text.³⁹ A second paragraph appears to be a concession to some of the most important concerns of some States and civil society and constitutes some of the more ambitious text in the Draft Agreement.⁴⁰ The inclusion of “the right to health and sustainable development” is new and appears to significantly

year. See World Bank, *World Bank Development Indicators* (2008) and Chen, S., and Ravallion, M., *The developing world is poorer than we thought, but no less successful in the fight against poverty*, World Bank Policy Research Working Paper No. 4703 (August 2008). This amount of money is woefully insufficient to access even the most basic nutrition, health, and housing services. Using the United Nations’ figures therefore would not provide a credible indicator of States’ level of development. Perhaps for that reason the UNFCCC, although speaking of developed and developing countries, does not define them.

²⁶ Art. 1(13), Draft Agreement.

²⁷ *Ibid* at para. 7. REDD+ is defined “as a mechanism aimed at reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries that is based on the Warsaw Framework for REDD+”.

²⁸ JMA is defined as the “joint mitigation and adaptation actions”.

²⁹ *Ibid*, para. 7bis.

³⁰ *Ibid*, para. 5. Climate forcers are defined as “compounds or group of compounds that contribute to climate change”.

³¹ Emissions reductions are defined as “the sum of all reduced emissions and increased carbon stocks”.

³² *Ibid*, para. 6.

³³ Art. 3bis(2), Draft Agreement.

³⁴ *Ibid*, para. 3.

³⁵ Art. 1(1), Draft Agreement.

³⁶ *Ibid*, para. 2.

³⁷ Art. 2(1), Draft Agreement.

³⁸ *Ibid*, para. 1(a).

³⁹ Hansen, J., Sato, M., Hearty, P., Ruedy, R., Kelley, M., Masson-Delmotte, V., Russell, G., Tselioudis, G., Cao, J., Rignot, E., Velicogna, I., Kandiano, E., Schuckmann, K. von, Kharecha P., Legrande, A.N., Bauer, M., and Lo, K.W., “Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling, and modern observations that 2°C global warming is highly dangerous,” 15 *Atmos. Chem. Phys. Discuss.* 20059–20179 (2015).

⁴⁰ This includes references to “equity,” “science,” “the principles of equity and common but differentiated responsibilities and respective capabilities,” “the integrity and resilience of natural ecosystems,” “the integrity of Mother Earth,” the “protection of health,” “a just transition of the Workforce,” “decent work and quality jobs,” “respect, protection, promotion and fulfillment of human rights for all, including the right to health and sustainable development,” “the right of people under occupation,” “gender equality and the full and equal participation of women,” and “intergenerational equity.”

strengthen the rights language in the Draft Agreement. References to Mother Earth, indigenous rights and the rights of people living under occupation have been proposed before but usually disappear from the text. Some of the above mentioned text in article 2, paragraph 2, as well as article 2 as a whole, is in brackets. This could mean that this ambitious text could be among the first victims of political compromise. This is signaled by the “no text” option.

Article 2bis focuses on States reporting requirements of their voluntary contributions suggesting that they become legally binding, using the word “implement” in its paragraph 1.⁴¹ Paragraph 2 states that nationally determined contributions “will represent a progression in light of Parties’ differentiated responsibilities and commitments”⁴² in an effort to reach the ambition that is necessary to achieve the objectives of the UNFCCC. The paragraph complements and details the common but differentiated nature of States’ commitments.⁴³ It nevertheless represents a very weak attempt to make voluntary contributions legally binding, which may inadvertently result in locking in commitments that are inadequate to protect billions of vulnerable people. The “no text” Option 2 indicates that even this weak attempt is controversial for some States.

Mitigation (art. 3)

By far the longest article in the 23 October text, article 3 runs for more than 8 pages with 19 subparagraphs.⁴⁴ Despite the lengthy text, the Draft Agreement currently contains no clear mitigation obligations for any State and certainly no adequate collective objective. The collective long-term goal is defined at anything between 40% and 70% reductions based on 2010 emissions levels by 2050.⁴⁵ Thus considering that the IPCC’s Fourth Assessment Report stressed the need for the peaking of global emissions by 2015, even the most optimistic of the above collective goals is wholly inadequate. The individual efforts seem to be based on a version of the voluntary-pledges-option proposed in Copenhagen at COP15 despite the controversy it caused at that time.⁴⁶ In the Draft Agreement some options require States to implement their NDMCs. If the Draft Agreement voluntary commitments are anywhere near the commitments made by States in the INDCs, they will fall far short of what is required for adequate action to address the adverse effects of climate change. Paragraphs 3 to 5 make an effort to increase the mitigation ambition of States, but without an accountability mechanism these paragraphs on differentiated efforts,⁴⁷ progression,⁴⁸ and ambition⁴⁹ are likely to lack enforceability. Despite these *de minimis* provisions, some Western commentators have even called for further weakening the Draft Agreement by ensuring it is not legally binding.⁵⁰ Such suggestions are inconsistent with the agreed mandate of the ADP to

⁴¹ Art. 2bis(1), Option 1, Draft Agreement.

⁴² Ibid, para. 2.

⁴³ Ibid, para. 2. The paragraph states that “[t]he extent to which developing country Parties will effectively implement this Agreement will depend on the effective implementation by developed country Parties of their commitments on provision of finance, technology development and transfer and capacity-building.”

⁴⁴ These paragraphs are on (1) the collective long-term goal, (2) individual efforts, (3) differentiated efforts, (4) progression, (5) ambition, (6) information, (7) features, (8) timing, (9) housing, (10) accounting, (11) methods and guidance, (12) long-term strategies; (13) response measures; (14) unilateral measures, (15) REIOS, (16) cooperative approaches, (17) support, (18) framing, and (19) international transport emissions.

⁴⁵ Art. 3(1), Option 1, Draft Agreement.

⁴⁶ See, for example, Doebbler, C.F.J. and Wewerinke, M.J., “What happened in Copenhagen,” *Al-Ahram Weekly*, Issue No. 978 (24 – 30 December 2009).

⁴⁷ Art. 3, para. 3, Draft Agreement.

⁴⁸ Ibid para. 4.

⁴⁹ Ibid para. 5.

⁵⁰ See Ottinger, R., “For CoP-21 “Legally Binding” Means Bound To Fail,” 45(5) *Environmental Policy and Law* 179 (2015).

“develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties.”⁵¹

In the proposed paragraph on the information States should communicate in regards to their NDMCs, the description of the information as providing “clarity, transparency and understanding” appears agreed in a rare step forward in the text.⁵² There are two options for paragraphs on the features of the NDMCs. The first provides for obligations for all States without consideration of CBDR,⁵³ the second for a differentiated approach that is consistent with CBDR.⁵⁴

The remaining paragraphs 8 through 19 deal generally with technical aspects of reporting NDMCs.⁵⁵ Some options for paragraphs 8 and 9 speak of an annex.⁵⁶ Unlike the annex B of the Kyoto Protocol that contains emissions reduction commitments as quantified percentages of a base year, a footnote indicates that commitments would be based on national determined voluntary contributions or NDMCs.⁵⁷ In the provision on methods and guidance, one option allows loose counting including land use and REDD+,⁵⁸ while another Option expressly rejects provisions on accounting and land use.⁵⁹ The Options for long-term strategies include a requirement that States “shall formulate low emissions development strategies with time frames for zero emissions.”⁶⁰ Developing countries also submitted proposals for ensuring adequate response measures⁶¹ and prohibiting unilateral measures,⁶² but these proposals were met with “no text” proposals from the developed countries. A provision allowing regional economic integration organisations to report collectively for their Member States appears in paragraph 15 in brackets as is true for most of the proposals already mentioned. However, such a provision is mirrored in the UNFCCC and the KP texts. Provisions for cooperative approaches range from “no text”⁶³ to provisions that appear aimed at ensuring that cooperative action is only counted once.⁶⁴ Both Options for provisions on support appear aimed at ensuring developing countries “new and additional financial resources, technology transfer and capacity building”⁶⁵ as is already required by article 4 of the UNFCCC. Paragraph 18 of the article 3 repeats the references to CBDR. Finally, the provisions on international transport emissions essentially repeat article 2, paragraph 2 of the Kyoto Protocol.⁶⁶ As a consequence aviation and maritime emissions that are growing at the rate of 300% by 2050 are left to the discretion of industry monitors who have not been willing to set clear emissions limitation targets. Moreover, the complete silence about military emissions leaves a huge amount of emissions unfairly reported and increases the potential that they could be under-reported.⁶⁷

⁵¹ COP Decision 1/CP.17, UN Doc. FCCC/CP/2011/9/Add.1 (15 March 2012).

⁵² Ibid para. 6.

⁵³ Ibid para. 7, Option 1.

⁵⁴ Ibid para. 7, Option 2.

⁵⁵ Reporting should be timely, transparent, and without double counting.

⁵⁶ Ibid paras. 8 and 9.

⁵⁷ Ibid para. 8(a), Option 1, nn. 7.

⁵⁸ Ibid para. 11, Option 1.

⁵⁹ Ibid para. 11, Option 2.

⁶⁰ Ibid para. 12.

⁶¹ Ibid para. 13.

⁶² Ibid para. 14.

⁶³ Ibid para. 16, Option 4.

⁶⁴ Ibid para. 16, Option 2.

⁶⁵ Ibid para. 17.

⁶⁶ See above n 5.

⁶⁷ See International Panel on Climate Change, *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, IPCC: Bracknell, UK (2007), stating that military emissions can be reported in aggregate or in the country where they are actually being made, thus allowing the real source of military emissions to be obscured and controls on this reporting to be more difficult. It can also lead to the consequences that overseas military bases, even in occupied territories are counted as emissions of the occupied country.

Articles 3bis and 3ter seem to transcend the mitigation and adaptation divide. The former deals with REDD-plus (REDD+) and thus states its purpose.⁶⁸ It also appears from the lack of brackets around paragraph 3 in article 3bis that the definition accorded to REDD+ is agreed, although difference remains on whether to describe REDD-plus as a “[m]echanism for mitigation and adaptation”⁶⁹ and whether to create a “Joint Mitigation and Adaptation Mechanism.”⁷⁰ In contrast to article 3bis that is based on an issue that the COP began discussing in 2005,⁷¹ the discussion of article 3ter seems to have been inspired by the recently adopted Sustainable Development Goals.⁷² As such it is not without controversy and includes widely divergent options among the five options,⁷³ including a “no text”⁷⁴ option. The article appears to be an effort to ensure climate action achieves sustainable development, but it is vague and incomplete.⁷⁵

The agreement contains alternatives that include both binding mitigation obligations and voluntary mitigation pledges. The division between mainly developing States that support the former and developed States that are stubbornly fighting to maintain the latter, which they introduced at COP15, appears to be widening.⁷⁶ Unless this gap can be bridged any mitigation action prompted by the Draft Agreement is likely to be inadequate. The hope that the INDCs that all countries agreed to provide might help to increase ambition seems to have dissipated as their due date was moved back to a now almost meaningless 31 October 2015. Nevertheless, the INDCs provided by many States by this date have been shown to be very inadequate to achieve even a 2°C warming limit.⁷⁷ At this late date it was too late for the INDCs to have a significant impact on the Draft Agreement as the UNFCCC Secretariat and States' delegations have not had adequate time to evaluate the INDCs. Nevertheless, the UNFCCC's report issued on 30 October 2015 indicates that the INDCs of States producing more than 90% of the world emissions are not ambitious enough to prevent global warming well in excess of the already dangerous 2°C limit,⁷⁸ not to mention the safer 1.5°C or 1°C goals. Nevertheless, it optimistically concludes that as a first step, the INDCs are valuable. The danger that this level of warming means is emphasised by seventeen of the world's leading climate scientists in their recently published study that concludes that “2°C global warming above the preindustrial level, which would spur more ice shelf melt, is highly dangerous.”⁷⁹ Their conclusions showed that much of the harm that had been predicted by the IPCC had become unavoidable and was already taking place at a much faster rate than had been earlier predicted.

⁶⁸ The purpose of REDD+ is to “incentivize the reduction of emissions from deforestation and forest degradation and to promote conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries, while enhancing the non-carbon benefits derived as a result of the multiple functions of forests, including alleviating poverty and building ecosystem resilience.”

⁶⁹ *Ibid* para. 1.

⁷⁰ *Ibid* para. 4.

⁷¹ See UNFCCC COP Decisions 2/CP.13 (The Bali Action Plan) and 2/CP.13 (2007).

⁷² “Transforming our world: the 2030 Agenda for Sustainable Development,” UNGA Res. A/RES/70/1 (21 October 2015) adopted at the 4th plenary meeting of the UNGA (25 September 2015).

⁷³ For example, Art. 3ter, Option 4 of the Draft Agreement seems to favour a differentiated approach in which assistance to developing countries is a focus, while Option 1 seems to encourage ambition in a manner by which they contributions of States are not differentiated.

⁷⁴ Art. 3ter, Option 5, Draft Agreement.

⁷⁵ For example, Option 1

⁷⁶ This needs more explanation. G-77 wants binding for OECD and voluntary for themselves. EU wants binding for all, but could give some voluntariness to some G-77. US+ wants voluntary for all if China does not take binding.

⁷⁷ NGO Coalition, “Fair Shares: A Civil Society Equity Review of INDCs (Summary)” (October 2015) accessed at https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/ib-civil-society-review-climate-indcs-191015-en_2.pdf (1 November 2015).

⁷⁸ UNFCCC, “Synthesis report on the aggregate effect of the intended nationally determined contributions,” UN Doc. FCCC/CP/2015/7 (30 October 2015).

⁷⁹ See above n 39.

A bright spot might have been that there is attention to zero emissions in the mitigation section of the Draft Agreement, but the vaguely worded alternatives and the lack of any specific commitments in the near term even create suspicion about the intention behind this reference. Indeed the use of the word “net” seems to indicate that these limits will be reached by wealthy industrialised countries either buying the right to pollute from poorer countries that would otherwise not produce emissions or resorting to untested or potentially dangerous technologies.⁸⁰ These practices are unsustainable, often dangerous, and will likely not achieve the stabilisation of greenhouse gases under dangerous levels.⁸¹

The majority of countries, represented by the 134-States G77 and China, have been pushing for legally binding quantified emission reduction commitments for developed or Annex I countries, but the majority of Annex I countries have resisted by insisting non-Annex I countries take on unconditional commitments as well. Moreover, the developed countries appear only willing to agree to act in the future if developing countries commit to action first. This tactic has been employed by the largest fossil fuel consuming countries throughout the talks and it is hard, at this time, to imagine that in the future it will change. The result is that the goal of zero emissions seems to be an illusion that is being used as leverage on other issues on which developed countries wish to gain concessions. The lack of any mention of fossil fuels in the mitigation section adds to this suspicion.

Thus although achieving adequate mitigation ambition in the Draft Agreement is essential, it is highly unlikely that it will be achieved given the slow progress to date and the distance between States positions. At the center of the slow progress is the dispute over the principle of CBDR, which States are obliged to respect according to article 3 of the UNFCCC and which some developed States still challenge as to its existence or its interpretation. While the challenges are subsiding with a narrowing number of holdout States able to defend their positions in light of the clear words of article 3, the number of States seeking to interpret the principle in their unique manner has remained stable. Developed States generally claim that the principle means that all States that can take action on climate change to an equal degree. The consequence of this interpretation is that if developing States will not accept binding legal obligations then all States should have merely ‘voluntary commitments’, which are not legal obligations at all. Developing States counter, that the UNFCCC framework was intended to create a system for addressing climate change in which developed States took the lead and were the only States that had legal obligations on mitigation. The reason for this, say developing States, is that the developed States have benefited for centuries from over exploitation of the planet’s atmosphere and they, developing States, need the chance to catch up. Behind these often articulated positions seems to be a sense of entitlement by many developed countries. Despite all the moral pronouncements by such figures as the Catholic Church’s Pope Francis⁸² and the Geneva Interfaith Forum on Climate Change, Environment and Human Rights,⁸³ the moral message has not yet resonated with developed countries.

Adaptation and loss and damage (arts. 4 and 5)

⁸⁰ The achievement of mitigation obligations by carbon trading or turning to dangerous technologies is expressly supported by some developed States and by some oil rich States.

⁸¹ Preventing a dangerous level of greenhouses to accumulate in the atmosphere is the objective of the UNFCCC to which all States Parties have committed as an international legal obligation.

⁸² See, for example, “Encyclical Letter *Laudato Si’* of The Holy Father Francis on Care for Our Common Home” (24 May 2015) accessed at http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html (accessed 5 June 2015).

⁸³ This group has organised side-events that stress the moral imperative of responsibility by countries who have benefited from the historical exploitation of the atmosphere at several interim UNFCCC meetings as well as at the COPs since COP15 in 2009.

Adaptation, one of the most important aspects of climate action and the Draft Agreement for developing countries, covers about two-and-a-half pages of the Draft Agreement but appears far from agreed. There are 12 paragraphs, seven of them with more than one option and four with “no text” options. Even paragraphs 4 through 8 that have only one option and much text that is not in brackets, still contain the significantly different language options of “shall” and “should” as alternatives on which there is no agreement. Much of the key differences come down to how the principle of CBDR, to which State Parties committed in article 3⁸⁴ will be expressed, or sometimes whether it will even be mentioned. This matter has not been resolved and there is little to warrant optimism that it will be by COP21. For developing countries it is not only a matter of upholding the principle, but also a matter of their very ability to develop economically. Few developing States have become developed States over the past 70 years and many fear they will never be able to catch up with the developed countries in terms of development under the current climate system that would lock them into an apparent choice between their development and contributing to climate action.⁸⁵ This was realised already in 1992, when developed and developing States agreed that developed States must take the lead and offer assistance to developing States. However, today, many developed States are seeking to renege on this agreement. These developed States appear to fear a real realignment of the international order towards a more democratic and equitable one in which power and wealth is more evenly shared. The international climate negotiations are perhaps the forum in which this tension plays itself out most clearly in international political decision making.

As one might expect this tension is reflected in articles 4 and 5 of the Draft Agreement. Paragraph 1 contains two vague options providing for goals. Although both paragraphs appear to concern long-term goals this is not entirely clear. Only Option 1 contains a reference to concrete goals linked to temperature rise limits, using both 2°C and 1.5°C. Option 2 is a weak call that merely states that adaptation is a shared goal and may in fact run counter to the principle of CBDR. Paragraph 2 contains a catch all Option 1 and an Option 2 based on CBDR. There is also a “no text” option 3. Paragraph 3 contains two options, which both acknowledge that “adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach” and the important role of indigenous knowledge.⁸⁶ There still seems to be a disagreement, however, how CBDR will be incorporated. Human rights, the right to life, and the rights of people living under occupation are in brackets in the Option 1, but do not appear in Option 2. More importantly, neither health nor the right to health is mentioned in either option or in the article on adaptation despite the fact that the majority of States presenting INDCs say it is important to adaptation and many, that it is a priority.⁸⁷ Paragraph 4 contains agreement on the importance of adaptation, at least for the most vulnerable, although a reference to international cooperation remains in brackets. The theme of cooperation is taken up again in paragraph 5, but whether it is an obligation as in the UNFCCC⁸⁸ or has been weakened to a mere aspiration is unclear. Paragraph 6 describes what action States should take for adaptation planning and includes assessment, strengthening and monitoring, but exactly of what remains unclear. Paragraphs 7 and 8 further specify that States should submit some sort of communications about adaptation⁸⁹ as 50 Least Developed Countries already do to qualify for funding; and, there is an option for periodic submissions.⁹⁰ Paragraph 9 calls for a register for

⁸⁴ Art.3, UNFCCC.

⁸⁵ Although using sustainable energy could help developing States to develop without emitting significant levels of greenhouse gases, the technology for a ‘green economy’ is being withheld from developing States through the intellectual property protections and

⁸⁶ Art. 4(3), Option 1, Draft Agreement.

⁸⁷ This is based on the author’s review of 100 of the 118 INDCs submitted.

⁸⁸ See, for example, art. 4(1)(e), UNFCCC.

⁸⁹ Art. 4, para. 7, Draft Agreement.

⁹⁰ Ibid Art. 4(8(b)).

adaptation communications in one option⁹¹ and for “no text” on this matter in another option.⁹² Paragraph 10 indicates that States disagree over whether there should be a special high-level stocktaking on adaptation at regular intervals⁹³ or that this responsibility should be part of the tasks of the CMA of the Draft Agreement’s bodies.⁹⁴ A third option refers to “no text” at all on this matter.⁹⁵ Paragraph 11 has two options for the involvement of the UNFCCC bodies dealing with adaptation, but it appears that there is disagreement about whether the Adaptation Committee and the Least Developed Countries Expert Group should be involved in adaptation decisions under the Draft Agreement.⁹⁶ Similarly, States have apparently not agreed on the conditions for eligibility for assistance in paragraph 12,⁹⁷ with one option calling “no text” on separate text on adaptation support and for provisions on adaptation to be distributed among article 6 through 9.⁹⁸

Adaptation includes securing adequate finance, capacity-building, and access to technology that will enable vulnerable States to become more resilient to the adverse impacts of climate change. Each of these constituents is dealt with elsewhere in the Draft Agreement. This section was intended to provide the overall framework for adaptation. It has been bogged down by the continuing controversy over the principle of CBDR, which as noted in the section on mitigation, States are obliged to respect according to the UNFCCC.⁹⁹ It is unlikely that much progress will be made until an agreement on CBDR is reached.

Article 5 concerns loss and damage, which was previously combined with adaptation in the 5 October text and put with the undecided elements of the 24 July Tool. Loss and damage is an important issue for developing States given that much of the damage they will suffer is now unavoidable due to the failure of the international community to act in a timely manner. Article 5 contains two options. Option 1 is built on the foundation of the Warsaw International Mechanism on Loss and Damage,¹⁰⁰ defining the mechanism under the Draft Agreement.¹⁰¹ However, exactly how the mechanism will be defined is not clear. The purpose of the mechanism, however, is stated as “to promote and support the development and implementation of approaches to address loss and damage associated with the adverse effects of climate change, *inter alia*, extreme events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change.”¹⁰² It should be noted that the whole of Option 1 is in brackets and that Option 2 is a “no text” option that states “No reference to loss and damage (no Article 5).” As a result the inclusion of loss and damage in the Draft Agreement is still very much up in the air.

The term loss and damage “refers to negative effects of climate variability and climate change that people have not been able to cope with or adapt to.”¹⁰³ While developing States want developed States to assist them in dealing with the damage they cannot avoid from climate change, developed States retort that they will only assist if their liability is limited. This latter view seems to ignore the fact that under general international law, developed States that have contributed to causing climate

⁹¹ Ibid Art. 4(9), Option 1.

⁹² Ibid Art. 4(9), Option 2.

⁹³ Ibid Art. 4(10), Option 1.

⁹⁴ Ibid Option 2.

⁹⁵ Ibid Option 3.

⁹⁶ Ibid Art. 4(11), Option 1.

⁹⁷ Ibid Art. 4(12), Options 1 and 2.

⁹⁸ Ibid Art. 4(12), Option 3.

⁹⁹ See Article 3, UNFCCC.

¹⁰⁰ See Warsaw international mechanism for loss and damage associated with climate change impacts, COP Decision 2/CP.19, UN Doc. FCCC/CP/2013/10/Add.1, pp. 6-8 (31 January 2014).

¹⁰¹ Ibid Art. 5(1), Option 1.

¹⁰² Ibid Art. 5(2).

¹⁰³ Warner, K., and Geest, K., van der, “Loss and damage from climate change: local-level evidence from nine vulnerable countries,” 5 (4) *International Journal of Global Warming* 367, 369 (2013).

change, despite their legal obligations to cut their emissions, are likely to be liable under international law, with very few legal limits, for the damage they cause to developing States.¹⁰⁴ A provision limiting the liability of developed States will therefore be contrary to the existing legal rights of developing States. One would think that developing States would not easily cede their legal rights as it appears developed State are demanding.

Finance (art. 6)

Finance is the first of a trinity of obligations that developed States have towards developing States. The other two are the obligation to transfer technology¹⁰⁵ and to help developing countries build their capacity to adapt to climate change, to contribute to mitigation, and to meet their reporting obligations under the UNFCCC and the Draft Agreement.¹⁰⁶ Perhaps the weakest provisions in the Draft Agreement are those concerning finance. This is perhaps the most troubling aspect of international climate action. Although there are two options of 4 and 21 paragraphs, respectively, neither contains any concrete financial commitments. The first Option uses phrases like “mobilize, and/or facilitate” that are unlikely to contribute to building the trust needed to achieve an ambitious Draft Agreement. Furthermore, although scaling up financing is mentioned,¹⁰⁷ no mechanism to ensure this is put in place, in fact no mechanism to ensure States meet their already existing financing obligation, appears in the Draft Agreement. This was a major issue for developing States during the negotiating session that took place between February and October 2015, but it was not resolved.

The approximately three pages of provisions on finance in the co-Chairs tool fail to provide for any meaningful obligations for developing States to provide climate finance. The need to focus on public finance is not even articulated clearly. Even though private sources of finance will be woefully inadequate to meet the cost of dealing with climate change,¹⁰⁸ even the 100 billion per year goal is proving overly optimistic given the ambiguity about how the finance will materialise. The principles that are supposed to guide finance and which are already embedded in the UNFCCC, such as the obligation for developed countries to provide new and additional finance to assist developing countries, is not clearly articulated in Option 1¹⁰⁹ and only within brackets in Option 2.¹¹⁰ Missing from the text is also any mention of curbing fossil fuel subsidies.

The UNFCCC unambiguously states that “[t]he developed country Parties and other developed Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations” to report and

¹⁰⁴ The law of State responsibility for harm caused to another State by an act that is inconsistent with an existing legal obligation towards that State, such as a legal obligation flowing from a multilateral treaty like the UNFCCC, creates the duty to, among other obligations, pay adequate compensation to the injured State. See *The Factory at Chorzow (Claim for Indemnity) (The Merits) (Germany v. Poland)*, PCIJ Reports, (Ser. A), No. 17 (13 September 1928) at para. 125, p. 48 and *Trail Smelter, UNRIAA*, vol. III (Sales No. 1949.V.2), p. 1905 (1938, 1941). The reason developed States will carry this burden of State responsibility is that only they, and not developing States, have obligations to mitigate their greenhouse gas emissions that they have not met.

¹⁰⁵ Art. 7 in the Draft Agreement. See also 4(4)(concerning least developed countries), art. 4(8) read in conjunction with arts. 4(7) and 11(1), UNFCCC.

¹⁰⁶ Arts. 8 and 9 of the Draft Agreement. See also arts. 4(1)(c)-(e) and (g)-(i), 5(b) and (c), UNFCCC .

¹⁰⁷ Art. 6(8bis) (in brackets).

¹⁰⁸ See Kowalzig, J., “Climate, Poverty, and Justice: What the Poznan UN climate conference needs to deliver for a fair and effective global deal,” 124 *Oxfam Briefing Paper* p. 15 (December 2008). Although few academics or institutions have even attempted to estimate private financial flows, it is logical to understand that private finance will not be adequate because private finance is done on a profit making basis and today financial flows from North to South—as climate finance should be—result in profits being repatriated to the North

¹⁰⁹ Art. 6, Option 1.

¹¹⁰ *Ibid*, Option 2.

take action on climate change.¹¹¹ The UNFCCC further obliges States to take into account “adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties” in the funds they provide.¹¹² This vision does not seem to be communicated by the current draft text concerning finance. The same vague language that plagues other parts of the Draft Argument is also present in the financing options. Options range from binding commitments, to which developed States steadfastly object, to aspirations that again threaten to render the agreement irrelevant for achieving international action.

In the negotiations developed States have been insisting on provisions that provide for a larger role for the private sector, while refusing to commit to providing adequate finance, capacity building, and technology to developing countries. Developing countries in turn demanded that developed States provide them the new and additional finance, capacity building, and technology with even more assurances of adequacy. An example is the developed countries refusal to engage fully in discussions about exceptions to the intellectual property rights, which often prevent developing States from acquiring the technology necessary to green their economies. While almost all but a handful of States have embraced market mechanisms, few are willing to rely on them without the State committing to be the ultimate provider of last resort. The controversy over market and non-market mechanisms may, however, merely be masking the larger problem that some of the wealthiest and historically most polluting States are unwilling to give up the advantages they have gained by their overexploitation of the planet's atmosphere and many of its people.

The real test of the commitment to financing will be what money is actually put forward, for example by deposit or at least signed agreement, in the Green Climate Fund. Recent moves by developed countries to double count, provide vague oral promises without any money on the table, and to generally restrict their financing obligations, could render the Draft Agreement incapable of implementation, especially at the level that existing law and science indicates is necessary.

The lack of any type of accountability mechanism to ensure that commitments will be fulfilled I likely to ensure the inadequacy of any financing. Equally concerning is that other forums where it was hoped progress would be made towards providing adequate climate finance, turned out to be failures. Perhaps most notable of these failures was the Third Financing for Development Conference held in Addis Ababa, Ethiopia in July 2015 which adopted an outcome document, which did not contain any real commitments, back-tracked on some, and appeared to perpetuate a failing business as usual, scenario.¹¹³ This meeting, it had been hoped at one point, would provide the resources for the achievement of both climate change goals and the Sustainable Development Goals.¹¹⁴ In fact no money was put on the table and there was instead backtracking by States from the pledges that they had made decades ago. As a consequence the mobilisation of 100 billion USD per year by 2020 to address climate change looks quite unrealistic, despite the fact that the amount of financing estimated to be needed globally is almost 6 trillion USD per year by 2020.¹¹⁵

Technology development and transfer (art. 7)

Together with finance and capacity-building, technology development and transfer is one of the main consequences of CBDR and thus one of the primary responsibilities of developed States

¹¹¹ Art. 4(3), UNFCCC.

¹¹² Ibid.

¹¹³ Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa Action Agenda), annexed to UN Doc. A/69/313 (27 July 2015).

¹¹⁴ See above n 72.

¹¹⁵ World Economic Forum, The Green Investment Report: The ways and means to unlock private finance for green growth (A Report of the Green Growth Action Alliance) p. 13 (2013). 32 See arts. 4, para. 5, 5, 6, and 9, para. 2(d) of the UNFCCC.

towards developing States.¹¹⁶ It has also been a standing concern of the COP. As long ago as COP7 in Marrakesh, Morocco, an Expert Group on Technology Transfer was created to advise the COP through its Subsidiary Body for Scientific and Technical Advice (SBSTA).¹¹⁷ A major obstacle to adequate transfer of technology between developed and developing countries, however, has been intellectual property rights. These rights are not even mentioned in the Draft Agreement, and only meekly mentioned in the draft COP21 decision.¹¹⁸

Elsewhere in the Draft Agreement seven paragraphs are concerned with technology development and transfer, but four of them include “no text” options. Paragraph 1 states a general goal of development and transfer and some vague language of encouragement.¹¹⁹ Paragraph 1ter makes an effort to encourage the same thing by giving authority to the CMA to take action of encouragement and by requiring States to submit reports at regular, but otherwise undefined, intervals.¹²⁰ Paragraph 2 contains an option calling for the CMA to adopt a technology framework¹²¹ and another merely referring to the framework.¹²² Other paragraphs address developed countries’ duty to help developing countries overcome barriers to technology access and development,¹²³ strengthen existing mechanisms,¹²⁴ and support developing countries.¹²⁵

Capacity-building (art. 8 and 8bis)

Capacity building is also found in the UNFCCC across several articles that deal with strengthening the resilience of countries to withstand climate change shocks.¹²⁶ Although the UNFCCC only uses the phrase “capacity building” once, reference to enhancing endogenous capacity, strengthening the scientific capabilities of countries, and cooperation on education and training are all in reality references to capacity-building. Several forums have been created to discuss capacity-building. One of these, the Durban Forum on Capacity-building, held its fourth meeting during the June 2015 meeting of the UNFCCC's Subsidiary Body for Implementation. In addition, existing bodies like the Technology Executive Committee, the Climate Technology Centre and Network, the Standing Committee on Finance, and the Green Climate Fund, all play an important role in capacity building and participate in the Durban forum.

Capacity-building was first addressed explicitly at COP5 held in Bonn, Germany.¹²⁷ It also appeared as part of the COP7 outcome known as the Marrakesh Accords in a decision entitled “Capacity building in developing countries (non-Annex I Parties)” focusing on assistance by developed countries to developing countries.¹²⁸ The COP decisions emphasise that capacity

¹¹⁶ Art. 4(1, 3, 5, 7- 9), UNFCCC.

¹¹⁷ COP Decision 4/CP.7 (2001), UN Doc. FCCC/CP/2001/13/Add.1 at pp. 22.

¹¹⁸ Paras. 2bis, Options 1, and 50, Option 1(d), option (a), COP21 Decision. In both cases the mention of intellectual property is met with “no text” options.

¹¹⁹ Art. 7, para. 1, Draft Agreement.

¹²⁰ Ibid 7, para. 1ter.

¹²¹ Ibid 7, para. 2, Option 1.

¹²² Such a framework would complement the “Framework for meaningful and effective actions, to enhance the implementation of Article 4, paragraph 5, of the Convention” agreed in an annex to COP Decision 4/CP.7, UN Doc. FCCC/CP/2001/13/Add.1 at p. 24 (21 January 2002).

¹²³ Art. 7(2bis), Option 1. Option two is a “no text” option.

¹²⁴ Ibid para. 3, on which there appears to be agreement in both Options that the Technology Mechanism established in 2010, see COP Dec., that consists of two advisory bodies, namely Technology Executive Committee and a Climate Technology Centre and Network, should be strengthened.

¹²⁵ Ibid paras. 4 and 5.

¹²⁶ See arts. 4(5), 5(a) and (b), 6, and 9(2)(d), UNFCCC.

¹²⁷ COP Dec. 10/CP.5, UN Doc. FCCC/CP/1999/6/Add.1 (2 February 2000) at p. 24.

¹²⁸ COP Dec. 2/CP.7, UN Doc. FCCC/CP/2001/13/Add.1 (21 January 2002) at p. 5. But see, COP Dec. 3/CP.7 Ibid, at 15, on capacity building in countries with economies in transition.

building should be country-driven and aimed at assisting developing countries. The BRICS ministers of environment from Brazil, Russia, India, China and South Africa reiterated this in their recent meeting.¹²⁹

The Draft Agreement is not so explicit in the four options for paragraph 1 of Article 8.¹³⁰ In each case “countries developing” is modified, but usually in way that merely gives particular attention to specific types of developing countries such as the most vulnerable. This could be understood as merely stressing the importance of the most vulnerable developing countries, or, if there are inadequate resources to really achieve adequate capacity-building as meaning that only the special groups are assisted, which would be contrary to the intention expressed in the UNFCCC. The idea of country ownership is expressed in both the two options for paragraph 2.¹³¹ Paragraph 3 contains an Option 1 calling for scaling up, but an option 2 merely calls for “All Parties” to cooperate, apparently ignoring the differentiated responsibilities of States required by the principle of CBDR. Paragraph 3bis concerns the preparation and communication of “plans, policies, actions and measures on capacity-building” by developed countries¹³² as well as a “no text” option.¹³³ Finally, paragraph 4 concerns institutional arrangements including an option calling for enhancing the institutions and existing provisions on capacity-building¹³⁴ and the other for ensuring the institutional arrangements to “enhance the effectiveness of capacity building efforts.”¹³⁵ The latter it would appear points towards monitoring and evaluation of developing countries activities for capacity-building. The result is a weak article 8 that seems to offer little new in relation to capacity building.

Capacity-building is also the theme of article 8bis on education. The first option for this single paragraph article strongly calls for cooperation “to develop, adopt and implement policies, strategies, regulations and/or action plans on climate change education, training, public awareness, public participation and public access to information.”¹³⁶ The second option is limited to the very different “should” and “shall” alternatives for cooperation and enhancing the actions just mentioned.¹³⁷ This paragraph does little to add to that to which States have already agreed.¹³⁸

Transparency (art. 9)

Considering that States have legal obligations to fulfil their treaty obligations in good faith¹³⁹ one might wonder why an article on transparency is necessary. The answer appears to lie in the lack of trust between States. As a result a ten paragraph article 9 on Transparency has been included in the Draft Agreement. Article 9 is based on the “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories” adopted at COP17.¹⁴⁰ These Guidelines explain

¹²⁹ Third World Network, “Developed countries should fulfill their obligations under the Convention, says BASIC,” Third World Network: Malaysia (2 November 2015) *accessed at* <http://www.twn.my/title2/climate/info.service/2015/cc151101.htm> (2 November 2015). This has never been an unbiased source for reporting!

¹³⁰ See art. 8(1), options 1-4.

¹³¹ Art. 8(2), Options 1 and 2, Draft Agreement.

¹³² *Ibid* para. 3bis, Option 1.

¹³³ *Ibid* Option 3.

¹³⁴ *Ibid* para. 4, Option 1.

¹³⁵ *Ibid* para. 4, Option 2.

¹³⁶ Art. 8bis, Option 1.

¹³⁷ *Ibid* Option 2.

¹³⁸ Art. 4(1)(i) and article 6, UNFCCC.

¹³⁹ See, for example, Art. 26, Convention on the Law of Treaties (VCLT), 1155 *UNTS* 331 (1980) and *Nuclear Tests (Australia v. France)*, *ICJ Reports* p. 268, para. 46 (1974).

¹⁴⁰ COP Dec. 15/CP.17, UN Doc. FCCC/CP/2011/9/Add.2 (15 March 2012) at 24.

that “[t]ransparency means that the data sources, assumptions and methodologies used for an inventory should be clearly explained, in order to facilitate the replication and assessment of the inventory by users of the reported information.”¹⁴¹ Article 9 goes on to encourage States to report accurately and in a comparable manner that is linked to the obligations to which the particular States have agreed. To achieve this, however, the current provisions would have to be significantly strengthened. This would especially require an accountability mechanism such as has been suggested by Bolivia in its proposal for an International Climate Justice Tribunal.¹⁴²

Timeframes and implementation (arts. 10 and 11)

One of the weakest parts of the Draft Agreement is its provisions on facilitating implementation and compliance. The paragraphs on timeframes are confusing and largely bracketed. On the one hand, there seems to be a push for new INDCs, but as national determined contributions or NDCs. On the other hand, most of the provisions remain in brackets. The lack of legally binding commitments make the timeframes appear illusionary. In fact, a closer reading shows that the only commitments which appear to have timeframes are commitments of intention, but not action. The provisions allowing countries to adjust their contributions only ‘upwards’ is a small, if barely perceivable, step towards increasing ambition, but it is also one based on voluntary good faith, something that has not been in abundance during the negotiations to date.

An attempt has been made to address the lack of an accountability mechanism in article 9 and 10 by creating, respectively, another body similar to the Kyoto Protocol’s Compliance Committee¹⁴³ and a periodic stocktaking procedure.¹⁴⁴

To date the failure to create a strong accountability mechanism applicable to all States with the authority to make legally binding decisions, has significantly hampered the implementation of UNFCCC and the Kyoto Protocol. While both these treaties include provisions for the settlement of disputes, they rely on the acceptance by State Parties either of the International Court of Justice or of an arbitration procedure that has never been defined.¹⁴⁵ And although States have created a Compliance Committee made up of a facilitative branch and an enforcement branch for the Kyoto Protocol,¹⁴⁶ this mechanism has proved relatively toothless.¹⁴⁷ For example, when the Compliance Committee determined Canada was in breach of its obligations under the Kyoto Protocol,¹⁴⁸ Canada

¹⁴¹ Ibid at p. 27, para.4(a).

¹⁴² See art. 11, Option II, Draft Agreement.

¹⁴³ Art. 11, Draft Agreement. The Kyoto Protocol Compliance Mechanism was established by COP decision 27/CMP.1,

¹⁴⁴ Art. 9, Draft Agreement.

¹⁴⁵ Art. 14(2)(a) and (b), UNFCCC, provide States the opportunity to accept either the International Court of Justice or arbitrary, but does not require them to do so. This article also requires that an annex to the UNFCCC be adopted “as soon as practicable” establishing the procedures for arbitration. These procedures have never been established.

¹⁴⁶ COP Decision 24/CP.7, UN Doc. FCCC/CP/2001/13/Add.3 at p. 64 and decision of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP), CMP decision 27/CMP.1. (The enforcement branch for the Kyoto Protocol has the authority to determine that a State Party has exceeded its assigned emissions and to make a finding that the State Party is in non-compliance with its legal obligations under the Kyoto Protocol. When this happens the State Party is required to make-up the difference between its *de facto* emissions and its assigned emissions limits during the next commitment period with a penalty of 30%).

¹⁴⁷ See Hovi, J., Stokke, O., and Ulfstein, G., *Implementing the Climate Regime: International Compliance* 136 (2013) (pointing out that States can avoid any consequences of the Compliance Committee by merely withdrawing from the Kyoto Protocol).

¹⁴⁸ Para. 17, p. 3, Decision of the Enforcement Branch, UNFCCC Doc. CC-2008-1-6/Canada/EB (15 June 2008) (the decision also decides that “[t]here is a sufficient factual basis to avert a finding of non-compliance on the date of this decision” at para. 17(b), p. 3).

merely withdrew from the Protocol before it could be found to have failed to meet its compliance obligations.¹⁴⁹

A call for a legally binding climate justice tribunal or court has been ardently supported in two meetings that combined actors from civil society and State representatives, including heads of States, hosted by the Bolivian government.¹⁵⁰ To make any implementation agreement effective, a legally binding mechanism is likely to be necessary. States, however, have not yet been willing to create such an effective mechanism. In some cases domestic legal action seems to have overtaken international action to ensure adequate action on climate change.¹⁵¹ One voice clearly calling for an international legal mechanism is Bolivia, which has championed the creation of an International Tribunal on Climate Justice that would provide legally binding decisions on States' compliance with their obligations in UNFCCC. While the proposal seems to be gaining acceptance among more developing States, especially in South America, it has come under attack by European States and the United States. Nevertheless, the proposal appears in Option II for article 11 of the Draft Agreement¹⁵² and again in paragraph 63 of the Draft COP21 Decision. Whether States will have the courage and integrity to reiterate their commitment to the principles they agreed in the UNFCCC and appear to reaffirm in the Draft Agreement, will be determined at COP21.

Procedures, institutions and decision-making (arts. 12-15 and 22)

The procedures, institutions and decision-making procedures of the Draft agreement are among the least controversial. Article 12 deals with the Conference of the Parties serving as the meeting of the Parties to this Draft Agreement or the CMA. A new body is necessary, as there was for the Kyoto Protocol until all the State Parties to the UNFCCC also become Parties to the new Agreement. States not Party to a treaty cannot be bound by it and have no right to participate in the decision making related to that treaty.¹⁵³ Paragraph 4 shows there is still disagreement over the Rules of Procedure and the strength of the implementation activities of the CMA by the several Options different States have recorded.

¹⁴⁹ Apparently to avoid a decision on non-compliance, Canada withdrew from Kyoto Protocol effective 15 December 2012. See Compliance Committee, "Note by the secretariat: Canada's withdrawal from the Kyoto Protocol and its effects on Canada's reporting obligations under the Protocol, UNFCCC Dec. No. CC/EB/25/2014/2 (20 August 2014) at para. 5, p. 1.

¹⁵⁰ From 19 to 22 April 2010 over 15,000 people and up to 70 governments from all over the world attended the World People's Conference on Climate Change and the Rights of Mother Earth in Cochabamba, Bolivia that concluded with a 10-page People's Agreement on Climate Change and the Rights of Mother Earth, accessed at <http://readingfromtheleft.com/PDF/CochabambaDocuments.pdf>, which demands "the creation of an International Climate and Environmental Justice Tribunal that has the legal capacity to prevent, judge and penalize States, industries and people that by commission or omission contaminate and provoke climate change." Ibid at p. 11. From 10 to 12 October about 2,500 people and up to 40 governments from all over the world attended the World People's Conference on Climate Change and the Defense of Life in Tiquipaya, Bolivia, which concluded with the adoption of the Declaration of the World Peoples' Conference on Climate Change and the Defense of Life in <http://www.planificacion.gob.bo/sites/folders/2.STATEMENT%20WORLD%20PEOPLE%20TIQUIPAYA.pdf>, which in several places calls for the establishment of an international climate justice court. Ibid at pp. 6, 18 and 22. See also D'Escoto Brockmann, M., *Reinventing the U.N: A Proposal* (2011) (which contains a draft statute of a Statute of the International Tribunal for Climate Justice and Environmental Protection, at pp. 157-172).

¹⁵¹ See, for example, *Urgenda Foundation v. Netherlands*, case number: C/09/456689/HA ZA 13-1396 (24 June 2015) (in which a Dutch Court "orders the State to limit the joint volume of Dutch annual greenhouse gas emissions, or have them limited, so that this volume will have reduced by at least 25% at the end of 2020 compared to the level of the year 1990, as claimed by Urgenda, in so far as acting on its own behalf" [translation from original Dutch] at para. 5.1).

¹⁵² At p. 27, Draft Agreement, and, p. 50, Draft COP21 Decision.

¹⁵³ Art. 34, VCLT, above n 139, (stating that "[a] treaty does not create either obligations or rights for a third State without its consent.").

Articles 13 and 14 on the Secretariat and the two subsidiary bodies¹⁵⁴ both of which already existed under the UNFCCC, suggests that these bodies will continue to carry out similar responsibilities under the Draft Agreement. The texts of these two articles are agreed without brackets. Nevertheless, all the bracketed text in Article 15 indicates that States still do not agree on the role of other subsidiary bodies.

Finally, Article 22 first states some obvious rules of voting in paragraphs 1¹⁵⁵ and 2¹⁵⁶ that are not bracketed, and then in bracketed paragraph 3 provides for decision making by a vote of three-fourths of the States present and voting, by casting an affirmative or negative vote,¹⁵⁷ when consensus cannot be reached.¹⁵⁸ This indicates that the problem of decision making by voting remains an ongoing problem.¹⁵⁹

Other provisions (arts. 16-21 and 23-26)

The miscellaneous articles include surprises or controversial text and leave fewer issues unresolved than the previous articles. Only article 17 contains options which relate to the right to participate in decision-making that either make this right conditioned on having submitted NDMCs¹⁶⁰ or unconditional.¹⁶¹ The provisions on signature,¹⁶² the application of the UNFCCC dispute settlement provisions,¹⁶³ the UN Secretary-General as depository,¹⁶⁴ and the six UN language of the Draft Agreement,¹⁶⁵ have all apparently been agreed. The provision on withdrawal contains not only the usual one year waiting period in brackets,¹⁶⁶ but also a bracketed proposal that a withdrawal only takes effect after a State has satisfied its existing obligations under the Draft Agreement.¹⁶⁷

In addition, States have not agreed on the provisions for entry into force. These provisions still have bracketed options concerning the necessary number of ratifications, reference year, percentage of emissions, and whether “total” or “net” emissions are counted.¹⁶⁸ As suggested above, allowing the counting of “net” emissions could introduce the possibilities that rich countries could buy the right to pollute or resort to untested and risky technologies to remove emissions from the atmosphere, thus defeating the purpose of the Draft Agreement. It also appears that agreement may not have been reached on allowing reservations,¹⁶⁹ although it is hard to see how reservations can be allowed to the Draft Agreement when States cannot make reservations to the UNFCCC.¹⁷⁰

¹⁵⁴ The two subsidiary bodies established by the UNFCCC are the Subsidiary Body for Implementation (art. 10) and the SBSTA Subsidiary Body for Scientific and Technological Advice (art. 9).

¹⁵⁵ Art. 22(1), Draft Agreement (stating that each States has one vote).

¹⁵⁶ *Ibid* para. 2 (stating that regional economic integration organisations, currently only the European Union, can either vote for its members or allow them to vote).

¹⁵⁷ *Ibid* para. 4.

¹⁵⁸ *Ibid* para. 3.

¹⁵⁹ The COP under the UNFCCC has never adopted its Rules of Procedure which contains provisions on decision-making by voting, despite the imperative legal obligation it had to do so at its very first session. See art. 7(3), UNFCCC.

¹⁶⁰ Art. 17, Option 1, Draft Agreement.

¹⁶¹ *Ibid* Option 2.

¹⁶² Art. 16, Draft Agreement.

¹⁶³ Art. 21, Draft Agreement.

¹⁶⁴ Art. 23, Draft Agreement.

¹⁶⁵ Art. 26, Draft Agreement.

¹⁶⁶ Art. 26, para. 1, Draft Agreement.

¹⁶⁷ Art. 26, para. 2, Draft Agreement.

¹⁶⁸ Art. 18, Draft Agreement.

¹⁶⁹ Art. 23, Draft Agreement.

¹⁷⁰ Art. 24, UNFCCC.

The fact that States have still not agreed on some of these formal provisions could mean that they are being left until the end as there is confidence they can be quickly resolved or that the divisions elsewhere are so substantial that States do not see the value in agreeing to formalities, when there are such significant disagreements on substance.

THREE CROSS-CUTTING ISSUES

Three issues appear to cut across several of the articles in the Draft Agreement. These relate to human rights and participation, health, and sustainable development.

Human rights and participation

The impact of climate change on the enjoyment of human rights has been documented not only by successive reports of the IPCC but also by the Human Rights Council.¹⁷¹ This realisation is also the basis of the Geneva Pledge initiated by the Mary Robinson Foundation. Nevertheless, most States have not shown the willingness or interest in addressing climate change from a human rights approach. The Geneva Pledge may even have contributed to the skepticism as it appeared to be satisfied with a limited approach to human rights that was anchored in participatory civil and political rights, instead of addressing the threats that climate change poses to the right to development and social and economic rights that are as great a concern to developing States. Moreover, the pledge was launched at an informal dinner dubbed a “Climate Justice Dialogue” on 7 February 2015 to which the majority of NGOs who had been leading the work on human rights and climate change within the Geneva-based Human Rights Council were not even invited. Instead of encouraging unity among States on human rights on which there was widespread agreement, the Geneva Pledge appears to have contributed to the division among States.

Accordingly, it appears that there are now two human rights visions dividing States. The first based on the Geneva Pledge and apparently championed by the UN Human Rights Council’s Special Rapporteur on human rights and the environment, American Law Professor John Knox, focuses on the civil and political right of participation in decision making.¹⁷² This approach is anchored in the European Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters,¹⁷³ and, as one might expect, focuses on the civil and political right to participate in decision making. Nevertheless, the Special Rapporteur did not reply to requests for his support for the rights of observers in the UNFCCC process to be able to attend the ADP meetings where negotiations were taking place.¹⁷⁴

At the same time, at the Geneva meeting, Iran for the Non-Aligned Movement’s 120 Member States—just under two-thirds of the United Nations Member States representing approximately 55% of the world population—called for any mention of human rights to include the right to development

¹⁷¹ See, for example, Office of the High Commissioner for Human Rights, UN Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights, UN Doc. A/HRC/10/61 (15 January 2009) as well as Human Rights Council Resolutions 7/23 (2008), 10/4 (2009), 18/22 (2011), 26/27 (2014).

¹⁷² See, for example, UN Doc. A/HRC/28/61 (3 February 2015) and “Human Rights and Climate Change: the Briefing Paper drafted for the purpose of informing the Climate Justice Dialogue on 7 February 2015, co-hosted by the OHCHR and the Mary Robinson Foundation in Geneva (which emphasises participation in decision making processes).

¹⁷³ 2161 *UNTS* 447 (2001). This convention is ratified by 47 States exclusively from Europe and a few central Asia States that are trying to establish stronger ties to the European Union. Not a single African, Latin American or Eastern Asia State has ratified this treaty.

¹⁷⁴ At least one non-governmental organisation accredited to the United Nations’ Economic and Social Council did not receive a response to a request for assistance that was directed to the Special Rapporteur. The Communication is on file with the author.

as a crucial foundation. This was not acceptable to the several European States, the United States, and some other States, that continue to object to the right to development.¹⁷⁵ As a result the issue of human rights appears to be contributing to the widening of divergent views, instead of convergences of views among States. Unless international human rights law is seen as a tool to achieve climate justice, its utility is questionable. Even more troubling is the failure of the Draft Agreement to ensure climate change action that will prevent the violation of fundamental human rights as this will put States in conflict with their international legal obligations and allow others—both State and non-State actors—to invoke their responsibility.¹⁷⁶

Health

Health is a red elephant in the room that States cannot ignore, but towards which they have still tried to turn a blind eye. Its relevance to the Rio texts, of which the UNFCCC is one, goes back at least to the 1992 Rio meeting. Principle 1 of the Rio Declaration on Environment and Development¹⁷⁷ states that all human beings are “entitled to a healthy and productive life in harmony with nature.” The UNFCCC itself states expressly that harm to “human health” is one of the consequences of the adverse effects of climate change in its very first article.¹⁷⁸ Moreover, based on the figures of the World Health Organization (WHO) from 2004,¹⁷⁹ it can be estimated that in this century at least 154,400,000 (one hundred and fifty-four million and four hundred thousand) people will die globally from the adverse effects of climate change in Africa alone, and it is likely this figure is increasing because of the global failure to take action to limit emissions.¹⁸⁰

Outside the field of health, the right to health is also reaffirmed in numerous universal and regional human rights treaties. For example, the International Covenant on Economic, Social and Cultural Rights¹⁸¹ to which 160 states have consented as state parties, in article 12 includes the right to health. Article 5(e)(iv) of International Convention on the Elimination of All Forms of Racial Discrimination provides for “the right to public health ... [and] ... medical care” for persons of all racial and ethnic groups without discrimination.¹⁸² Articles 11(1)(f), 12 and 14(2)(b) of the Convention on the Elimination of All Forms of Discrimination against Women provides for special protection of the right to health of women.¹⁸³ And the most widely ratified human rights treaty in the world, the Convention on the Rights of the Child provides a wide range of protection for a child's health.¹⁸⁴ In addition, the preamble to the WHO Constitution that was adopted in 1946 recognises that the “enjoyment of the highest attainable standard of health is one of the fundamental

¹⁷⁵ This is the case despite the adoption of the Declaration of the Right to Development by the overwhelming majority of States in UN General Assembly Resolution A/RES/41/128 (1986).

¹⁷⁶ Compare Wewerinke, M., and Doebller, C.F.J., “Exploring the Legal Basis of a Human Rights Approach to Climate Change,” 10(1) *Chinese Journal of International Law* 141-160 (2011) and “Development Cooperation and Human Rights: International Climate Change Action: Saving Human Rights After Cancun,” 2 *Indian Yearbook of International Law and Policy* 119-153 (2010-2011).

¹⁷⁷ UN Doc. A/CONF.151/26 (Vol. I).

¹⁷⁸ Art. 1(1), UNFCCC.

¹⁷⁹ See World Health Organization, *Preventing disease through healthy environments* (2006) (Table A2.3: Deaths attributable to environmental factors, by disease and mortality stratum for WHO regions in 2004, updated data for 2004, listing 1,544,000 deaths per year attributable to environmental risk factors in Africa).

¹⁸⁰ The WHO calculation was based on deaths in Africa that are attributable to the adverse effects of climate change and based on conditions existing in 2004. These conditions have deteriorated as emissions continue to rise and did not peak by 2015. See also International Panel on Climate Change, “The long-term perspective: scientific and socio-economic aspects relevant to adaptation and mitigation, consistent with the objectives and provisions of the Convention, and in the context of sustainable development (Topic 5)” at 63, 67, Table 5.1 in Pachauri, R.K., Reisinger, A., and The Core Writing Team, (eds.), *Climate Change 2007: Synthesis Report (IPCC Fourth Assessment Report)* (2007).

¹⁸¹ 993 UNTS 3.

¹⁸² 660 UNTS 195 (1969).

¹⁸³ 1249 UNTS 13 (1981).

¹⁸⁴ 1577 UNTS 3 (1990), art. 24. This treaty is ratified by 194 States.

rights of every human being”¹⁸⁵ and the Universal Declaration of Human Rights, an instrument reflecting customary international law on this issue, states that “[e]veryone has the right to ... health and well-being of himself and his family...”¹⁸⁶ Hardly any country denies the right to health. The United States was perhaps the lone exception that had persistently objected to the right to health, but at the May 2013 World Health Assembly of the WHO, the US Secretary of Health and Human Services, Kathleen Sebelius, appeared to drop that objection.¹⁸⁷ Nevertheless, in the spring of 2015 the US allegedly stood alone among the Member States of the Organization of American States to block the adoption of a Summit of the Americas final declaration with its objection to including a reference to the right to health.¹⁸⁸ This was likely a violation of international law because the right to health is customary international law¹⁸⁹ to which the US could no longer be a persistent objector.¹⁹⁰

Although health was mentioned in some of the many options for the COP21 decision, it has been completely ignored in the text distributed on 5 October 2015. It has come back in the Draft Agreement distributed on 23 October. Health is mentioned in preambular paragraphs and in article 2 that describe the purpose of the agreement. It is not, however, mentioned in article 4 on Adaptation despite the fact that the majority of countries submitting their INDCs included health as a concern of Adaptation, and in many cases a priority.

The main obstacle to including health as an adaptation priority appeared to be the United States. But the United States has also provided itself with good scientific reasons to be concerned with the consequences of climate change on health. Citing these adverse effects, a United States’ study on climate change and health concluded that there are three principles that should guide public health action on climate change.¹⁹¹ First, the US study claims, effects of climate change on health should be prioritised in research, policy and programmes, and regulatory agendas.¹⁹² A significant part of the rationale behind this suggestion appears to be the lack of clear evidence of the impact of climate change on health to date. In contrast to the United States’ skepticism, many of the impacts of health on developing countries, especially those in the Pacific are much clearer, and need more urgently than a better understanding of the problem, resources to deal with the adverse effects of climate change on health. Secondly, the study suggests avoiding exposure to harm as a policy strategy.¹⁹³ For many developing States, especially small island States, avoiding exposure to a phenomenon like sea level rise is no longer an option as they hardly contribute to causing these consequences and must rely on action by others to avoid them; action which has not been forthcoming. For many small island States to adequately protect their people from exposure to harm is an issue of

¹⁸⁵ Constitution of the World Health Organization (1946).

¹⁸⁶ UNGA Res. 217A (III), UN Doc. A/810 at 71 (1948), art. 25.

¹⁸⁷ “U.S. Secretary for Health and Human Services Kathleen Sebelius addresses the 66th World Health Assembly” (20 May 2013) at <https://geneva.usmission.gov/2013/05/20/world-health-assembly/> (accessed 15 August 2015).

¹⁸⁸ Zuesse, E., “U.S. Blocked Declaration of a Right to Health Care, Says Bolivia's President,” Transcend Media Service, published on 20 April 2015 at <https://www.transcend.org/tms/?p=56692> (accessed on 2 September 2015).

¹⁸⁹ See Xiong, P., *An International Law Perspective on the Protection of Human Rights in the TRIPS Agreement: An Interpretation of the TRIPS Agreement in Relation to the Right to Health* 254 (2012), and Kenny, E.D., “The International Human Right to Health: What Does This Mean for Our Nation and World?” 34 *Indiana Law Review* 1457, 1475 (2001).

¹⁹⁰ International law provides that although a State may legitimately object to a rule of customary international law when it is created, a State is bound by the customary international law once it has lifted its objections. See generally, Quince, C., *The Persistent Objector and Customary International Law*, Outskirts Press: Parker, CO, USA (2010). As the right to health is arguably a rule of customary international law once the US ended its persistent objection by admitting the right, it is bound by it.

¹⁹¹ Committee on the Effect of Climate Change on Indoor Air Quality and Public Health of the US Institute of Medicine, *Climate Change, the Indoor Environment and Health*, National Academies Press: Washington, D.C., USA (August 2011).

¹⁹² *Ibid* at 244.

¹⁹³ *Ibid*

adaptation and often even loss and damage as the harm has become impossible to avoid. And, the final and third guiding principle in the American study is to improve the collection of data to ensure better informed decision making.¹⁹⁴ Linked to the first principle, this is an important, but conditional principle. For developing countries this is an issue of demanding that developed States fulfil their obligations to provide financing, capacity-building and technology transfer to developing countries. Thus while countries that have achieved the level of social and economic development may have the internal resources to put adequate data collections structures in place, many developing countries do not yet have adequate resources. Moreover, the resources they have must be diverted to more urgent concerns. This brief comparison of three suggested priorities for American policy makers serves as a stark reminder of the unequal manner in which climate change will adversely impact the health of especially small island States inhabitants and inhabitants from other developing States.

The failure to adequately address health in the Draft Agreement appears to follow the same logic as the American study just discussed. It is based on priorities that are apparently biased towards the interests of those States that already have the resilience to adapt to the most serious health consequences of climate change. States that do not have the resources necessary for adequate adaptation are significantly disadvantaged.

Sustainable development

The relationship between resilience to the adverse effects of climate change and countries' social and economic development is the foundation of the Rio Declaration from 1992. It is also fundamental to the UNFCCC as reflected by the principle of CBDR that is imbedded through the Convention.¹⁹⁵ Ensuring their development was perhaps the major concern of developing States in 1992. Especially Small Island Developing States (SIDS) and the negotiating block of the Alliance of Small Island States (AOSIS) in the climate talks, have seen the Rio treaties as a way to fight back into the development ring from which their special circumstances were otherwise being excluded.¹⁹⁶ Today, the concerns of AOSIS remain as few island States have graduated to the level of developed States economically, island States continue to face particularly damaging adverse effects of climate change, and developed States continue to marginalise the particularities of island States in relation to the obligation of developed States to provide finance, capacity building, and adequate access to technology to these States.

In the current agreement, almost every effort by the G77 and China to ensure the preferential treatment of developing States in order to secure their development for the future, was refuted and objected to with brackets or options that include “no text”. The current state of negotiations of the Draft Agreement therefore does little to address the concerns of developing States that their development will be handicapped by the actions they are being asked to agree to take without guarantees of adequate finance, capacity building, or technology. For example, the Statement in article 2bis that “[t]he extent to which developing country Parties will effectively implement this Agreement will depend on the effective implementation by developed country Parties of their commitments on provision of finance, technology development and transfer and capacity-building”, was met with a call for “no text” at all by developed countries.

Developing countries downplayed the concerns of developing countries during ADP 2.11. For example, the Organisation of Economic Cooperation and Development, a cooperation agency for

¹⁹⁴ Ibid

¹⁹⁵ See, for example, art. 3 and 4, UNFCCC (article 3, para. 1, expressly states the principle, while article 4 relies on the principle for the expression of the commitments of States).

¹⁹⁶ See Stoutenberg, J.G., *Disappearing Island States in International Law* 17-30 (2015).

developed countries, claimed that the climate finance goals of 100 billion would be met, as a report launched during ADP 2.11 claimed that US\$ 62 billion had already been mobilised.¹⁹⁷ The claims made in this report have since been shown to be misleading by some evaluators¹⁹⁸ and they appear contradicted by the fact that Green Climate Fund, the primary vehicle for providing climate finance under the UNFCCC, apparently has less than US\$ 5 billion in its coffers.¹⁹⁹

If the proposal of developing States for article 2bis, paragraph 2, were adopted this would be a significant step towards building trust between the G77 and China on the one side and the United States, European Union and its allies on the other side.

CONCLUDING REMARKS

As the comments on the several areas above indicate, not only must all States be involved at the global level to adequately address the adverse effects of climate change, but the will of States must be cultivated to a level that it will bear fruit for their people. This has not yet happened. The Draft Agreement to be agreed in Paris in December 2015 does not appear to contain language to ensure adequate action.

The main flaw of the Draft Agreement is still its repeated references to alternatives or options of “shall,” “should,” and “other” that reflect a lack of consensus on large parts of the text and almost all the crucial elements. This ambiguity or failure to agree, sometimes even to reiterate existing legal obligations, threatens to undermine any chance of achieving consensus. It is also troubling that some topics such as health, human rights, and an accountability mechanism like a climate justice court or tribunal are not mentioned. Although some of these are mentioned in the Draft COP21 Decision, their exclusion from the Draft Agreement is a disquieting sign that States do not intend to build on or strengthen the UNFCCC.

The consequences of our failure will be deadly for many of the most vulnerable people on the planet. Among these are the indigenous peoples, many of whom have lived and prospered in an entirely sustainable manner on the planet they call Mother Earth or *Pachamama*.²⁰⁰ There are also the women and children who are vulnerable because of their youth or due to the disproportionate burden of the adverse effects of climate change they will have to bear. There are the people of Africa who could perish by the hundreds of millions without the resources to make themselves resilient. And there are the people of the Pacific region who may be the first to feel the harm of climate change if a recent publication is correct in pointing out that “[i]t is clear that the effects of climate change are expected to intensify across the Pacific region in the coming decades.”²⁰¹

¹⁹⁷ OECD, “Climate finance in 2013-14 and the USD 100 billion goal,” a report by the Organisation for Economic Co-operation and Development in collaboration with Climate Policy Initiative (2015) *accessed at* <http://www.oecd.org/environment/cc/OECD-CPI-Climate-Finance-Report.htm> (7 October 2015).

¹⁹⁸ Williams, M., “TWN Climate Info: A Preliminary Review of the OECD/CPI Report, “Climate Finance in 2013-14 and the USD 100 Billion goal,” Third World Network: Malaysia (30 October 2015) *accessed at* <http://www.twn.my/title2/climate/info.service/2015/cc151004.htm> (31 October 2015).

¹⁹⁹ This figure is arrived at based on a review of GCF Doc. GCF/B.10/08 (26 June 2015), which states that “[t]he Fund has secured US\$ 10 billion equivalent in pledges from 33 countries so far,” but that of the pledging countries only 22 have signed contribution agreements or arrangements for a total of US\$ 5.47 billion equivalent (p. 4). Although the report is silent on the matter, it can be assumed that even less money has actually been paid into the Fund..

²⁰⁰ *Pachamama* is an indigenous god presiding over the fertility of the Earth in Inca Mythology.

²⁰¹ Park, C.-Y., Raitzer, D.A., Samson, J.N.G., Halili, P.R.M., “Climate Change and Adaptation Challenges in the Pacific,” at 205, 223 in Filho, W.L., (ed.), *Climate Change in the Asia-Pacific Region*, Springer: Cham, Switzerland (2015).

COULD VANUATU CLAIM REPARATIONS UNDER INTERNATIONAL LAW FOR DAMAGES SUSTAINED FROM CYCLONE PAM?

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INTRODUCTION

On the 13th of March 2015, a severe tropical cyclone, identified as “Cyclone Pam,” struck the Republic of Vanuatu. It was an unprecedented tropical cyclone which left the Republic in total devastation.¹ It affected and claimed individual lives, destroyed local food sources, flattened many buildings, stripped off trees, broke down communication, ruined infrastructure, and many more destructions that to date are yet to be quantified. In an interview,² the President of the Republic of Vanuatu, Mr. Baldwin Lonsdale described Cyclone Pam and its impacts as:

This is a very devastating cyclone in Vanuatu. I term it as a monster, a monster. It’s a setback for the government and for the people of Vanuatu. After all the development that has taken place, all this development has been wiped out. So it means we will have to start anew again.³

The President further stated that climate change contributed to the destruction in Vanuatu.⁴ The extent of the damage, and the existence of a strong correlation between extreme weather events

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¹ It was around 7:00 pm on Friday 13th of March, 2015, that Cyclone Pam landed on Vanuatu’s shores and struck the Republic of Vanuatu. The 2006 happiest place on planet earth (see Nic Marks, Saamah Abdallah, Andrew Sims and Sam Thompson, ‘The Happy Planet Index (HPI) Report’ *New Economic Foundation* (online), 2006 http://b.3cdn.net/nefoundation/54928c89090c07a78f_ywm6y59da.pdf (accessed 24 November 2015)) was devastated by this enormous and gigantic super storm. It left an impact that will be recorded in Vanuatu’s history, and be remembered by many Ni-Vanuatu people, as the most devastating cyclone to have ever struck their country. There were past cyclone experiences in Vanuatu, such as cyclone ‘Uma back in 1987, but there was none with the intensity and the ferocity as Cyclone Pam. It was a category 5 cyclone - the last of all cyclone categories - and is the strongest tropical cyclone on record in the South Pacific region, with wind speeds of up to 170 miles per hour and gusts exceeding 200 miles per hour.

² The interview was conducted when President Baldwin Lonsdale attended the United Nations Conference on Disaster Risk Reduction held on 16 March 2015 in Sendai, Japan.

³ ‘AP Interview: Vanuatu president rues cyclone devastation’, *The Associated Press* (online) 16 March 2015 <http://news.yahoo.com/vanuatu-president-speaks-devastation-cyclone-pam-022602313.html> (accessed 22 November 2015).

⁴ Peter Walker and Paul Farrell, ‘Cyclone Pam: 24 confirmed dead as Vanuatu president blames climate change’, *The Guardian* (online) 16 March 2015 <http://www.theguardian.com/world/2015/mar/16/vanuatus-president-blames-climate-change-for-extreme-weather> (accessed 13 November 2015); See also Umberto Bacchi, ‘Vanuatu cyclone Pam: President blames climate change for ‘monster’ storm’, *International Business Times* (online) 16 March 2015, <http://www.ibtimes.co.uk/vanuatu-cyclone-pam-president-blames-climate-change-monster-storm-1492073>.

and human-induced climate change,⁵ triggers the question of whether Vanuatu could claim reparation under international law⁶ for the damages sustained as a result of Cyclone Pam. This paper aims to weigh the possibility of pursuing a claim of this nature and how it could be framed under the general law of State responsibility with the objective of achieving reparations for the damage sustained. It should be noted that Cyclone Pam had also caused significant damage to other Pacific Island countries, namely: Tuvalu, Kiribati, and the Solomon Islands. However, for the purposes of this paper, the scope of this discussion will be confined to Vanuatu.

This paper is divided into four (4) parts. The first part provides a brief overview on the impacts of Cyclone Pam on Vanuatu, including how those impacts have affected the enjoyment of specific human rights, and how those impacts can be linked to climate change. The second part attempts to discuss how to frame a State responsibility claim under international law, so as to hold a State liable under international law for the damages sustained from Cyclone Pam. The third part discusses the legal consequences of State responsibility. It elaborates on the various forms that reparation may take, and addresses which forms may be available to Vanuatu in the event a State is held responsible. The fourth part answers the question: could Vanuatu go to court--for example, to the International Court of Justice ('ICJ')--to claim reparations under international law for the damages sustained from Cyclone Pam. This is then followed up by the conclusion and recommendations.

How the impacts of Cyclone Pam affect the enjoyment of specific human rights

Apart from general impact and destruction, this section looks on how the impact of Cyclone Pam has interfered with the enjoyment of basic human rights of the people of Vanuatu. To start with, it is important to consider the relationship between climate change and human rights. The UN Human Rights Council in Resolution 10/4 of 2009 explicitly recognised the relationship between climate change and violation of human rights worldwide. Resolution 10/4 states:

Noting that climate change related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights including, inter alia, the right to life, the right to adequate food, the right to the highest attainable standard of health, the right to self-determination [and] recognizing that while these implications affect individuals and communities around the world, the effects of climate change will be felt most acutely by those segments of the population that are already in vulnerable situations owing to factors such as geography, poverty, gender, age, indigenous or minority status and disability.⁷

The Cyclone Pam case study is a classic reflection of Resolution 10/4. The effects of climate change are being felt globally, but affect mostly the world's poorest nations which have

⁵ Christopher B. Field, et al (eds) *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2012) 160 https://www.ipcc.ch/pdf/special-reports/srex/SREX_Full_Report.pdf (accessed 25 November 2015).

⁶ In this paper, references to international law refer to public international law (as opposed to private international law).

⁷ The United Nations Human Rights Council, *Human Rights and Climate Change*, HRC Res 10/4, 10th sess, 41st meeting, A/HRC/RES/10/4, (25 March 2009) Recital 8 http://ap.ohchr.org/documents/E/HRC/resolutions/A_HRC_RES_10_4.pdf (accessed 20 November 2015).

contributed least to the problem and can do little to respond.⁸ Vanuatu is among those countries that have least contributed to the problem of anthropogenic climate change, but are most vulnerable and susceptible to its effects. A few examples of the specific human rights that were implicated as a result of Cyclone Pam are briefly summarized as follows:

- The right to life⁹ - This right is basic to all human rights and is the ‘supreme right to which no derogation is permitted even in times of public emergency’.¹⁰ This right provides that every human being is entitled to life to which they shall be protected under the rule of law and not to be arbitrarily deprived of it.¹¹ The fact that 11 people lost their lives as a result of Cyclone Pam has affected this supreme right and had deprived those people of their basic enjoyment of this human right.
- The right to self-determination¹² - This is a very important right¹³ because its realization ‘is an essential condition for the effective guarantee and observance of individual human rights and for the promotion and strengthening of those [other] rights.’¹⁴ Cyclone Pam had implications on this right when it left the affected people of Vanuatu in a state where they were not free to determine for themselves but to solely rely on aid supply for support.¹⁵ Also the affected people were denied their freedom to freely dispose of their natural wealth and resources as it was wiped out or destroyed by Cyclone Pam.¹⁶
- The right to water¹⁷ - This right is premised on the idea that women and children shall enjoy adequate living conditions particularly in relation to housing, sanitation, and clean drinking water supply. The impacts of Cyclone Pam had detrimentally affected this right when 110,000 people did not have access to safe drinking water,¹⁸ and no proper sanitation and hygiene as water sources were destroyed and/or contaminated.¹⁹

⁸ International Bar Association, *Achieving Justice and Human Rights in an Era of Climate Change Disruption. Climate Change Justice and Human Rights Task Force Report* (2014) 34.

⁹ *International Covenant on Civil and Political Rights*, opened for signature 16 December 1966, 993 UNTS 3 (entered into force 3 January 1976) art 6(1) (‘ICCPR’); See also *UNDR*, UN Doc A/810, art 3; See also *Constitution of the Republic of Vanuatu* art 5(1)(a).

¹⁰ Human Rights Committee, *CCPR General Comment No.14 – Article 6 (Right to life) Nuclear Weapons and the Right to Life* Twenty-third sess, UN Doc INT/CCPR/GEC/4723 (9 November 1984).

¹¹ *ICCPR* art 6(1).

¹² *ICCPR* art 1; See also *International Covenant on Economic, Social and Cultural Rights* opened for signature 16 December 1966, 993 UNTS 3 (entered into force 3 January 1976) art 1 (‘ICESCR’).

¹³ According to The United Nations Human Rights Committee, General Comment No.12: Article 1 (Right to self-determination), the right to self-determination is a very important right, as a result, it was placed as Article 1 of both the *ICCPR* and the *ICESCR* before all other Articles.

¹⁴ United Nations Human Rights Committee, *CCPR General Comment No.12: Article 1 (Right to self-determination)*, Twenty-first sess, UN Doc INT/CCPR/GEC/6626 (13 March 1984).

¹⁵ Anthony Funnell, ‘After Pam: Vanuatu struggles to rebuild in cyclone aftermath’ *ABC News* (Online) 11 August 2015 <http://www.abc.net.au/radionational/programs/futuretense/after-pam:-vanuatu-struggles-to-rebuild/6686574> (accessed 24 November 2015).

¹⁶ Joshua Robertson, ‘Vanuatu disaster: the island hit by an earthquake, a volcano then cyclone Pam’ *The Guardian* (Online) 17 March 2015 <http://www.theguardian.com/world/2015/mar/17/vanuatu-disaster-the-island-hit-by-an-earthquake-a-volcano-then-cyclone-pam> (accessed 12 November 2015).

¹⁷ *Convention on the Elimination of All Forms of Discrimination against Women* opened for signature 1 March 1980, 1249 UNTS 13, art 14(2)(h); See also *Convention on the Rights of the Child* opened for signature 20 November 1989, 1577 UNTS 3 art 24(2)(c) art 24(2)(c) (‘CRC’).

¹⁸ Health Cluster, ‘Cyclone Pam, Vanuatu’ (Media Release, 28 March 2015) http://www.wpro.who.int/southpacific/programmes/health_sector/emergencies/health-cluster-28mar2015.pdf?ua=1 (accessed 12

- The right to education²⁰ - This right ensures that education is available and accessible to every child. This right was affected when 70% of education facilities were destroyed, affecting around 57,000 children across three (3) provinces namely: Malampa, Shefa, and Tafea,²¹ and around 80% of schools affected to some degree²² throughout the whole of Vanuatu.
- The right to means of subsistence²³ - What it means to have this right is that in no case may a person be deprived of his or her own means of subsistence. This right was affected by the damage that occurred to the food security and the agriculture sector (livestock, fishery, and forestry),²⁴ and the 96% of crops that were destroyed²⁵ which left people in certain areas with no alternative food stocks, and in need of immediate food, agriculture and livelihood assistance.²⁶
- The right to property²⁷ - This right ensures that everyone has the right to own property alone or with others, and shall not be deprived of it.²⁸ As a result of Cyclone Pam, the right to property had also been affected by the destruction of household goods and properties.²⁹
- The right to a healthy environment³⁰ - This right aims at ensuring that everyone enjoys the highest attainable standard of physical and mental health.³¹ This right entails improved environmental hygiene³² and the prevention and treatment of diseases.³³ The enjoyment of this basic human right was implicated when many sustained substantial injuries³⁴ and many contracted other sicknesses and diseases as a result of Cyclone Pam.

November 2015). See also Flash Appeal, 'Emergency Response Plan For Vanuatu Tropical Cyclone Pam March-June 2015' (Media Release 24 March 2015) http://reliefweb.int/sites/reliefweb.int/files/resources/Vanuatu-TCPam_flash_appeal_final%2024MAR2015.pdf (accessed 15 November 2015).

¹⁹ ICESCR art 12(2)(d).

²⁰ ICESCR art 13; See also CRC art 28(1).

²¹ Flash Appeal, above n 18.

²² UNICEF, 'Cyclone Pam Humanitarian Situation Report 9' (Media Release 23 March 2015) http://www.unicef.org/pacificislands/UNICEF_Pacific_Cyclone_Pam_SitRep_No_9_23-24_March_2015.pdf (accessed 11 November 2015).

²³ ICCPR art 1(2); See also ICESCR art 1(2).

²⁴ Flash Appeal, above n 18.

²⁵ Ibid.

²⁶ World Food Programme, 'Vanuatu Tropical Cyclone Pam - Vanuatu Situation Report #5' (Media Release 23 March 2015) <http://documents.wfp.org/stellent/groups/public/documents/ep/wfp273075.pdf> (accessed 23 November 2015).

²⁷ *Universal Declaration of Human Rights*, GA Res 217A (III), UN GAOR, 3rd sess, 183 plen mtg, UN Doc A/810 (10 December 1948) art 17 ('UDHR'); see also *Constitution of the Republic of Vanuatu* art 5(1)(j).

²⁸ UDHR art 17.

²⁹ Flash Appeal, above n 18.

³⁰ ICESCR art 12.

³¹ ICESCR art 12(1).

³² ICESCR art 12(2)(b).

³³ ICESCR art 12(2)(c).

³⁴ Health Cluster, above n 18.

- The right to adequate and secure housing³⁵ - This right ensures that everyone has the adequate standard of living, adequate food, and housing.³⁶ This right was affected when 75,000 people were in need of shelter³⁷ as 15,000 houses were either destroyed or severely damaged, including the destruction of food, household goods and properties.³⁸

This non-exhaustive list above shows not only how the impacts of Cyclone Pam have affected the enjoyment of specific human rights in Vanuatu, but reflects how Cyclone Pam had impacted Vanuatu as a whole. This may trigger the specific question whether international human rights law could serve as, or consolidate, the legal basis of a reparations claim related to Cyclone Pam under international law. This claim would similarly involve evidential questions related to the link between Cyclone Pam and climate change. However, this paper does not intend to go down the human rights path and does not attempt to explicitly examine whether or not human-induced climate change is a violation of human rights from an international law perspective, though the authors believe it is. Instead, this paper will focus on international climate change law serving as, or consolidating, the legal basis of a claim for reparations under international law.

Link between Cyclone Pam and climate change

This section aims to demonstrate that a link can be established between Cyclone Pam and climate change. In the abovementioned interview, President Lonsdale, blamed climate change for the destruction that occurred in his country. In his exact words, he was quoted as saying:

w]e see the level of sea rise ... the cyclone seasons, the warm, the rain, all this is affected ... [t]his year we have more than in any year ... yes, climate change is contributing to this [destruction].³⁹

Precisely because this statement has triggered much debate, it is a helpful starting point in exploring the possible link between Cyclone Pam and climate change. To claim reparations for Cyclone Pam damage based on climate change-related obligations necessarily involves some kind of causation test. In other words, there must be a link between the damage on the one hand and climate change on the other. However, it remains unclear what test is contained in international law, as there is a lack of international jurisprudence on climate change. For the purposes of this paper, the Authors will assume that a moderately stringent causation test will need to be met: that climate change *materially contributed* to the damage. This is an appropriate test, as it puts the burden of proving causation on the claimants while the test is not so stringent as to make any claim for climate change-related damages impossible.

In the lead-up to exploring this link, it is important to first recall the overwhelming body of scientific evidence which establishes that the emission of anthropogenic greenhouse gases ('GHGs') is the main cause of climate change. Indeed, by ratifying the *United Nations*

³⁵ ICESCR art 11.

³⁶ ICESCR art 11(1).

³⁷ Health Cluster, above n 18; See also Flash Appeal, above n 18.

³⁸ Flash Appeal, above n 18.

³⁹ Peter Walker and Paul Farrell, above n 4; see also Umberto Bacchi, above n 4.

Framework on Climate Change Convention ('UNFCCC'), States have acknowledged that climate change is a result of man-made activities. Article 1 of the *UNFCCC* stipulates:

“Climate change” means 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.⁴⁰

With near global ratification of the *UNFCCC*, virtually all States agree with this notion. This notion has been confirmed repeatedly since 1992 by the Intergovernmental Panel on Climate Change ('IPCC'),⁴¹ including its most recent Fifth Assessment Report ('AR5') – which is the most comprehensive up-to-date scientific assessment of climate change that represents the consensus view of the world's leading climate scientists. Specifically, AR5 established with a 95% degree of probability that human activity is the dominant cause of global warming.⁴² The AR5 also stated that warming of the climate is “unequivocal” and evidenced by a range of observed events, including higher atmosphere and ocean temperatures; diminished snow and ice caps; and rising sea levels.⁴³ This indicates that the scientific evidence on anthropogenic climate change is stronger than ever and it is indeed virtually certain that human activity is the primary cause of anthropogenic climate change.

This leads us to the question how anthropogenic climate change relates to cyclones in general, or to Cyclone Pam in particular. A first point to note is that cyclones have long occurred in the Pacific Region, and cyclone activity predates the industrialization period. The claim that climate change is the direct cause of a particular cyclone is therefore not plausible. Instead, the evidence points at a more indirect relationship. Inferences may be drawn from scientists' observations⁴⁴ that unusually mild sea surface temperatures and added water vapor helped the storm intensify before hitting Vanuatu.⁴⁵ Indeed, in the area where Cyclone Pam intensified, the ocean

⁴⁰ *United Nations Framework Convention on Climate Change*, opened for signature 4 June 1992, 1771 UNTS 107 (entered into force 21 March 1994) art 1 ('UNFCCC').

⁴¹ IPCC is the international body for assessing the science related to climate change. The IPCC was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation. See IPCC – Intergovernmental Panel on Climate Change Official Website <http://www.ipcc.ch/>.

⁴² The Climate Development Knowledge Network (CDKN), *The IPCC's Fifth Assessment Reports: What in it for Small Island Developing States?* (2014) 2 available at <https://www.ipcc.ch/report/ar5/> (accessed 20 November 2015).

⁴³ The Intergovernmental Panel on Climate Change, *Summary for Policymakers*, (Cambridge University Press, 2013) 2.

⁴⁴ See, for example, Christopher B. Field, et al (eds) above n 5 (noting that '[a] changing climate leads to changes in the frequency, intensity, spatial extent, duration and timing of extreme weather and climate events, and result in unprecedented extreme weather duration and timing of extreme weather and climate events') and Kerry Emmanuel, 'Severe Tropical Cyclone Pam and Climate Change' *Real Climate* (online) 2 May 2015, <http://www.realclimate.org/index.php/archives/2015/03/severe-tropical-cyclone-pam-and-climate-change> ((suggesting that 'the number of tropical cyclones worldwide could exceed 100 per year by about 2070, compared to an average of 90 per year at the moment.' See further Thomas Knutson et al., Tropical Cyclones and Climate Change (2010) 3 *Nature Geoscience* 157-163) (suggesting that 'sea surface temperatures in most tropical cyclone formation regions have increased by several tenths of a degree Celsius during the past several decades' and predicting that 'GHG emissions will cause cyclones to shift towards much stronger storms, with intensity increases of 2 to 11% by 2100') and James P. Kossin and Timothy L. Olander and Kenneth R. Knapp, 'Trend Analysis with a New Global Record of Tropical Cyclone Intensity' (2013) 26 *Journal of Climate* 9960-9976 (concluding that 'the intensity of cyclones of all strengths in the South Pacific has increased by 2.5 [meters] per second per decade, with the strongest 20% increasing by as much as 5 [meters] per second per decade'). Finally, see Yosuke Adachi, 'Human Lives at Risk Due to Eustatic Sea-Level Rise and Extreme Coastal Flooding in the 21st Century' (2015) 7 *Weather, Climate, and Society* 118-132) (suggesting that 'sea level rise could cause at least 84 to 139 extra deaths per year from cyclone-related coastal flooding in the United States by 2100').

⁴⁵ Andrew Freedman, 'Vanuatu's president makes a leap in tying Cyclone Pam to Climate Change' *Mashable* (Online), 17 March 2015, <http://mashable.com/2015/03/16/vanuatu-cyclone-pam-global-warming/> (accessed 2 November 2015).

temperature was up to 2 degrees Celsius higher than average for that time of the year (3.6 degrees Fahrenheit)—which is likely to be attributable at least in part to global warming.⁴⁶ And as a result of sea level rise, the impact of super-Cyclone Pam became even more damaging.⁴⁷

We may conclude that irrespective of the effects of climate change on the frequency of cyclone occurrence, the best available science indicates that climate change-induced increases of sea temperatures intensify tropical storms. This means that there is a link between the intensity of Cyclone Pam on the one hand and climate change-induced increases of sea surface temperatures on the other. In addition, a link can be established between sea level rise and the damage brought about by Cyclone Pam in Vanuatu. In sum, Cyclone Pam would not have been as intense and damaging as it was if there would not have been climate change.

FRAMING A STATE RESPONSIBILITY CLAIM

General law of State responsibility

This part discusses the general law on State responsibility and its relevance to Vanuatu's potential reparations claim for the damages sustained from Cyclone Pam. The general law of State responsibility was codified by the International Law Commission's ('ILC') in its *Articles on Responsibility of States for Internationally Wrongful Acts* ('ARS'), which are the product of more than 40 years of work by ILC on the topic.⁴⁸ This law is important because the existing climate change regime does not address the questions of when, how and by whom climate change damage sustained by a State should be compensated. Due to this gap, the "particularly vulnerable"⁴⁹ States have typically asserted that they are justified in seeking compensation from States who have emitted most GHGs in the atmosphere; a view which is shared by some academic writers who have opined that under international law, 'States are obliged to compensate the directly or indirectly affected States for the damage caused.'⁵⁰

There exists 'in any legal system liability for failure to observe obligations imposed by its rules – known as responsibility in international law.'⁵¹ This is derived from one of the fundamental principles of international law that States must not harm or violate the rights of other States.⁵² Grounds for claims of responsibility will be created once States fail to observe obligations – usually through the breach of one or more of the customary international law obligation(s) or because of a breach of a treaty obligation.⁵³ As a result, firstly, States can be held responsible for violations of international law; and secondly, States will be obliged to make full reparation for

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ James Crawford and Simon Olleson, 'The Nature and Forms of International Responsibility' in Malcolm D. Evans (ed), *International Law* (Oxford University Press, 2012) 441, 447.

⁴⁹ This term refers to States that are mostly developing, and are especially vulnerable to the adverse effects of climate change due to poor economies, geographical location, and low-lying nature.

⁵⁰ Roda Verheyen, 'Establishing State Responsibility for Climate Change Damage' *Climate Change Damage and International Law: Prevention Duties and State Responsibility* (Martinus Nijhoff Publishers, 2005) 52.

⁵¹ DJ Harris, *Cases and Materials on International Law* (Sweet & Maxwell Ltd, 6th ed, 2004).

⁵² Richard S.J. Tol and Roda Verheyen, 'State responsibility and compensation for climate change damages—a legal and economic assessment' (2004) 32 *Energy Policy* 1109 <https://www.mi.uni-hamburg.de/fileadmin/fnu-files/publication/tol/enpolliability.pdf> (accessed 17 November 2015).

⁵³ Matthew Craven, 'Statehood, Self-determination, and Recognition' in Malcolm D. Evans (ed), *International Law* (Oxford University Press, 2012) 214.

the damages caused. Thus, in the absence of a specialised regime governing responsibility and liability, the law of State responsibility is ‘applicable to treaty-based and other rules of international law to the extent it reflects international customary law.’⁵⁴

It is important to note that although the *ARS* are as such not binding on States, most of the articles indeed reflect customary international law.⁵⁵ Therefore, to establish State responsibility, Vanuatu will need to venture into detail the relevant articles of the *ARS*. To start with, the basic principle of State responsibility is provided in Article 1 of the *ARS* which states that ‘[e]very internationally wrongful act of a state entails the international responsibility of that state.’⁵⁶ Article 1 of the *ARS* has been given wide recognition in practice. For example, the Permanent Court of International Justice (PCIJ) ‘affirmed in the *Phosphates in Morocco Case* that international responsibility is established immediately if a [S]tate has committed an internationally wrongful act against another [S]tate.’⁵⁷ Article 2 of the *ARS* stipulates that:

There is an internationally wrongful act of a State when conduct consisting of an action or omission:

- (a) Is attributable to the State under international law; and
- (b) Constitutes a breach of an international obligation of the State.⁵⁸

Crawford and Olleson hold that ‘the fulfillment of these conditions is a sufficient basis for international responsibility, as has been consistently affirmed by international courts and tribunals.’⁵⁹ The implication of this basic principle is that Vanuatu needs to show that a State has committed an internationally wrongful act (i.e. action or omission) by breaching an international obligation attributable to that State in order to make a successful State responsibility claim. Of course, this involves identifying a State that could be held responsible.

Which State could be held responsible?

Determining who to sue is one of the greatest challenges involved in a State responsibility claim related to a climate change- phenomenon. One could argue that in practice, almost every State is responsible for at least some GHG emitting activities and therefore selecting one State over another is almost impossible. And as it currently stands, there is no international law on how to apportion damages between multiple wrongdoers or causes of climate change.⁶⁰ However, it should be noted that Vanuatu could likely bring a State responsibility claim against a State or States, without being able to identify one GHG emitter who is responsible for the specific

⁵⁴ Ann-Charlotte Rosenblom, *Claiming State Responsibility for Climate Change Damages* (Masters Thesis, University of Lund, 2009) 38, available at <http://lup.lub.lu.se/luur/download?func=downloadFile&recordId=1561576&fileId=1565681> (accessed 18 November 2015).

⁵⁵ Even before their adoption, the articles were cited in decisions made by the International Court of Justice (‘ICJ’). The United Nations General Assembly has commended in resolution 56/83 that States give attention to the *ARS*, and annexed the articles to the resolution.

⁵⁶ International Law Commission, *Articles on the Responsibility of States for Internationally Wrongful Acts, with commentaries 2001*, GA Res 56/83 (‘*Commentaries on ILC ARS*’).

⁵⁷ Ann-Charlotte Rosenblom, above n 54, 31; See also *Phosphates in Morocco Case* (1938) P.C.I.J., Ser. A/B, No. 74.

⁵⁸ International Law Commission’s *Articles on Responsibility of States for Internationally Wrongful Acts* art 2 (‘*ILC ARS*’).

⁵⁹ James Crawford and Simon Olleson, above n 48, 451.

⁶⁰ Roda Verheyen, above n 50, 297.

damages caused by Cyclone Pam. Indeed, international jurisprudence suggests that Vanuatu could make a claim against any one wrongdoing State or against several States, as long as the judgment does not affect the interests of a third State not party to the proceedings.⁶¹ The implication is that Vanuatu could claim against States in breach of their obligations under the *UNFCCC* or their reduction obligations under the *Kyoto Protocol to the UNFCCC* (*'Kyoto Protocol'*), where '[t]he breach of the obligation would itself constitute the required fault and no further negligence needs to be shown.'⁶² This makes it unnecessary to 'apportion' responsibility – Vanuatu could just pick one obvious culprit and let that State sue others if it is found responsible, or Vanuatu could claim against all States that appear to be in breach of their obligations.

Attributing activities to a State

After identifying the State to sue, the next step is for Vanuatu to attribute activities to the State. Chapter II of the *ARS* (Articles 4 – 11) provides the circumstances in which activities can be attributed to a State.⁶³ In relation to cases concerning climate change damage being mostly the acts of those of private corporations and individuals, Article 8 of *ASR* provides that 'the conduct of a person or group of persons shall be considered an act of a State...if the person or group of persons is in fact acting on the instructions of, or under the direction or control of, that State carrying out the conduct.'⁶⁴ This Article implies that once an activity has been licensed, it is deemed to be under the control of the State. Moreover, Article 11 states that any conduct of private persons or private entities is to be considered an act of that State once the State in question acknowledges or accepts the conduct as its own.⁶⁵ According to Verheyen, since the biggest emission activities like transport and electricity are subject to licensing, as such once a State approves the behavior, through permitting policies in that regard, that State is explicitly or implicitly responsible for GHG emissions of private entities.⁶⁶ This was ruled by the Tribunal in *Trail Smelter Case*,⁶⁷ thus both Articles 8 and 11 are reflective of international case law.⁶⁸ 'The ICJ has considered attribution by omission in similar terms in cases like *Corfu Chanel Case*, the *Tehran Hostage Case*, *Nauru Case* and *Nicaragua Case*'.⁶⁹

⁶¹ This is exemplified in the *Certain Phosphate Lands in Nauru, Nauru v Australia*, Preliminary Objections, Judgment, [1992] ICJ Rep 240. See also *Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America)*, Merits, Judgment. I.C.J. Reports 1986, 14. See further Joy-Dee Davis, *State Responsibility for Global Climate Change: The Case of the Maldives* (Master of Arts in Law and Diplomacy Thesis, Tufts University, 2005) 65, available at <http://fletcher.tufts.edu/Research/Student-Theses-Archive/2004-2005> (accessed 15 November 2015).

⁶² Eva Hostettler, 'State Responsibility and Climate Change' (Paper presented at the Summer Academy, United Nations University Institute for Environment and Human Security, 2008) available at <https://www.ehs.unu.edu/article/read/574> (accessed 12 November 2015).

⁶³ Article 4 provides that the conduct of organs of a State shall be considered an act of the State. Article 5 provides that the conduct of persons or entities exercising element of governmental authority shall be considered an act of the State. Article 7 provides that the conduct of an organ of a State or of a person or entity empowered to exercise elements of governmental authority, even if it exceeds its authority, shall be considered an act of the State. Article 8 which provides that the conduct of a person or group of persons acting in the instructions of, or under the direction or control of a State, shall be considered an act of that State. Article 11 provides that a conduct acknowledged and adopted by a State as its own shall be considered an act of that State.

⁶⁴ *ILC ARS*, above n 58.

⁶⁵ *Ibid.*

⁶⁶ Roda Verheyen, above n 50.

⁶⁷ *Trail Smelter (Canada/United States)* (1938 and 1941) 3 RIAA 1911.

⁶⁸ Keely Boom, *Exposure to legal risk for climate change damage under the UNFCCC, Kyoto Protocol and LOSC: a case study of Tuvalu and Australia* (PhD Thesis, University of Wollongong, 2012) 240 <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=4926&context=theses> (accessed 19 November 2015).

⁶⁹ *Ibid.*

Obligations

Paragraph (b) of Article 2 of the *ARS* provides that internationally wrongful acts of a State (i.e. action or omission) must constitute a breach of an international obligation of that State. Vanuatu would, therefore, need to identify the obligations that are legally binding on a State at the time the alleged wrongful act was committed. International obligations may derive from any source of international law. The four main sources can be found in Article 38(1) of the *Statute of the International Court of Justice*⁷⁰ and of these, as suggested above, international conventions (treaties) and customary international law are the most relevant in the context of climate change.

Relevant international conventions include but are not limited to, the *UNFCCC* and the *Kyoto Protocol*. The principle *pacta sunt servanda* is the basis for the binding nature of treaties⁷¹ as reflected in the 1969 *Vienna Convention on the Law of Treaties* (*VCLT*). Article 26 of the *VCLT* states that '[e]very treaty in force is binding upon the parties to it and must be performed by them in good faith.'⁷²

Relevant obligations can also be derived from Customary international law. Customary international law is developed out of two main elements: 'an established, widespread, and consistent practice on the part of the States; and a psychological element known as the *opinio juris sive necessitatis* ...'⁷³ – which basically reflects the belief of States that behaviour is prohibited or prescribed by international law.⁷⁴ Customary international law is in principle binding on all States, except for States that are “persistent objectors” to the rule in question. In the context of climate change, the no-harm rule is an important rule of customary international law. Indeed, the rule can be interpreted as giving rise to an obligation for States to protect the climate system--which naturally extends to areas beyond national jurisdiction.

Obligations derived from the UNFCCC

For the purpose of claiming reparations for climate change damage, it is necessary to examine the obligations contained in the *lex specialis* of the *UNFCCC* and the *Kyoto Protocol*. The *UNFCCC* has near universal ratification and the commitments contained therein suggest that the Parties have a legal duty to avoid dangerous climate change.⁷⁵ The *Kyoto Protocol* on the other hand sets forth legally enforceable targets for industrialized countries, which are listed in Annex I.⁷⁶ Thus, each of these instruments entail obligations for States to limit and stabilize their GHG emissions in the atmosphere.

⁷⁰ *Statute of the International Court of Justice* art 38(1), listed the four main sources as: international conventions/treaties; international custom (general custom accepted as law); general principles of law; and judicial decisions and the teachings of most highly qualified publicists.

⁷¹ Hugh Thirlway, 'The Sources of International Law' in Malcolm D. Evans (ed), *International Law* (Oxford University Press, 2012) 99.

⁷² *Vienna Convention of the Law of Treaties 1969*, opened for signature 23 May 1969, 1155 UNTS 331 (entered into force 27 January 1980).

⁷³ Hugh Thirlway, above n 71, 102.

⁷⁴ *Ibid.*

⁷⁵ Yigates Mengstie, 'The Legal Basis for Reparation Claim for Climate Change Damage Under International Law: The Perspective of Vulnerable Developing Countries' (LLM Thesis, *Addis Ababa University*, 2010) 56, available at <https://chilot.files.wordpress.com/2013/01/the-legal-basis-of-reparation-claim-for-climate-change-damage-under-international-law.pdf> (accessed 12 September 2015)

⁷⁶ *Kyoto Protocol to the UNFCCC*

There is an ongoing debate amongst commentators as to whether or not the *UNFCCC* contains substantive commitments. The *UNFCCC* is described as a “law making”⁷⁷ treaty by some, while others perceive it as devoid of legal rights and obligations.⁷⁸ For instance, Okamatsu argued that being a framework convention, the *UNFCCC* does not define specific rights and obligations.⁷⁹ On the other end of the spectrum, Voight argues that it ‘...is defensible that the objective of the *UNFCCC* is to provide a *duty of prevention* with regard to dangerous climate change’.⁸⁰ Bodansky on the other hand is neutral on this debate and suggests that the *UNFCCC* ‘lies somewhere between a framework and a substantive convention’,⁸¹ and establishes more extensive commitments than other framework conventions.⁸²

Article 2 of the *UNFCCC* establishes the “ultimate” objective of the Convention which is ‘... to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent “dangerous” anthropogenic interference with the climate system.’⁸³ We suggest that the phrase “dangerous anthropogenic interference with the climate system” must be interpreted as meaning if and when the “adverse effects of climate change” occur.⁸⁴ According to Article 1 of the *UNFCCC*, the definition of “adverse impacts of climate change” is when “significant deleterious effects” occur in the environment or biodata.⁸⁵ In this context, it is ‘reasonable to say that the term dangerous refers to adverse effects of climate change which have significant deleterious effects on composition of ecosystems, human health and welfare’.⁸⁶ Moreover, the term “objective” may be used interchangeably with the phrase “object and purpose”⁸⁷ on the basis that the term “ultimate” is used as a qualification.⁸⁸ The objective therefore ‘acknowledges climate change as a problem and helps legitimize it as a matter of international concern.’⁸⁹ Article 2 also explicitly endorses “preventive principle”, which requires State Parties to control various activities that may pose risk and cause environmental damage, as embodied in the *Trail Smelter Case*⁹⁰ where the tribunal ordered Canada to prevent future injury.⁹¹ Although the exact meaning of Article 2 may be subject to controversy, its inclusion as a separate article in the operational part of the treaty suggests that it gives rise to legal obligations. Indeed, as Verheyen has emphasised, Article 2 is contained in the operative part of the treaty and provides for an environmental quality standard by setting a threshold for the *UNFCCC* and all future legal instruments.⁹² According to

⁷⁷ Philippe Sands, *Principles of International Environmental Law* (2nd ed, 2003) Cambridge, Cambridge University Press.

⁷⁸ Akiko Okamatsu, ‘Problems and Prospects of international Legal Disputes on Climate Change’ (paper presented at the Berlin Conference on Human Rights Dimensions of Global Environmental Change, 2005).

⁷⁹ *Ibid.*

⁸⁰ Christina Voigt ‘State Responsibility for Climate Change’ (2008) 77 *Nordic Journal of International Law* 1-22

⁸¹ Daniel Bodansky, ‘United Nations Framework Convention on Climate Change: A Commentary’ (1993) 18 *Yale J. Int’l* 451.

⁸² *Ibid.*

⁸³ *UNFCCC* art 2.

⁸⁴ Keely Boom, above n 68.

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

⁸⁸ Daniel Bodansky, above n 81.

⁸⁹ *Ibid.*

⁹⁰ *Trail Smelter (Canada/United States)* (1938 and 1941) 3 *RIAA* 1911

⁹¹ *Trail Smelter (Canada/United States)* (1938 and 1941) 3 *RIAA* 1911

⁹² Roda Verheyen, above n 50.

Verheyen, the term “dangerous anthropogenic interference with the climate system” provides a normative threshold and the time-element for this threshold is provided in the second sentence.⁹³

In addition, Article 4(2) contains more specific obligations for industrialised States: as Voigt puts it, this Article ‘can be interpreted as entailing a concrete obligation for industrialized Parties or Annex 1 Parties to reduce their GHG emissions, thus complementing the objective.’⁹⁴ It requires that all the *UNFCCC* Parties:

adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emission of greenhouse gas and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the convention...⁹⁵

However, like Article 2 of *UNFCCC*, Article 4(2) remains controversial and there is no consensus as to its proper interpretation. Christian Reus-Smit stated that:

At the Earth Summit in 1992, many environmental organisations (NGOs) were highly critical of the “soft” legal form in which the commitments were expressed. The notable absence of any binding timetable or targets for greenhouse gas emissions reduction in the 1992 document ... was widely seen as a failure of commitment.⁹⁶

A contrasting perspective which is, in our view, more sensible is taken by Voigt, who states that Article 4(2) of *UNFCCC* ‘when interpreted in a teleological way in the light of the objective of the Convention sets forth an “obligation of conduct” to reverse the long term trend of ever-increasing [GHG] emissions’.⁹⁷ This perspective makes sense, as the conduct prescribed by Article 4(2) is paramount in stabilising atmospheric concentrations of GHGs at safe levels. Similarly, Verheyen proposes that Article 4(2) requires Annex 1 Parties to modify their long-term trends of trends of GHG emissions,⁹⁸ a view that is supported by three arguments. Firstly, all Parties are bound by the objective set out in Article 2 of the Convention;⁹⁹ secondly, Annex 1 Parties are committed under Article 4(2) to take the lead in mitigation measures;¹⁰⁰ and thirdly, Annex 1 Parties must ensure that a modification of GHG trends is consistent with the objective in Article 4(2).¹⁰¹ Based on these arguments, it can indeed be concluded that Article 4(2) of the *UNFCCC* in conjunction with Article 2 *obliges* all Annex I State Parties to secure the stabilisation of atmospheric concentration GHGs through various actions and adoption of policies and other measures. This conclusion is supported by the term “shall” in Article 4(2), which confirms, in our view, that Article 4(2) does entail a substantive legal obligation.

⁹³ Roda Verheyen and Peter Roderick, ‘Beyond Adaptation: The Legal Duty to Pay Compensation for Climate Change Damage’ (2008) *WWF-UK*.

⁹⁴ Yigates Mengstie, above n 75, 57.

⁹⁵ *UNFCCC* art 4.2(a).

⁹⁶ Christian Reus-Smit, *The Politics of International Law* (Cambridge University Press, 2004).

⁹⁷ Christina Voigt, above n 80.

⁹⁸ Roda Verheyen, above n 50.

⁹⁹ *Ibid.*

¹⁰⁰ *Ibid.*

¹⁰¹ *Ibid.*

Thus in establishing a wrongful act, Articles 2 and 4(2)—taken together—can be understood as a primary rule that has been breached by Annex I Parties who have failed to act in accordance with that rule—for example, Annex 1 States that have increased their emissions since the ratification of the *UNFCCC*,¹⁰² and presumably every Annex I State that has failed to make the deep emission cuts required to prevent dangerous climate change. According to Verheyen, a Claimant State may refer to the inadequacy of the respondent State’s climate action plans in the quest to prove that a breach has occurred.¹⁰³ In support of this argument, reference can be made to Article 18 of the *VCLT* which provides that a State is obliged to refrain from acts that would defeat the object and purpose of a treaty it has signed.¹⁰⁴ Furthermore, Article 31(1) of the *VCLT* could possibly be used to further support the above argument since it requires a treaty to ‘be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.’¹⁰⁵ In that context, the lack of compliance with a treaty obligation, for example, the lack of compliance with Article 2 and 4(2) of *UNFCCC*, will result in the defeat of the ultimate objective of the *UNFCCC*. Therefore, it may amount to an internationally wrongful act to which a State can be held responsible.

Finally, it is important to note also that almost all Parties to the *UNFCCC* are also Parties to the Kyoto Protocol. However, this does not mean that the latter has superseded the former. The Kyoto Protocol itself reaffirms the ultimate objective of the *UNFCCC* and was never meant to lower standards contained in the Convention. In fact, it provides quantified targets and compliance mechanism to facilitate accountability within the *UNFCCC* regime. The existence of this accountability regime does not mean that no State responsibility can arise when Article 4(2) is violated. After all, Article 4(2) has never been amended and continues to be binding on all the Annex 1 Parties.

Obligations derived from customary international law (i.e. the no-harm rule)

For the purpose of claiming reparations for climate change damage under the law of State responsibility, it is useful also to examine the obligations deriving from customary international law. As noted above, most relevant to climate change is the no-harm rule. In its advisory opinion 241 (1996) on *Legality of the Threat or Use of Nuclear Weapons*, the ICJ has confirmed that the no-harm rule is part of international customary law and therefore encompasses a legally binding obligation for all States.¹⁰⁶ The no-harm rule was first applied in the *Trail Smelter Case*,¹⁰⁷ where the Tribunal held that:

Under the principles of international law ... no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of

¹⁰² Yigates Mengstie, above n 75, 58.

¹⁰³ Roda Verheyen, above n 50.

¹⁰⁴ *VCLT* art 18.

¹⁰⁵ *VCLT* art 31(1).

¹⁰⁶ Legal Response Initiative, ‘No-harm rule and climate change’ (Briefing Paper, UK Department for International Development, 2012).

¹⁰⁷ *Trail Smelter (Canada/United States)* (1938 and 1941) 3 RIAA 1911.

another or the property of others therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.¹⁰⁸

Following the *Trail Smelter Case*,¹⁰⁹ the no-harm rule has been entrenched as a well-established principle or rule of customary international law and was reflected in numerous international instruments¹¹⁰ which includes, for instance, Principle 21 of the Stockholm Declaration which stipulates:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility 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.¹¹¹

More relevant to the purpose of this paper, is the mentioning of the no-harm rule in recital 8 of the Preamble of the *UNFCCC* which is quite similar to Principle 21 of the Stockholm Declaration. Recital 8 of the Preamble states:

Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility 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.¹¹²

In light of the above, a State's engagement in GHG emission activities within its national territory with the potential to cause damage to other States beyond its national territory would trigger obligations under the no-harm rule to avoid such damage. Conversely, Vanuatu can argue that it has the right not to be harmed by the acts and omissions of other States. The standard of care here is crucial: it appears that establishing a violation of the no-harm rule involves demonstrating that a responsible State has failed to exercise 'due diligence' in regulating and controlling its GHG activities within its own national territory. According to current literature, due diligence is said to comprise at least the following elements: foreseeability or knowledge that a certain activity could lead to transboundary damage;¹¹³ the opportunity to act or prevent;¹¹⁴ and proportionality in the choice of measures required to prevent harm or minimize risk.¹¹⁵ In addition, the no-harm rule does not only obligate a State to prevent trans-boundary harm but also

¹⁰⁸ *Trail Smelter (Canada/United States)* (1938 and 1941) 3 RIAA 1911.

¹⁰⁹ *Trail Smelter (Canada/United States)* (1938 and 1941) 3 RIAA 1911.

¹¹⁰ *UNFCCC* Preamble.

¹¹¹ *Declaration of the United Nations Conference on the Human Environment*, UN GAOR, 21st Plen mtg, U.N. Doc. A/Conf.48/14/Rev. 1(1973) (16 June 1972)

<<http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503> (accessed 20 November 2015); see also Patricia Birnie, Alan Boyle and Catherine Redgwell, *International Law & the Environment* (Oxford University Press, 3rd ed, 2009) 143.

¹¹² *UNFCCC* Recital 8 Preamble.

¹¹³ Christoph Schwarte & Ruth Byrne, 'International Climate Change Litigation and the negotiation process' (Foundation for International Environment Law and Development (FIELD), October 2010); See also Christina Voigt, above n 81; See also Roda Verheyen, above n 50.

¹¹⁴ *Ibid.*

¹¹⁵ *Ibid.*

to limit the risk of such harm occurring.¹¹⁶ This is evident from the ILC's commentary to the *2001 Articles on Prevention of Transboundary Harm from Hazardous Activities* which noted:

that acting with due diligence requires a State to take unilateral measures to prevent significant transboundary harm or at any event minimize the risk thereof... Such measures include, first, formulating policies designed to prevent significant transboundary harm or to minimize the risk thereof and, second implementing those policies. Such policies are expressed in legislation and administrative regulations and implemented through various enforcement mechanisms.¹¹⁷

Accordingly, if Vanuatu can show that despite a responsible State foreseeing that GHG activities would lead to significant transboundary harm, that State failed to act with due care or failed to take reasonable and proportionate measures to protect the environment from transboundary harm, that State may be considered to have breached the no-harm rule. A classic example of how the no-harm rule can be formulated in Vanuatu's favour is reflected in the recent *Case Concerning the Aerial Herbicide Spraying (Ecuador v Colombia)* before the ICJ. This concerned a dispute where Ecuador alleged that the aerial spraying of toxic herbicides by Colombia into Ecuador's territory had caused serious damage to people, plants and the environment.¹¹⁸ Ecuador requested, amongst other things, a declaration that Colombia had breached an international obligation and an order obliging it to '...take all steps necessary to prevent, on any part of its territory, the use of any toxic herbicides in such a way that they could be deposited onto the territory of Ecuador; and (iii) prohibit the use, by means of aerial dispersion, of such herbicides in Ecuador, or on or near any part of its border with Ecuador.'¹¹⁹ This case illustrates how Vanuatu could formulate its argument in light of the no-harm rule.

LEGAL CONSEQUENCES OF STATE RESPONSIBILITY

Duty to cease the wrongful conduct

Article 30 of the *ARS* provides that a State that is responsible for an internationally wrongful act is under an obligation to cease the act if the act is continuing,¹²⁰ and to offer appropriate assurances and guarantees of non-repetition.¹²¹ According to Paragraph 5 of the commentary to Article 30 of the *ARS*, 'the function of cessation is to put an end to a violation of international law and to safeguard the continuing validity and effectiveness of the underlying rule'.¹²² In framing a State responsibility claim related to climate change damage, Vanuatu may seek and demand another State to cease the action or inaction that leads to the emission of dangerous levels of GHGs into the atmosphere. For appropriate assurances and guarantees of non-repetition, Paragraph 11 of the commentary to Article 30 of the *ARS* provides that they are concerned with the restoration of confidence on a continuing relationship.¹²³ Vanuatu may seek

¹¹⁶ *Trail Smelter* Arbitration (United States v. Canada) [1941] 3 RIAA.

¹¹⁷ Report ILC, 53rd session, Commentary 393 in Christina Voigt, above n 80, 22.

¹¹⁸ *Case Concerning the Aerial Herbicide Spraying (Ecuador v Colombia)* Order of 30 May 2008. I.C.J. Reports 2008, p.174; see also The Hague Justice Portal <http://www.haguejusticeportal.net/index.php?id=9285> (accessed 19 November 2015).

¹¹⁹ *Case Concerning the Aerial Herbicide Spraying (Ecuador v Colombia)* Application Instituting proceedings, 31st March 2008.

¹²⁰ *ILC ARS* art 30(a).

¹²¹ *Ibid* art 30(b).

¹²² *Commentaries on ILC ARS* art 30 Para 5.

¹²³ *Ibid* Para 11.

assurances which in practice are normally given verbally,¹²⁴ while preventive measures, such as repealing of legislation, may be sought as guarantees of non-repetition.¹²⁵

Duty to make reparations

In addition to cessation and non-repetition, there is a duty to make reparations. One of the most important principle of public international law is that ‘the breach of an engagement involves an obligation to make reparation in an adequate form.’¹²⁶ According to Crawford and Olleson, ‘[r]eparation therefore is the indispensable complement of a failure to apply a convention and there is no necessity for this to be stated in the Convention itself.’¹²⁷ Also, the underlying principle is that reparations must wipe out the consequences of the breach; in other words, it must ‘put the parties as far as possible in the same position as they would have been if the breach had not occurred.’¹²⁸

Article 31 of the ARS captures this principle and states that a State is obliged to make full reparation for any injury caused.¹²⁹ The commentaries on the ARS reiterate that it is a well-established principle in international law – as established by the PCIJ in the *1927 Chorzow Factory Case*.¹³⁰ The PCIJ stated that ‘[i]t is a principle of international law, and even a general conception of law, that any breach of an engagement involves an obligation to make reparation ...’.¹³¹ The Court also stated that:

... reparation must, as far as possible, wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have existed if that act had not been committed. Restitution in kind, or, if this is not possible, payment of a sum corresponding to the value which a restitution in kind would bear; the award, if need be, of damages for loss sustained which would not be covered by restitution in kind or payment in place of it – such are the principles which should serve to determine the amount of compensation due for an act contrary to international law.¹³²

Article 34 of ASR envisages that ‘[f]ull reparation for the injury caused... shall take the form of restitution, compensation and satisfaction, either singly or in combination ...’.¹³³ In the context of injury caused by Cyclone Pam, it is impossible to restore the situation *ex ante*—especially, deaths caused by Cyclone Pam are irreversible. Therefore, the two appropriate remedies in this case are actions aimed at preventing further damage and compensation for already occurred damage. Indeed, it would appear that compensation is the only possible redress for unavoidable damage caused by extreme weather events.

¹²⁴ Ibid Para 12.

¹²⁵ Ibid.

¹²⁶ James Crawford and Simon Olleson, above n 48, 447.

¹²⁷ Ibid.

¹²⁸ Ibid.

¹²⁹ *ILC ARS*, above n 58.

¹³⁰ *Factory at Chorzow case*, merits, judgment [1928] PCIJ ser. A. See also Christina Voigt, above n 80.

¹³¹ *Factory at Chorzow case*, merits, judgment [1928] PCIJ ser. A.

¹³² Ibid.

¹³³ *ILC ARS*, above n 58.

While the *ASR* defines injury as “damage whether material or moral”, in practice, this has not been so. In the *Trail Smelter Case*,¹³⁴ the tribunal awarded compensation to the United States only for damage to land and property caused by emissions from a Canadian Smelter.¹³⁵ The ecological damage or “pure” environmental damage caused by Cyclone Pam may not be compensable in this case and thus compensation that will actually be received may be limited to financially assessable damage i.e. injury to persons and property only, also known as consequential environmental damage. It should also be considered that Vanuatu has also emitted GHGs to some extent, although a negligible amount. As such, Vanuatu might also be partly responsible for the climate change damage, and thus the extent of the reparation must be adjusted accordingly.¹³⁶ This issue is regulated in Article 39 of *ASR* which states that “[i]n the determination of reparation, account shall be taken of the contribution to the injury by wilful or negligent action or omission of the injured State ... in relation to whom reparation is sought.”¹³⁷

HOW COULD VANUATU ENFORCE THESE LAWS?

Article 42 of the *ARS* provides that an injured State is entitled to the implementation of State responsibility.¹³⁸ This means, amongst other things, that Vanuatu as an injured State is entitled to invoke the responsibility of a responsible State or States. In invoking the responsibility of responsible States, Vanuatu shall give notice of its claim to the responsible State or States and specify in particular, (i) what measures the responsible State should take in order to cease the wrongful act, and (ii) the form of reparation that Vanuatu may elect to seek. This could be done either bilaterally (between States) or by bringing a case before an international judicial body, such as the ICJ. Our contribution focuses on the latter option.

Bringing a case to the ICJ

According to Article 36(2) of the *Statute of the ICJ*, State parties may deposit at any time declarations recognizing the compulsory jurisdiction of the ICJ. Such declarations may be made conditional or unconditional. When made unconditional, the case is straightforward. However, when made conditional, it means a State has accepted the ICJ’s compulsory jurisdiction but subject to reservations. Within such reservations, States tend to exclude certain types of disputes, which they wish not to sue upon, or be sued upon. However, the easiest way for Vanuatu would be to sue a State that has accepted the Court’s jurisdiction as compulsory. It is important to note that most Annex 1 countries have recognised the compulsory jurisdiction of the ICJ, based on reciprocity.¹³⁹ The real obstacle is that Vanuatu has not recognised the ICJ’s compulsory jurisdiction yet, which probably bars it from bringing a claim regarding Cyclone Pam. On that note, if Vanuatu accepts the jurisdiction of the Court as compulsory, it could probably bring this type of claim in the future. This is not to suggest that there might not be other avenues Vanuatu could pursue to invoke responsibility—the ICJ is not the only forum, and indeed Vanuatu could invoke responsibility simply by having its Head of State or Minister of Foreign Affairs make a statement to that end.

¹³⁴ *Trail Smelter (Canada/United States)* (1938 and 1941) 3 RIAA 1911.

¹³⁵ *Trail Smelter (Canada/United States)* (1938 and 1941) 3 RIAA 1911.

¹³⁶ Christina Voigt, above n 80.

¹³⁷ *ILC ARS*, above n 58.

¹³⁸ *Ibid* art 42.

¹³⁹ ICJ website <http://www.icj-cij.org/homepage/> (accessed 12 November 2015).

CONCLUSION AND RECOMMENDATIONS

This paper has discussed whether or not Vanuatu could successfully claim reparations under international law for the damages sustained as a result of Cyclone Pam. It has demonstrated that making a successful reparations claim is not impossible. Despite the absence of an existing climate change regime that would address the questions of when, how and by whom climate change related damages should or could be compensated, the general law on State responsibility can help frame a State responsibility claim. Should Vanuatu decide to bring this type of claim, Vanuatu could pick one obvious culprit and let that State sue others if it is found responsible, or Vanuatu could claim against all States that appear to be in breach of their obligations. However, to be able to proceed, Vanuatu may need to recognise the compulsory jurisdiction of the ICJ based on reciprocity. Also, if Vanuatu is to rely on international human rights law as a legal basis for its claim, Vanuatu, may need to consider becoming a State party to the *International Covenant on Economic, Social and Cultural Rights* ('ICESCR'). Lastly, as it stands, the current jurisprudence on this subject area is yet to be further developed. Therefore, there is a need for a case of this nature to be litigated in order to shed more light and expand the jurisprudence in this area. Who knows, this Vanuatu Cyclone Pam case, if litigated, may set the precedent.

A BREACH OF FUNDAMENTAL HUMAN RIGHTS AS THE LEGAL BASIS FOR REPARATIONS FOR CLIMATE CHANGE-DAMAGES AND INJURIES UNDER INTERNATIONAL LAW: CASE STUDY OF HA'APAI ISLANDS (TONGA) FOLLOWING CYCLONE IAN

Fitilagi Ioane Fa'anunu*

INTRODUCTION

The people of small communities of the Ha'apai island group in Tonga became victims of the severe tropical cyclone Ian in 2014 resulting in damage to property, threats to livelihoods and food security, and loss of life. This article looks at a range of human rights of these communities that were, it is argued, violated. This is demonstrated by linking interference with rights to States' obligations under international climate change laws and human rights frameworks that give rise to further obligations to compensate the Ha'apai people as beneficiaries of those rights. The article recognises that a claim for compensation may be futile against claims that it is difficult to establish liability whereby no single emitter of carbon dioxide can be linked to a specific result such as a tropical cyclone. The article argues that the IPCC reports coupled with Tonga's climatological records may sufficiently establish liability on the basis that climate change has at least partially contributed to tropical cyclones by means of its influence over weather and climate events resulting in severe tropical cyclones like Ian. It is also recognised that a claim by the Ha'apai communities as a people, by virtue of their right to self-determination, may be challenged. However, a claim of this kind will stand the test of time in the relevant forums.

The first part of this article highlights the reality of the impact of the cyclone on the Ha'apai affected communities as well as the causal link between man-made climate change and extreme climate events. The subsequent sections discuss and analyse the legal issues addressed in this article and the selected rights of the Ha'apai people as recognised under human rights laws as well as the conduct of States that interfere with them. Evidence is also presented to provide context for the reality of the small and vulnerable communities of Ha'apai. The article then suggests that a human rights based approach should be considered to enhance actions to and responses against climate change. This should reflect comprehensively and extensively in the new agreement to be agreed and adopted in Paris in order to achieve the object of the UNFCCC and thus safeguard fundamental human rights of vulnerable communities now and in the future.

WHAT HAPPENED IN HA'APAI?

Tonga is extremely vulnerable to natural disasters. It is ranked second to Vanuatu in the world as being one of the highest risk areas for being exposed to disasters resulting from

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extreme natural events including droughts, tsunamis, earthquakes and tropical cyclones.¹ It is affected by tropical cyclones, on average, once annually, and increasing to two during El Nino years.² The Ha'apai islands are located just north of Tongatapu Island, the main island of the Kingdom of Tonga where the government is situated.

On the afternoon of 11 January 2014, tropical cyclone Ian (category 5), made landfall on the islands of Ha'apai and causing havoc in the northern smaller islands of the Ha'apai group: Uiha, Uoleva, Foa, Ha'ano and Mo'unga'one.³ Of the 6,616 people inhabiting the islands of Ha'apai,⁴ 950 of the households were directly affected and suffered severe damage to property and livelihoods.⁵ Cyclone damage to Tonga's agriculture and fisheries sectors exceeded US\$20 million.⁶ This raised many concerns for the Ha'apai group whose communities depend primarily on agriculture and fisheries for their livelihoods.⁷ Of the 950 households affected, about 22 percent were dependent on fishing alone as their main source of income.⁸ About 2000 people were displaced and housed in emergency shelters when their homes were either severely or completely destroyed and, fortunately, only one death was reported.⁹ Those whose homes were destroyed were fortunate to find safe shelter in Mormon Church buildings whilst others resorted to breaking open their own cement water tanks used for drinking as the only option available to them for safe shelter. While destroying their water tanks provided shelter during the cyclone, many families were subsequently crippled due to a lack of drinking water which was collected in the tanks as many rely on rainwater for drinking on the islands.¹⁰ This in turn led to the fear of disease due to contaminated drinking water and the fact people were already suffering from the prevailing drought that began in Tonga some months prior to the arrival of tropical cyclone Ian.¹¹

The tourism sector also suffered considerable damage to infrastructure and loss of revenue due to cancelled bookings.¹² With only 12 hotels and motels on the island, one of them was completely flattened by raging winds in excess of a 100 knots leaving only rubble and cement

¹ The Nature Conservancy, *World Risk Report 2012* (2012), 9
<http://www.nature.org/ourinitiatives/habitats/oceanscoasts/howwework/world-risk-report-2012-pdf.pdf>
(accessed 21 November 2015). See also, Tonga Meteorological Service, *Facts About Natural Hazards in Tonga*
http://www.met.gov.to/index_files/Disasterfacts.htm. Also see Ministry of Information & Communications
Building a more Resilient Tonga against Disaster Risk (2015).

² Tonga Meteorological Service, above n 1. Also see Government of Tonga (GoT) Media Release, *El Nino Advisory No.7 for Tonga*, Meteorology and Coast Radio Services Division, Tongatapu (2015).

³ Ministry of Infrastructure (MOI), *Severe TC Ian Report*, Meteorology and Coast Radio Services Division Tongatapu (2014). Also see Ministry of Infrastructure (MOI), *Tropical Cyclone Ian Response Plan* (2014), 6
http://www.humanitarianresponse.info/en/system/files/documents/files/2014-01-30_TC-Ian-Response-Plan.pdf
(accessed 18 November 2015).

⁴ SPC, *Tonga 2011 Census of Population and Housing: Key Indicators*
http://www.spc.int/prism/tonga/index.php?option=com_advlisting&view=download&fileId=46&Itemid=301
(accessed 21 November 2015).

⁵ FAO and Tonga Ministry of Agriculture and Foods, Forests and Fisheries, *TONGA – Cyclone Ian in Ha'apai: Rapid Damage Assessment to the Agriculture and Fisheries Sectors Report* (2014)
<http://reliefweb.int/report/tonga/cyclone-ian-ha-apai-rapid-damage-assessment-agriculture-and-fisheries-sectors-report>
(accessed 21 November 2015).

⁶ FAO, *Cyclone damage to Tonga's agriculture and fisheries exceeds \$20 million* (2015)
<http://www.fao.org/asiapacific/news/detail-events/fr/c/215345/> (accessed 25 November 2015).

⁷ FAO and Tonga Ministry of Agriculture and Foods, Forests and Fisheries, (2014), above n 5.

⁸ Ibid.

⁹ MOI (2014), above n 3.

¹⁰ Ibid 67.

¹¹ GoT Media Release (2015), above n 2; MOI (2014), above n 3.

¹² MOI, (2014), above n 3.

foundations behind. The loss and damage to the tourism sector not only impacted the households but also the community whose source of income derived from visiting tourists through the purchase of handicrafts and agricultural produce sold at the market resulting in diminished wages for those employed at tourist facilities.¹³ The lack of water, loss of electricity and telephone lines and damage to tourist facilities meant that businesses would take a long time to recover. In fact, the Tongan economy over-all was generally affected because the expenditures to rebuild Ha'apai meant that other State priorities had to be put on hold.¹⁴

WHO IS RESPONSIBLE?

Causal link with Climate Change

This section attempts to show the causal link between climate change and extreme climate events, including tropical cyclones. It is based on the IPCC reports that acknowledge the effects of climate change resulting from the accumulated greenhouse gases (GHGs) in the atmosphere. The reports also note that ocean basins have been warmed the most, and the warming of the ocean is critical to the formation of tropical cyclones. It is argued here that climate change influences tropical cyclones like Ian and indeed contributed to the damages which the Ha'apai people have suffered. What is clear is that the developed countries, based on historical emissions, are largely responsible for the impacts of climate change that are being experienced today¹⁵ and thus the influence of climate change on tropical cyclones may be sufficiently supported to establish liability against developed countries under international law. However, it is usually argued that no single nation and its emissions could contribute to a particular cyclone, hence causation would be too remote.¹⁶ It is important to note that the number of severe cyclones based on their average maximum wind speeds that have affected Tonga have occurred in the last two decades and thus in the time frame since the adverse effects of man-made climate change began to materialise.¹⁷

The IPCC confirmed in its Assessment Reports¹⁸ that there are changes in the Earth's energy budget owing to both natural and anthropogenic substances and processes resulting in climate change.¹⁹ It also confirmed that the largest contribution to this change is by the increase of atmospheric concentration of carbon-dioxide (CO₂) caused by human activities²⁰ since 1750.²¹ It also highlights specifically that '[the observed changes] in climate extremes reflect the influence of anthropogenic climate change in addition to natural climate variability...'²²

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Intergovernmental Panel on Climate Change (IPCC), *AR4* (2007); IPCC, *AR5* (2013).

¹⁶ Christina Voigt, 'State Responsibility for Climate Change Damages' (2008) 77 *Nordic Journal of International Law*, 15.

¹⁷ IPCC, *Summary for Policymakers* (2013), 13.

¹⁸ Ibid.

¹⁹ Ibid 16. Also see IPCC, *Summary for Policymakers: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* (2012), 7.

²⁰ IPCC, (2013), above n 17, 15.

²¹ IPCC, (2013), above n 17, 17.

²² IPCC, (2012), above n 19, 17.

IPCC further linked the changing climate as influencing weather and climate events to disasters²³ that adversely impact²⁴ on the exposure²⁵ and vulnerability²⁶ of human society and natural ecosystems.²⁷ Weather and extreme events include more intense tropical cyclones with higher average maximum wind speeds and more frequent²⁸ droughts. Sea level rise and increasing sea surface temperatures are critical concerns for tropical Small Island States (SIDS) including Tonga.²⁹ To quote the IPCC Special Report on Managing Risks of *Extreme Events and Disasters to Advance Climate Change Adaptation*:

A changing climate leads to changes in frequency, intensity, spatial extent, duration and timing of extreme weather and climate events, and can result in unprecedented extreme weather and climate events.³⁰

These findings add to the existing understanding about this relationship. That is, the changing climate influences sea surface temperatures as a critical ingredient for cyclone formation.³¹ The IPCC Third Assessment Report noted that peak wind and precipitation intensity of tropical cyclones would increase in some areas.³² But it could not confirm if all regions would be affected the same way due to limited data at the time.³³ This in fact was consistent with a statement by the World Meteorological Organizations (WMO) in 2006 resulting from its Sixth International Workshop on Tropical Cyclones in San Jose, Costa Rica.³⁴ It stated that: (1) it was well established observationally that over the past several decades the sea surface temperature over most tropical ocean basins had increased in magnitude by between 0.25 – 0.5 degrees celcius; (2) most researchers in the field of climate science accepted that the most likely primary cause of the observed increase of global mean surface temperature was due to a long term increase in greenhouse gas concentrations and thus the likelihood of most tropical ocean basins warm significantly due to the same cause; and (3) sea surface temperatures will increase by an even greater amount in the 21st century than during the 20th century as described by the IPCC (2001).³⁵

²³ Disaster is defined as ‘Severe alterations in the normal functioning of a community or a society due to hazardous physical events interacting with vulnerable social conditions, leading to widespread adverse human, material, economic, or environmental effects that require immediate emergency response to satisfy critical human needs and that may require external support for recovery’, IPCC, (2012), above n 19, 3.

²⁴ Adverse impacts are considered disasters when they produce widespread damage and cause severe alterations in the normal functioning of communities and societies, IPCC, (2012), above n 19, 2.

²⁵ Exposure is defined as “The presence of people; livelihoods; environmental services and resources; infrastructure; or economic, social, or cultural assets in places that could be adversely affected”, IPCC, (2012), above n 19, 3.

²⁶ Vulnerability is defined as “the propensity or predisposition to be adversely affected”, IPCC, (2012), above n 19, 3.

²⁷ IPCC, (2012), above n 19, 7.

²⁸ There is prediction for a likely increase in tropical cyclone maximum wind speed, IPCC, (2012), above n 19, 13.

²⁹ *Draft outcome document of the third International Conference on Small Island Developing States: Small Island Developing States Accelerated Modalities of Action (Samoa Pathway)*, GA Res (2014), <http://www.sids2014.org/index.php?menu=1537> (accessed 20 November 2015). Also see IPCC, (2012), above n 19, 3.

³⁰ IPCC, (2012), above n 19, 7.

³¹ See World Meteorological Organization (WMO), *Statement on Tropical Cyclones and Climate Change* (2006) https://www.wmo.int/pages/prog/arep/tmrp/documents/iwtc_statement.pdf (accessed 21 November 2015).

³² IPCC, *Climate Change 2001: Synthesis Report – Summary for Policymakers*, (2001), 14 <https://www.ipcc.ch/ipccreports/tar/vol4/english/pdf/spm.pdf> (accessed 20 November 2015).

³³ IPCC, (2001), above n 32.

³⁴ WMO, (2006), above n 31.

³⁵ IPCC, (2001), above n 32.

The IPCC's 5th Assessment Report has validated these earlier findings and thus confirms that there is very high confidence that the impacts of climate-related extremes, including tropical cyclones, reveal significant vulnerability and expose some ecosystems and many human systems to current climate variability.³⁶ Records also show that Ian is among the eight most severe tropical cyclones to hit Tonga between 1960 and 2014.³⁷ The five most destructive tropical cyclones recorded to have affected the South Pacific happened in the last two decades including cyclone Zoe in 2002 (890 hPa), Pam 2014 (896 hPa), Percy 2004 (900 hPa), Ron (900 hPa), and Susan (900 hPa).³⁸

This combined evidence may be sufficient to establish a causal link between climate change and tropical cyclones as an extreme climate event influenced by the changing climate which adversely affect human systems directly and indirectly.

The Law of State Responsibility

To establish State responsibility, a State must commit an internationally wrongful act as against another State³⁹ which consists of an act or omission.⁴⁰ The conduct to qualify as an internationally wrongful act must first be attributable to the State, and secondly that act attributable to the State constitutes a breach of an international obligation existing of that State.⁴¹ It is important to realise that the legal responsibility that arises is not limited to bilateral relations but can extend to other States, who are members of the international community and have 'legal interests in the protection of certain basic rights and the fulfilment of certain essential obligations'.⁴² This view of the International Law Commission (ILC) links to the international law norm of avoiding harm to others even outside one's State borders.⁴³

The United Nations Framework on Climate Change Convention (UNFCCC) is the starting point in an attempt to establish State responsibility. The UNFCCC is binding upon State Parties and they have special legal obligations under it. These obligations could be viewed as individual and joint obligations⁴⁴ that aim to achieve the ultimate purpose of the UNFCCC. However, any liability arising under the UNFCCC can only arise against another State. In the case of Ha'apai, Tonga could make a claim on behalf of the affected communities under the UNFCCC and against all industrialised countries labelled as Annex 1 parties with

³⁶ IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability – Summary for Policymaker*, (2014), 6. Risks to human systems and ecosystems include infrastructure damage, supply chain, ecosystems, and social system disruption; public health impacts; and water quality impairment, due to sea level rise, extreme precipitation, and cyclones.

³⁷ Tonga Meteorological Service, *List of Tropical Cyclones that has affected at least a part of Tonga from 1960 to present*, http://www.met.gov.to/index_files/tc_history.pdf (accessed 21 November).

³⁸ International Pacific Research Center, *Asia-Pacific Data-Research Center Archives*, (2008) http://apdrc.soest.hawaii.edu/projects/speartc/download_speartc.php?email=fitilagi.faanunu@gmail.com (accessed 21 November).

³⁹ See International Law Commission (ILC), *Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries* (2001), Art 2.

⁴⁰ ILC, (2001), above n 39.

⁴¹ Ibid, at [5] and [7], above n 39. Also see *Factory at Chorzow's case, (Germany v Poland)*, (*Judgment of the Permanent Court of International Justice*) (1927) 9.

⁴² ILC, (2001), above n 39, art 1.

⁴³ See *Smelter Trail Case (United States, Canada)*, (*Decision of the Trail Smelter Arbitration*) (1935) 62.

⁴⁴ Individual obligations in accordance with principles articulated in Article 3 and commitments in Article 4. Joint obligation can be referred to the collective obligations to achieve the objective in Article 2 as the result of their individual efforts or otherwise the combined effect of their individual efforts.

damages to be apportioned amongst them. The following discussion however suggests that as a people Ha'apai communities could also make a claim by themselves through Human Rights mechanisms and procedures.

Causation

The distinction between general and specific causation in this context is necessary. General causation requires the activity in question to be causally linked to the general outcome of a resulting damage⁴⁵ such in the case of anthropogenic activities as the dominant cause of climate change.⁴⁶ Specific causation concerns the causal link between a specific type of activity such as a particular State's emissions, with a specific type of result such as tropical cyclones.⁴⁷ I focus my argument on specific causation to establish a possible claim for the Ha'apai communities resulting from the damage done by tropical cyclone Ian.

I argue that the IPCC findings point out that tropical cyclones are influenced by climate change. Despite claims that damage 'due to multiple sources and where no single emitter can be identified' is difficult to establish unless there is 'convincing evidence'.⁴⁸ I persist in arguing that the Tonga records appear to be consistent with the IPCC findings in regards the intensity and not the regularity of cyclones. They present sufficient and convincing evidence to establish that the damage suffered from tropical cyclone Ian were at least partially attributable to climate change.⁴⁹ In the *Trail Smelter* case, it was sufficient that the damage caused was 'at least partially caused by the polluting activity of the smelter in Trail hence Canada was sufficient'.⁵⁰ Such a finding is relevant to this argument that developed countries' historical contributions causing climate change have attributed to tropical cyclones in regards their intensity and the damage caused is attributed to that causal link. The amount and who contributed what, is only relevant to the apportionment of costs.⁵¹

The counter argument is that Tonga has experienced tropical cyclones in the past with similar intensity and perhaps severe damage like cyclones Isaac and Ron.⁵² Cyclone Ian is a unique case as it emerged in a time when there is strong evidence that strongly supports climate change as affecting weather and climate events including tropical cyclones.

Violation of International Obligations

International legal norms require all signatories to not frustrate the purpose of the UNFCCC.⁵³ Likewise, the non-parties are also open to liability should they frustrate the UNFCCC's objectives.⁵⁴ Article 2 holds all parties accountable and liability arises where the Annex 1 countries have failed to act consistently with the object of the UNFCCC. For instance, where the Annex 1 countries have failed to implement domestic policies and

⁴⁵ Voigt, (2008), above n 16, 15.

⁴⁶ IPCC, (2013), above n 17. Also see Richard S.J. Tol and Roda Verheyen, *State responsibility and compensation for climate change damages – a legal and economic assessment*, (2004).

⁴⁷ Voigt, (2008), above n 16, 16.

⁴⁸ Ibid.

⁴⁹ See *Smelter Trail Case (United States, Canada)*, (1935), above n 43, 62.

⁵⁰ Voigt, (2008), above n 16, 16.

⁵¹ Ibid.

⁵² Tonga Meteorological Service, above n 37.

⁵³ *Vienna Convention on the Law of Treaties*, opened for signature 23 May 1969, (entered into force 27 January 1980) art 18.

⁵⁴ Ibid.

measures to deal with climate change that are cost effective to ensure global benefits at the lowest possible cost as required by Article 3.⁵⁵ Any failure to do so is a failure of parties to fulfil their obligations to achieve the object of the UNFCCC. In turn, such failures give rise to further breaches of the States obligations under Article 3 to take precautionary measures to prevent and minimize causes of climate change which means a failure to prevent dangerous anthropogenic interference with the climate system.

Article 4 spells out certain commitments for the Annex 1 countries. Such language denotes clear obligations for the Annex 1 countries and any failure to act accordingly will give rise to liability.

Standard of Proof

Perhaps the most critical issue for establishing climate change liability against the Annex 1 countries is the standard of proof which the claiming State(s) must meet. The standard of proof must be appropriate and that it allows to remedy any uncertainties and with the view that it must be consistent with the principles as interpreted in the context of the Convention to achieve its purpose. It is submitted that the standard of proof should be “on the balance of probabilities” as in any civil lawsuit. There is merit for this view. The principle of precautionary as interpreted in the context of the UNFCCC encompasses an element of foreseeability. The failure of Annex 1 countries to take the necessary precautionary measures or actions that ‘anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects’, and harm which results from that failure, will lead to a logical conclusion that harm was foreseeable. This is also relevant to achieve the purpose of the Convention and that actions taken by Annex 1 countries need to be assessed on the basis of probability whether they are more likely to cause harm than not, and whether that would frustrate the objective of the Convention.

HUMAN RIGHTS OBLIGATIONS UNDER INTERNATIONAL LAW

International Climate Change Framework

The UNFCCC

The UNFCCC acknowledges that climate change and its adverse effects is a common concern of humankind and is attributed to human activities. It resulted from Rio in 1992 where it was first acknowledged that there was human-induced climate change but there was scientific uncertainty to substantiate the claims. States at Rio proceeded to adopt the UNFCCC on the premise that there was a need to address climate change even in the face of scientific uncertainty based on the precautionary principle.⁵⁶ The IPCC Assessment Report 4 published in 2007 (AR4, 2007) confirmed that there was man-made climate change and was reaffirmed by the IPCC AR5, 2013.⁵⁷ The UNFCCC also acknowledges climate change as a common concern for all humankind⁵⁸ and highlights further that the increasing atmospheric concentrations of greenhouse gases by human activities will enhance the greenhouse effect

⁵⁵ *United Nations Framework on Climate Change Convention (UNFCCC)*, opened for signature from 4 to 14 June 1992, (entered into force 21 March 1994) art 3.

⁵⁶ *United Nations Framework Convention on Climate Change, Handbook* (2006), 15.

⁵⁷ IPCC, (2013), above n 17.

⁵⁸ *UNFCCC*, above n 55, Preamble.

which may adversely affect natural ecosystems and humankind.⁵⁹ Article 2, states its object and calls for an international response to ‘stabilize greenhouse gas emissions in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’.⁶⁰ It further reiterates the views already propounded by the General Assembly and other relevant bodies to ‘protect the global climate for present and future generations of mankind’. This is reinforced by the guiding principles for implementation of the Convention in Article 3.⁶¹

The UNFCCC does not make explicit references to human rights but it is argued that human rights references are implicit, firstly in the preamble highlighting the intention of the Parties in bringing the Convention to life, and secondly in the guiding principles under Article 3.⁶² The obligations to achieve its ultimate objective appear to be owed by State Parties to ensure to each other rather than individuals and people outside their jurisdictions. Nonetheless, it can be argued that the obligation is also owed to individuals and people who make up the State. The essential feature of the UNFCCC is the special obligations on Annex I countries to lead in the implementation of the UNFCCC.⁶³

These references mirror the concerns of State Parties that climate change affects humans and thus their basic human rights as discussed here. It is submitted that State Parties have an obligation to regulate actors within their jurisdiction to protect the rights of people everywhere from any violation now and in the future, and such an interpretation is consistent with the object and principles of the UNFCCC.⁶⁴ It is also submitted that an obligation arises on the basis that these rights are accepted as general principles of international law which binds all States to observe.⁶⁵ And irrespective of the source of the obligation, a violation of these rights gives rise to a separate right to a remedy. This also means that this obligation extends to those who are not parties under the Convention as the right to food and water, health, life and an adequate standard of living as well as the right to self-determination which, as already submitted, is an universal and inherent right, essential to the ideal of free human rights as embraced by the Universal Declaration on Human Rights (UDHR).⁶⁶ One needs not read too much into these references to recognise that human rights are addressed throughout the UNFCCC. Hereby the IPCC reports presenting the best scientific evidence form a strong evidential basis for the argument that the industrialised countries with the greatest emissions contributing to this changing climate have an obligation to individuals and peoples whose basic human rights have been violated as the result of industrialised countries’ wrongful acts. It should also be noted that the UNFCCC addresses climate change as a means to raise standards of living of all peoples of the world, and explicitly mentions the right to sustainable development. This means that there is overlap between the objective of the UNFCCC and the

⁵⁹ Ibid.

⁶⁰ UNFCCC, above n 55, art 2.

⁶¹ Guiding principles include the precautionary principle, sustainable development, common but differentiated responsibility, and respective capabilities, and equity.

⁶² Article 3, paragraph 1 may be interpreted as clearly referring to the rights of the next generation and this provision is in conformity with the Rights of Children to life and to develop (Article 6), adequate living standards (Article 27) and under Article 23 for proper conditions for mentally and physically disabled children could be compromised by the threats of climate change and its adverse effects as predicted. Also see *Convention on the Rights of the Child (CRC)*, (entered into force 02 September 1990).

⁶³ UNFCCC, above n 55, art 3 at [1].

⁶⁴ Ibid, art 2 and art 3, at [1].

⁶⁵ *Statute of the International Court of Justice* art 38 at [1].

⁶⁶ ILC, (2001), above n 39, art 1.

aims of the United Nations as laid down in the UN Charter.⁶⁷ States have repeatedly uttered this mission through various international frameworks including the human rights⁶⁸ and climate change laws discussed here, and we must not lose sight of this mission for the good of the international community.

The Kyoto Protocol

The Kyoto Protocol can be viewed as the strategic implementation plan of the Convention to achieve the Convention's purpose more effectively by creating legally binding emission reduction targets. The ultimate goal is to safeguard the climate system from any dangerous interference by human activities that could mean even worse disasters than what we are experiencing and have been experiencing thus far. The Protocol focuses on the Parties who have committed themselves to be legally bound to reduce emissions to an average of 5 percent against 1990 levels within the first commitment period commencing in 2008 and ending in 2012.⁶⁹ Further implementation plans include the Clean Development Mechanism (CDM), International Emissions Trading and the Joint Implementation Mechanism as a means to allow flexibility to Parties to achieve their targets in a cost effective way. This is in fact consistent with Article 2, paragraph 1(b) which encourages Parties to work through both individual and combined efforts to be more effective by means of exchange of information and experiences on policies and measures.

The Kyoto Protocol aims to fulfil the object of the Convention and therefore it is submitted that it addresses human rights issues as well as those that are implicitly referenced throughout the Convention. Climate Change as a global crisis affecting humanity and thus people's basic and fundamental human rights. The same obligation arising under the Convention owing to those within the jurisdiction and those outside of the jurisdiction, it is submitted, also arises under the Kyoto Protocol.⁷⁰

Human Rights Protection under Environmental Protection Frameworks

The Rio Declaration was adopted to recognise the importance of the environment and development. Although the declaration itself is not legally binding, its principles are reinforced in the UNFCCC as another resulting document of the Rio Summit. The Declaration was built upon the principles of the Stockholm Declaration of 1972,⁷¹ which espouses basic human rights to life, equality and adequate conditions of life supported by an environment that allows for a life of dignity and wellbeing, and the protection of the environment for the present and future generations.⁷² These principles are restated in the Rio Declaration.⁷³ In fact, at the time the two instruments were adopted, these principles were 'either understood to already reflect customary international law or expected to shape future

⁶⁷ *Charter of the United Nations* (1945) Preamble.

⁶⁸ *Human Rights Council*, GA Res 60/251.

⁶⁹ *Kyoto Protocol* (1998).

⁷⁰ ILC, (2001), above n 39, art 1.

⁷¹ The Stockholm Declaration consists of a preamble featuring seven introductory proclamations and 26 principles centred on the human environment. Thus the environmental policy goals and objectives are quite broad which resulted in the adoption of the Rio Declaration to recognise the emerging issues to 'synthesise economic and development considerations in environmental decision-making' to name a few.

⁷² *Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration)*, (16 June 1972), Principle 1 <http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503> (accessed 20 November 2015).

⁷³ *Rio Declaration on Environment and Development*, (14 June 1992), Principle 1 and 3.

normative expectations'.⁷⁴ The same principles are restated in the UNFCCC⁷⁵ and are critical to the implementation of the Convention to achieve its objective. It is thus suggested that on the basis of these principles they lend support to the interpretation of human rights obligations arising under the UNFCCC, hence State responsibility in the context of climate change as addressed by the UNFCCC.⁷⁶

The Declaration recognises the special needs of developing countries and their environmentally vulnerable situations and calls for international efforts to address their interests and needs.⁷⁷ These are also highlighted in the UNFCCC expressly⁷⁸ and implicitly.⁷⁹ However, in light of the IPCC findings, current practices appear inadequate and are too slow to repair the damage already done and are inconsistent with obligations to 'prevent dangerous anthropogenic interferences with the climate system'.⁸⁰ States should thus be mindful of important general principles of international law and also customary international law to avoid harm done to others even outside their own jurisdiction and which all States must respect and abide by and thus no derogation is permitted.⁸¹ With that in mind, the achievement of a legally binding agreement in Paris in December 2015 is thus critical and should reflect the countries' real commitments in the absence of political interests to achieve the object of the UNFCCC which the survival of many vulnerable communities like Ha'apai, Tonga depend on.

Human Rights Frameworks

For the purpose of this article, the international human rights frameworks discussed here are limited to the International Bill of Human Rights (IBHR) with the exceptions of the Optional Protocols.⁸²

Universal Declaration of Human Rights (UDHR)

Following the horrific experiences of the Second World War, States got together to formulate the UDHR and laid down the general human rights standards and freedoms and provided a guide for subsequent human rights frameworks which developed human rights to a level as we see it today. The UDHR is conceived as:

...a common standard of achievement for all peoples and nations...[and the] most important and far-reaching of all United Nations declarations...a

⁷⁴ Audiovisual Library of International Law, *Declaration of the United Nations Conference on the Human Environment Stockholm* (16 June 1972), *Rio Declaration on Environment and Development*, (14 June 1992), (2013) <http://legal.un.org/avl/ha/dunche/dunche.html> (accessed 21 November 2015).

⁷⁵ UNFCCC, above n 55, art 3.

⁷⁶ Margaretha Wewerinke and Curtis F.J. Doebbler, 'Exploring the Legal Basis of a Human Rights Approach to Climate Change' (2011) 10(1) *Chinese Journal of International Law* 141, 144.

⁷⁷ *Rio Declaration*, above n 73.

⁷⁸ UNFCCC, above n 55, art 3 at [2], art 4 at [8].

⁷⁹ *Ibid* art 3 at [1], on the basis of common but differentiated responsibilities.

⁸⁰ *Ibid* art 2.

⁸¹ See *VCLT*, opened for signature 23 May 1969, above n 53, art 53.

⁸² See United Nations, *Fact Sheet No.2 (Rev.1), The International Bill of Human Rights* (1996) <http://www.ohchr.org/Documents/Publications/FactSheet2Rev.1en.pdf> (accessed 18 November 2015).

fundamental source of inspiration for national and international efforts to promote and protect human rights and fundamental freedoms.⁸³

The core principles of human rights espoused in the UDHR are recognised as universal, interdependent and indivisible. The same principles were also adopted in the Vienna Declaration and Programme of Action on Human Rights on 25 June 1993 and reaffirmed those principles.⁸⁴ Human rights entail both rights and obligations from duty bearers and right holders. Article 29(3) of the UDHR specifically stipulates that rights and freedoms may in no case be exercised contrary to the purposes and principles of the United Nations.⁸⁵

The preamble is not binding but the intention of States is seen through various articles that stipulate human rights obligations and thus binding on all States. Moreover, the general principles and standards established by the UDHR are recognised and accepted as general principles of international law and form part of customary international law and thus binds all States. By assuming responsibility under the UDHR, States must respect, protect and fulfil human rights requirements accordingly.⁸⁶ To respect means that ‘they must refrain from interfering with or curtailing the enjoyment of human rights’.⁸⁷ To protect requires that ‘States protect individual rights and groups against human rights abuses’.⁸⁸ The obligation to fulfil means that ‘States must take positive actions to facilitate the enjoyment of basic human rights’.⁸⁹

International Covenant on Economic, Social and Cultural Rights (ICESCR)

The ICESCR was adopted to provide measures for the implementation of economic, social and cultural human rights as specific rights addressed by this instrument. As part of the IBHR, it mirrors similar rights⁹⁰ enshrined in the UDHR with the addition of the right to self-determination.⁹¹ The right to self-determination is recognised as universal, based on the principles of the UDHR that the ideal free human being means possessing the right to enjoy the freedom to determine his economic, social and cultural rights amongst other human rights.⁹² Thus on that basis, Article 1 enunciates expressly that all people can ‘freely pursue their economic, social and cultural development’⁹³ and ‘in no case may a people be deprived of its own means of subsistence’.⁹⁴

The State Parties have a primary responsibility to protect, respect and to guarantee these rights to individuals and people alike within their own territorial boundaries. Paragraph 3 is

⁸³ The International Bill of Human Rights consists of the Universal Declaration of Human Rights (adopted in 1948), the International Covenant on Civil and Political Rights (1966) with its two Optional Protocols and the International Covenant on Economic, Social and Cultural Rights (1966).

⁸⁴ *Vienna Declaration and Programme of Action* (25 June 1993).

⁸⁵ *Universal Declaration of Human Rights*, GA Res 217A (III), UN GAOR Art 29(3).

⁸⁶ The Universal Declaration of Human Rights, *The Foundation of International Human Rights Law* http://www.un.org/en/documents/udhr/hr_law.shtml (accessed 21 November 2015).

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*

⁸⁹ *Ibid.*

⁹⁰ UDHR, above n 85, art 22-27, which introduces the rights to which everyone is entitled “as a member of society”. Also see UN, *Fact Sheet No.2 (Rev.1)*, above n 82.

⁹¹ See *International Covenant on Economic, Social and Cultural Rights*, opened for signature 16 December 1966, GA Res 2200A (XXI), (entered into force 3 January 1976), art 1.

⁹² *Ibid* art 1.

⁹³ *ICESCR*, above n 91, art 1 at [1].

⁹⁴ *Ibid* art 1 at [2].

suggested to impose an obligation on State Parties to promote this right beyond their territorial boundaries⁹⁵ ‘in conformity with the provisions of the Charter of the United Nations’.⁹⁶ Article 11 makes specific reference to everyone being entitled to ‘an adequate standard of living for himself and his family, including adequate food..., and to the continuous improvement of living conditions’.⁹⁷ It also recognises the right of everyone to enjoy the highest attainable standard of physical and mental health⁹⁸ and calls for States to fully realise this right⁹⁹ by means of improving all aspects of environmental and industrial hygiene¹⁰⁰ amongst other things. Moreover, it provides that everyone has the right to take part in a cultural life.¹⁰¹

These specific rights are limited to the measures and restrictions set out in the ICESCR. At the same time, the right to self-determination is a universal and inherent right which finds its origin in the UN Charter and is thus protected beyond the scope of this Covenant as it is considered a general principle of international law binding on all States. This is apparent from its Article 25:

Nothing in the present Covenant shall be interpreted as impairing the inherent right of all peoples to enjoy and utilize fully and freely their natural wealth and resources.¹⁰²

It should be emphasised that in accordance with the law of State responsibility, States must provide an adequate and effective remedy to victims of a violation of these rights.

International Covenant on Civil and Political Rights (ICCPR)

The ICCPR consists of similar rights including the right to self-determination.¹⁰³ Like the ICESCR, it was built upon the general principles of UDHR and conforms to the ultimate mission articulated by States through the UN Charter.¹⁰⁴ It restates that these rights ‘derive from the inherent dignity of the human person’.¹⁰⁵ The ICCPR articulates specific measures and limits for implementing civil and political rights. State Parties are to respect, protect and fulfil their human rights obligations in respect of the civil and political rights of their own people within their territorial boundaries.¹⁰⁶ The ICCPR also imposes obligations on States Parties to conform to the spirit and intention of States as enshrined in the preambles of the Covenants and the UDHR in regards to respecting the rights of individuals and people outside their own jurisdictions.¹⁰⁷ It calls for States to realise these rights without discrimination of any kind¹⁰⁸ and to ensure that any violation of individual rights and freedoms committed

⁹⁵ See *International Covenant on Civil and Political Rights*, General Comment No.12: Article 1 (Right to Self-determination), (1984).

⁹⁶ *UN Charter*, above n 67, art 55, 56, 59.

⁹⁷ *ICESCR*, above n 91, art 11 at [1].

⁹⁸ *Ibid* art 12 at [1].

⁹⁹ *Ibid* art 12 at [2].

¹⁰⁰ *Ibid* art 12 at [2][b].

¹⁰¹ *Ibid* art 15 at [1][a].

¹⁰² *Ibid* art 25.

¹⁰³ *International Covenant on Civil and Political Rights*, opened for signature 16 December 1966, (entered into force 23 March 1976) art 1.

¹⁰⁴ *UN Charter*, above n 67, Preamble.

¹⁰⁵ *ICPPR*, above n 103, Preamble.

¹⁰⁶ *UN Charter*, above n 67. Also see UDHR, above n 85.

¹⁰⁷ *ICCPR, General Comment* (1984), above n 95.

¹⁰⁸ *ICCPR*, above n 103, art 2.

even ‘by persons acting in an official capacity shall have an effective remedy...’¹⁰⁹ Article 5 prevents any State Party from performing any act aimed at the destruction of any of the rights and freedoms recognised by the ICCPR¹¹⁰ and it recognises fundamental human rights existing in State Parties to the ICCPR by virtue of their domestic laws, despite the absence of those rights from the Covenant.¹¹¹

Notably the obligations arising under this Covenant give rise to State responsibility as signatories to the Covenant. Likewise, the non-Parties have a responsibility to observe these rights by virtue of these rights being fundamental human rights deriving from the inherent dignity of the human person – a general principle of international law.¹¹²

EVIDENCE OF THE EFFECTS OF CLIMATE CHANGE CAUSING INTERFERENCE WITH A RANGE OF HUMAN RIGHTS OF THE HA’APAI PEOPLE

Right to Life (inclusive of liberty and security of person)

While the right to life is articulated in Article 3 of the UDHR, it does not however expound what the right entails.¹¹³ One may understand it as the right to live or exist in one’s own place or more generally a right to live as an inhabitant of the Earth. One may also add that no one has the right to end another person’s life or to take his or her own life. In fact, these views are apparent in Article 6 of the ICCPR.¹¹⁴

Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.

At the village community level as in the case of Ha’apai, the right to life can mean many things including the right of access to health care; access to adequate food and water to live sustainably and enjoy a better standard of living. In fact the Government of Tonga has for some years recognised as its mission to achieve a better standard of living for the people of Tonga.¹¹⁵ Clearly, the right to life overlaps with other human rights but it is a right that is inherent and inalienable which every human is entitled to, irrespective of age, race, nationality, colour, religion or level of education.¹¹⁶

The enjoyment of this right also depends on one’s source(s) of food supplies on a sustainable basis. In the context of Ha’apai being comprised of small communities, the natural environment is the source of their livelihood. When they are destroyed or interfered with to the extent that people cannot have adequate food to eat or water to drink, it is thus to be said that people cannot fully enjoy their right to life, and a violation of this right by acts or

¹⁰⁹ Ibid art 2 at [3][b].

¹¹⁰ Ibid art 5 at [1].

¹¹¹ UDHR, above n 85, art 5.

¹¹² ILC, (2001), above n 39, art 1 at [4][4] and [5].

¹¹³ UDHR, above n 85.

¹¹⁴ ICCPR, above n 103.

¹¹⁵ Tonga Strategic Development Framework (TSDF), (2011-2014),

<http://www.adb.org/sites/default/files/linked-documents/cobp-ton-2014-2016-oth-02.pdf> (accessed 11 November 2015); Strategic Development Plan Eight, (2006-2009),

<https://www.sprep.org/att/IRC/eCOPIES/Countries/Tonga/13.pdf> (accessed 11 November 2015).

¹¹⁶ ICCPR, above n 103. Also see UDHR, above n 85.

omissions by one or more States warrants fair compensation under international laws and in accordance with universally accepted rules and principles.

Right to an Adequate Standard of Living

The right to an adequate standard of living is stipulated both in the UDHR (Article 25) and the ICESCR (Article 11). The UDHR identifies this right as universal and reaffirmed by the ICESCR which further calls on State Parties to take appropriate actions to ensure the realization of this right.¹¹⁷ The right entails that human beings' health and wellbeing achieve a certain standard or condition that is categorized as "adequate" in regards to access to food, clothing, housing, medical care, necessary social services, right to security in employment, sickness, disability, widowhood, old age and other lack of livelihood in circumstances beyond one's control.¹¹⁸ Again this right overlaps with other human rights such as the right to food and water. It seeks to achieve a level of adequacy to which every human being is entitled in order to fully enjoy this right.

Right to Food

A natural environment that is destroyed by the impacts of climate change means the destruction of peoples' livelihoods. The scarcity of food or water as the natural consequence of climate change is inevitable. Article 11, paragraph 2 of the ICESCR makes clear provision for States to recognise this fundamental right and to take internationally cooperative measures to improve methods of production, conservation and distribution of food through the full use of technical and scientific knowledge.¹¹⁹ In addition, that food importing and exporting countries ensure an equitable distribution of food supplies according to need.¹²⁰

To translate this into the context of Ha'apai requires an understanding of Ha'apai's vulnerability to natural disasters and the physical environment in which the communities live. Food production is hampered by many factors with climate change as the biggest threat to food security. This also includes the effects of climate change on coral bleaching and sea level rise that equally impact on food production and the capacity of the environment to respond to the changing climate and are critical concerns for the Ha'apai group of low lying islands.

Right to Health

The right to health includes both the physical and mental health which every human being should fully enjoy to the highest attainable standard.¹²¹ Article 12 of the ICESCR provides that States should take steps to achieve the full realization of this right and further identifies other matters for States to address.¹²² Again the right to health is an indivisible component of the right to food or the right to be free from hunger and the right to liberty in its broadest sense.

¹¹⁷ *ICESCR*, above n 91.

¹¹⁸ *Ibid.*

¹¹⁹ *Ibid.*

¹²⁰ *Ibid.*

¹²¹ *Ibid* art 12.

¹²² *Ibid.* States are encouraged to (1) reducing the rate of stillbirth, infant mortality and the healthy development of the child; (2) improving environmental and industrial hygiene; (3) prevention, treatment and control of epidemic, endemic, occupational and other diseases; and (4) creation of conditions which would assure to all medical service and medical attention in the event of sickness.

Right to Self-Determination

The right to self-determination finds prominence in Articles 1 of the ICESCR and the ICCPR respectively, and it marks the importance of realising it as a fundamental human right.¹²³ Recognising this right in two international human rights frameworks were major milestones and developments since the United Nations General Assembly's (UNGA) Resolution 1514 (XV) of December 1960.¹²⁴ In accordance with Article 1 of the ICESCR, the right entails that 'all people' can determine their own political status and freely pursue their economic, social and cultural development.¹²⁵ It also includes the right for all people to freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic cooperation, based upon the principle of mutual benefit and international law. More importantly, paragraph 2 stresses that '[i]n no case may people be deprived of their own means of subsistence' and this is relevant to small island nations and its vulnerable communities like Ha'apai.

The typical lifestyle on small island communities is that their survival depends on what they can grow on limited land areas and acquire from the ocean. This lifestyle is what defines who they are and thus their perceptions of human rights may thus differ slightly. For example, the older generation may view the right to life and self-determination to mean the right to live on their small islands until they die. The community that they have known and grown up in is part of them and that right should not be interfered with against potential migration. It may be interpreted as the right to an identity or culture which in accordance with the right of self-determination, require States to respect and to guarantee this right to the Ha'apai people.

The low lying coral atolls with the smallest of islands having a landmass stretching to only about less than 1 hectare (less than 10000 square meters or below 3 acres),¹²⁶ are already exposed to the rising sea level. Storm surges during tropical cyclones pose much threat to the islands' landmasses as well as the people. The Ha'apai communities, as a people, dubbed in Tonga as wise people, which in Tongan is termed *fakapotopoto*, have the right to pursue and develop culturally. Their own traditional or cultural norms are well preserved and understood not only amongst Tongans locally but also abroad which should be safeguarded against any violation resulting from climate change and its consequences.

Other evidence of human rights violations are presented by the Mo'unga'one island situation. Mo'unga'one is another small community and one of the small islands that was severely affected by cyclone Ian. The residents are comprised of mainly the elderly and young children. Shops are absent on the island and people are dependent on fishing and agriculture for their survival. Travelling to Mo'unga'one takes about an hour and a half by small boats from the island of Lifuka which also depends on the tide. The experiences of cyclone Ian raised more awareness amongst the people of Mo'unga'one of the need to build their capacity

¹²³ Wewerinke and Doebbler (2011), above n 76. Also see Daniel Thurer and Thomas Burri, *Self-Determination*, (2008).

¹²⁴ See *Declaration on the Granting of Independence to Colonial Countries and Peoples*, GA Res 1514 (XV) (14 December 1960).

¹²⁵ *ICESCR*, above n 91, art 1.

¹²⁶ See Ha'apai.To <http://www.haapai.to/> (accessed 12 November 2015).

to respond and cope in times of disasters by improving communication systems.¹²⁷ Work has commenced but one must not concede that building the resilience of communities is sufficient because while they are resilient they must do so in order to survive and live a normal life. But more should be done at the international level to avoid further violation to human rights of these small communities as well as the rights of future generations whose rights are to be guaranteed to them at the present time and must be protected.

Thus in agreement with Margaretha Wewerinke, self-determination is thus relevant to climate change in so far as the adverse effects of climate change interfere with the full enjoyment of the right and may also deny the people of Ha'apai their right to a culture of their own and their economic development.¹²⁸ It is to be said as well that the exercise of this right should not be limited to a narrow definition by human rights committees as a right applicable to indigenous communities with discrete and separate languages and customs. While this proposal may give rise to complex outcomes, it is submitted, that the wellbeing and sustainability of Ha'apai communities are dependent on the global community and the collective efforts to safeguard means of subsistence living which is the paramount consideration.

INTERFERENCE WITH SELECTED HUMAN RIGHTS BY STATE CONDUCT

As a result of the heavier responsibility imposed on the Annex I countries to take the lead in reducing emissions, there is clear evidence that these State Parties have not done enough to curb emissions and prevent adverse effects affecting vulnerable people such as the Ha'apai communities. Annex I countries are seemingly not complying with their obligations under the UNFCCC particularly under Articles 2, 4 and 7 and are also failing to take effective compliance measures in accordance with the precautionary principle to safeguard rights now and in the future. It should be recalled that Article 2 suggests an obligation to take measures to prevent dangerous anthropogenic interference with the climate system; and that Article 4(2)(a) requires the adoption of 'national policies and corresponding measures...' that will achieve the objective of the Convention.¹²⁹ This is clear from the IPCC Report 2013 which highlights that there has been a consistent warming in the last three decades and between 1983-2012 was '*likely the warmest 30 year-period of the last 1400 years (medium confidence)*'.¹³⁰ This suggests that there is a need for deep cuts in emissions to keep the global warming below the 1.5 degree Celsius called for by the Alliance of Small Island States (AOSIS) as the acceptable global temperature limit for the survival of SIDS and which SIDS hope to achieve in Paris in December 2015. Industrialised nations must be mindful that mitigation and adaptation mechanisms under the UNFCCC are inadequate.

The effects of climate change that are reaching the stage of SIDS exceeding their capacity to adapt warrants greater consideration for a human rights-based approach as the needed and immediate action to address climate change and its impacts. A human rights-based approach should thus be considered in discussions and negotiations in Paris in December this year which so far has not been reflected in the Paris Draft Agreement. However, there is no

¹²⁷ Through the Secretariat of the Pacific Region Environmental Programme (SPREP), a joint project by the Tonga Red Cross and the Tonga Meteorological Services is in progress for the Mo'unga'one Community to install VHF radios and train locals to use and maintain the system for the long term <https://www.facebook.com/tongaredcross/posts/337917213083352> (accessed 13 November 2015).

¹²⁸ Wewerinke and Doebbler, (2011), above n 76.

¹²⁹ Ibid.

¹³⁰ IPCC, (2013), above n 17, 5.

agreement on human rights in the draft agreement and this is evident from its inclusion in only Option 1 of Article 2 but absent in Option 2. Once again, the effects of climate change violate human rights and those rights are intrinsic to being human whose wellbeing is threatened by climate change and its adverse effects. Vulnerable communities, like the Ha'apai people whose livelihoods have been destroyed, damaged and threatened to sustain them, should be recognised and be considered for reparation under international law.

ANALYSIS OF HA'APAI'S CLAIM FOR REPARATIONS FOR DAMAGES AND INJURIES

The provisions of international climate change law (ICCL) explored in this article identify that there are States obligations in respect to human rights which are explicitly or implicitly referenced in the UNFCCC. It has been argued that it is impossible to exclude human rights issues within the context of climate change that affect human systems. A breach of an obligation to observe general principles of international and customary international law is of paramount importance which can give rise to a remedy.¹³¹ That is, where an instrument is silent on recourse for a breach of an obligation, customary international law as well as general principles of international law can assist in clarifying these legal issues.¹³²

A claim for climate change damages and injuries for Ha'apai resulting from cyclone Ian would need to meet the legal requirements to establish liability against developed States: (1) there is an existing legal obligation of those States; (2) a breach of those legal obligations is established; and (3) an internationally wrongful act including an omission is attributable to those States at the time the act was committed.¹³³ International law on State responsibility sets the rules for finding States responsible for violations of international law,¹³⁴ and this is equally true for establishing a violation of human rights under international law. As Wewerinke and Doebbler state:

[T]he law on State responsibility for international human rights obligations serves to ensure that there is always an actor responsible for upholding human rights standards.¹³⁵

This article has also attempted to demonstrate that International Human Rights Law (IHRL) provides parallel obligations which could provide an additional basis for reparation claims.¹³⁶ Apart from obligations of States arising under human rights treaties, human rights mechanisms including human rights bodies and procedures exist which can be employed through which claims for violations of human rights may be lodged.¹³⁷ Their capacity as quasi-judicial bodies can enforce IHRL for the benefits of rights holders. This is true for a claim for the Ha'apai people which Tonga as a State can lodge on their behalf against the responsible State or States under treaty-based bodies. However, the claim may be confronted

¹³¹ Wewerinke and Doebbler, (2011), above n 76.

¹³² ICJ, above n 65, art 38 at [1].

¹³³ ILC, (2001), above n 39, art 2. See also Wewerinke and Doebbler, (2011), above n 76.

¹³⁴ Wewerinke and Doebbler, (2011), above n 76.

¹³⁵ Ibid.

¹³⁶ Margaretha Wewerinke, 'Climate Change, Human Rights and the International Legal Order: The Role of the Human Rights Council', (2014) *Cambridge Centre for Climate Change Mitigation Research*, Working Paper No. 4, 12, available at http://be.4cmr.group.cam.ac.uk/working-papers/pdf/4cmr_WP_04.pdf (accessed 25 November 2015).

¹³⁷ Ibid.

with some difficulties but a course that could test these mechanisms in enforcing human rights obligations that exist.

Tonga however, is not a party to either ICESCR¹³⁸ or ICCPR¹³⁹ which have treaty-based committees established under them respectively. The argument that Ha'apai people may on their own submit a claim as 'a people' against one State or States under these Covenants as the subjects of the right to self-determination is based on the wide understanding that the principle of self-determination is not limited to 'colonized peoples'.¹⁴⁰ It is also submitted that Ha'apai people develop on their own within their limited means and thus rely primarily on subsistence agriculture and fisheries to sustain them. These, it is argued, are important issues to take into account when considering whether the right of self-determination is applicable and a basis for lodging a human rights claim and are crucial in the protection of fundamental human rights from any violation by climate change effects.

CONCLUSION

This article has shown that there is a legal basis for a human rights claim for climate change damages and injuries under international law for Ha'apai communities. Obligations to protect human beings against the adverse effects of climate change arise under both the climate change and human rights frameworks. Developed countries who are largely responsible for anthropogenic climate change have legal obligations under those international laws to avoid damaging climate change impacts and related human rights violations. The international responsibility of developed States for violations of those obligations could be established based on the clear and convincing evidence presented by the IPCC and Tonga. Indeed, this lends support to the argument that extreme weather events including tropical cyclones like Ian are attributable to man-made climate change. A preferable channel for obtaining reparations is the UNFCCC, where Tonga could seek to reach an agreement with other State Parties on the provision of reparations. An international agreement on Loss and Damage could be one way of securing reparations for violations of international law that affect communities such as the Ha'apai communities. However, it is unclear whether Loss and Damage arrangements under the UNFCCC would be sufficiently ambitious to provide remedies that are 'adequate and effective' as required under human rights law. It is therefore important that invoking State responsibility remains an option for local communities affected by climate change as well as for States that represent those communities on the international plane.

¹³⁸ ICESCR, above n 91, Part IV.

¹³⁹ ICCPR, above n 103, art 41.

¹⁴⁰ Anna Batalla, *The Right of self-determination – ICCPR and the jurisprudence of the Human Rights Committee*, (2006) 3, available at <http://www.unpo.org/downloads/AnnaBatalla.pdf> (accessed 20 November 2015).

HEALTH AND OUR SHARED RESPONSIBILITY TO DEAL WITH CLIMATE CHANGE: A WHO PERSPECTIVE

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INTRODUCTION

This comment addresses the relationship between health and climate change, a nexus that occurs against a backdrop of existing human rights standards. These standards beg for a comprehensive right to health approach to climate change, grounded in strong accountability mechanisms, universal application and a clear awareness of the impact of climate change on the realisation of the right to health. First, the contours of this relationship are briefly explained. Second, some forums for action are described. And third, and perhaps most importantly, an agenda for action is suggested.

The comment is written from the perspective of the World Health Organization (WHO). Working on health across the life course at WHO, we have seen how climate change illustrates more dramatically than any other global development issue, the crushing effect of inequalities in health. The adverse effects of climate change are felt most acutely by vulnerable segments of the population whose geography, poverty, gender, age, indigenous or minority status put them at special risk. Conversely, States facing higher exposure to extreme weather events, in both rural and urban areas are those most likely to be lacking the resources for implementing plans and programmes of action to meet this challenge. This comment suggests that the only way to change this reality is to acknowledge the critical role of human rights in examining and developing policy to address this modern phenomenon.

HEALTH AND CLIMATE CHANGE

The fact that climate change affects human health has been well documented¹ and space is too short to recount the voluminous data that exist in this comment. Some comments about what we – as a global community - know, however, are important. We know, for instance, that the World Health Organization (WHO) has warned for some time that “[b]etween 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from malnutrition, malaria, diarrhoea and heat stress.”² More recent studies further warn us that these consequences might be even more diverse, severe, and imminent, than earlier expected.³ We also know that the adverse effects of climate change are universal – and will have a profound impact on the health of almost all people on the planet.⁴ And we know that some regions of the world will suffer greater health

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1. See for example, World Health Organization, ‘Protecting Health From Climate Change: Connecting Science, Policy and People’, Geneva: World Health Organization, 2009; WHO, ‘Factsheet on Climate Change and Health’ accessible at <http://www.who.int/mediacentre/factsheets/fs266/en/> (accessed on 1 September 2015).

2. WHO. Quantitative risk assessment of the effects of climate change on selected causes of death, 2030s and 2050s. (2014), World Health Organization, Geneva, Switzerland.

3. Hansen, J., Sato, M., Hearty, P., Ruedy, R., Kelley, M., Masson-Delmotte, V., Russell, G., Tselioudis, G., Cao, J., Rignot, E., Velicogna, I., Kandiano, E., Schuckmann, K. von, Kharecha P., Legrande, A.N., Bauer, M., and Lo, K.W., “Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling, and modern observations that 2 °C global warming is highly dangerous,” 15 *Atmos. Chem. Phys. Discuss.* 20059–20179 (2015).

4. See generally, Smith, K.R., A. Woodward, D. Campbell-Lendrum, D.D. Chadee, Y. Honda, Q. Liu, J.M. Olwoch, B. Revich, and R. Sauerborn, “Chapter 11: Human health: impacts, adaptation, and co-benefits in Field,” contribution of Working Group II to C.B., Barros, V.R., Dokken, D.J., Mach, K.J., Mastrandrea, M.D., Bilir, T.E., Chatterjee, M., Ebi, K.L., Estrada, Y.O., Genova, R.C., Girma, B., Kissel, E.S., Levy, A.N., MacCracken, S., Mastrandrea, P.R., and White,

consequences than others.⁵

Climate change: worsening health inequities

Extreme weather events, such as the European heatwave of 2003 and Hurricanes Katrina and Sandy in the USA, show that, even in the most developed countries, health is vulnerable to climate risks. The risks are even greater, however, for the poorest populations, who already suffer from high burdens of climate-sensitive disease. For example, the mortality rate from vector-borne diseases is almost 300 times greater in developing nations than in developed regions. Climate-related health risks are also often greater for poor individuals within any population, who often lack adequate shelter or access to health and other critical services, and for population groups with specific vulnerabilities. In the 1991 cyclone disasters that killed 140,000 people in Bangladesh, death rates among women were almost four times greater than those among men: rates among children under 10 years of age were more than six times greater than those of older children. WHO's estimates of the per capita impacts of climate change are many times greater in regions that already had the greatest disease burden, and amongst children compared to adults. The ongoing process of climate change is likely to widen the existing health disparities between the richest and the poorest populations.

The example provided above illustrates clearly how climate change acts as a significant obstacle in ensuring the progressive realisation of the right to health as defined in both WHO's Constitution, as well as the International Convention on Economic, Social and Cultural Rights (ICESCR)⁶ and a range of other international and regional human rights treaties. A key characteristic of the right to health lies in its emphasis not just on the provision of health care but also on the underlying determinants of health, such as access to safe and potable water and adequate sanitation, an adequate supply of safe food, nutrition and housing, as well as healthy occupational and environmental conditions⁷ – factors that are uniquely susceptible to the effects of climate change.

The effect of climate change not only undermines States' abilities to ensure these services, but its consequences also divert precious and often limited resources, hampering States' abilities to strengthen broader and longer-term investment in health. Nevertheless due to the efforts of countless health experts around the world we also have a good idea about what action has to be taken, first and foremost by States themselves as the primary duty-bearers, to make them resilient to climate change.⁸ The first are actions to strengthen health systems and to adapt to climate change.⁹ They include, for example, investments in surveillance and response for climate-sensitive infectious diseases, strengthening of health system preparedness for extreme weather events, and ensuring climate resilience of critical services, such as water supply and sanitation. The second are actions to simultaneously promote health at the same time as cutting emissions of the greenhouse gases that are driving climate change. The most direct connection is with air pollution, which causes over seven million deaths every year. Promoting cleaner sources of energy for household use and

L.L., (eds.), *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects*, (the Fifth Assessment Report of the Intergovernmental Panel on Climate Change), Cambridge University Press: Cambridge, United Kingdom, and New York, NY, USA (2015).

5. Patz, J.A., Campbell-Lendrum, D., Holloway, T., and Foley, J.A., "Impact of regional climate change on human health," 438 *Nature* 310 (17 November 2005).

6. International Covenant on Economic, Social and Cultural Rights (ICESCR), G.A. Res. 2200A (XXI), Art. xx. (1966). Available at <http://www2.ohchr.org/english/law/cescr.htm>.

7. Committee on Economic, Social and Cultural Rights, General Comment No. 14, The Right to the Highest Attainable Standard of Health, UN Doc. No. E/C.12/2000/4 (2000). Available at <http://www.unhcr.ch/tbs/doc.nsf/0/40d009901358b0e2c1256915005090be?Opendocument>.

8. World Health Organization, "WHO Climate and Health Country Profiles – Global Overview" (forthcoming in November 2015).

9. World Health Organization, "Operational Framework for Building Climate-Resilient Health Systems". (2015).

WHO, Geneva, Switzerland. Available at http://apps.who.int/iris/bitstream/10665/189951/1/9789241565073_eng.pdf.

electricity generation, and more sustainable urban transport solutions, for example, are both human development priorities, but also contribute to slowing climate change, and reducing air pollution deaths¹⁰. These actions will need to be taken by States, but international organisations like the WHO can play an important role in providing a wide range of assistance.

WHO AS A FORUM FOR ACTION ON HEALTH AND CLIMATE CHANGE

It is agreed within the United Nations family that the United Nations Framework Convention on Climate Change (UNFCCC) is the principal forum for the global action that is needed to address climate change. While acknowledging this important consensus within the UN system this agreement does not preclude other United Nations bodies from playing a role in relation to climate change. In the past the UNFCCC Secretariat has welcomed the expert contribution of WHO, including throughout the treaty processes.

Just as WHO acknowledges the priority of the UNFCCC for negotiating global climate action, we also recognise our responsibility as the pre-eminent forum for the discussion of questions of global public health challenges. For this reason, for the better part of the past decade, the item of climate change and health has appeared on the agenda of WHO's governing bodies. And even when it was not, such as at this last World Health Assembly in May 2015, both States and civil society have drawn attention to it.

Not only does climate change pose one of the most significant challenges to global health that we face today, but WHO's expertise is also vital to the efforts to address climate change through global action. This is evident from the contributions that WHO has made to the interim and annual meetings of the Conference of the Parties to the UNFCCC and by the number of requests from States for cooperation and technical advice on the relationship between climate change and health that the organisations has received. For example, WHO's contribution to the UNFCCC climate talks in Bonn, Germany, in June 2015, emphasized that “[a]n effective new universal climate change agreement must also be very much an effective public health agreement, and health ministers and practitioners need to speak up to make that clear as countries shape the final outcome, which will be concluded in Paris, in December.”¹¹

While WHO is supporting efforts to achieve an effective global strategy to deal with climate change, it is also working on the ground in and with affected countries. An example is its ongoing project to address the risks of climate change on water-borne diseases in Bangladesh, Nepal, Ethiopia and Tanzania that aims to heighten awareness of important stakeholders along with coherence between climate, health, and water, sanitation and hygiene (WASH) policies; to strengthen the climate resilience of WASH services, and to assess the effectiveness of community and household interventions in strengthening health resilience to climate change. This will be used as a basis for guiding and “climate-proofing” the large-scale investments that are now being made in WASH, to ensure that they also protect population health from climate risks.¹²

Raising awareness of climate and health connections:

WHO's Member States have requested to work with partners to raise awareness of the links between climate change and health. In August 2014, hosted the first WHO global conference on Health and Climate, drawing approximately 400 participants from 96 countries. This included 25

10. See, for example, WHO, *Reducing Global Health Risks Through Mitigation of Short-Lived Pollutants. Scoping Report for Policy-makers*, (2015) WHO: Geneva, Switzerland

11. Note of the meeting (see <http://www.who.int/globalchange/mediacentre/news/climate-change/en/>).

12. This project is funded by the International Climate Facility of the United Kingdom. <http://www.who.int/globalchange/projects/wash/en/> (accessed 18 September 2015).

government ministers, heads and senior staff from UN agencies and other intergovernmental organisations, as well as experts, practitioners and civil society representatives from the fields of health, climate change and sustainable development. In response to the very strong scientific evidence of the health risks presented by climate change, the participants gave a clear warning; that without adequate mitigation and adaptation, climate change poses unacceptable risks to global public health. The conference supported stronger engagement by the global health community, to ensure that public health concerns are reflected in upcoming international climate and development discussions, and national adaptation and mitigation policies. Participants affirmed the critical importance of strategies to reduce health impacts from climate change already occurring – as well as realising potential health benefits from measures to mitigate climate change, particularly through reductions in death and disease caused by air pollution. As a follow up to the conference, WHO is mobilising the voices of the global public health community behind a strong and effective climate change agreement at the UN climate conference in Paris in December 2015.

At the global level WHO is currently engaged, in partnership with the UNFCCC Secretariat in providing quantitative and narrative data profiling the impact of climate change on the health of each of our 194 Member States. These profiles will highlight the climate hazards each State faces, the current and expected impacts of the adverse effects of climate change and air-pollution as well as opportunities for health gains from adequate mitigation and adaptation activities. They will also describe the status of responses by each State.

The activities that States and their partners are taking to address the effects of climate change on their populations, of which the health consequences are perhaps the most serious and most costly, require resources. In this respect the pledges by developed countries of US\$100 billion per year by 2020 are a welcome start. But these pledges are likely already too little, and may be too late, for many. Resources to allow all States to take the needed adaptation and mitigation action to protect their people, all people everywhere, from the adverse effects of climate change need to be mobilized today. We have seen this happen in relation to child health where States have mobilised the resources to halve child mortality in a decade and a half. We need an urgent mobilisation of funds to address climate change impacts, many of which will significantly impact health for all.

Elements of An Agenda for Action on Health and Climate Change

In light of the brief description of the problem and some of the forums making an effort to address it, it is possible to suggest a few elements for agenda for action on health in the context of climate change. These actions would support a rights-based response that is rooted in greater accountability mechanisms, enshrined in the UNFCCC, and leveraged through more inclusive participation – as reflected in the global conference on climate change and health convened by WHO.

First, there is a need to ensure that health is made a priority within the context of reacting to climate change. This requires not only support for efforts for research, but also the commitment to address the health consequences of climate change in political and legal documents such as the Paris Agreement and the decisions of the Conference of the Parties to the UNFCCC that will implement the Agreement. It would be particularly important for the Paris Agreement to include a reference to the need to address health consequences in provisions on adaptation. Making health a priority requires mobilising of adequate resources to address the consequences to the health of all, but especially in line with a rights-based approach – for the most vulnerable, that are due to climate change. In this respect more attention is needed to ensure that the Green Climate Fund and other similar funds are in a position to provide adequate resources for the significant efforts that governments will have to make to ensure the health of their people despite the challenges posed by climate change. The Lancet Commission on health and climate change mentioned “[s]cale-up

financing for climate resilient health systems world-wide”¹³ as one of its priority recommendations to governments over the next five years. While pledges have been made the resources have yet to materialise when they are already needed.

Second, we need to set and begin to implement action agendas. Respecting the precautionary principle that is enshrined in article 3 of the UNFCCC, we need to start now, and not wait. The precautionary principle requires that we act based on perceived threats to health that climate change poses even if we are not yet sure that they will materialise. The WHO has been acting by providing information on the effects of climate change on health and by providing technical assistance to our Member States. At its 136th Executive Board Session in January 2015, Member States approved the elements of the workplan presented by the WHO Secretariat up to 2019. This outlines how WHO will work to support government efforts to address the adverse effects of climate change on health; from raising awareness, to developing partnerships that address the diverse range of connections between climate change and health, to guiding research, and supporting implementation. While our Member States bear the main responsibilities for protecting the health of their populations from the adverse effects of climate change, WHO will ensure that it is fit to support government efforts and to provide the information governments need to take the best action possible.

Third, and related to the two above suggestions, there is a clear need to see the synergies between different sectoral approaches. For example, overall poverty reduction, as well as investments in key sectors such as nutrition and WASH, contribute to resilience, including the ability for people to withstand the shocks and disease exposure to which the adverse effects of climate change contribute. Assessing the health implications of decisions in sectors such as household energy, electricity production, and transport, can help to identify opportunities to simultaneously reduce carbon emissions, improve health, and increase economic efficiency. Health Ministries, health professionals, and the WHO need to be prepared to respond to the connections between climate change and health as multifaceted issues that require coordination, cooperation, and above all a concerted will by all concerned to address these challenges.

These are just three basic elements of agenda for global action to address the health consequences of climate change. Many more specific elements will emerge as we face this global challenge, but if these three commitments are in place we will all be well-placed to ensure the goal of the WHO Constitution and the right to health, which is to ensure the highest level of mental and physical health for all.

Climate change will have a profound impact on the health of the most vulnerable for a long time to come. At the same time that it presents the international community with a tremendous challenge, it also offers a unique opportunity for governments to cooperate together. Today the international community has an opportunity to take steps that will ensure healthy populations for generations to come. We know many of the interventions that are needed, but also need to make them priorities if we are to make them realities.

13. Watts, N., Adger, W.N., Agnolucci, P., Blackstock, J., Byass, P., Cai, W., Chaytor, S., Colbourn, T., Collins, M., Cooper, A., Cox, P.M. Depledge, J., Drummond, P., Ekins, P., Galaz, V., Grace, D., Graham, H., Grubb, M., Haines, A., Hamilton, I., Hunter, A., Jiang, X., Li, M., Kelman, I., Liang, L., Lott, M., Lowe, R., Luo, Y., Mace, G., Maslin, M., Nilsson, M., Oreszczyn, T., Pye, S., Quinn, T., Svendsdotter, M., Venevsky, S., Warner, K., Xu, B., Yang, J., Yin, Y., Yu, C., Zhang, Q., Gong, P., Montgomery, H., and Costello, A., “Health and climate change: policy responses to protect public health,” *The Lancet*, published online 23 June 2015 at [http://dx.doi.org/10.1016/S0140-6736\(15\)60854-6](http://dx.doi.org/10.1016/S0140-6736(15)60854-6) (accessed 12 September 2015).